

POPULATION AND HOUSING CENSUS 2011

ANALYTICAL REPORT



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Preface

The 2011 Population and Housing Census Analytical Report presents the major thematic analysis of the 2011 Population and Housing Census (PHC) . The 2011 PHC is the fifth of its kind to be conducted in Botswana. It is one of the series of publications resulting from the 2011 Census. The publication contains a wealth of information on the socio-economic demographics of the population of Botswana. The 2011 Population and Housing Census Dissemination Seminar publication compliments this publication greatly.

The primary objective of the 2011 PHC was to provide up-to-date information for policymakers, planners, researchers, and programme managers that would allow guidance in the development, monitoring and evaluation of policies in Botswana.

Statistics Botswana would like to acknowledge the efforts of a number of organisations and individuals who contributed immensely to the success of the census. On behalf of the Government, Statistics Botswana would like to express its sincere gratitude to all authors, commentators, analytical committee members and various technical working groups.



Anna Majelantle
Statistician General
November 2014

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TABLE 1.1 : 1971, 1981, 1991, 2001 AND 2011 CENSUS DEMOGRAPHIC INDICATORS

Population Characteristics	Census 1971	Census 1981	Census 1991	Census 2001	Census 2011
Sex Ratio (Males per 100 Females)	84	89	92	93.8	95.5
Percentage Urban	9	17.7	45.7	54.2	64.1
Population Density (per km)	1	1.6	2.3	2.9	3.5
Crude Birth Rate (per 1000)	45.3	47.7	39.3	28.9	25.7
Crude Death Rate (per 1000)	13.7	13.9	11.5	12.4	6.25
Natural Rate of Increase (% per annum)	3.1	3.4	2.7	1.7	1.9
General Fertility Rate (per 1000 women aged 15-49)	189	210	161	106.9	92.2
Mean age at childbearing	30.5	30.6	30	30.3	27.8
Total Fertility Rate (births per woman)	6.5	6.6	4.2	3.27	2.7
Infant Mortality Rate	97	71	48	56	17
Child Mortality Rate	56	35	16	19	27
Under 5 Mortality	152	105	63	74	28
Life Expectancy at Birth (years)	55.5	56.5	65.3	55.6	68
Males	52.5	52.3	63.3	52	66
Females	58.6	59.7	67.1	57.4	70
Mean Age (years)	23.4	22.7	23	24.8	26.2
Males	22.6	22	22.4	24.2	25.2
Females	24.1	23.4	23.5	25.3	26.8
Median Age (Years)	15	15.3	16.8	20.1	23
Males	13.5	15	16	19.4	22
Females	16.7	16.5	17.4	20.8	24
Population Growth Rate		4.7	3.5	2.4	1.9

Source: National Census 1971, 1981, 1991, 2001 and 2011

POPULATION DISTRIBUTION, STRUCTURE, DENSITY AND POLICY IMPLICATIONS IN BOTSWANA

By
Prof. Thando D. Gwebu
Department of Environmental Science
University of Botswana

Tapologo Baakile and Grace Mphetlang
Statistics Botswana

Abstract: This paper provides a snapshot of the country's population structure and concentration by sex and other variables. The paper draws comparison between the current findings and the findings of the 2001 census.

The paper notes that the country of 2 million people is dominated by females especially at the ages 15 and above. The population is generally youthful with 32.7 percent of it aged below 15 years down from 36.6 percent in 2001. The analysis reveals a steady growth of persons within the economically active group now estimated at 64.9 percent compared to 58.2 percent in 2001. On the other hand, the elderly population aged 65 years and above has declined from 5 percent in 2001 to an estimated 4.4 percent in 2011. Further, the paper notes that majority of the elderly population are found in the rural districts compared to urban areas.

The country continues to attract foreign nationals who participate in various sectors its economy. The proportion of non-Batswana has increased from only 3.6 percent of the population in 2001 to an estimated 5.5 percent in 2011, majority of those whom are within the economically active group, mainly 20 – 44 years. The number of people for every square kilometer – population density- has increased from 2.9 persons per square kilometer to 3.5. The South Eastern region, which also houses the national capital, has the highest density of 13.8 persons per square kilometer followed by the Eastern region. The Western region is the least populous with a density of less than one person per square kilometer. The South Eastern region is also home to 47.3 percent of the country's population.

In conclusion, the paper gives a summary of the policy implications of the youthful age structure of the population, declining rate of population growth, low sex ratio as well as regional imbalances in population distribution.

1.0 Introduction

Population distribution refers to either the way a national population is spread by sex across various age groups or the manner in which a population is spread over geographic space. Refined measures of this spread provide specific numerical expressions such as the arithmetic and other population densities.

The age-sex structure or composition of a population reflects a cumulative outcome of demographic and mobility events that have been operating for many decades. Today's population dynamics echo those vital and mobility events that occurred several decades ago. Similarly, today's population processes will be etched indelibly onto the demographic profile of years yet to come. The spatial distribution of a population may be due to the occurrence of natural resources such as reliable rainfall, good surface and groundwater supplies, fertile soils and exploitable mineral resources. The distribution of economic investments such as industries, services and transport has also attracted population concentrations. Repulsive factors such as the presence of diseases tend to discourage human settlement.

A correct understanding of population distribution patterns is central to sustainable national development planning. Age-sex structure provides an empirical basis for the provision of goods, information and service for the various age cohorts. It also forms an informed basis for deciding whether national income should be

earmarked for productive or non-productive sectors. Furthermore, it assists in the assessment of the probable impacts of fertility, mortality and migration on population growth patterns and trends. The spatial distribution and re-distribution of population determine where people live and why they are found in those areas. This facilitates the planning for the rationale and equitable allocation of those goods, information and services that determine the quality of life of the national population. Unless Botswana takes advantage of available Census data to make informed decisions, that are evidence-based, the country will be confronted with these challenges that undermine sustainability.

The chapter examines and rationalizes the demographic and geographical distribution of the population from the 2011 Botswana Population and Housing Census data. Finally, the policy implications of population distribution are discussed and conclusions drawn.

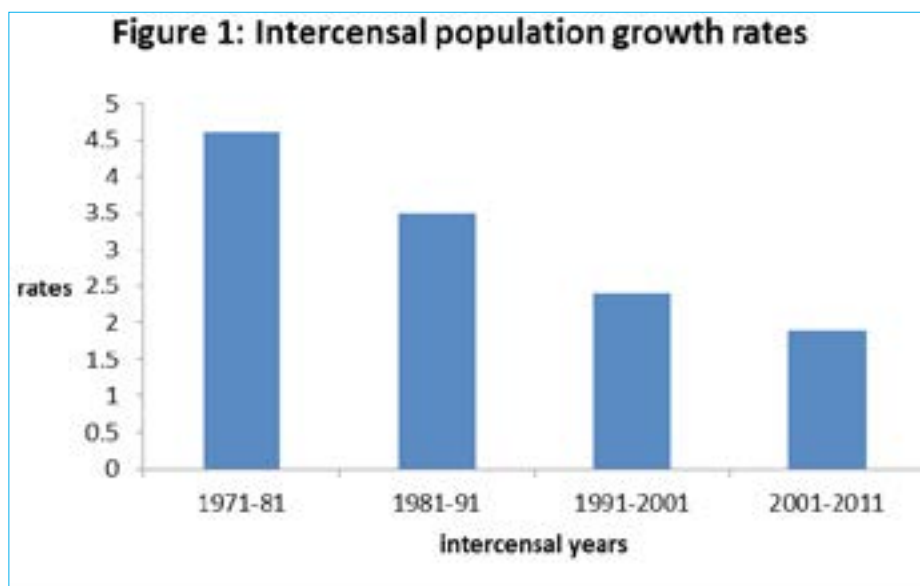
2.0 Data and Methodology

Data for this chapter is obtained from Statistics Botswana in SPSS format. It was then analyzed using descriptive statistics method. Then later summarized into tables and graphs. Descriptive statistics and socio-economic indices were obtained and interpreted. Edited data are not anticipated to change the reported findings fundamentally.

3.0 Analysis, Results and Discussion

3.1 Population size and demographic distribution

The total population is estimated at 2,024,904. This number represents an absolute increase of 344,041 from the population that stood at 1,680,863 during the 2001 census and a latest inter-censal annual growth rate of 1.9 percent, shown in Figure 1.



The annual rate of increase, which is the surplus of births over deaths, has however, been declining over the decennial censuses that have been held since 1971. Inter-censal annual growth rates were 4.6, 3.5 and 2.4 percent, between 1971-81, 1981-91 and 1991-2001 respectively. The observed declining growth trends might reflect the interactive outcomes of; declining fertility rates associated with increasing economic development; increasing female literacy and their participation in semi-professional and professional occupations and successful family planning programme. The population will nonetheless continue growing in response to the population momentum attributed past high fertility and the youthful population structure of the 1980s and 1990s.

Table 1 shows the 2001 and 2011 population size and percent increase. Gaborone (45,585) had the largest population increase over the ten year period among cities and towns as compared to Kweneng East (66,979) which experienced the largest population increase among the rest of the districts. On another note, South East district grew by 40.2% between 2001 and 2011 while the Delta decreased by 5.9% over the same period.

Table 1: Population size and percent increase by Census year and district

Census District	2001 Population	2011 Population	Population Increase from 2001	Percent Increase from 2001
Gaborone	186007	231592	45585	24.5
Francistown	83023	98961	15938	19.2
Lobatse	29689	29007	-682	-2.3
Selibe-Phikwe	49849	49411	-438	-0.9
Orapa	9151	9531	380	4.2
Jwaneng	15179	18008	2829	18.6
Sowa	2879	3598	719	25.0
Southern	113704	129247	15543	13.7
Barolong	47477	54831	7354	15.5
Ngwaketse West	10471	13689	3218	30.7
South East	60623	85014	24391	40.2
Kweneng East	189773	256752	66979	35.3
Kweneng West	40562	47797	7235	17.8
Kgatleng	73507	91660	18153	24.7
Central Serowe/Palapye	153035	180500	27465	17.9
Central Mahalapye	109811	118875	9064	8.3
Central Bobonong	66964	71936	4972	7.4
Central Boteti	48057	57376	9319	19.4
Central Tutume	123514	147377	23863	19.3
North East	49399	60264	10865	22.0
Ngamiland East	72382	90334	17952	24.8
Ngamiland West	49642	59421	9779	19.7
Chobe	18258	23347	5089	27.9
Delta	2688	2529	-159	-5.9
Ghanzi	32481	43095	10614	32.7
CKGR	689	260	-429	-62.3
Kgalagadi South	25938	30016	4078	15.7
Kgalagadi North	16111	20476	4365	27.1
BOTSWANA	1,680,863	2,024,904	344,041	20.5

Table 2 shows the percentage share of population for 2001 and 2011 for Kweneng East accommodates over 12.7% of the total population followed by Gaborone with 11% and Serowe/Palapye with 8.9% of all persons in 2011. Less than 6% of the population lived in Orapa, Jwaneng, Sowa, Delta, CKGR and Ngwaketse West combined. The percentage share of population has declined in the mining town of Selibe Phikwe and Lobatse.

Table 2: Percentage share of population by Census year and District

District	Percent	
	2001	2011
Gaborone	11.1	11.4
Francistown	4.9	4.9
Lobatse	1.8	1.4
Selibe-Phikwe	3.0	2.4
Orapa	0.5	0.5
Jwaneng	0.9	0.9
Sowa	0.2	0.2
Southern	6.8	6.4
Barolong	2.8	2.7
Ngwaketse West	0.6	0.7
South East	3.6	4.2
Kweneng East	11.3	12.7
Kweneng West	2.4	2.4
Kgatleng	4.4	4.5
Central Serowe/Palapye	9.1	8.9
Central Mahalapye	6.5	5.9
Central Bobonong	4.0	3.6
Central Boteti	2.9	2.8
Central Tutume	7.3	7.3
North East	2.9	3.0
Ngamiland East	4.3	4.5
Ngamiland West	3.0	2.9
Chobe	1.1	1.2
Delta	0.2	0.1
Ghanzi	1.9	2.1
CKGR	0.0	0.0
Kgalagadi South	1.5	1.5

3.2 Population Structure and composition

3.2.1 Age and Sex Composition

Table 3 shows the distribution of the population by age and sex. The population is dominated by women who constitute 51 percent of the population. The sex ratio of 95.5 also reflects the predominance of females in the population. This could be due to the general tendency of women to outlive men. In fact, female dominance starts at the ages above 14 while the data shows that there are more males at birth until the age group 10 – 14.

Table 3: Population and Percentage Distribution by Age and Sex

Age	Male	Percent	Female	Percent	Total
0-4	120046	50.6	117341	49.4	237387
5-9	108561	50.5	106622	49.5	215183
10-14	104468	50.4	102976	49.6	207444
15-19	104847	49.7	105956	50.3	210803
20-24	97270	48.6	103045	51.4	200315
25-29	101193	48.7	106576	51.3	207769
30-34	84507	49.6	85989	50.4	170496
35-39	68438	50.6	66765	49.4	135203
40-44	48757	49.1	50494	50.9	99251
45-49	37879	46.1	44358	53.9	82237
50-54	29737	44.8	36616	55.2	66353
55-59	24363	45.1	29685	54.9	54048
60-64	17343	46.2	20235	53.8	37578
65-69	12237	44.1	15504	55.9	27741
70-74	9461	42.5	12788	57.5	22249
75-79	6963	38.9	10915	61.1	17878
80-84	4868	36.8	8344	63.2	13212
85 and above	8133	41.2	11624	58.8	19757
Total	989,071	48.8	1,035,833	51.2	2,024,904

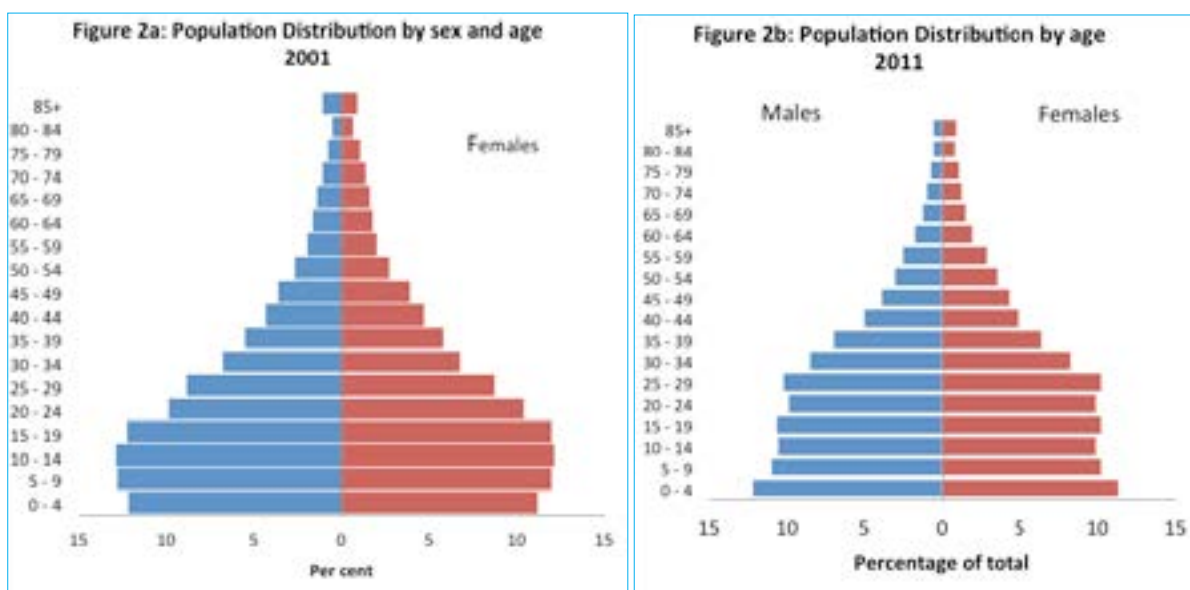
Male subpopulation dominates the 0-14 age groups due, naturally, to excess male births. Thereafter, almost all the cohorts are dominated by females due to excess male deaths that are normally attributed to biological, sociocultural and socioeconomic factors. The only exception is the 35-39 cohorts, where excess female deaths could be due to maternal deaths and HIV-AIDS related mortality that is more prevalent among women.

Only 5.1 percent of the population can be classified as being elderly. This is a decline from 5.5 percent estimated in 1998, probably reflecting a slow or stagnating life expectancy as well as rapid growth at the lower ages possibly persistent high mortality within this age group. This figure is below the 7 percent figure for Mauritius but slightly above those for the Republic of South Africa, Zimbabwe and Lesotho at 4.5, 4.2 and 4.2 percent respectively (<http://www.sadc.int/about-sadc/overview/sadc-facts-figures>). It is nonetheless relatively high when compared to the rest of the African continent's figure of about 3.6 percent.

Table 4: Population and Percentage distribution by sex and district

Area	2011				
	Total	Male	Percent	Female	Percent
Gaborone	231592	113536	49.0	118056	51.0
Francistown	98961	48104	48.6	50857	51.4
Lobatse	29007	14144	48.8	14863	51.2
Selibe-Phikwe	49411	24732	50.1	24679	49.9
Orapa	9531	4731	49.6	4800	50.4
Jwaneng	18008	9819	54.5	8189	45.5
Sowa	3598	1960	54.5	1638	45.5
Southern	129247	62256	48.2	66991	51.8
Barolong	54831	26680	48.7	28151	51.3
Ngwaketse West	13689	6875	50.2	6814	49.8
South East	85014	40697	47.9	44317	52.1
Kweneng East	256752	125195	48.8	131557	51.2
Kweneng West	47797	24392	51.0	23405	49.0
Kgatleng	91660	44565	48.6	47095	51.4
Central Serowe/Palapye	180500	88879	49.2	91621	50.8
Central Mahalapye	118875	57547	48.4	61328	51.6
Central Bobonong	71936	34247	47.6	37689	52.4
Central Boteti	57376	28143	49.1	29233	50.9
Central Tutume	147377	70323	47.7	77054	52.3
North East	60264	28596	47.5	31668	52.5
Ngamiland East	90334	44401	49.2	45933	50.8
Ngamiland West	59421	27913	47.0	31508	53.0
Chobe	23347	12023	51.5	11324	48.5
Delta	2529	1278	50.5	1251	49.5
Ghanzi	43095	22259	51.7	20836	48.3
CKGR	260	193	74.2	67	25.8
Kgalagadi South	30016	15119	50.4	14897	49.6
Kgalagadi North	20476	10350	50.5	10126	49.5
BOTSWANA	2,024,904	988,957	48.8	1,035,947	51.2

Table 4 show the population size by sex and district. In most of the districts, males are fewer than females. A comparison of the 2011 population structure with the 2001 distribution shows a resurgence of the age group 0 – 4 years. While the 2001 showed the loss of dominance by this group, probably due to high deaths among infants and reduced births due to the risk of contracting HIV at the time. However, the 2011 shows return to dominance of this group probably owing the introduction of the ARVs and the Prevention of Mother to Child Transmission programme which ensured survival of infants and children as most them are born without the virus



The age sex profile, as depicted in Figure 2b, has a tapering apex typical of the expansive population structure genre characterized by a relatively improving life expectancy.

Table 5 shows that the population is youthful with 32.7 percent of it below the age of 15.

Table 5: Distribution of Population by Age Group

	Population	Percent	Cumulative Percent
0-4	237387	11.7	11.7
4-9	215183	10.6	22.4
10-14	207444	10.2	32.6
15-19	210803	10.4	43.0
20-24	200315	9.9	52.9
25-29	207769	10.3	63.2
30-34	170496	8.4	71.6
35-39	135203	6.7	78.3
40-44	99251	4.9	83.2
45-49	82237	4.1	87.2
50-54	66353	3.3	90.5
55-59	54048	2.7	93.2
60-64	37578	1.9	95.0
65-69	27741	1.4	96.4
70-74	22249	1.1	97.5
75-79	17878	0.9	98.4
80-84	13212	0.7	99.0
85+	19757	1.0	100.0
Total	2,024,904	100.0	

3.2.2 Median age of the population

The median age of the population has been increasing steadily over the years. The median age increased from 23 years in 1991 to 24.8 years in 2001 and to the current 26 years. The increase shows that even though the population is still youthful, it is steadily getting older.

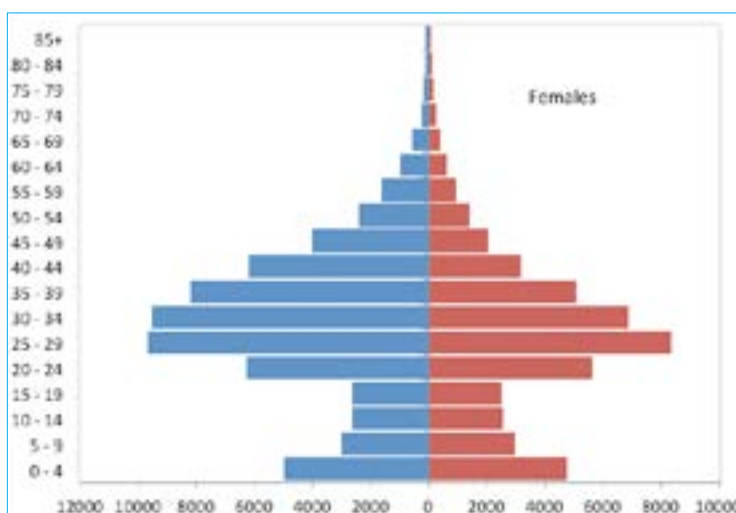
3.2.3 The economically active population

The working age population has increased from 58.2 percent in 2001 to 64.9 percent in 2011. The dependency ratio on the other hand decreased from 71.5 experienced an 8 percent decline from the 71.5 percent figure of 2001 to 56.7 in 2011. The decline reflects an increase in the size of the economically active cohort and the decline in the children-infant category as well as the population of the elderly.

3.2.4 Population by Nationality

Botswana continues to attract a sizeable number of foreign nationals. In 2001, there were 60,716 foreign nationals in the country, making up 3.6 percent of the total population. This number increased to 111,485 in 2011, representing 5.5 percent of the total population. As shown in figure 4 below, majority of this group is within the working age group of 20 – 44 years with an almost equal representation for both males and females. However, there are slightly more males than females across all age groups.

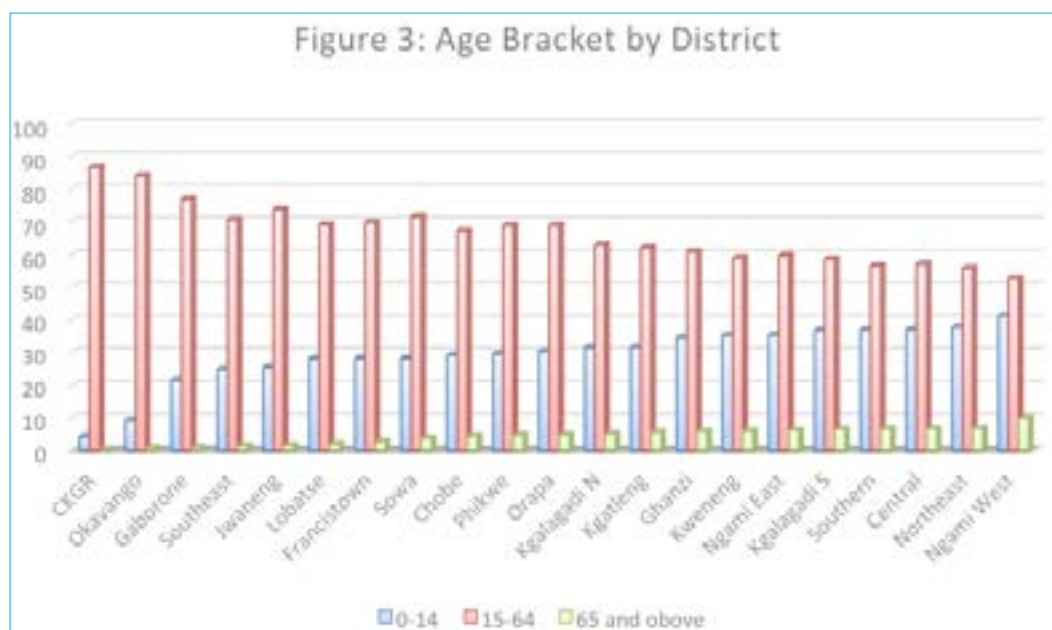
Figure 2c: Age Distribution of Foreign Nationals 2011



3.3 The Geographical Distribution of the Population

3.3.1 District Population Distribution by Age

Figure 3 shows the age distribution of the population by district. Elderly population aged 65 years and above constitutes a relatively small proportion of the population residing in districts predominantly urban districts.



Elderly population aged 65 years and above constitutes a relatively small proportion of the population residing in districts predominantly urban districts. Their percentage ranges from about 0.5 percent to approximately 3 percent. They are least found in the mining towns of Orapa, Sowa, Jwaneng but are better represented in Lobatse, Francistown and Selibe Phikwe. Children aged 0 -14 years constitute less than a third of the population of towns and cities. They are least represented in Gaborone. The working age group constitutes the largest proportion of the residents of towns and cities, ranging from about 70 percent to 77 percent.

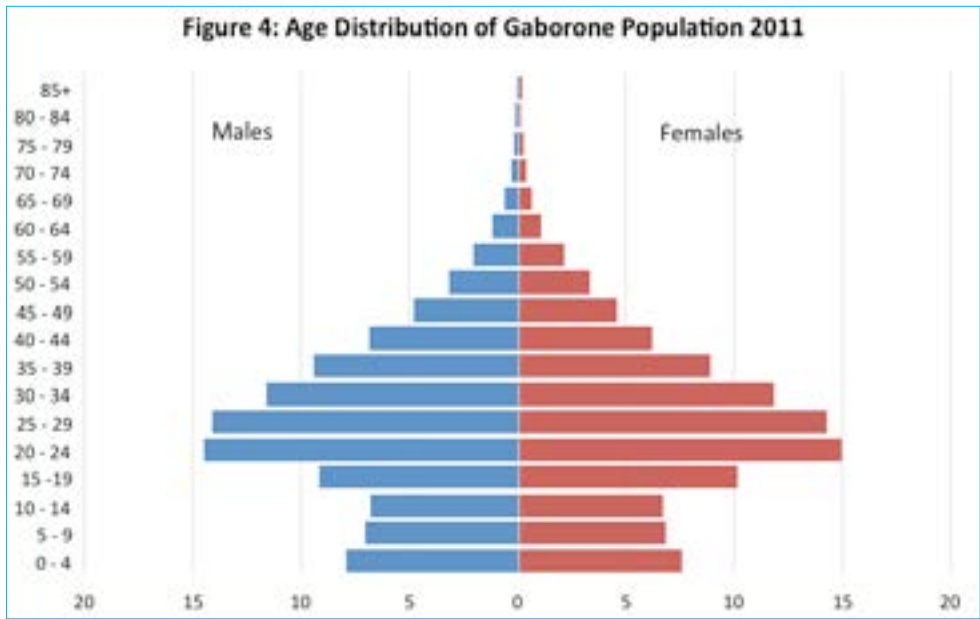
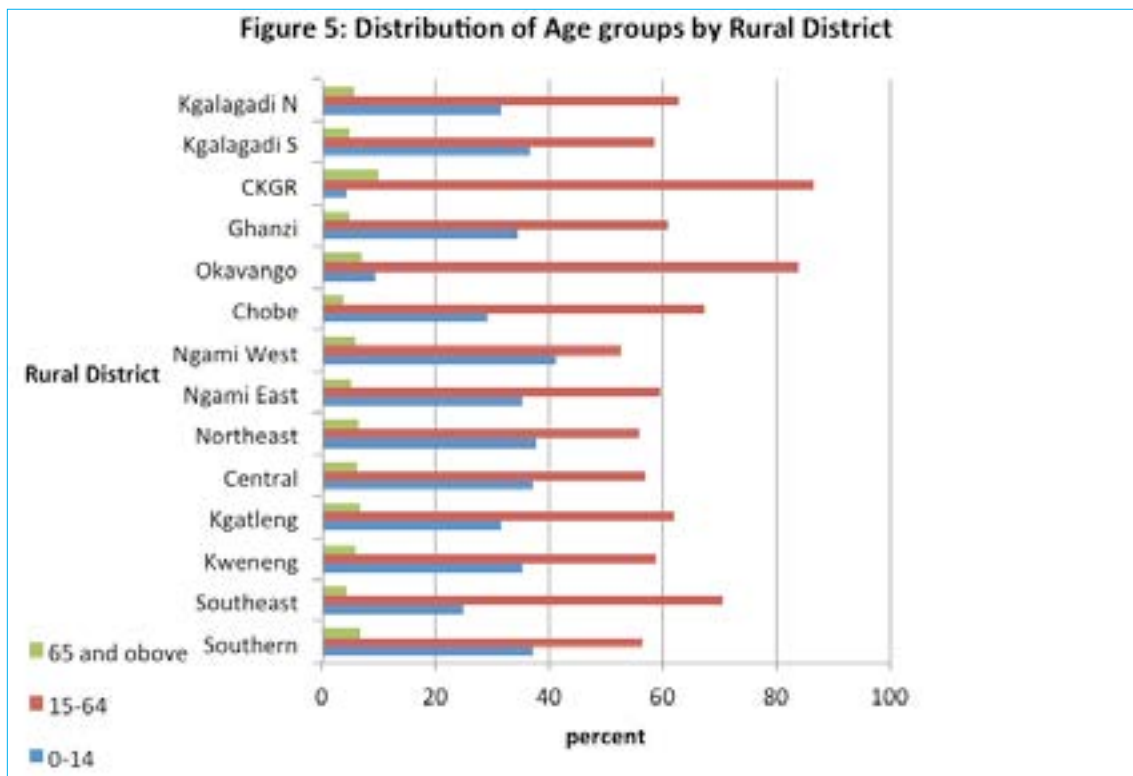


Figure 4 shows the distribution of the population of the national capital, Gaborone. The population is dominated by the youth aged 15 – 39 who also constitute the working age group. As already alluded to in the preceding arguments, the elderly along with children are least represented in the capital.

This population distribution patterns reflect selective migration to towns and cities by the economically active age cohort. It also reflects associational migration of dependent children.

The age patterns for the rural districts, depicted in Figure 5, show a higher representation of the dependent population compared with the urban pattern.



Children and infants represent 4 percent to about 40 percent of the population, whereas the elderly cohort makes up about 4 percent to 10 percent of the population. This sub-population is often referred to as a residual component that remains once the economically active group has relocated to towns and cities and certain rural areas such as urban villages, where employment opportunities avail themselves. The economically active population forms the dominant cohort in the Rural Districts, ranging from about 50 percent to approximately 90 percent of the rural population. It is to be found in the Southeast District where there is the highest concentration of job opportunities within the South Eastern Planning Region, and the tourist related areas such as the Central Kalahari Game Reserve and Chobe.

3.3.2 Districts Sex ratios

Table 6: Population and Sex Ratio by District

	Sex		Total	Sex ratio
	Male	Female		
Gaborone	113544	118048	231592	96.2
Francistown	48106	50855	98961	94.6
Lobatse	14145	14862	29007	95.2
Selebi-Phikwe	24733	24678	49411	100.2
Orapa	4730	4801	9531	98.5
Jwaneng	9820	8188	18008	119.9
Sowa Town	1960	1638	3598	119.7
Ngwaketse	62262	66985	129247	92.9
Barolong	26681	28150	54831	94.8
Ngwaketse West	6874	6815	13689	100.9
South East	40699	44315	85014	91.8
Kweneng East	125214	131538	256752	95.2
Kweneng West	24402	23395	47797	104.3
Kgatleng	44572	47088	91660	94.7
Central Serowe/Palapye	88889	91611	180500	97
Central Mahalapye	57548	61327	118875	93.8
Central Bobonong	34249	37687	71936	90.9
Central Boteti	28147	29229	57376	96.3
Central Tutume	70340	77037	147377	91.3
North East	28595	31669	60264	90.3
Ngamiland East	44410	45924	90334	96.7
Ngamiland West	27924	31497	59421	88.7
Chobe	12023	11324	23347	106.2
Okavango Delta	1277	1252	2529	102
Ghanzi	22268	20827	43095	106.9
CKGR)	193	67	260	288.1
Kgalagadi South	15119	14897	30016	101.5
Kgalagadi North	10347	10129	20476	102.2
Total	989,071	1,035,833	2,024,904	95.5

Apart from Orapa, which is a closed town and has a comparatively diverse functional structure, the dominance of males over females in the mining towns is evident. This reflects a gender stereotyping that governs the traditional division of labour; society has come to believe that most mining jobs can mostly be done by men. Rural districts show the effects of selective male migration. In cities, Lobatse town and highly urbanized districts such as the Southeast, Kgatleng, Kweneng and Central Serowe/Palapye East there is a predominance of females over males, generally. This could be due to the types of employment and the stereotypes that promote the gendered division of labour. Women are mostly employed in primary school education, nursing, secretarial and clerical work in both the public and private sector. They also dominate the retail sector as till operators and banks as tellers. Furthermore, they constitute the majority of domestic workers and the self-employed.

About 90 percent of the national population lives either in urban villages, rural villages or towns and cities while the rest live in lands areas, cattle posts, freehold farms and caps, as shown in Table 7. Some 64 percent of the population is urban. The Table sheds further light on the differential distribution of sex by sub-locality.

Table 7: Distribution of the Population by Locality Type

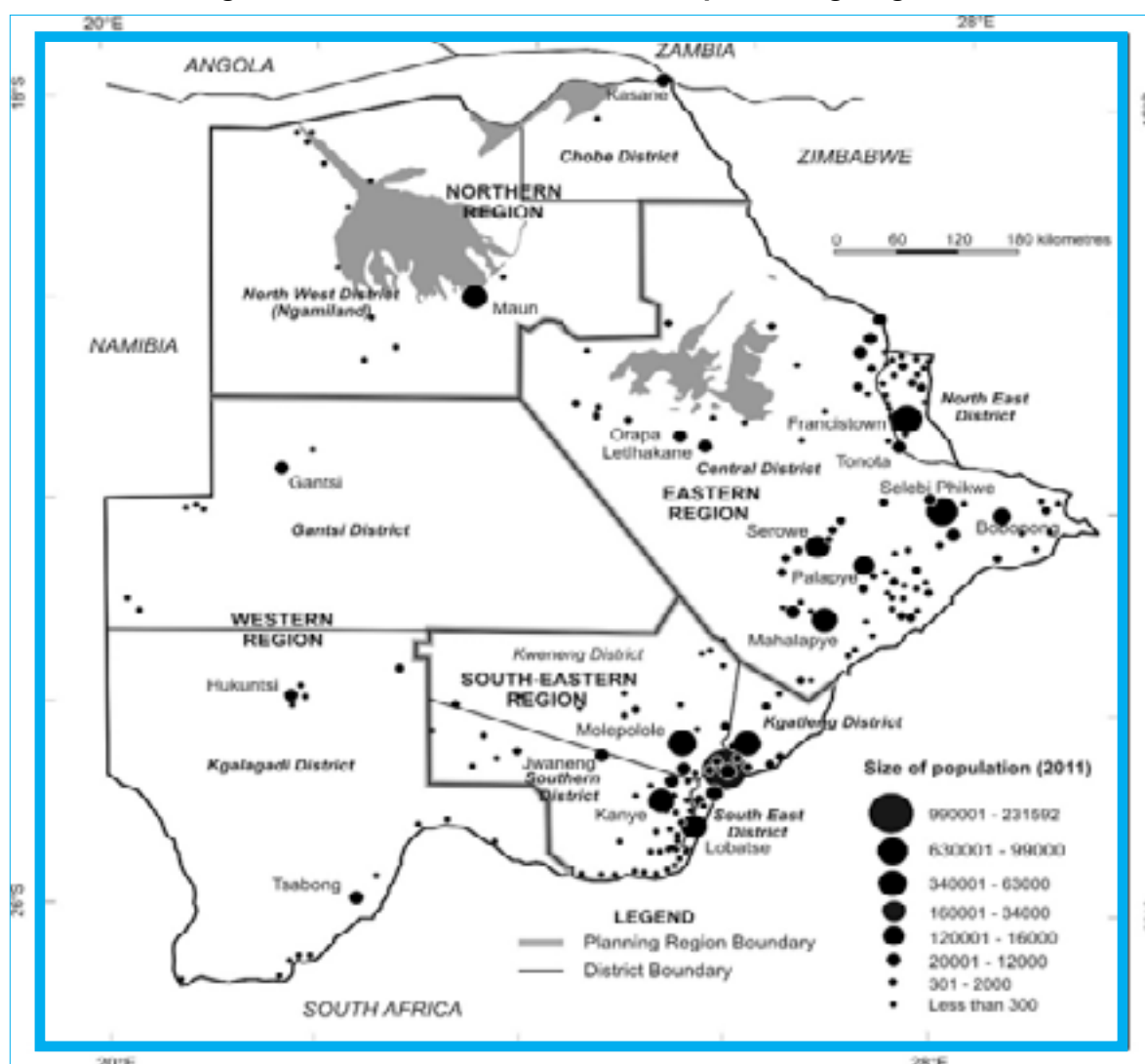
Locality	Frequency	Percent	Sex ratio
City/Town	440,108	21.7	92.1
Urban Villages	857,179	42.3	88.2
Rural Village	523,687	25.9	87.4
Lands area	92,776	4.6	136.8
Cattle Post	52,849	2.6	189.1
Freehold Farm	15,170	0.7	146.2
Mixture of lands and Cattle Post	20,203	1.0	155.8
Camp or Other Locality Type	22,932	1.1	186.2
Total	2,024,904	100.0	95.5

Cities, Towns, Urban Villages and even rural villages offer the gendered employment alluded to above. For the rural localities, such as cattle posts, freehold farms, camps and lands areas, the emerging pattern is very clear. The influence of gender roles and responsibilities on the location of men and women is highlighted in the agricultural sector. Other rural employment activities include leather work, wood carving and borehole maintenance. In the rural districts, the male population is thus predominant in the lands, cattle posts and freehold farms. They also feature highly in those tourist districts where game operators, game rangers and tourist guides are in demand, such as Camps and Game Reserves.

3.3.3 Population Distribution by Planning Region

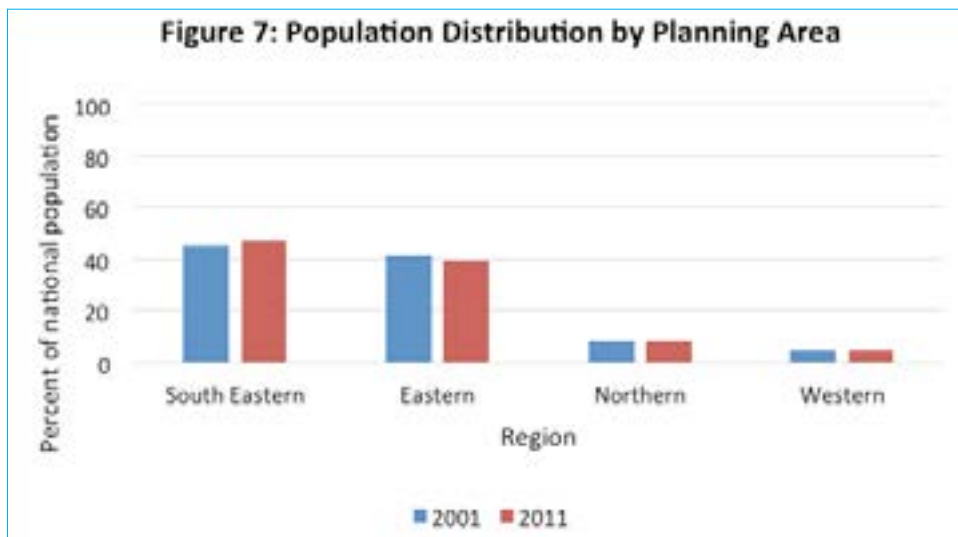
Figure 6 shows the distribution of human settlements by Planning Regions.

Figure 6: Distribution of Settlements by Planning Regions



Human settlements are concentrated on the hard veld Planning Regions, reflecting ecological and spatial investment differentials in the country. The remote Planning Region of the sandveld and the resource frontier region are characterized by the paucity of human settlements.

Figure 7 shows the distribution of the national population by Planning Regions over the last ten years. The percentage of population residing in each Region increased except for the Eastern Region. This could have been due to net migration from the latter Region to the Southeastern Region which recorded the highest net increase. Selibe Phikwe and Francistown have been facing serious economic challenges over the interim period. Similarly, the down-sizing of labour in the “closed” diamond-mining town of Orapa, in response to the recession, might have been responsible for its negative population growth. The population of the Northern and Western Planning Regions increased marginally, probably due to the growth of the tourism sector.



3.4 Population Density

Overall the national population experienced a rate of change of 20.5 percent and a density increase from 2.9/km² to 3.5/km², over the 2001 to 2011 intercensal period as depicted by Figure 8. Population density increased among all the Regions, especially the South Eastern Regions. Even if the Eastern Region recorded net population loss, its density increased by 0.9 per square kilometer. The density of Northern Region increased marginally whilst that of the Western Planning Region remained stagnant.

The Southeastern Planning Region recorded the highest proportion of the national population, at 47.3 percent. This marks an increase from the 45.6 percent recorded in the last census. The Region has also the highest population density at 13.8/km², compared with 11/km² in 2001. These figures reflect the presence of the national capital, two towns and the large satellite dormitory urban villages to Gaborone. Next, the Eastern Region has 39.4 percent of the national population, a 2 percent decline since 2001, and a density of 5.4/km², a marginal increase from a figure of 4.5/km², in 2001. This reflects the presence of the second largest city, the gold copper/nickel, soda ash, diamond and coal mining towns and large population concentrations in the major villages of Serowe, Palapye, Mahalapye, Shoshong, Tonota, Tutume and Tati Siding. The Region's share of the national population has decreased from 39.4 percent probably due to outmigration from Phikwe. The Northern Planning Region ranks third with 8.7 percent of the national population and a density of 1.4/km². This is a remote region that was recently prone to water-related diseases. For example Okavango, Chobe and Ngamiland are designated as malaria endemic areas. However with the improved health situation, tourism is becoming an important economic sector attracting population to the urban district of Kasane. Also public sector investment in administrative and social services and private sector investment in commercial agriculture are creating employment opportunities. Subsistence farming is constrained by destruction of crops by wildlife human conflicts, and floods, endemic diseases such as foot and mouth preventing the sale of livestock to BMC.

The Western Region is bottom of the list, both in terms of population size and density. This is because of its harsh arid climate, remoteness and a weak economic base. The challenge will be the provision of infrastructure and services to remote area dweller settlements with a minimum population of 250.

There are regional imbalances in the population distribution pattern. The higher concentration of population in the South Eastern and Eastern Planning regions is responsive to the relative availability of services and infrastructure in this area.

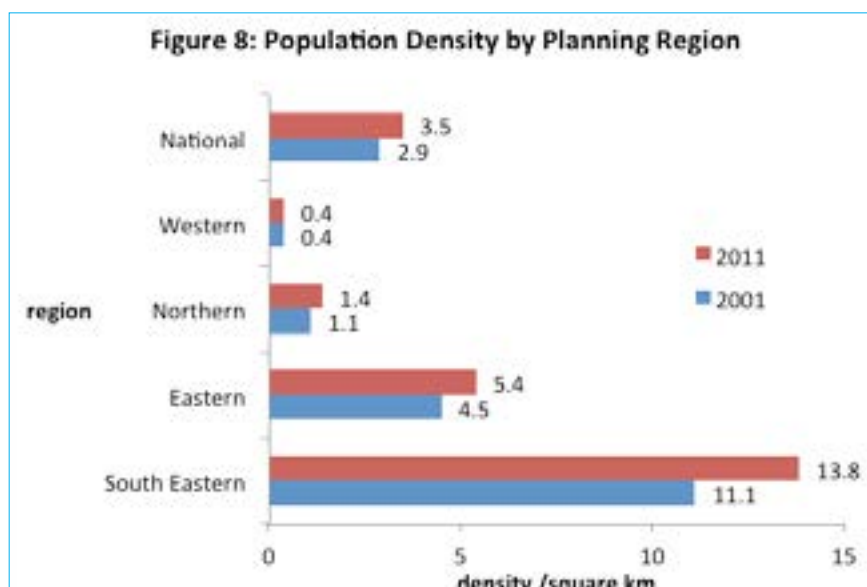


Table 8: Population Distribution by Planning Region

REGION	AREA	POPULATION [2001]	POPULATION [2011]	Density/Km2 [2001]	Density/Km2 [2011]	% Population [2001]	% Population [2011]
EASTERN	147 501	[695 682]	797 829	[4.5]	5.4	[41.4]	39.4
Northeast	5 120		60 264	[9.7]	11.8		
Central	142 076		576 064	[4.0]	4.6		
Sowa	159		3 598	[18.8]	22.6		
Orapa	17		9 531	[543.8]	560.1		
Francistown	79		98 961	[1068.4]	1 252.7		
Selebi Phikwe	50		49 411	[996.9]	988.2		
SOUTH EASTERN	69 621	[766 992]	957 597	[11.1]	13.8	[45.6]	47.3
South East	1 780		85 014	[34.3]	48.8		
Gaborone	169		231 592	[1099.9]	1 370.4		
Kweneng	31 100		304 549	[7.4]	9.8		
Southern	28 470		197 767	[6.0]	6.9		
Lobatse	42		29 007	[708.3]	690.6		
Jwaneng	100		18 008	[151.8]	180.1		
Kgatlang	7 960		91 660	[9.2]	11.5		
WESTERN REGION	223 110	[75 219]	93 847	[0.4]	0.4	[4.5]	4.6
Kgalagadi	105 200		50 752	[0.5]	0.5		
Ghanzi	117 910		43 095	[0.3]	0.4		
NORTHERN	129 930	[142 970]	175 631	[1.1]	1.4	[8.5]	8.7
Ngamiland	109 130		152 284	[1.5]	1.4		
Chobe	20 800		23 347	[1.0]	1.1		
TOTAL	581 730	[1 680 863]	2 024 904	[2.9]	3.5		

4.0 Policy Implications and Issues

The preceding discussion has shown the complexity of patterns, processes and outcomes of population distribution in Botswana. The following paragraphs will highlight specific challenges and broadly suggest how they could be dealt with to achieve sustainable development.

4.1 The demographic profile

The demographic distribution of the population has highlighted the following trends, namely; overall, there is a low sex ratio, declining annual rate of population growth and an increasing working age population.

4.2 Low sex ratio

The low sex ratio suggests that women are the dominant sex group. Therefore those policies that discriminate against their empowerment to access the means of production do not promote equity and frustrate national

development. Household Income and Expenditure Surveys have consistently portrayed women as either doing unpaid household work, unemployed or over-represented in the marginal employment sectors. Within the domestic sphere, they bear the burden of triple gender roles. Women are a latent human capital force that needs to be activated and harnessed to achieve cardinal principles of democracy, development, self-reliance, unity and botho. Both men and women should therefore be accorded self-realization space and empowered to equitably access social, economic and fixed capital in order to contribute meaningfully to national development. In this way, the Vision 2016 goal of a prosperous, productive and innovative nation will be accomplished.

4.3 Declining rate of population growth

The annual growth rate has also been declining probably due to a slowdown in natural increase and net migration. One of the threats to industrialization and economic diversification is the country's small population size. Decreasing fertility and low life expectancy are a threat to the realization of a critical population mass for sustained industrialization and economic growth. Pro-natalist population policies, encouragement of the return of Batswana who have emigrated and selective migration policies should be encouraged.

4.4 Increase in the working age group

The increase in the working age population could either be a curse or blessing. Training the human resource in this cohort could boost economic production, consumption and sustain economic growth. Conversely, it could be a liability by nurturing the unemployed, the under-employed and the misemployed.

The orphans, youth, elderly and women are the most vulnerable in terms of poverty and having access to sustainable livelihoods. New and ongoing programmes such as the Brigades and the Local Entrepreneurship Programme designed to create skills, employment and social safety nets need to be sensitive to the needs of these groups. This is the essence of not only creating a prosperous, productive and innovative nation but also that of a compassionate, just and caring one. The National Strategy for Poverty Reduction that addresses lack of incomes, human capabilities and participation is also critical for dealing with these issues.

4.5 The geographical distribution of population

4.5.1 Regional imbalances

The population is concentrated in the South Eastern and Eastern Planning Regions. This reflects the combined effect of primary/ecological factors and secondary/responsive factors. The first relate to favourable climate and soils while the second relates to investment in physical, social and economic infrastructure. Regional disparities in the economic development have created imbalances in which the Northern and Western Planning Regions are disadvantaged.

4.5.2 Promotion of equitable regional development

The aim of the National Settlement Policy (NSP) (1998, 2004) to create equitable development, achieve spatially balanced development across the country should guide development.

The increasing proportion of the national population that is being attracted to the South Eastern Planning Region implies additional demands on land, social services, physical infrastructure and employment. Over-concentration of the national population is being accompanied by serious unregulated development and environmental problems. Negative social externalities associated with population pressure on the environment need to be anticipated and planned for on the basis of sustainable environmental management strategies under the Environmental Impact Assessment Act, the National Settlement Policy and the National Conservation Strategy.

The comparative advantage of the Eastern Planning Region in terms of easier access to water, latent and prospective employment opportunities and geographical centrality need to be exploited in terms of future investment. This would facilitate an equitable distribution of employment opportunities in the country. The development of the natural resources in the Northern Region needs to be strongly supported in order to divert population from moving to the congested Regions.

The NSP emphasizes that there should be creation in the least developed areas, especially rural ones in the Western Region. Thus the importance of the improvement of existing and initiation of new productive

activities, exploration and development of potential renewable and non-renewable natural resources as well as the identification and development of the necessary infrastructure, which facilitates the development of settlements. This will ensure the realization of the Vision of a socially-just, united and proud nation.

5.0 Conclusion

The country's population has gone through a demographic transformation over the last decade. The population is experiencing an increase in both the median and average age. On a related note, the economically active population is growing at a faster pace, which put pressure on the already limited capacity of the country to provide decent jobs and the accompanying social amenities.

The country is also experiencing a decline in the proportion of persons below the age of 15, increase in the youth population and decline in the elderly population. However, the decline in the elderly population may be reversed as the health and survival probability of the population increased. Regarding the distribution of the population, the density of the country has increased meaning that there are more people per square kilometer. The increase in the density will in the long run imply that land reserved for agricultural purposes is limited. The south eastern part of the country is the most populous region and close to half of the population lives in the regions. The region houses the national capital and other industrial centers where job opportunities are favourable compared to other parts of the country.

REFERENCES

- Republic of Botswana (1998) The National Settlement Policy. DTRP, Gaborone.
- Republic of Botswana (2004) The Revised National Settlement Policy. Government Printer, Gaborone.
- Republic of Botswana (2009) National Development 10, vol.1. Ministry of Finance and Development Planning, Gaborone.
- Republic of Botswana (2004) Analytical Report 2001 Population and Housing Census. Department of Printing and Publishing Service, Gaborone.
- Republic of Botswana (2011) 2011 Population and Housing Census. Statistics Botswana, Gaborone.
- Ministry of Finance and Development Planning (2010), Revised National Population Policy, Botswana, Gaborone

ASSESSING HOUSEHOLD WEALTH STATUS: AN ASSET BASED APPROACH

By David Mmopelwa and Khaufelo Raymond Lekobane
BIDPA

Introduction

Wealth has traditionally and commonly been measured using monetary indicators such as income and consumption (Hargreaves et al., 2007). Income is "the amount of money received during a period of time in exchange for labour or services, from the sale of goods or property, or as a profit from financial investments" (O' Donnell et al., 2008; 70). On the other hand, consumption is "the final use of goods and services, excluding the intermediate use of some goods and services in the production of others" (pp, 70). While there could be some differences in defining these two concepts, the approach to use them as welfare indicators has resulted in the production of social protection policies in various countries including Botswana. However, some researchers have debated the adequacy of the two monetary indicators in capturing status of welfare; hence alternative approaches have been proposed to serve this purpose. It has been observed that despite the findings of assets being the underlying determinants of poverty in the developing world, little attention (save for human capital proxied by education) is given to them, resulting in the objectives to address only income (and/or expenditure) poverty (Sahn and Stifel, 2003).

The use of assets as a welfare indicator has however, not escaped criticism. Some argue that ownership does not capture the issue of assets quality (Falkingham and Namazie, 2002). Thus, the process of collecting data on assets may not differentiate households that own new or old assets, cheap or expensive ones etc. Notwithstanding that, the authors argue that in a number of countries, such traits would not change the overall picture of wealth. Filmer and Scott (2008) make references to the extensive use of asset indices in previous studies. The authors indicate that this index has been used for analysis of poverty change, inequality (in health and education outcomes), and for program targeting and evaluation. While this pattern is observed in the literature, little (or no) evidence exists in Botswana for utilizing assets to inform welfare status. This is despite that the surveys conducted and the previous census collected data on assets. This paper therefore fills this gap. The paper compliments poverty analysis efforts done so far as it extends understanding of multi-dimensions of poverty. Results of this paper are important as they will assist policy makers to identify areas of concern to uplift household wealth, which should facilitate not only the attainment of MDGs but also the Vision 2016 aspirations. The rest of the paper is organised as follows. Section II discusses the methodology while section III discusses data source and descriptives. Results are presented and discussed in section IV, and section V concludes.

I. Methodology

Computation of an Index

The use of asset/welfare index is common in situations where data on either income or consumption was not collected. This approach is therefore relevant for this paper, with the 2011 population and housing census, which only asked about the source of income. Moreover, "the index captures a dimension of economic status" (Filmer and Scott, 2008; 4) and gives more reflection on long run household wealth (Filmer and Pritchett, 2001). Some of the issues to be considered in computing the index include choice of assets and their weights. Several approaches to computing the index exist. One of them is the simple total sum of assets from a dummy variable of whether a particular household owns assets or not (Case et al., 2004; Montgomery et al., 2000). This approach has been termed an "arbitrary approach" as it assumes equal weights for the different assets (O' Donnell et al., 2008; Vyas and Kumaranayake, 2006). Another approach is the use of statistical techniques which address the issues of weights in the index. The two commonly used techniques are the factor analysis and Principal Component Analysis (PCA). In this paper we computed the wealth index from a technique of PCA, which is a tool used to reduce a number of variables into one. It is mathematically specified as follows:

In the above specification, w_m is the weight for the m th Principal Component (PC) and the n th variable, given set of variables from Y_1 to Y_n . The weights of the PCs are represented by the eigenvectors of the correlation matrix. However, if the data is standardized the eigenvectors would be of the co-variance matrix. On the other hand, the variance of the PCs is given by the eigenvalues (Vyas and Kumaranayake, 2006). In the output, components are ordered according to their proportion of variation that they explain in the original data; with those in the top positions explaining larger amounts of variation. The index was computed from housing conditions (type of houses, wall, floor, and roof materials), living conditions (water source, toilet facility and energy sources for lighting, cooking and heating) as well as ownership of durable assets (Television, radio, sewing machines, watch etc.).

While there is no defined criteria for the choice of assets (Montgomery et al., 2000); ours was influenced by the bearing that the variables might have on the Millennium Development Goals. For instance, source of water, sanitation and flooring material affect hygiene. Source of energy for cooking may affect the environment and respiratory diseases that cause deaths. Some of the variables were in categorical form, which is not suitable for the PCA technique and were therefore converted to binary variables. After computing the wealth index, households were then classified into quintiles. The decision to choose five groups (quintiles) was among others informed by previous empirical work. According to literature, the commonly used cut-off points are classification into quintiles (Gwatkin et al. 2000; Filmer and Pritchett 2001). This is done to differentiate households into socio economic categories; to show wealth status within a population. We used SPSS (Version 18) for analysis.

II. Data source and Descriptives

The paper used data from the 2011 population and housing census, which had 550944 households. Table A1 in the annex presents descriptive statistics. The fourth column of Table A1 shows the factor score, which is basically the first principal component (weight), used to create a household score (Houweling et al., 2003). A positive score suggests that a variable is associated with a higher economic status (wealth) while the opposite is true for a negative score. Thus, from Table A1, with regard to the type of housing unit, traditional, mixed, movable, shacks and rooms will be associated with higher economic status. The use of mud bricks/blocks or poles and reeds for floor would reduce household wealth.

The pattern for type of housing unit is dominated by detached houses (43%) followed by rooms and traditional house with 23 percent and 14 percent, respectively. Other types (town house, mixed, flat, shacks and movable) accounted for a share 10 percent or less. Majority (82%) of households had their walls made out of conventional bricks/blocks while the remaining shares were distributed amongst corrugated iron, asbestos, wood, stones and poles and reeds. A larger proportion (65%) had cement as a floor material, 22 percent with floor tiles and 0.07 percent with brick/stone. Roof material is dominated by corrugated iron (74%), followed by roof tiles (13%), while the least share was for concrete (0.3%).

Regarding water supply, majority (40%) of households had piped outdoors while 30 percent had piped indoors. Thus, majority appear to be accessing water from improved sources. This pattern was also observed by previous studies (Statistics Botswana, 2011). About 15 percent of households sourced water from communal taps. Other water sources including bouser/tanker, well, borehole, and dam/pan had a share of less than 10 percent. Those who owned flush toilet accounted for a share of about 25 percent followed by those who owned pit latrines with 24 percent. However, 18 percent of households shared pit latrines, 5 percent used neighbor's pit latrines, and 9 percent shared flush toilet. While there is dominance of use of pit latrines, it is promising that the use of flush toilets (whether owned or shared) is also visible. The shares for those who used communal toilet facilities were less than a percent. The above presents a hopeful trend towards the achievement of the Millennium Development Goal 7 of ensuring environmental sustainability. More than half of households used electricity as a principal source of energy for lighting while 30 and 11 percent used paraffin and candles respectively. About 41 percent of households used wood as energy for cooking followed by 38 percent who used gas. The use of wood also dominated sources of energy for heating (48%), followed by electricity with a share of 17 percent.

About 15 percent of households owned van/bakkie; 2 percent owned tractors and 20 percent owned cars. The shares of ownership status for donkey carts and bicycles stood at 12 and 10 percent respectively, while motor bike and boat were owned by about a percent of households. About 43 percent owned the refrigerator and 5 percent owned sewing machine. Given that these assets have a positive factor score, their ownership implies the likelihood of improved welfare for households. On the other hand, majority (90%) owned cell phones while 11 percent had telephones (landlines). About 61 percent owned radios and 54 percent owned televisions. This pattern presents a positive outcome towards an "informed nation" as these assets are among

the primary sources of information.

III. Results and Discussions

We begin by presenting the welfare status by census district (Table 1). The numbers in brackets are proportions. As can be seen in the table, Gaborone, Francistown, and Orapa districts have larger proportions of households with better status of wealth. The proportions of households increase as we move from the lower (poorest) wealth status to the higher (richest) status. For instance, 0.6 (1.2) percent of households are in the poorest wealth status in Gaborone (Francistown) compared to 45 and 29 percent in the richest status respectively. This pattern is also observed in Lobatse, Selebi Phikwe, Sowa Town and Jwaneng, with some minor variations. These results corroborate findings from previous studies, that these districts had lower poverty incidence compared to others (CSO, 2008; Statistics Botswana, 2013). For instance in 2002/03 poverty incidence stood at 0.076, 0.159, and 0.018 percent for Gaborone, Francistown and Orapa respectively.

The districts of Ngamiland West, Kweneng West, Ngwaketse West, CKGR, and Ghanzi had the highest proportions of households in the poorest status (all over 40%). These results are consistent with those of previous survey by Statistics Botswana (2013) where poverty rates were found to be higher in such districts. Ngwaketse, Ngwaketse West, Mahalapye, Bobonong, Tutume, Ngamiland and Kgalagadi are generally characterized by larger proportions of households in the poorer status of wealth than those in the richer status. For instance, about 49 percent of households in Ngwaketse West are in the poorest status of wealth compared to 7 percent of those in the richest status; while 29 percent of households in Kgalagadi North are in the lower wealth status compared to 13 percent for those in a richer state. We conclude that generally the urban (or city/town) districts are characterized by better wealth status than their rural counterparts. One of the possible explanations for the observed pattern could be employment opportunities found in urban areas and cities/towns. Although there are various modes of assets acquisition (including inheritance), income from employment is likely to improve ownership of asset status.

Table 1: Wealth Status by Census District

District	Poorest	Second	Middle	Fourth	Richest
Gaborone	448 (0.6)	8692 (11.6)	15049 (20.1)	17019 (22.7)	33749 (45.0)
Francistown	384 (1.2)	5153 (16.5)	7333 (23.4)	9501 (30.4)	8926 (28.5)
Lobatse	200 (2.2)	1898 (20.6)	2438 (26.5)	2012 (21.8)	2666 (28.9)
Selebi Phikwe	281 (1.7)	2851 (17.8)	3347 (20.8)	5097 (31.7)	4483 (27.9)
Orapa	0 (0)	1 (0)	62 (1.9)	732 (22.2)	2497 (75.9)
Jwaneng	449 (7.6)	281 (4.7)	1063 (17.9)	1400 (23.6)	2747 (46.2)
Sowa Town	28 (2.4)	44 (3.7)	42 (3.5)	534 (44.8)	543 (45.6)
Ngwaketse	7551 (24.0)	8503 (27)	5947 (18.9)	5841 (18.6)	3639 (11.6)
Barolong	3300 (24.0)	5146 (37.4)	2389 (17.4)	1614 (11.7)	1309 (9.5)
Ngwaketse West	1725 (48.5)	999 (28.1)	328 (9.2)	264 (7.4)	240 (6.7)
South East	952 (4.0)	2894 (12.1)	5689 (23.7)	7519 (31.3)	6936 (28.9)
Kweneng East	8488 (12.4)	14158 (20.7)	17961 (26.3)	17128 (25.2)	10504 (15.4)
Kweneng West	6948 (56.8)	2524 (20.6)	907 (7.4)	751 (6.1)	11012 (9.0)
Kgatleng	3427 (13.8)	5866 (23.5)	5474 (22.0)	5622 (22.6)	4528 (18.2)
Serowe/Palapye	12508 (27.1)	9953 (21.5)	8974 (19.4)	8234 (17.8)	6519 (14.1)
Mahalapye	8731 (29.3)	8227 (27.6)	5217 (17.5)	4265 (14.3)	3359 (11.3)
Bobonong	6186 (32.3)	5025 (26.2)	3607 (18.8)	2544 (13.3)	1794 (9.4)
Boteti	5879 (41.7)	2309 (16.4)	2527 (17.9)	2114 (15.0)	1281 (9.1)
Tutume	14764 (38.5)	9064 (23.6)	6658 (17.4)	4621 (12.0)	3246 (8.5)
North East	3001 (18.9)	4476 (28.2)	3446 (21.7)	2800 (17.6)	2142 (13.5)
Ngamiland East	6262 (28.8)	3806 (17.5)	4648 (21.4)	4263 (19.6)	2758 (12.7)
Ngamiland West	8413 (63.9)	1888 (14.3)	1299 (9.9)	900 (6.8)	664 (5.0)
Chobe	1142 (16.7)	1030 (15.1)	1675 (24.5)	1817 (26.6)	1166 (17.1)
Okavango Delta	191 (29.2)	242 (36.9)	200 (30.5)	21 (3.2)	1 (0.2)
Ghanzi	4636 (40.8)	1731 (15.2)	1626 (14.3)	1920 (16.9)	1442 (12.7)
CKGR	10 (47.6)	0 (0)	1 (4.8)	2 (9.5)	8 (38.1)
Kgalagadi South	2682 (33.7)	1967 (24.7)	1221 (15.3)	1076 (13.5)	1010 (12.7)
Kgalagadi North	1607 (29.0)	1444 (26.1)	1073 (19.4)	682 (12.3)	736 (13.3)

Source: Author computed from data set

Figure 1 presents household wealth status by gender of the household heads. Comparatively, the overall picture presented in Figure 1 suggests that female headed households are better off. This pattern is observed up to the fourth category of welfare. About 22 percent of male headed households are in the poorest status of wealth compared to 18 percent of female headed households. However, in the richest category we observe higher proportion of male headed households than that of female headed households. While this is the case, it is also evident that from the second to the richest status of wealth the proportions of female headed households declined while that of male headed households increased.

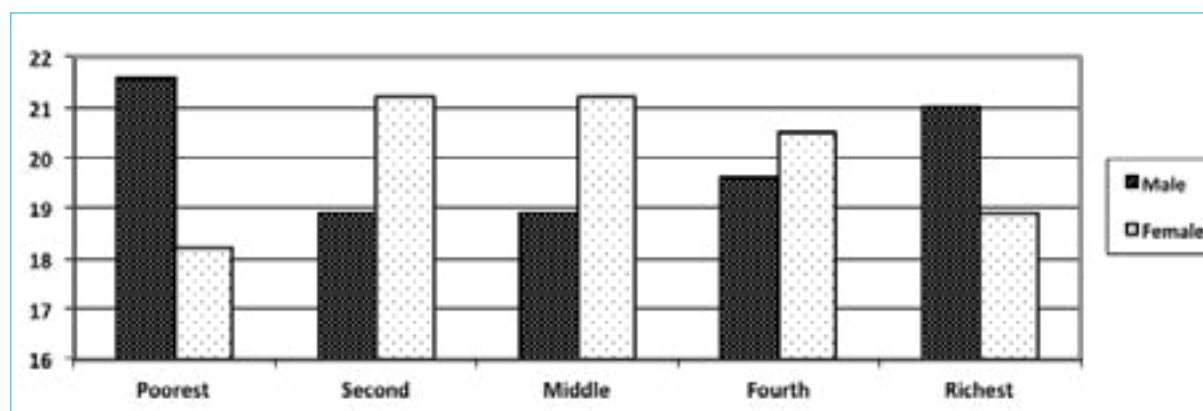


Figure 1: Share (%) of Wealth Status by Gender of household heads
Source: Author computed from 2011 population and housing census data set

Table 2 presents the share of wealth status by marital status of heads of households. Among households with married heads, a higher proportion (25.6%) is in the richest category of wealth followed by those in the fourth category (20.7%). The least share of households whose heads are married is accounted for by those in the poorest status of wealth. This may suggest that being married is likely to improve the household status of wealth. Similarly, households whose heads were never married are more concentrated in the richest category than in the poorest category. This may not be surprising given that previous studies found a comparable poverty incidence in households with married and never married heads (BIDPA, 2010).

There are higher proportions (in the poorest category) of households whose heads are separated, living together and widowed. As seen in Table 2, 24 percent of households whose couples are living together are in the poorest category of wealth compared to 16 percent of those in the richest category. About 30 percent of separated households are in the poorest category compared to 14 percent in the richest category. As for widowed households, the proportions are 24 and 12 percent for poorest and richest categories respectively. The pattern for households with divorced heads is interestingly similar to that of households with married and never married heads, safe for the third category of wealth status. This could be argued to be against the expectations as divorce may result in a reduced status of assets ownership.

Table 2: Share of Wealth Status by Marital Status

Marital Status	Poorest	Second	Third	Fourth	Richest
Married	17.1	18.4	18.2	20.7	25.6
Never Married	18.3	19.5	21	21	20.1
Living Together	24.3	20.8	20.4	18.8	15.7
Separated	29.8	21.9	18.7	15.4	14.3
Divorced	17.1	19	18	19.8	26.1
Widowed	23.7	24.9	21.1	17.9	12.4

Source: Author Computed

Table 3 presents the pattern for wealth status by level of education attained by households' heads. As evident in the table, the status of wealth is positively related to the level of education of the household head. For instance, about 7 percent of households headed by those who have never been to school are in the richest category of wealth compared to about 40 percent in the richest category. A similar pattern is observed for households whose heads had primary and secondary education, who however appear to be faring better than those whose heads had no education. On the other hand, households in which heads had tertiary education are more concentrated in the better status of wealth. In fact the proportions in both the poorest and richest categories are a mirror image of the pattern observed in households with uneducated heads. This could suggest that education might be a determinant of households' wealth status; it may improve acquisition of assets to better the status of household wealth.

Table 3: Share (%) of Wealth Status by Education of the Household`s heads

Level	Poorest	Second	Third	Fourth	Richest
Never Attended	39.6	24.4	16.5	12.5	7.1
Primary	28.9	27.4	19.4	15.3	9.0
Secondary	24.8	24.4	21.4	17.9	11.5
Non-Formal	14.8	20.1	23.7	22.6	18.8
Tertiary	6.8	11.9	16.3	24.7	40.3

Source: Author Computed from 2011 population and housing census data set

IV. Conclusions

This paper assessed welfare status using the index computed from the technique of Principal Component Analysis. To our knowledge this approach has not been done in Botswana. Therefore, it may not be easy to conclusively note whether there has been an improvement or not, in addition to what has been done so far. Therefore this paper may be seen as the baseline against which future progress will be tracked. Results have shown that generally there is better status of wealth among urban districts, female headed households as well as in households with married heads. Further, education also appears to be an important determinant of asset acquisition. Results revealed a positive relation between wealth status and educational level of heads of households.

Results from our analysis suggest that from a policy point of view, there is need to broaden issues of consideration in designing programmes for poverty eradication. Thus, there is need to also focus on economic and social forces that contribute to assets inequality, given that sometimes both the policies and programmes for poverty eradication would be based on individuals' ability to accumulate productive assets. Moreover, the problem of income inequality might be exacerbated by unequal distribution of income generating assets, hence the need for consideration of assets. Although some reports suggest that Botswana is on track of meeting MDG 1 of halving extreme poverty and hunger, such needs to be supplemented by consideration of assets with the view to try to address the multidimensionality of poverty, especially that the target may be seen to have been narrowed to "income" or expenditure as welfare measures.

References

- Botswana Institute for Development Policy Analysis (BIDPA). (2010). *Review of the National Strategy for Poverty Reduction: Social Protection for poverty and vulnerability reduction*. Unpublished consultancy report, BIDPA.
- Case, A., Paxson, C., and Ableidinger J. (2004). Orphans in Africa: Parental death, poverty, and school enrollment. *Demography*. 41(3):483-508.
- Central Statistics Office (CSO), (2008). *Botswana Census based poverty map report*. Gaborone, Botswana: Department of Printing and Publishing Services.
- Falkingham, J., and Namazie, C. (2002). *Measuring health and poverty: a review of approaches to identifying the poor*: London: Department of International Development Health Systems Resource Centre.
- Filmer, D., and Pritchett, L. H. (2001). Estimating wealth effect without expenditure data-or tears; an application to educational enrollments in states of India. *Demography* 38: 115-132.
- Filmer, D., and Scott, K. (2008). *Assessing Asset Indices*. World Bank Policy Research Working Paper, no 4605. World Bank.
- Gwatkin, D.R., Rustein, S., Kiersten, J., Pande, R., and Wagstaff, A. (2000). *Socio- Economic Differences in Health, Nutrition and Population*. HNP/Poverty Thematic Group. Washington DC: The World Bank.
- Houweling T., Kunst A.E., and Mackenbach J.P., et al., (2003). Measuring health inequality among children in developing countries; does the choice of indicator of economic status matter? *International Journal of Equity in Health*, 2:8.
- Montgomery M.R., Gragnolati K., Burke, A., and Paredes, E. (2000). Measuring living standards with proxy variables. *Demography*. 37:1555-174.
- O' Donnell, O., Doorslaer, E., Wagstaff, A., and Lindelow, M. (2008). *Analyzing health equity using household survey data: A guide to techniques and their implementation*. Washington DC: World Bank.
- Sahn, D. E., and Stifel, D., (2003). "Exploring alternative measures of welfare in the absence of expenditure data". *Review of Income and Wealth, Series 49 Number 4*: 463-489.
- Statistics Botswana (2013). *Botswana Core Welfare Indicator Survey 2009/10, draft report*. Gaborone, Botswana: Statistics Botswana.
- Vyas, S., and Kumaranayake L., (2006). *Constructing socio-economic status indices: how to use principal component analysis*. Oxford University Press in association with The London School of Hygiene and Tropical Medicine: London, UK.

Annex

Table A1: Descriptive Statistics and Results of the Principal Component Analysis

Variable	Mean	Standard Deviation	Score
Type of Housing Unit			
Traditional	0.132	0.338	-0.618
Mixed	0.1	0.300	-0.175
Detached	0.434	0.496	0.463
Semi Detached	0.046	0.209	0.176
Townhouse/terraced	0.019	0.138	0.13
Flats/apartments	0.015	0.123	0.168
Part of commercial building	0.001	0.379	0.003
Movable	0.007	0.835	-0.071
Shack	0.017	0.128	-0.163
Rooms	0.229	0.420	-0.039
Wall Material			
Conventional Bricks/Blocks	0.815	0.388	0.677
Mud bricks/blocks	0.087	0.282	-0.442
Mud and Poles/Cow dung/thatch reeds	0.055	0.228	-0.392
Poles and reeds	0.01	0.996	-0.152
Corrugated Iron/zinc	0.022	0.146	-0.171
Asbestos	0.003	0.053	0.004
Wood	0.004	0.064	-0.08
Stone	0.001	0.022	-0.019
Floor Material			
Cement	0.647	0.478	-0.097
Floor files	0.220	0.414	0.613
Mud	0.054	0.225	-0.382
Mud/dung	0.050	0.218	-0.379
Wood	0.002	0.044	-0.007
Brick/stone	0.001	0.026	-0.016
None	0.024	0.152	-0.239
Roof Material			
Slate	0.007	0.082	0.012
Thatch	0.111	0.315	-0.56
Roof Tiles	0.129	0.335	0.429
Corrugated Iron	0.735	0.441	0.06
Asbestos	0.009	0.095	0.09
Concrete	0.003	0.053	0.039
Other	0.006	0.076	-0.077
Water Supply			
Piped indoors	0.302	0.459	0.695
Piped outdoors	0.399	0.490	-0.004
Neighbor's tap	0.056	0.231	-0.19
Communal tap	0.148	0.355	-0.417
Bouser/tanker	0.011	0.106	-0.1
Well	0.009	0.096	-0.143
Borehole	0.049	0.216	-0.314
River/stream	0.014	0.117	-0.172
Dam/pan	0.007	0.084	-0.121
Rain water tank	0.001	0.032	-0.021
Spring Water	0.001	0.023	0

Table A1: Descriptive Statistics and Results of the Principal Component Analysis cont...

Variable	Mean	Standard Deviation	Score
Toilet Facility			
Own Flush	0.252	0.435	0.657
Own VIP	0.018	0.134	-0.008
Own pit latrine	0.237	0.425	-0.141
Own dry compost	0.003	0.053	-0.063
Shared Flush	0.086	0.280	0.197
Shared_VIP	0.014	0.119	0.005
Shared pit latrine	0.182	0.386	-0.039
Shared dry compost	0.001	0.032	-0.032
Communal Flush	0.001	0.034	0.007
Communal VIP	0.000	0.021	-0.017
Communal pit latrine	0.006	0.077	-0.06
Communal dry compost	0.001	0.025	-0.034
Neighbors' Flush	0.001	0.036	-0.014
Neighbours`VIP	0.002	0.446	-0.037
Neighbors pit latrine	0.046	0.21	-0.212
Neighbor's compost	0.000	0.016	-0.016
Energy for Lighting			
Electricity	0.532	0.499	0.808
Petrol	0.002	0.039	0
Diesel	0.008	0.087	-0.108
Solar power	0.005	0.071	-0.015
Gas	0.003	0.053	0.007
Bio Gas	0.000	0.015	-0.003
Wood	0.036	0.185	-0.311
Paraffin	0.300	0.458	-0.522
Candle	0.110	0.313	-0.296
Energy for Cooking			
Electricity	0.178	0.382	0.457
Petrol	0.001	0.025	0.001
Diesel	0.001	0.03	0.011
Solar Power	0.001	0.028	0.01
Gas	0.379	0.485	0.427
Bio Gas	0.009	0.095	0.036
Wood	0.412	0.492	-0.768
Paraffin	0.017	0.128	-0.062
Cow dung	0.001	0.027	-0.013
Coal	0.000	0.019	0.004
Crop Waste	0.000	0.013	0.01
Charcoal	0.001	0.036	0.005
Energy for Heating			
Electricity	0.168	0.374	0.533
Petrol	0.001	0.030	0.004
Diesel	0.000	0.017	0.001
Solar Power	0.001	0.037	0.016
Gas	0.010	0.101	0.071
Bio Gas	0.001	0.024	0.01
Wood_	0.477	0.500	-0.68
Paraffin	0.003	0.051	-0.023
Cow dung	0.001	0.022	-0.008
Coal	0.001	0.037	0.008
Charcoal	0.002	0.039	0.021

Table A1: Descriptive Statistics and Results of the Principal Component Analysis cont...

Variable	Mean	Standard Deviation	Score
Other Assets (durables)			
Van/bakkie	0.151	0.358	0.298
Tractor	0.020	0.139	0.073
Car	0.198	0.399	0.482
Donkey Cart	0.117	0.321	-0.246
Bicycle	0.099	0.299	-0.007
Mokoro/Boat	0.007	0.080	-0.014
Motor Bike	0.006	0.079	0.057
Wheel barrow	0.331	0.471	-0.014
Sewing Machine	0.046	0.210	0.12
Refrigerator	0.435	0.496	0.708
Cell phone	0.897	0.304	0.406
Telephone	0.108	0.311	0.326
Radio	0.615	0.487	0.323
Television	0.541	0.498	0.723
Laptop	0.112	0.316	0.421
Desktop	0.096	0.295	0.393

Source: Author Computed from 2011 Population and Housing Census Data Set

SOURCES OF INCOME IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS PERSPECTIVES

By Dr. V. K. Dwivedi, Prof. R. Arnab, Prof. D. K. Shangodoyin,
Dr. L. Gabaihiri and Prof. R. Sivasamy
University of Botswana

Abstract: The sources of Households income play an important and crucial role in the living conditions of people. It also contributes to health care, education and other social liabilities of the people in the country. This paper utilizes the data collected in 2011 Population and Housing Census under Section E [E05-E07] on Households' three cash activities i.e. members of the household received cash/inkind from (i) agriculture activities, (ii) household activities, and (iii) other cash/inkind receipt. The analysis on the above study variable is presented in section 3 while the same with respect to classificatory variables viz (a) type of residence, (b) district, (c) current economic status, and (d) marital status is presented in subsections 3.1-3.4. Overall findings indicates that source of income was highest (90%) from cash/inkind receipts followed by agricultural activity (30%) and household activity (12%).

I. INTRODUCTION

Botswana is a landlocked country located in Southern Africa. It is bordered and shares the longest border to the north by Namibia and Zambia, Zimbabwe to the east and the Republic of South Africa (RSA) to the south. The country is sparsely populated with a population of a little over 2 million people (Statistics Botswana, 2012). Thirty-six (36) percent of the population live in rural areas and depend on agriculture for sustenance.

The aim of this paper is to make use of the data collected in 2011 Population and Housing Census under Section E [E05-E07] on Households' three cash activities i.e. (i) agriculture activities, (ii) household activities, and (iii) other cash/inkind receipts. The information on household cash activities provides insight into household income levels and how those which have no cash earners sustain a living.

The specific objectives of this paper are to determine:

1. Percent distribution of households by three cash activities by sex and type of residence viz. (a) cities towns (b) urban villages and (c) rural;
2. Percent distribution of households by three cash activities by district and sex;
3. Percent distribution of households by three cash activities by current economic status and sex, and
4. Percent distribution of households by three cash activities by marital status and sex.

Background and literature review

In 1993/94 and 2002/3 Household Income and Expenditure Survey (HIES), conducted by CSO, Botswana, it was tried to establish the source of household income in the past 30 days (reference being the first day of the survey round) and the past twelve months. A depth analysis was not carried out however this information was used to check against related data from other sections. The sources of income during the 30 days preceding the first day of the survey round may not necessarily be the same as those during the survey round.

The 1991 National Policy on Agricultural Development focused on agrarian reform, which included replacing the food self-sufficiency goal with the concept of food security, promoting diversification of agricultural production. Subsidies such as the Financial Assistance Policy (FAP) to encourage people to participate have been promoted. With this reform, Botswana has exceeded the 1995 target for this programme area. According to Government Implementation Coordination Office (2009), the Botswana government's main objectives were to create a livestock sector which would significantly contribute to economic activity in a substantially liberalized environment, give highest priority to intensive farming projects and support agro-industry projects.

This led to the government introducing some programmes such as Integrated Support Programme for Arable Agricultural Development (ISPAAD) in 2008 to address challenges in the arable sub-sector.

The Botswana Government had attempted to alleviate social and economic challenges of rural areas through a number of policies over the years, this include interalia, the Rural Development Policy (1973, revised in 2002) and the National Settlement Policy (1998).

The broad thrust of these policies is to address rural poverty and under development through the provision of social and economic infrastructure, and modernizing and enhancing the viability of agriculture.

According to Bank of international Settlements (2013), in Botswana the population is served by cash as part of the formal payment system. A fraction of the population mainly on farms and cattle posts and in the informal sector is served by non-cash payment services such as cheques, Cash inform of notes and coins is the most widely used medium of payment for goods and services (<http://www.bis.org/cpso/paysys/Botswanana.pdf>)

II. METHODOLOGY

The methodology utilized in the analysis is exactly that already used in the 2011 Census data collection and specified in the Census Report.

This paper uses the 2011 Botswana Population and Housing Census data to answer some pertinent questions on sources of income (cash receipt) as laid down above in the objectives within the census period 2011. The statistical tabular and graphical analysis is carried out using SPSS package for multiple response analysis.

III. SOURCES OF INCOME

This section of the article deals with the sources of income from: (i) agriculture activities, (ii) household activities, and (iii) other cash receipt with respect to gender by (a) type of residence, (b) district, (c) current economic status, and (d) marital status.

The respondents replied the multiple response questions at household level in the above three categories of sources of income. The questions asked in 2011 Census under Section E were as follows:

Since independence day 2009 did household member(s) received cash from:

Agricultural Activities Sale of...?	Household Activities Sale of homemade produce?	Other Cash/inkind receipt Remittances from
Cattle	Traditional beer	Inside Botswana
Goats/Sheep	Other beverages	Outside Botswana
Poultry	Craftwork	OTHER RECEIPTS
Maize	Clothes	Pension
Sorghum/Millet	Cooked food	Rent
Melons/Sweet reeds	Others	Maintenance
Fruits & vegetables		Employment
Phane		Destitute Allowance
Fish		Govt Rations
Thatch/Poles/Reeds		Others
Firewood		
None		
Legumes		
E05	E06	E07

Figures in below Table 3.0.1 show that about 30 percent household received the income from one and more than one agricultural activities. About 70 percent household did not receive any income from agricultural activities. Around seventeen (17) percent households received income from livestock (cattle+goat/sheep+poultry) while from agriculture these were close to 13 percent.

Table 3.0.1: Percent distribution of household received income from agricultural activities-2011 Census

Agricultural Activity	Response Number	Percent of cases***	Relative Percent
Cattle	52649	9.6	8.5
Goats/Sheep	29670	5.4	4.8
Poultry	21684	4.0	3.5
Maize	15261	2.8	2.5
Sorghum/Millet	7156	1.3	1.2
Melons/Sweet reeds	15252	2.8	2.5
Fruits & vegetables	11209	2.0	1.8
Phane	15440	2.8	2.5
Fish	2627	0.5	0.4
Thatch/Poles/Reeds	6528	1.2	1.1
Firewood	8348	1.5	1.4
Legumes	1514	0.3	0.2
None	430308	78.6	69.7
Total	617646	112.8	100.0

***Number of cases: 547679

Figures in following Table 3.0.2 show that 12 percent household received the income from one and more than one household activities and out of these 6.3 percent from sale of beverages. About 90 percent household did not receive any income from household activities. Percent households received the Income from sale of cloths and foods were almost same i.e. 2%.

Table 3.0.2: Percent distribution of household received income from household activities-2011 Census

Household Activity	Response Number	Percent of cases***	Relative Percent
Traditional beer	25937	4.7	4.7
Other beverages	8934	1.6	1.6
Craftwork	8399	1.5	1.5
Clothes	10959	2.0	2.0
Cooked food	11200	2.0	2.0
Other (NEC)	1268	0.2	0.2
None	490701	89.6	88.0
Total	557398	101.8	100.0

***Number of valid cases: 547542

Numbers in Table 3.0.3 show that about 91 percent household received the income from one and more than one cash/in-kind receipts while about 9 percent household did not receive any income from cash/in-kind receipts. Percent households received the Income from employment was highest (48%) followed by inside Botswana remittance (21%) and pension (8.8%).

Table 3.0.3: Percent distribution of household received income from other cash/in-kind receipts-2011 Census.

Other Cash/In-kind Receipts	Response Number	Percent of cases***	Relative Percent
Inside Botswana	163747	29.9	20.9
Outside Botswana	12907	2.4	1.6
Pension	69282	12.6	8.8
Rent	28388	5.2	3.6
Maintenance	12403	2.3	1.6
Employment	379012	69.2	48.3
Destitute allowance	14621	2.7	1.9
Government Rations	25424	4.6	3.2
Student Allowances	2668	0.5	0.3
Other (NEC)	150	0.0	0.0
None	75594	13.8	9.6
Total	784196	143.2	100.0

***Number of cases: 547623

From above Tables 3.0.1 – 3.0.3, in summary it can be concluded that households were more dependent on Government/Private sector employment and allowances from Government.

The following sub-sections deal with the sources of income with respect to gender by (3.1) type of residence, (3.2) district, (3.3) current economic status, and (3.4) marital status.

3.1 CASH RECEIPT BY TYPE OF RESIDENCE AND SEX

Percent of household who received income from either of the sources of income out of total households enumerated by type of residence is depicted in Figure 3.1.1.

Table 3.1.1 Percent of household who received income from either of the sources of income by type of residence and sex-2011 Census

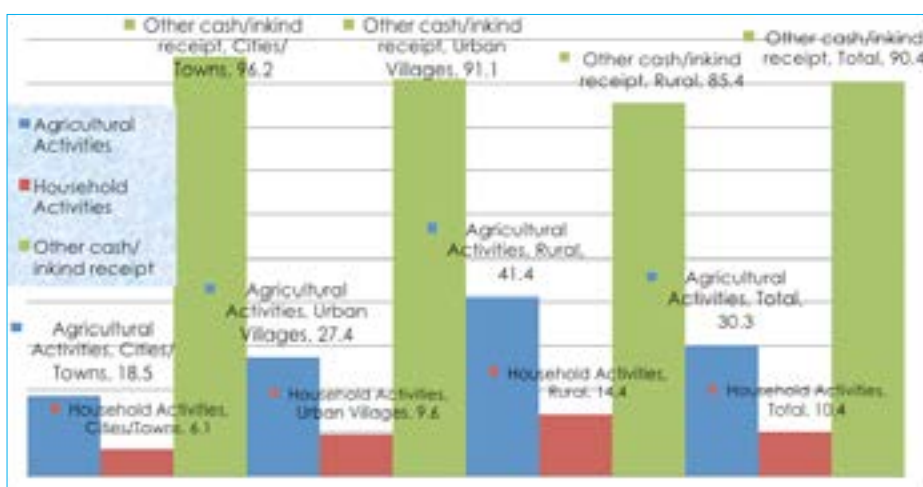
Residence Type	Income from:								
	Agricultural Activities			Household Activities			Other cash/in-kind receipt		
	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Cities/Towns	19.7	16.8	18.5	5	7.7	6.1	96.5	95.7	96.2
Urban Villages	28.7	26.2	27.4	7.3	11.7	9.6	91.5	90.8	91.1
Rural	44.9	37.2	41.4	11.3	18.1	14.4	85.9	84.9	85.4
Total	32.4	28	30.3	8.1	12.9	10.4	90.8	89.9	90.4

The figures for agricultural activities show that percent household who received income was highest (41.4%) in rural settlements followed by urban villages (27.4%) and cities and towns (18.5%). The percent of male heads were more than female heads in all the three categories of residence, the difference between the male and female headed households was highest (about 8 percentage point) in rural while the same differences in urban villages and cities & towns were almost same (close to 3 percentage points).

The figures for household activities show that percent household who received income followed the same trend as in for agricultural activities except that here percent of male heads were less than female heads in all the three categories of residence. This could be explained as female entrepreneurs are mainly engaged in craft work, cloths stitching, and cooked food.

The percent household who received cash/in-kind receipts was highest (96%) in cities & towns followed by urban villages (91%) and rural settlements (85%). The percent of male heads were marginally more than female heads, and the difference between the male and female headed households were almost same (1 percentage point) in all the three categories of residence.

Figure 3.1.1 Percent of household who received income from either of the sources of income by type of residence and sex-2011 Census



The above graph shows that percent household heads received other cash/in-kind receipts recorded highest peak followed by agricultural and household activities.

The details are given in Tables 1-3 in Appendix.

3.2 CASH RECEIPT BY DISTRICT AND SEX

Percent of household who received income from either of the sources of income out of total households enumerated by district and sex is depicted in Table 3.2.1 while by district in Figure 3.2.1.

The figures for agricultural activities show that percent household who received income was highest (42%) in Central district followed by Kgalagadi/Ghanzi (39%) and Southern (32%). The percent of male heads were more than female heads in all districts; the difference between the male and female headed households was highest (about 12 percentage point) in Southern district while in other districts it ranged between 0 and 9 percentage points. The results are obvious as these districts have more agricultural activities.

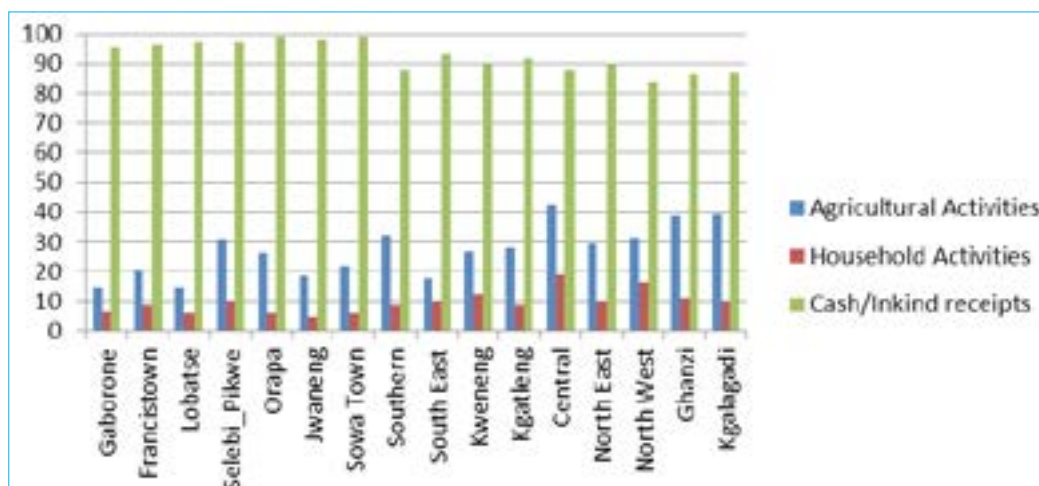
The household's activities figures show that percent household who received income was highest (19%) in Central district followed by North-West (16%) and Kweneng (12%). The percent of male heads were less than female heads in most of the districts, the difference between the male and female headed households ranged between 1 and 8 percentage points. The results indicate that females are mainly involved in household activities viz. craft work, cloths stitching, and cooked food.

The household's income from cash/inkind receipt figures show that percent household who received income was highest (99%) in Small towns (Orapa, Jwaneng and Sowa) and minimum (84%) in North-West district. No significant difference was observed between male and female heads in all districts.

Table 3.2.1 Percent of household who received income from either of the sources of income by district and sex-2011 Census

District	Income from:								
	Agricultural Activities			Household Activities			Cash/Inkind receipts		
	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Gaborone	16.5	12.5	14.8	5.4	7.8	6.4	95.7	95.3	95.5
Francistown	20.8	20.6	20.7	6.7	10.5	8.4	96.5	95.6	96.1
Lobatse	16.3	12.5	14.6	4.9	7.4	6.0	97.6	96.2	96.9
Selebi_Pikwe	30.1	31.2	30.5	8.3	13.8	10.4	97.8	96.0	97.1
Orapa	27.9	24.2	26.4	5.5	7.0	6.1	99.5	99.3	99.4
Jwaneng	21.4	13.3	18.3	3.7	6.4	4.8	98.6	98.1	98.4
Sowa Town	25.6	12.8	21.8	6.2	6.1	6.2	99.3	98.5	99.0
Southern	38.2	25.7	32.2	7.5	10.2	8.8	88.0	88.0	88.0
South East	20.4	14.4	17.6	7.9	11.9	9.8	93.0	93.6	93.3
Kweneng	29.1	23.8	26.7	9.8	15.3	12.3	90.2	89.4	89.8
Kgatleng	32.2	23.6	28.2	7.0	10.0	8.4	91.2	92.2	91.7
Central	45.1	40.1	42.5	11.1	20.6	18.8	88.0	87.8	87.9
North East	30.5	27.9	29.1	8.4	11.3	10.0	90.9	89.3	90.0
North West	33.5	28.6	31.0	12.2	20.0	16.2	85.0	82.4	83.6
Ghanzi	43.4	32.7	39.0	8.2	14.8	11.0	86.0	87.6	86.7
Kgalagadi	44.7	32.3	39.3	7.7	12.6	9.9	86.2	87.8	86.9
Overall	32.4	28.0	30.3	9.4	14.8	12.0	90.8	89.9	90.4

Figure 3.2.1 Percent of household who received income from either of the sources of income by district -2011 Census



The above graph shows that percent household heads received other cash/inkind receipts was highest followed by agricultural and household activities in all the districts.

The details are given in Tables 4-6 in Appendix.

3.3 CASH RECEIPT BY CURRENT ECONOMIC STATUS

The current economic activity is that a person did any type of work for pay, profit or home use for at least one hour in the past 7 days. These were 1. Employee-paid cash, 2. Employee-paid in kind, 3. Self-employed (no employees), 4. Self-employed (with employees), 5. Unpaid family helper, 6. Working at own land /cattle post (Question A23 in census questionnaire).

Percent of household who received income from either of the sources of income out of total households enumerated by current economic status and sex is presented in Table 3.3.1 while by economic status in Figure 3.3.1.

The figures for agricultural activities show that percent household who received income from working at Own Lands/ Cattle Post was highest (62%) while under household activities, self-employed with no employee recorded highest (34%) and as usual percent number of households received income from cash/inkind receipt ranged between 77% (Cattlepost) and 97% (Employee paid cash). The household's activities figures show that the percent of male heads were more than female heads in all economic status categories.

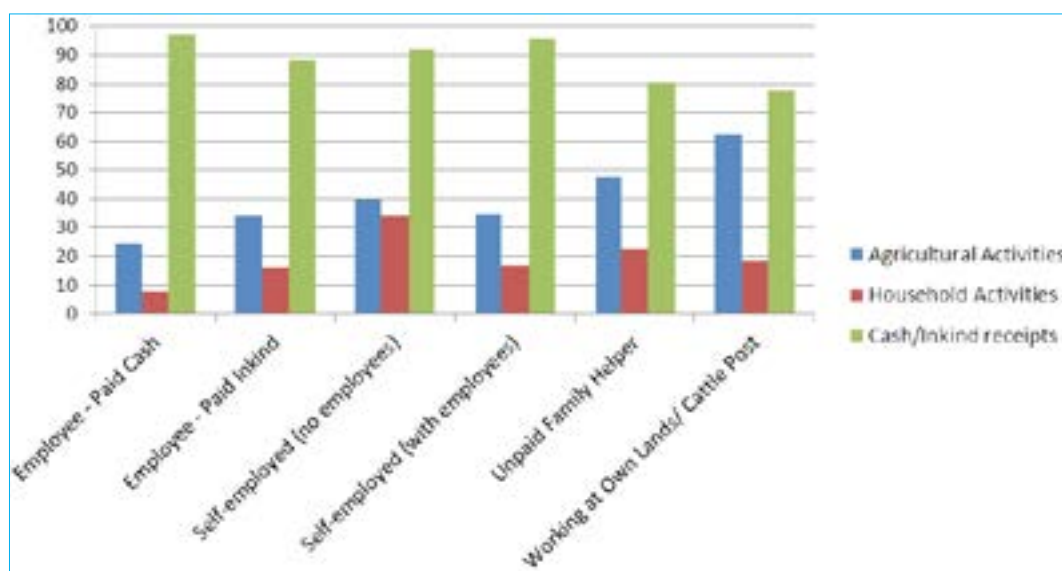
Table 3.3.1 Percent of household who received income from either of the sources of income by current economic status and sex-2011 Census

Current Economic Status	Income from:								
	Agricultural Activities			Household Activities			Cash/Inkind receipts		
	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Employee - Paid Cash	26.7	20.6	24.3	7.1	8.6	7.7	97.0	97.2	97.1
Employee - Paid Inkind	36.3	31.1	34.1	14.1	18.6	16.1	88.0	88.4	88.2
Self-employed (no employees)	35.9	44.2	39.9	18.8	50.7	34.2	92.8	91.0	91.9
Self-employed (with employees)	32.0	44.1	34.4	11.6	36.9	16.7	96.1	94.9	95.9
Unpaid Family Helper	51.9	42.5	47.8	14.6	31.9	22.5	74.4	86.3	80.3
Working at Own Lands/ Cattle Post	65.0	56.5	62.5	16.2	22.9	18.2	76.8	80.4	77.9
Total	33.0	28.2	31.1	9.4	15.4	11.8	93.4	93.8	93.6

The graph shown below indicates that percent household heads received other cash/inkind receipts were highest followed by agricultural and household activities in all the economic status categories.

The details are given in Tables 7-9 in Appendix.

Figure 3.3.1 Percent of household who received income from either of the sources of income by current economic activity-2011 Census



3.4 CASH RECEIPT BY MARITAL STATUS

Percent of household who received income from either of the sources of income out of total households enumerated by marital status and sex is given in Table 3.4.1 and by marital status in Figure 3.4.1.

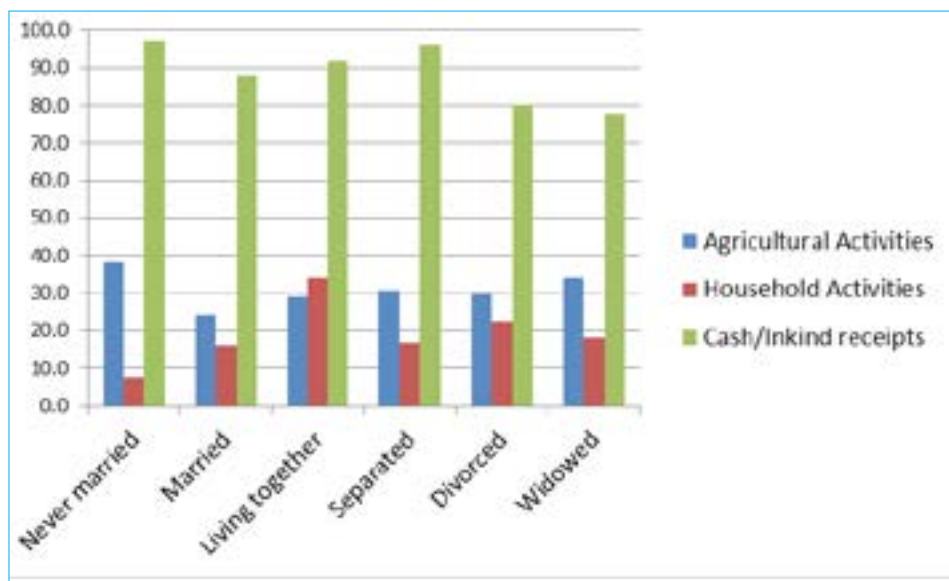
Table 3.4.1 Percent of household who received income from either of the sources of income by marital status and sex-2011 Census

Marital Status Status	Income from:								
	Agricultural Activities			Household Activities			Cash/Inkind receipts		
	Male	Female	Both Sex	Male	Female	Both Sex	Male	Female	Both Sex
Never married	38.8	37.3	38.4	11.5	14.8	12.5	93.7	91.2	92.9
Married	26.9	21.7	24.1	6.1	12.5	9.6	87.7	88.9	88.4
Living together	29.7	27.8	28.9	10.8	16.9	13.3	90.3	87.5	89.1
Separated	33.8	28.8	30.9	9.0	19.7	15.3	86.8	87.3	87.1
Divorced	32.8	28.2	29.9	6.8	15.5	12.4	90.6	92.3	91.7
Widowed	35.8	33.8	34.1	9.1	17.6	16.2	93.3	93.3	93.3
Total	32.4	28.0	30.3	9.4	14.8	12.0	90.8	89.9	90.4

The figures for agricultural activities show that percent household that received income was highest (38%) in never married followed by widowed (34%) and separated (31%). The percent of male heads were more than female heads in most of the categories of marital status. Under household activities the percent household who received income followed almost same trend as observed in agricultural activities.

The percent household who received cash/inkind receipts was highest (93%) in widowed and never married (93%). No significant difference was observed male-heads and female-heads

Figure 3.4.1 Percent of household who received income from either of the sources of income by marital status -2011 Census



The graph shown above indicates that percent household heads received other cash/in-kind receipts were highest followed by agricultural and household activities in all marital status categories.

The details are given in Tables 10-12 in Appendix.

4.0 CONCLUSIONS

About 34.2 percent household received the income from one and more than one agricultural activities. About 79 percent household did not receive any income from agricultural activities. Nineteen (19) percent households received income from livestock while from agriculture these were close to 16 percent.

About 12.2 percent household received the income from one and more than one household activities and out of these 6.3 percent from sale of beverages. About 90 percent household did not receive any income from household activities. Percent households received the Income from sale of cloths and foods were almost same i.e. 2%.

About 14 percent household did not receive any income from cash/in-kind receipts. Percent households received the Income from employment was highest (69%) followed by inside Botswana remittance (30%) and pension (13%).

The analysis show that percent household heads was highest in other cash/in-kind receipts study variable followed by agricultural activities and household activities in all categories viz. (a) type of residence, (b) district, (c) current economic status, and (d) marital status,

6.0 POLICY IMPLICATIONS

1 The source of Households income plays an important and crucial role in the living conditions of people. It also contributes to health care, education and other social liabilities of the people. Thus Government of Botswana is required to look into the contribution of different sources of income to total households' income.

2 The contribution of income from agricultural activities is only 30% and of which 17 % is from livestock and 13% from agriculture. Off course to boost the income levels of farmers Government has implemented many agricultural programme viz. 1991 National Policy on Agricultural Development; Financial Assistance Policy (FAP); Programme for Arable Agricultural Development (ISPAAD) in 2008. However it needs more monitoring and evaluation from time to time.

3 Government of Botswana is to promote the Botswana craft sector as per the present Census only 1.5% households received income from sale of craft work. The major part is the marketing of the craft products by farmers. Because of the middlemen the farmers get very less value of their craft product. To encourage the craft sector Government may introduce the marketing strategies for this sector. There is quite good demand of African Traditional craft in the global market.

7.0 REFERENCES

- I. 1993/4 HIES Report-CSO, Botswana
- II. 2003/4 HIES Report-CSO, Botswana
- III. Republic of Botswana (1991). National Policy on Agricultural Development. Government Printers, Gaborone.
- IV. Bank of International settlements (2013): Payments systems in Botswana. <http://www.bis.org/cpsd/paysys/Botswana.pdf>

Appendices

Statistical Tables

Table 1: The percentage of households that received income from agricultural activities by type of residence and sex-2011 Census

Agricultural Activity	Type of Residence				Total	Households
	Cities/Towns	Urban Villages	Sub-Total-Urban	Rural		
BOTH SEXES						
Cattle	13.82	37.24	51.05	48.95	100.00	52647
Goats/Sheep	12.76	33.64	46.40	53.60	100.00	29669
Poultry	11.25	34.26	45.51	54.49	100.00	21682
Maize	16.39	39.53	55.92	44.08	100.00	15260
Sorghum/Millet	18.24	38.03	56.27	43.73	100.00	7155
Melons/Sweetreeds	17.43	37.32	54.74	45.26	100.00	15251
Fruits & vegetables	24.55	38.40	62.96	37.04	100.00	11208
Phane	20.25	28.39	48.64	51.36	100.00	15440
Fish	17.43	39.78	57.21	42.79	100.00	2627
Thatch/Poles/Reeds	5.420	19.87	25.29	74.71	100.00	6528
Firewood	15.80	28.16	43.96	56.04	100.00	8348
None	28.89	40.29	69.18	30.82	100.00	430285
Legumes	13.28	40.78	54.06	45.94	100.00	1513
% -BOTH SEXES	24.69	38.67	63.36	36.64	100.00	617613
MALE						
Cattle	15.22	33.18	48.40	51.60	100.00	33586
Goats/Sheep	14.50	30.35	44.85	55.15	100.00	18169
Poultry	13.25	29.90	43.15	56.85	100.00	11725
Maize	18.34	34.81	53.15	46.85	100.00	8497
Sorghum/Millet	21.15	33.93	55.08	44.92	100.00	3920
Melons/Sweetreeds	19.96	33.43	53.39	46.61	100.00	8325
Fruits & vegetables	25.73	36.11	61.83	38.17	100.00	5337
Phane	23.4	24.38	47.78	52.22	100.00	6107
Fish	19.18	34.35	53.54	46.46	100.00	1470
Thatch/Poles/Reeds	5.37	14.08	19.45	80.55	100.00	3331
Firewood	14.56	22.93	37.49	62.51	100.00	5308
None	32.15	36.94	69.09	30.91	100.00	222087
Legumes	15.79	36.98	52.77	47.23	100.00	703
%-MALE	27.05	35.05	62.10	37.90	100.00	328565

Table 1: The percentage of households that received income from agricultural activities by type of residence and sex-2011 Census (Contd...)

Agricultural Activity	Type of Residence				Total	Households
	Cities/Towns	Urban Villages	Sub-Total-Urban	Rural		
FEMALE						
Cattle	11.34	44.38	55.72	44.28	100.00	19061
Goats/Sheep	10.03	38.83	48.86	51.14	100.00	11500
Poultry	8.910	39.39	48.30	51.70	100.00	9957
Maize	13.94	45.47	59.41	40.59	100.00	6763
Sorghum/Millet	14.71	43.00	57.71	42.29	100.00	3235
Melons/Sweetreeds	14.38	41.99	56.37	43.63	100.00	6926
Fruits & vegetables	23.49	40.49	63.98	36.02	100.00	5871
Phane	18.19	31.01	49.20	50.80	100.00	9333
Fish	15.21	46.67	61.88	38.12	100.00	1157
Thatch/Poles/Reeds	5.470	25.90	31.37	68.63	100.00	3197
Firewood	17.96	37.30	55.26	44.74	100.00	3040
None	25.41	43.87	69.28	30.72	100.00	208198
Legumes	11.11	44.07	55.19	44.81	100.00	810
%-Female	22.00	42.79	64.79	35.21	100.00	289048

Table 2: The percentage of households that received income from household activities by type of residence and sex-2011 Census

Household Activities	Type of residence				Total
	Cities/Towns	Urban Villages	Sub-Total: Urban	Rural	
BOTH SEX					
Traditional beer	4.87	30.77	35.64	64.36	100.0
Other beverages	16.66	37.03	53.68	46.32	100.0
Craftwork	11.93	31.72	43.65	56.35	100.0
Clothes	31.11	44.30	75.41	24.59	100.0
Cooked food	27.32	42.39	69.71	30.29	100.0
None	27.09	39.51	66.60	33.40	100.0
Other (NEC)	8.91	50.55	59.46	40.54	100.0
% BOTH SEX	25.70	39.12	64.83	35.17	100.0
Household	143270	218057	361327	196042	557369
MALE					
Traditional beer	6.16	25.47	31.63	68.37	100.0
Other beverages	18.30	33.41	51.72	48.28	100.0
Craftwork	12.93	27.89	40.82	59.18	100.0
Clothes	35.5	40.84	76.33	23.67	100.0
Cooked food	31.41	40.01	71.42	28.58	100.0
None	29.45	35.94	65.39	34.61	100.0
Other (NEC)	10.46	46.45	56.91	43.09	100.0
% MALE	28.36	35.59	63.95	36.05	100.0
Household	82875	104004	186879	105362	292241
FEMALE					
Traditional beer	4.13	33.82	37.95	62.05	100.0
Other beverages	15.41	39.76	55.17	44.83	100.0
Craftwork	10.58	36.92	47.50	52.50	100.0
Clothes	28.16	46.63	74.79	25.21	100.0
Cooked food	24.65	43.95	68.59	31.41	100.0
None	24.33	43.69	68.02	31.98	100.0
Other (NEC)	7.67	53.84	61.51	38.49	100.0
% FEMALE	22.78	43.02	65.80	34.20	100.0
Household	60395	114053	174448	90680	265128

Table 3: The percentage of households that received income from other cash receipts by type of residence and sex-2011 Census

Cash Receipts	Type of Residence				% Total
	Cities/Towns	Urban Villages	Sub-Total Urban	Rural	
BOTH SEX					
Inside Botswana	22.15	42.30	64.45	35.55	100.00
Outside Botswana	31.09	41.09	72.18	27.82	100.00
Pension	6.96	41.58	48.54	51.46	100.00
Rent	35.56	48.83	84.40	15.60	100.00
Maintenance	24.08	44.85	68.93	31.07	100.00
Employment	32.81	39.44	72.24	27.76	100.00
Destitute allowance	6.02	38.00	44.02	55.98	100.00
Government Rations	5.36	36.78	42.14	57.86	100.00
None	9.81	37.31	47.12	52.88	100.00
Student Allowances	39.43	56.86	96.29	3.71	100.00
Other (NEC)	2.00	44.00	46.00	54.00	100.00
% Both Sex	24.64	40.42	65.06	34.94	100.00
Household	193231	316950	510181	273972	784153
MALE					
Inside Botswana	24.79	38.77	63.56	36.44	100.00
Outside Botswana	35.50	37.85	73.35	26.65	100.00
Pension	8.25	35.66	43.91	56.09	100.00
Rent	38.71	44.55	83.26	16.74	100.00
Maintenance	27.52	40.25	67.77	32.23	100.00
Employment	34.59	35.98	70.58	29.42	100.00
Destitute allowance	7.26	34.57	41.83	58.17	100.00
Government Rations	6.20	31.85	38.05	61.95	100.00
None	10.54	34.05	44.59	55.41	100.00
Student Allowances	39.02	57.20	96.22	3.780	100.00
Other (NEC)	2.70	43.24	45.95	54.05	100.00
% Male	27.5	36.65	64.15	35.85	100.00
Household	110133	146781	256914	143557	400471
FEMALE					
Inside Botswana	19.56	45.77	65.33	34.67	100.00
Outside Botswana	26.92	44.16	71.07	28.93	100.00
Pension	5.97	46.14	52.10	47.90	100.00
Rent	32.90	52.47	85.37	14.63	100.00
Maintenance	22.47	47.01	69.48	30.52	100.00
Employment	30.50	43.89	74.39	25.61	100.00
Destitute allowance	5.36	39.83	45.19	54.81	100.00
Government Rations	4.88	39.64	44.52	55.48	100.00
None	9.12	40.38	49.50	50.50	100.00
Student Allowances	39.80	56.55	96.35	3.65	100.00
Other (NEC)	1.32	44.74	46.05	53.95	100.00
% Female	21.66	44.35	66.01	33.99	100.00
Household	83098	170169	253267	130415	383682

Table 4: The percentage of households that received income from agricultural activities by district and sex-2011 Census

District	Agricultural Activity													% Total
	Cattle	Goats/Sheep	Poultry	Maize	Sorghum/Millet	Melons/Sweetreeds	Fruits & vegetables	Phane	Fish	Thatch/Poles/Reeds	Firewood	None	Legumes	
BOTH SEX														
Gaborone	7.12	6.33	5.08	8.50	8.98	7.52	8.86	3.44	7.01	1.97	3.96	16.52	7.46	15.02
Francistown	2.73	2.90	3.01	3.3	4.54	3.88	9.56	5.66	5.77	1.82	7.21	6.58	1.37	6.43
Lobatse	0.75	0.55	0.61	1.41	1.23	1.32	1.09	0.24	0.50	0.11	0.72	2.02	1.51	1.83
Selebi_Pikwe	1.95	1.85	1.86	1.99	2.54	3.63	4.66	10.3	2.79	1.25	3.73	3.06	2.12	3.42
Orapa	0.65	0.60	0.35	0.55	0.69	0.68	0.44	0.46	0.81	0.19	0.22	0.67	0.00	0.70
Jwaneng	0.72	0.69	0.53	1.24	0.68	0.74	0.61	0.18	0.58	0.06	0.23	1.27	1.23	1.21
Sowa Town	0.19	0.17	0.12	0.10	0.20	0.18	0.09	0.14	0.27	0.06	0.10	0.25	0.07	0.24
Cities/ Towns	14.11	13.09	11.56	17.1	18.87	17.95	25.32	20.41	17.75	5.46	16.18	30.38	13.76	16.82
Ngwaketse	6.34	6.41	7.79	12.02	5.33	6.41	4.26	0.57	1.70	6.40	6.31	5.88	7.53	6.73
Barolong	2.65	2.51	3.35	6.33	3.79	2.67	1.51	0.10	0.62	2.00	1.85	2.56	5.89	2.91
Ngwaketse West	1.06	0.91	0.63	0.89	0.46	0.43	0.22	0.05	0.31	0.40	0.42	0.66	0.55	0.76
Southern	10.05	9.83	11.77	19.24	9.59	9.51	5.99	0.73	2.63	8.80	8.58	9.10	13.96	10.4
South East	2.12	2.52	2.73	4.31	3.44	2.99	3.10	0.79	1.78	0.65	2.43	5.15	3.56	4.84
Kweneng East	9.93	10.37	11.84	13.76	9.79	11.05	10.8	2.10	6.78	7.91	11.41	13.8	15.33	14.14
Kweneng West	3.77	3.8	3.10	3.60	2.57	2.22	0.75	0.21	0.50	5.72	2.17	2.10	3.56	2.66
Kweneng	13.7	14.17	14.94	17.35	12.36	13.26	11.54	2.31	7.28	13.63	13.58	15.90	18.89	16.81
Kgatleng	4.85	4.16	5.94	4.32	2.72	4.35	4.56	0.67	2.63	2.78	3.99	4.78	6.71	5.15
Central Serowe Palapye	11.68	9.71	12.99	8.79	12.58	11.62	12.37	36.74	7.17	17.35	13.85	7.50	7.87	10.54
Central Mahalapye	8.08	7.63	9.12	6.47	9.43	11.44	7.51	5.97	2.79	12.81	10.40	4.99	8.15	6.74
Central Bobonong	4.61	6.23	6.28	3.40	6.26	7.47	4.87	19.6	3.80	4.52	6.40	2.90	4.11	4.53
Central Boteti	4.71	4.75	2.63	2.17	1.86	2.90	2.41	3.09	3.64	4.07	2.83	2.43	1.85	3.13
Central Tutume	7.14	8.68	11.35	5.36	12.09	7.24	12.60	6.89	11.55	14.48	12.7	6.92	8.49	8.40
Central	36.21	37.00	42.38	26.19	42.21	40.67	39.76	72.3	28.94	53.22	46.2	24.75	30.46	33.34
North East	2.38	2.68	4.38	1.91	3.86	2.10	5.17	1.80	2.13	1.97	3.34	3.04	1.85	3.32
Ngamiland East	5.38	5.16	2.22	5.95	3.60	6.03	2.88	0.65	16.54	3.31	3.64	4.03	4.38	4.66
Ngamiland West	2.14	1.83	1.67	2.43	2.73	2.65	1.65	0.22	9.14	4.67	1.23	2.35	5.00	2.55
Chobe	1.09	0.72	1.33	1.46	1.95	0.66	1.38	0.47	9.03	3.44	0.53	1.33	0.62	1.45
Okavango Delta	0.05	0.03	0.04	0.1	0.03	0.16	0.01	0.00	1.12	0.65	0.11	0.13	0.00	0.13
North West	8.66	7.74	5.26	9.94	8.31	9.50	5.91	1.34	35.84	12.07	5.51	7.84	9.99	8.80
Ghanzi	5.17	3.79	1.83	1.91	0.97	1.24	0.79	0.23	1.90	0.83	1.41	1.93	2.94	2.46
CKGR	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghanzi	5.18	3.8	1.83	1.92	0.97	1.24	0.79	0.23	1.90	0.83	1.41	1.94	2.94	2.46
Kgalagadi South	2.59	4.81	1.05	1.13	0.64	0.76	0.51	0.14	0.58	0.83	0.74	1.36	0.68	1.71
Kgalagadi North	2.28	2.73	0.89	0.89	0.48	0.66	0.45	0.08	0.31	0.4	0.48	0.93	0.75	1.20
Kgalagadi	4.86	7.54	1.94	2.02	1.11	1.42	0.96	0.22	0.89	1.23	1.21	2.28	1.44	2.91
Total-BOTH SEX	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Households	51554	28941	21106	14630	6917	14808	10871	15319	2581	6486	8150	409207	1461	528443

**Table 4: The percentage of households that received income from agricultural activities by district and sex-2011
Census (contd...)**

District	Agricultural Activity												% Total	
	Cattle	Goats/Sheep	Poultry	Maize	Sorghum/Millet	Meatons/Sweetreeds	Fruits & vegetables	Phane	Fish	Thatch/Poles/Reeds	Firewood	None		Legumes
MALE														
Gaborone	7.81	7.30	6.11	9.72	10.59	8.69	10.47	4.44	7.55	2.36	4.07	18.48	9.45	14.85
Francistown	2.73	3.03	3.21	3.13	4.78	3.88	9.07	5.80	5.89	1.51	6.04	6.90	1.33	5.84
Lobatse	0.79	0.62	0.65	1.57	1.32	1.51	1.17	0.35	0.69	0.15	0.66	2.13	1.03	1.71
Selebi_Pikwe	2.31	2.25	2.35	2.42	3.20	4.49	4.74	12.14	3.25	1.12	3.59	3.71	2.81	3.56
Orapa	0.76	0.64	0.44	0.60	0.74	0.82	0.35	0.48	1.04	0.12	0.17	0.78	0.00	0.72
Jwaneng	0.91	0.83	0.71	1.56	0.92	0.94	0.74	0.15	0.69	0.09	0.23	1.48	1.62	1.26
Sowa Town	0.25	0.24	0.18	0.16	0.34	0.27	0.14	0.25	0.42	0.06	0.15	0.32	0.15	0.29
Cities/ Towns	15.56	14.9	13.66	19.17	21.9	20.61	26.68	23.61	19.53	5.41	14.91	33.79	16.4	28.22
Ngwaketse	6.57	6.84	7.93	12.33	5.36	7.09	4.45	0.64	0.97	7.76	6.75	5.37	7.98	5.82
Barolong	2.66	2.51	3.69	7.04	4.65	3.14	1.73	0.18	0.90	3.32	2.10	2.36	6.06	2.57
Ngwaketse West	1.13	0.88	0.69	0.87	0.58	0.48	0.31	0.1	0.48	0.60	0.42	0.63	1.03	0.68
Southern	10.36	10.23	12.31	20.24	10.59	10.71	6.49	0.93	2.35	11.69	9.27	8.36	15.07	9.07
South East	2.22	2.75	3.15	4.54	3.57	3.21	3.69	0.91	1.80	0.60	2.35	5.12	3.84	4.32
Kweneng East	10.36	10.72	12.22	13.62	10.67	11.54	11.91	2.81	6.79	8.06	11.07	14.32	13.59	13.08
Kweneng West	3.97	3.65	3.00	3.74	2.77	2.44	0.80	0.23	0.62	6.13	2.26	2.11	3.84	2.46
Kweneng	14.32	14.36	15.22	17.36	13.45	13.98	12.71	3.04	7.41	14.2	13.32	16.43	17.43	15.54
Kgatleng	5.12	4.35	6.62	4.40	2.96	4.17	5.17	0.88	2.77	3.65	4.18	4.75	6.94	4.69
Central Serowe														
Palapye	11.23	9.31	12.73	8.07	11.36	10.74	11.07	34.24	5.19	15.58	14.52	7.03	8.27	8.77
Central Mahalapye	7.87	7.39	8.41	5.68	8.40	9.79	6.76	4.94	2.77	14.38	10.93	4.23	6.50	5.44
Central Bobonong	4.33	5.80	6.02	3.24	5.60	6.92	4.2	18.16	3.53	5.07	6.69	2.62	3.10	3.68
Central Boteti	4.33	4.28	2.46	1.83	1.74	2.48	2.33	3.09	3.32	4.59	2.51	2.32	1.77	2.67
Central Tutume	6.51	7.76	10.42	4.97	10.54	6.79	11.97	7.11	12.19	11.87	12.65	6.25	7.53	6.85
Central	34.26	34.54	40.05	23.79	37.65	36.72	36.33	67.53	27.01	51.5	47.3	22.45	27.18	27.42
North East	1.89	2.31	3.53	1.75	3.06	2.06	4.95	2.02	1.94	1.42	3.20	2.67	1.18	2.58
Ngamiland East	4.89	4.73	1.95	5.34	3.36	5.62	3.03	0.69	15.24	2.93	3.39	3.82	4.58	3.96
Ngamiland West	1.94	1.75	1.27	2.08	2.17	2.11	1.48	0.30	9.21	3.53	1.00	1.90	4.73	1.89
Chobe	1.10	0.68	1.28	1.61	2.25	0.74	1.30	0.36	10.39	2.36	0.54	1.39	1.03	1.33
Okavango Delta	0.05	0.03	0.05	0.1	0.00	0.14	0.00	0.00	1.32	0.57	0.10	0.13	0.00	0.11
North West	7.99	7.21	4.55	9.13	7.77	8.6	5.81	1.35	36.15	9.39	5.03	7.24	10.34	7.30
Ghanzi	5.43	4.22	2.03	1.99	1.29	1.40	0.85	0.30	1.80	1.09	1.54	2.04	3.69	2.42
CKGR	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Ghanzi	5.44	4.24	2.03	2.01	1.29	1.41	0.85	0.3	1.80	1.09	1.54	2.05	3.69	2.43
Kgalagadi South	2.67	5.13	1.20	1.18	0.79	0.87	0.58	0.25	0.76	1.15	0.81	1.33	1.18	1.61
Kgalagadi North	2.39	2.73	0.84	0.97	0.53	0.87	0.43	0.1	0.28	0.51	0.42	0.93	0.59	1.14
Kgalagadi	5.06	7.86	2.03	2.15	1.32	1.74	1.01	0.35	1.04	1.66	1.23	2.26	1.77	2.75
Total-Male	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Households	32855	17682	11367	8128	3785	8066	5147	6052	1444	3311	5186	211268	677	314968

Table 4: The percentage of households that received income from agricultural activities by district and sex-2011 Census (contd...)

District	Agricultural Activity													% Total
	Cattle	Goats/Sheep	Poultry	Maize	Sorghum/Millet	Melons/Sweetpeas	Fruits & vegetables	Phone	Fish	Thatch/Poles/Reeds	Firewood	None	Legumes	
FEMALE														
Gaborone	5.90	4.81	3.88	6.98	7.02	6.11	7.41	2.78	6.33	1.57	3.78	14.42	5.74	15.28
Francistown	2.72	2.71	2.77	3.52	4.25	3.89	9.99	5.57	5.63	2.14	9.28	6.24	1.40	7.29
Lobatse	0.68	0.44	0.55	1.20	1.12	1.10	1.03	0.16	0.26	0.06	0.84	1.90	1.91	2.02
Selebi_Pikwe	1.31	1.23	1.28	1.45	1.76	2.61	4.59	9.10	2.2	1.39	3.98	2.38	1.53	3.21
Orapa	0.46	0.53	0.25	0.49	0.64	0.50	0.52	0.44	0.53	0.25	0.30	0.55	0.00	0.68
Jwaneng	0.39	0.46	0.32	0.83	0.38	0.50	0.49	0.19	0.44	0.03	0.24	1.05	0.89	1.13
Sowa Town	0.10	0.05	0.05	0.03	0.03	0.06	0.05	0.08	0.09	0.06	0.00	0.17	0.00	0.18
Cities/ Towns	11.56	10.24	9.11	14.5	15.2	14.77	24.09	18.32	15.48	5.51	18.42	26.73	11.48	0.00
Ngwaketse	5.95	5.75	7.64	11.64	5.30	5.59	4.09	0.53	2.64	4.98	5.53	6.43	7.14	8.07
Barolong	2.63	2.50	2.94	5.44	2.75	2.11	1.31	0.05	0.26	0.63	1.42	2.77	5.74	3.43
Ngwaketse West	0.93	0.95	0.56	0.91	0.32	0.37	0.14	0.02	0.09	0.19	0.40	0.70	0.13	0.86
Southern	9.50	9.19	11.14	17.99	8.37	8.07	5.54	0.60	2.99	5.80	7.35	9.90	13.01	12.35
South East	1.94	2.14	2.24	4.01	3.29	2.73	2.57	0.71	1.76	0.69	2.56	5.18	3.32	5.61
Kweneng East	9.17	9.82	11.41	13.93	8.72	10.46	9.80	1.64	6.77	7.75	12.01	13.24	16.84	15.72
Kweneng West	3.44	4.04	3.21	3.41	2.33	1.94	0.70	0.19	0.35	5.29	2.02	2.10	3.32	2.95
Kweneng	12.6	13.86	14.62	17.35	11.05	12.4	10.5	1.83	7.12	13.04	14.04	15.34	20.15	18.67
Kgatleng	4.37	3.85	5.13	4.21	2.43	4.57	4.02	0.53	2.46	1.86	3.64	4.81	6.51	5.84
Central Serowe Palapye	12.48	10.34	13.3	9.69	14.05	12.67	13.54	38.37	9.67	19.18	12.69	8.00	7.53	13.14
Central Mahalapye	8.44	8.00	9.95	7.46	10.66	13.41	8.18	6.65	2.81	11.18	9.48	5.80	9.57	8.66
Central Bobonong	5.09	6.90	6.59	3.60	7.06	8.13	5.47	20.54	4.13	3.94	5.90	3.20	4.97	5.77
Central Boteti	5.38	5.49	2.83	2.60	2.01	3.41	2.48	3.10	4.05	3.53	3.41	2.56	1.91	3.81
Central Tutume	8.25	10.12	12.43	5.84	13.95	7.77	13.17	6.76	10.73	17.20	12.79	7.63	9.31	10.69
Central	39.63	40.85	45.11	29.19	47.73	45.39	42.84	75.41	31.4	55.02	44.26	27.19	33.29	42.06
North East	3.25	3.28	5.37	2.12	4.82	2.15	5.36	1.65	2.37	2.55	3.58	3.42	2.42	4.40
Ngamiland East	6.23	5.82	2.54	6.71	3.90	6.53	2.74	0.62	18.21	3.72	4.08	4.26	4.21	5.71
Ngamiland West	2.50	1.95	2.14	2.86	3.42	3.29	1.80	0.17	9.06	5.86	1.62	2.84	5.23	3.53
Chobe	1.06	0.78	1.40	1.28	1.60	0.56	1.45	0.54	7.30	4.57	0.51	1.26	0.26	1.62
Okavango Delta	0.05	0.04	0.03	0.11	0.06	0.19	0.02	0.00	0.88	0.72	0.13	0.14	0.00	0.16
North West	9.84	8.59	6.10	10.95	8.97	10.58	6.01	1.33	35.44	14.87	6.34	8.49	9.69	11.01
Ghanzi	4.72	3.12	1.59	1.81	0.57	1.04	0.73	0.18	2.02	0.57	1.18	1.82	2.3	2.5
CKGR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ghanzi	4.72	3.12	1.59	1.81	0.57	1.04	0.73	0.18	2.02	0.57	1.18	1.82	2.30	2.51
Kgalagadi South	2.44	4.30	0.88	1.08	0.45	0.62	0.44	0.08	0.35	0.50	0.61	1.39	0.26	1.86
Kgalagadi North	2.08	2.73	0.94	0.78	0.42	0.42	0.47	0.06	0.35	0.28	0.57	0.92	0.89	1.30
Kgalagadi	4.52	7.03	1.83	1.86	0.86	1.04	0.91	0.14	0.70	0.79	1.18	2.30	1.15	3.15
Total-Female	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Households	18699	11259	9739	6502	3132	6742	5724	9267	1137	3175	2964	197939	784	213475

Table 5: The percentage of households that received income from household activities by district and sex-2011 Census

	Agricultural Activity							% Total
	Traditional Beer	Other beverages	Craftwork	Clothes	Cooked food	None	Others (NEC)	
BOTH SEX								
Gaborone	2.0	7.3	5.6	13.7	14.8	14.4	4.7	13.6
Francistown	1.1	3.8	3.2	8.2	7.5	5.9	2.6	5.7
Lobatse	0.4	1.2	0.7	1.8	0.9	1.8	0.3	1.7
Selebi_Pikwe	0.9	3.4	2.1	5.6	3.1	3.0	1.1	2.9
Orapa	0.2	0.3	0.2	0.7	0.3	0.6	0.2	0.6
Jwaneng	0.2	0.5	0.3	0.9	0.5	1.2	0.1	1.1
Sowa Town	0.1	0.1	0	0.2	0.1	0.2	0.0	0.2
Cities/ Towns	4.9	16.7	11.9	31.1	27.3	27.1	8.9	25.7
Ngwaketse	4.1	7.6	4.4	4.8	3.4	5.8	2.7	5.7
Barolong	1.3	2.5	1.2	1.6	1.0	2.6	0.6	2.5
Ngwaketse West	0.7	0.9	0.3	0.2	0.2	0.7	0.2	0.6
Southern	6	11.0	5.9	6.6	4.7	9.1	3.4	8.8
South East	3.8	3.0	2.4	4.4	3.6	4.5	2.0	4.3
Kweneng East	13.5	12.8	9.2	10.7	10.8	12.4	15.3	12.4
Kweneng West	4.5	3.4	2.0	1.2	1.9	2.1	3.5	2.2
Kweneng	18.0	16.2	11.2	11.9	12.7	14.6	18.8	14.6
Kgatleng	2.3	2.7	4.0	4.3	3.3	4.7	7.5	4.5
Central Serowe Palapye	20.1	14.3	9.3	9.7	9.4	7.7	15	8.5
Central Mahalapye	16.8	8.6	6.4	5.4	5.6	4.8	8.3	5.5
Central Bobonong	4.4	3.2	6.5	3.6	3.9	3.4	5.2	3.5
Central Boteti	2.7	2.9	4.3	2.6	2.6	2.5	3.8	2.6
Central Tutume	7.3	7.2	8.9	6.9	7.8	6.9	10.1	7.0
Central	35.7	24.6	19.5	21.2	22.1	16.1	30.2	17.4
North East	2.0	2.3	2.7	2.4	3.3	3.0	2.4	2.9
Ngamiland East	3.3	5.0	6.1	4.2	7.2	3.9	4.5	4.0
Ngamiland West	3.6	1.7	10.8	1.6	3.8	2.0	2.7	2.2
Chobe	1.2	1.3	1.2	2.0	1.6	1.2	2.1	1.3
Okavango Delta	0.1	0.0	1.4	0.0	0.1	0.1	0.0	0.1
North West	8.1	8.1	19.6	7.7	12.7	7.2	9.2	7.6
Ghanzi	1.5	1.7	3.4	1.6	1.9	2.1	3.2	2.1
CKGR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ghanzi	1.5	1.7	3.4	1.6	1.9	2.1	3.2	2.1
Kgalagadi South	1.3	1.4	1.3	0.7	0.6	1.5	1.3	1.4
Kgalagadi North	0.7	0.7	2.2	0.9	0.5	1.0	0.9	1.0
Kgalagadi	2.1	2.1	3.5	1.7	1.1	2.5	2.2	2.4
Total-BOTH SEX	100	100	100	100	100	100	100	100
Households	25934	8934	8398	10959	11198	490678	1268	557369

Table 5: The percentage of households that received income from household activities by district and sex-2011 Census (contd...)

District	Agricultural Activity							% Total
	Traditional Beer	Other beverages	Craftwork	Clothes	Cooked food	None	Others (NEC)	
MALE								
Gaborone	2.8	8.6	5.9	15.8	17.8	15.8	5.7	15.1
Francistown	1.2	3.6	3.3	8.7	7.5	6.0	2.3	5.8
Lobatse	0.4	1.1	0.8	1.9	1.0	1.8	0.7	1.7
Selebi_Pikwe	1.1	3.9	2.4	6.8	3.6	3.5	1.2	3.4
Orapa	0.3	0.4	0.2	1.0	0.4	0.7	0.4	0.7
Jwaneng	0.3	0.6	0.3	0.9	0.7	1.3	0.2	1.3
Sowa Town	0.2	0.1	0.1	0.3	0.3	0.3	0.0	0.3
Cities/ Towns	6.2	18.3	12.9	35.5	31.4	29.5	10.5	28.4
Ngwaketse	4.2	7.1	4.6	5.2	3.7	5.5	3.7	5.4
Barolong	1.2	2.7	1.5	1.6	1.2	2.5	0.4	2.4
Ngwaketse West	0.7	0.6	0.4	0.2	0.2	0.7	0.2	0.6
Southern	6.1	10.4	6.4	7.0	5.1	8.7	4.3	8.5
South East	4.2	2.8	2.3	4.4	4.0	4.4	2.5	4.3
Kweneng East	14.2	14.1	10.0	12.2	12	12.9	16.7	12.9
Kweneng West	4.4	3.2	2.2	1.4	2.1	2.2	4.3	2.3
Kweneng	18.6	17.3	12.2	13.6	14.1	15.1	20.9	15.2
Kgatleng	2.6	2.8	4.4	4.0	3.3	4.7	9.4	4.6
Central Serowe Palapye	19.7	13.7	9.8	7.8	7.9	7.3	13.1	7.9
Central Mahalapye	16.4	7.9	7.5	4.0	5.0	4.4	5.9	4.9
Central Bobonong	4.3	3.0	5.7	3.4	3.6	3.0	4.4	3.1
Central Boteti	2.3	2.4	4.5	2.4	2.0	2.4	3.9	2.5
Central Tutume	7.6	7.7	9.3	5.8	6.4	6.2	9.2	6.3
Central	7.6	7.7	9.3	5.8	6.4	6.2	9.2	6.3
North East	1.8	2.1	2.5	2.0	3.4	2.5	2.0	2.5
Ngamiland East	2.9	4.8	5.6	3.5	6.3	3.7	3.5	3.8
Ngamiland West	2.7	1.2	7.7	1.4	2.6	1.7	2.7	1.8
Chobe	1.1	1.5	1.2	1.9	1.7	1.3	2.7	1.3
Okavango Delta	0.1	0.1	1.0	0.0	0.1	0.1	0.0	0.1
North West	6.7	7.5	15.4	6.9	10.8	6.8	8.9	7.0
Ghanzi	1.4	1.9	3.5	1.5	1.7	2.3	3.4	2.3
CKGR	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Ghanzi	1.4	1.9	3.6	1.5	1.7	2.3	3.4	2.3
Kgalagadi South	1.4	1.4	1.6	0.7	0.6	1.5	0.9	1.5
Kgalagadi North	0.7	0.8	1.7	0.9	0.6	1.1	0.9	1.1
Kgalagadi	2	2.2	3.3	1.7	1.2	2.6	1.8	2.6
Total-Male	100	100	100	100	100	100	100	100
Households	9485	3846	4834	4403	4426	264683	564	292241

Table 5: The percentage of households that received income from household activities by district and sex-2011 Census (contd...)

District	Agricultural Activity							% Total
	Traditional Beer	Other beverages	Craftwork	Clothes	Cooked food	None	Others (NEC)	
FEMALE								
Gaborone	1.5	6.3	5.1	12.3	12.8	12.8	3.8	11.9
Francistown	1.0	4.0	3.0	7.9	7.5	5.8	2.8	5.5
Lobatse	0.3	1.3	0.5	1.7	0.9	1.7	0.0	1.6
Selebi_Pikwe	0.8	3.1	1.7	4.7	2.8	2.4	1.0	2.4
Orapa	0.2	0.3	0.2	0.5	0.2	0.5	0.0	0.5
Jwaneng	0.2	0.4	0.2	0.8	0.4	1.0	0.0	0.9
Sowa Town	0.0	0.1	0.0	0.2	0.1	0.2	0.0	0.1
Cities/ Towns	4.1	15.4	10.6	28.2	24.6	24.3	7.7	22.8
Ngwaketse	4.0	8.0	4.2	4.5	3.3	6.2	1.8	6.0
Barolong	1.3	2.4	0.8	1.6	0.9	2.8	0.7	2.6
Ngwaketse West	0.7	1.1	0.2	0.3	0.1	0.7	0.1	0.7
Southern	6.0	11.5	5.2	6.3	4.4	9.7	2.7	9.2
South East	3.6	3.1	2.5	4.4	3.4	4.5	1.6	4.3
Kweneng East	13.1	11.8	8.0	9.7	10.0	11.9	14.2	11.8
Kweneng West	4.6	3.6	1.8	1.1	1.8	2.0	3.0	2.2
Kweneng	17.7	15.3	9.8	10.8	11.8	13.9	17.2	14.0
Kgatleng	2.1	2.6	3.4	4.5	3.2	4.6	6.0	4.4
Central Serowe Palapye	20.3	14.9	8.6	10.9	10.4	8.2	16.5	9.2
Central Mahalapye	17.0	9.2	4.8	6.4	6.0	5.3	10.2	6.1
Central Bobonong	4.5	3.3	7.5	3.8	4.1	3.8	5.8	3.9
Central Boteti	2.9	3.2	4.0	2.7	3.0	2.6	3.7	2.7
Central Tutume	7.1	6.8	8.4	7.7	8.8	7.7	10.8	7.7
Central	51.8	37.4	33.4	31.6	32.3	27.6	47	29.6
North East	2.1	2.5	3.0	2.6	3.2	3.4	2.7	3.3
Ngamiland East	3.5	5.2	6.9	4.6	7.8	4.0	5.3	4.2
Ngamiland West	4.1	2.0	15	1.7	4.5	2.4	2.7	2.7
Chobe	1.2	1.2	1.3	2.0	1.5	1.2	1.6	1.2
Okavango Delta	0.1	0.0	2.0	0.1	0.1	0.1	0.0	0.1
North West	8.9	8.5	25.2	8.3	13.9	7.7	9.5	8.2
Ghanzi	1.6	1.6	3.3	1.6	2.1	1.8	3.1	1.8
CKGR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ghanzi	1.6	1.6	3.3	1.6	2.1	1.8	3.1	1.8
Kgalagadi South	1.3	1.4	0.8	0.7	0.5	1.4	1.7	1.4
Kgalagadi North	0.8	0.7	2.8	0.9	0.5	1.0	0.9	1.0
Kgalagadi	2.1	2.1	3.6	1.7	1.0	2.4	2.6	2.3
Total-Female	100	100	100	100	100	100	100	100
Households	16449	5088	3564	6556	6772	225995	704	265128

Table 6: The percentage of households that received income from other cash receipts by district and sex-2011 Census

District	Other Cash/Inkind Receipts											% Total
	Inside Botswana	Outside Botswana	Pension	Rent	Maintenance	Employment	Destitute Allowance	Govt. Ration	None	Student Allowance	Other (NEC)	
BOTH SEX												
Gaborone	17.32	2.22	2.22	5.07	1.31	65.69	0.36	0.52	4.47	0.82	0.00	100.00
Francistown	20.22	2.09	2.89	6.21	1.72	60.65	0.65	1.19	3.94	0.45	0.00	100.00
Lobatse	21.9	1.74	4.05	5.65	2.23	59.88	0.57	0.84	3.08	0.07	0.00	100.00
Selebi_Pikwe	20.1	1.73	2.80	5.30	1.87	63.92	0.54	0.81	2.90	0.04	0.00	100.00
Orapa	27.21	1.59	1.55	1.59	1.67	65.21	0.22	0.33	0.57	0.06	0.00	100.00
Jwaneng	15.51	1.93	1.29	3.74	1.69	73.69	0.28	0.21	1.60	0.05	0.00	100.00
Sowa Town	14.76	2.19	0.55	1.30	0.41	78.81	0.62	0.07	0.96	0.34	0.00	100.00
Cities/ Towns	18.77	2.08	2.50	5.22	1.55	64.34	0.46	0.71	3.84	0.54	0.00	100.00
Ngwaketse	20.47	1.67	14.35	2.74	1.44	40.37	3.01	4.34	11.55	0.06	0.01	100.00
Barolong	20.81	2.01	13.25	1.60	1.49	42.52	2.86	4.59	10.86	0.01	0.00	100.00
Ngwaketse West	11.16	0.38	12.73	1.28	1.28	39.38	4.97	7.53	21.29	0.00	0.00	100.00
Southern	19.95	1.68	13.93	2.32	1.44	40.91	3.10	4.63	12.00	0.04	0.00	100.00
South East	19.81	2.19	7.11	5.81	1.14	53.3	0.68	1.38	6.72	1.86	0.01	100.00
Kweneng East	21.53	1.73	8.53	4.42	1.48	49.32	1.25	2.04	8.99	0.69	0.02	100.00
Kweneng West	23.44	0.89	11.99	1.05	1.25	36.08	3.81	4.78	16.57	0.06	0.08	100.00
Kweneng	21.83	1.6	9.07	3.9	1.45	47.26	1.65	2.47	10.17	0.59	0.03	100.00
Kgatleng	23.55	2.03	12.07	3.95	1.81	44.85	1.29	1.95	8.32	0.13	0.03	100.00
Central Serowe Palapye	23.26	1.42	11.36	3.22	1.83	39.97	2.81	4.87	11.09	0.14	0.02	100.00
Central Mahalapye	22.18	1.44	12.5	2.20	1.84	37.86	2.78	5.78	13.35	0.02	0.04	100.00
Central Bobonong	24.17	1.12	12.21	1.99	1.69	38.82	2.13	5.29	12.42	0.03	0.14	100.00
Central Boteti	21.88	0.95	10.65	2.51	1.94	38.74	2.79	6.10	14.4	0.02	0.01	100.00
Central Tutume	23.43	1.35	12.04	2.37	1.67	39.45	2.71	5.58	11.35	0.05	0.01	100.00
Central	23.07	1.32	11.8	2.57	1.78	39.15	2.69	5.40	12.1	0.07	0.04	100.00
North East	24.98	1.47	11.29	2.65	1.43	42.55	1.54	4.01	9.96	0.10	0.01	100.00
Ngamiland East	17.57	1.26	9.82	3.60	1.91	43.61	2.16	3.56	16.46	0.04	0.01	100.00
Ngamiland West	15.43	0.93	14.49	1.56	1.79	30.92	4.01	6.58	24.26	0.02	0.01	100.00
Chobe	28.08	1.57	4.26	3.61	1.09	54.13	1.04	1.40	4.81	0.00	0.01	100.00
Okavango Delta	13.55	1.56	7.55	0.84	1.20	65.35	2.76	1.92	5.28	0.00	0.00	100.00
North West	18.83	1.22	10.11	2.97	1.71	42.21	2.5	4.01	16.4	0.03	0.01	100.00
Ghanzi	15.57	1.19	8.91	2.49	1.43	49.41	2.84	4.86	13.25	0.05	0.02	100.00
CKGR	8.33	4.17	0.00	4.17	0.00	45.83	0.00	8.33	29.17	0.00	0.00	100.00
Ghanzi	15.55	1.19	8.89	2.49	1.42	49.40	2.84	4.86	13.28	0.05	0.02	100.00
Kgalagadi South	18.34	1.35	7.66	1.53	1.55	43.97	4.84	5.83	14.9	0.04	0.00	100.00
Kgalagadi North	15.09	0.9	10.67	1.94	0.81	50.58	4.30	5.23	10.41	0.00	0.07	100.00
Kgalagadi	17.01	1.16	8.90	1.70	1.24	46.68	4.62	5.58	13.06	0.02	0.03	100.00
Total-BOTH SEX	20.88	1.65	8.83	3.62	1.58	48.33	1.86	3.24	9.64	0.34	0.02	100.00
Households	163737	12906	69277	28388	12402	378996	14620	25422	75587	2668	150	784153

Table 6: The percentage of households that received income from other cash receipts by district and sex-2011 Census (contd...)

District	Other Cash/Inkind Receipts											% Total
	Inside Botswana	Outside Botswana	Pension	Rent	Maintenance	Employment	Destitute Allowance	Govt. Ration	None	Student Allowance	Other (NEC)	
MALE												
Gaborone	17.04	2.17	2.08	4.60	0.91	67.49	0.30	0.42	4.31	0.68	0.00	100.00
Francistown	19.38	2.09	2.53	5.06	1.07	64.62	0.45	0.88	3.55	0.36	0.00	100.00
Lobatse	22.09	1.60	3.40	4.94	1.57	63.19	0.27	0.45	2.44	0.06	0.00	100.00
Selebi_Pikwe	18.58	1.66	2.59	4.65	0.90	68.39	0.40	0.59	2.19	0.04	0.00	100.00
Orapa	28.33	1.79	1.46	1.79	0.80	64.88	0.17	0.23	0.46	0.1	0.00	100.00
Jwaneng	15.22	1.64	1.38	3.76	1.22	74.98	0.15	0.22	1.38	0.07	0.00	100.00
Sowa Town	14.41	2.30	0.30	1.1	0.20	79.68	0.70	0.10	0.70	0.50	0.00	100.00
Cities/ Towns	18.26	2.02	2.26	4.58	0.99	67.07	0.34	0.52	3.51	0.45	0.00	100.00
Ngwaketse	20.24	1.39	13.25	2.5	0.87	44.59	2.13	3.77	11.17	0.07	0.01	100.00
Barolong	19.72	1.76	11.65	1.52	1.00	46.94	1.98	3.45	11.97	0.01	0.00	100.00
Ngwaketse West	12.23	0.29	11.81	1.34	1.01	45.39	3.18	4.52	20.23	0.00	0.00	100.00
Southern	19.53	1.42	12.7	2.14	0.92	45.31	2.16	3.73	12.03	0.05	0.01	100.00
South East	19.63	1.99	5.97	5.13	0.76	56.2	0.54	0.96	6.99	1.82	0.01	100.00
Kweneng East	21.17	1.63	7.11	3.73	0.94	53.67	0.87	1.47	8.74	0.63	0.02	100.00
Kweneng West	24.05	0.83	10.14	1.01	0.73	42.36	2.46	2.95	15.31	0.07	0.07	100.00
Kweneng	21.62	1.51	7.58	3.31	0.91	51.91	1.12	1.70	9.76	0.54	0.03	100.00
Kgatleng	23.84	1.83	10.09	3.45	1.20	48.16	1.02	1.47	8.80	0.13	0.03	100.00
Central Serowe Palapye	22.60	1.29	10.00	2.73	1.10	45.70	1.86	3.52	11.08	0.10	0.02	100.00
Central Mahalapye	21.67	1.17	11.40	1.96	1.04	43.39	1.78	4.13	13.39	0.02	0.04	100.00
Central Bobonong	22.20	1.11	11.13	1.68	0.88	44.79	1.42	4.27	12.33	0.05	0.14	100.00
Central Boteti	21.99	0.97	9.96	2.22	1.18	43.87	2.06	4.24	13.46	0.02	0.02	100.00
Central Tutume	21.58	1.31	10.56	2.10	1.01	45.62	2.03	4.48	11.25	0.05	0.00	100.00
Central	22.05	1.22	10.55	2.24	1.05	44.93	1.85	4.05	11.97	0.06	0.03	100.00
North East	23.83	1.39	9.97	2.62	1.03	47.85	1.19	2.95	9.11	0.07	0.01	100.00
Ngamiland East	17.56	1.28	8.67	3.14	1.30	47.34	1.58	2.73	16.32	0.06	0.01	100.00
Ngamiland West	14.99	0.92	14.40	1.56	1.03	36.49	3.21	5.45	21.90	0.01	0.03	100.00
Chobe	28.28	1.58	3.53	2.72	0.67	57.35	0.75	1.10	4.01	0.00	0.00	100.00
Okavango Delta	12.10	1.48	8.15	0.49	0.49	68.64	1.73	1.73	5.19	0.00	0.00	100.00
North West	19.03	1.25	9.07	2.61	1.09	46.95	1.83	3.07	15.05	0.03	0.01	100.00
Ghanzi	15.25	0.97	8.05	2.31	0.86	52.02	2.37	4.18	13.93	0.05	0.02	100.00
CKGR	9.52	4.76	0.00	4.76	0.00	42.86	0.00	9.52	28.57	0.00	0.00	100.00
Ghanzi	15.23	0.97	8.03	2.31	0.86	52.00	2.36	4.19	13.96	0.05	0.02	100.00
Kgalagadi South	17.28	1.35	6.68	1.56	1.00	50.04	2.97	3.69	15.42	0.02	0.00	100.00
Kgalagadi North	14.25	1.10	8.76	2.12	0.83	54.48	2.98	3.86	11.55	0.00	0.07	100.00
Kgalagadi	16.01	1.24	7.55	1.79	0.93	51.89	2.97	3.76	13.80	0.01	0.03	100.00
Total-Male	20.25	1.57	7.53	3.25	0.99	53.32	1.27	2.33	9.15	0.32	0.02	100.00
Households	81111	6282	30155	13025	3965	213525	5082	9322	36659	1271	74.00	400471

Table 6: The percentage of households that received income from other cash receipts by district and sex-2011 Census (contd...)

District	Other Cash/Inkind Receipts											
	Inside Botswana	Outside Botswana	Pension	Rent	Maintenance	Employment	Destitute Allowance	Govt. Ration	None	Student Allowance	Other (NEC)	% Total
FEMALE												
Gaborone	17.70	2.30	2.41	5.72	1.85	63.21	0.44	0.65	4.69	1.03	0.00	100.00
Francistown	21.15	2.09	3.29	7.48	2.44	56.23	0.87	1.52	4.38	0.55	0.00	100.00
Lobatse	21.67	1.91	4.81	6.49	3.02	55.95	0.93	1.31	3.83	0.08	0.00	100.00
Selebi_Pikwe	22.42	1.82	3.13	6.30	3.35	57.08	0.76	1.13	3.99	0.02	0.00	100.00
Orapa	25.44	1.27	1.69	1.27	3.06	65.75	0.32	0.47	0.74	0.00	0.00	100.00
Jwaneng	15.96	2.39	1.16	3.73	2.43	71.67	0.48	0.21	1.95	0.03	0.00	100.00
Sowa Town	15.52	1.94	1.08	1.72	0.86	76.94	0.43	0.00	1.51	0.00	0.00	100.00
Cities/ Towns	19.45	2.15	2.81	6.08	2.28	60.73	0.61	0.94	4.27	0.67	0.00	100.00
Ngwaketse	20.70	1.93	15.39	2.96	1.97	36.34	3.85	4.89	11.90	0.06	0.00	100.00
Barolong	21.84	2.25	14.75	1.68	1.95	38.34	3.69	5.67	9.81	0.01	0.00	100.00
Ngwaketse West	10.04	0.48	13.70	1.22	1.57	33.13	6.83	10.65	22.39	0.00	0.00	100.00
Southern	20.35	1.93	15.10	2.49	1.94	36.71	4.00	5.48	11.97	0.04	0.00	100.00
South East	19.99	2.39	8.29	6.52	1.54	50.29	0.83	1.81	6.44	1.90	0.01	100.00
Kweneng East	21.93	1.83	10.12	5.19	2.09	44.45	1.68	2.68	9.27	0.76	0.02	100.00
Kweneng West	22.76	0.95	14.05	1.10	1.83	29.04	5.32	6.82	17.99	0.05	0.09	100.00
Kweneng	22.05	1.70	10.73	4.55	2.05	42.05	2.25	3.32	10.63	0.65	0.03	100.00
Kgatleng	23.25	2.24	14.20	4.49	2.46	41.31	1.58	2.47	7.82	0.14	0.03	100.00
Central Serowe Palapye	23.84	1.54	12.56	3.65	2.48	34.9	3.65	6.06	11.10	0.18	0.03	100.00
Central Mahalapye	22.60	1.65	13.40	2.39	2.49	33.38	3.59	7.11	13.32	0.02	0.04	100.00
Central Bobonong	25.84	1.13	13.12	2.26	2.38	33.76	2.73	6.15	12.49	0.01	0.14	100.00
Central Boteti	21.77	0.94	11.33	2.79	2.68	33.67	3.51	7.93	15.34	0.03	0.01	100.00
Central Tutume	25.02	1.38	13.30	2.6	2.24	34.17	3.30	6.52	11.44	0.04	0.01	100.00
Central	23.95	1.42	12.89	2.86	2.42	34.14	3.42	6.58	12.21	0.08	0.04	100.00
North East	25.92	1.54	12.39	2.68	1.76	38.19	1.83	4.89	10.66	0.13	0.02	100.00
Ngamiland East	17.59	1.23	10.92	4.03	2.48	40.05	2.71	4.35	16.59	0.03	0.01	100.00
Ngamiland West	15.76	0.93	14.55	1.56	2.35	26.8	4.6	7.41	26.01	0.02	0.00	100.00
Chobe	27.85	1.57	5.09	4.64	1.57	50.39	1.38	1.75	5.73	0.00	0.02	100.00
Okavango Delta	14.92	1.63	6.99	1.17	1.86	62.24	3.73	2.10	5.36	0.00	0.00	100.00
North West	18.64	1.20	11.07	3.3	2.28	37.85	3.11	4.87	17.64	0.02	0.01	100.00
Ghanzi	15.97	1.47	9.99	2.72	2.14	46.09	3.44	5.72	12.4	0.04	0.01	100.00
CKGR	0.00	0.00	0.00	0.00	0.00	66.67	0.00	0.00	33.33	0.00	0.00	100.00
Ghanzi	15.96	1.47	9.98	2.72	2.14	46.10	3.44	5.71	12.41	0.04	0.01	100.00
Kgalagadi South	19.49	1.35	8.71	1.5	2.14	37.46	6.84	8.11	14.34	0.06	0.00	100.00
Kgalagadi North	16.05	0.67	12.86	1.73	0.78	46.11	5.82	6.80	9.12	0.00	0.06	100.00
Kgalagadi	18.11	1.08	10.38	1.59	1.59	40.93	6.43	7.59	12.24	0.03	0.02	100.00
Total-Female	21.54	1.73	10.20	4.00	2.20	43.13	2.49	4.20	10.15	0.36	0.02	100.00
Households	82626	6624	39122	15363	8437	165471	9538	16100	38928	1397	76.00	383682

Table 7: The percentage of households that received income from agricultural activities by current economic status and sex-2011 Census

Agricultural Activity	Current economic Activity							% Total
	Employee - Paid Cash	Employee - Paid Inkind	Self-employed (no employees)	Self-employed (with employees)	Unpaid Family Helper	Working at Own Lands/ Cattle Post	Unknown	
BOTH SEX								
Cattle	55.88	0.49	6.46	3.59	0.81	21.19	11.58	100.00
Goats/Sheep	53.12	0.52	7.45	3.6	0.72	21.91	12.69	100.00
Poultry	53.48	0.6	10.41	4.37	0.73	16.74	13.68	100.00
Maize	53.29	0.6	9.89	4.53	0.77	17.23	13.69	100.00
Sorghum/Millet	54.36	0.61	9.76	4.69	0.9	14.97	14.7	100.00
Melons/Sweetreeds	54.94	0.53	9.92	4.01	0.69	16.29	13.63	100.00
Fruits & vegetables	48.96	0.39	24.66	7.16	0.76	7.44	10.63	100.00
Phane	56.79	0.53	10.68	1.94	0.53	11.2	18.32	100.00
Fish	57.38	0.77	17.68	4.85	0.28	7.98	11.07	100.00
Thatch/Poles/Reeds	51.8	1.31	11.39	1.54	0.75	15.84	17.38	100.00
Firewood	54.83	0.93	10.85	2.08	1.15	16.09	14.07	100.00
None	76.3	0.5	6.63	3.27	0.37	4.77	8.15	100.00
Legumes	53.84	0.76	10.71	2.75	0.76	15.73	15.45	100.00
%-BOTH SEX	69.45	0.53	7.6	3.43	0.49	8.76	9.74	100.00
Households	275747	2086	30160	13627	1960	34799	38662	397041
MALE								
Cattle	56.06	0.48	4.99	4.03	0.82	24.2	9.43	100.00
Goats/Sheep	54.58	0.51	5.77	4.2	0.71	24.35	9.89	100.00
Poultry	56.77	0.5	7.58	5.12	0.65	19.08	10.3	100.00
Maize	55.2	0.58	8	5.38	0.69	18.97	11.18	100.00
Sorghum/Millet	58.18	0.62	7.32	5.77	0.86	16.39	10.86	100.00
Melons/Sweetreeds	58.52	0.58	7.35	4.64	0.58	18.2	10.12	100.00
Fruits & vegetables	54.81	0.41	18.02	9.09	0.54	8.37	8.76	100.00
Phane	63.83	0.49	6.37	2.31	0.35	13.17	13.47	100.00
Fish	60.49	0.64	17.08	4.9	0.27	9.26	7.36	100.00
Thatch/Poles/Reeds	60.93	1.05	8	1.31	0.71	17.13	10.86	100.00
Firewood	57.55	0.88	9.07	2.25	1.22	18.22	10.81	100.00
None	76.78	0.48	6.27	4.59	0.33	5.39	6.17	100.00
Legumes	58.18	0.91	8.18	3.45	0.73	17.27	11.27	100.00
% Male	70.17	0.5	6.55	4.52	0.46	10.32	7.48	100.00
Households	168570	1201	15739	10869	1105	24785	17960	240229
FEMALE								
Cattle	55.44	0.51	10.06	2.52	0.79	13.81	16.87	100.00
Goats/Sheep	49.96	0.52	11.07	2.32	0.75	16.63	18.75	100.00
Poultry	48.14	0.77	14.99	3.14	0.86	12.94	19.16	100.00
Maize	50.14	0.62	13.02	3.13	0.9	14.36	17.82	100.00
Sorghum/Millet	48.35	0.6	13.6	2.98	0.98	12.74	20.76	100.00
Melons/Sweetreeds	49.24	0.44	14.02	3	0.85	13.25	19.21	100.00
Fruits & vegetables	42.31	0.38	32.19	4.96	1.02	6.38	12.76	100.00
Phane	50.44	0.57	14.57	1.6	0.69	9.43	22.69	100.00
Fish	52.59	0.98	18.6	4.76	0.28	6.01	16.78	100.00
Thatch/Poles/Reeds	38	1.7	16.51	1.87	0.79	13.9	27.23	100.00
Firewood	47.98	1.04	15.32	1.63	0.98	10.76	22.29	100.00
None	75.63	0.54	7.15	1.37	0.44	3.87	11.00	100.00
Legumes	49.11	0.59	13.47	1.98	0.79	14.06	20.00	100.00
% Female	68.35	0.56	9.20	1.76	0.55	6.39	13.20	100.00
Households	107177	885	14421	2758	855	10014	20702	156812

Table 8: The percentage of households that received income from household activities by current economic status and sex-2011 Census

Household Activity	Current economic Activity							% Total
	Employee - Paid Cash	Employee - Paid Inkind	Self-employed (no employees)	Self-employed (with employees)	Unpaid Family Helper	Working at Own Lands/ Cattle Post	Unknown	
BOTH SEX								
Traditional beer	42.2	0.82	15.48	1.67	1.21	18.39	20.23	100.00
Other beverages	48.08	0.65	21.77	5.38	1.03	10.26	12.82	100.00
Craftwork	45.79	0.81	22.56	3.76	0.60	12.80	13.69	100.00
Clothes	50.94	0.62	27.69	8.10	0.52	4.64	7.48	100.00
Cooked food	48.8	0.59	28.22	7.51	0.79	5.22	8.87	100.00
None	74.6	0.50	5.64	3.16	0.41	6.94	8.75	100.00
Other (NEC)	56.23	0.35	20.26	4.89	0.70	8.03	9.55	100.00
% BOTH SEX	71.28	0.52	7.56	3.35	0.47	7.48	9.35	100.00
Household	254324	1861	26959	11938	1674	26678	33347	356781
MALE								
Traditional beer	49.84	0.89	6.94	1.96	0.87	24.48	15.02	100.00
Other beverages	55.47	0.63	11.78	6.77	0.95	13.58	10.83	100.00
Craftwork	51.31	0.76	18.57	4.45	0.50	14.59	9.82	100.00
Clothes	59.04	0.74	17.46	9.77	0.34	6.64	6.02	100.00
Cooked food	61.34	0.52	15.08	8.45	0.49	7.33	6.81	100.00
None	73.97	0.47	5.86	4.38	0.40	8.15	6.77	100.00
Other (NEC)	59.82	0.46	14.16	6.85	0.46	11.19	7.08	100.00
% MALE	72.13	0.49	6.53	4.49	0.43	8.81	7.12	100.00
Household	153730	1048	13922	9567	907	18768	15182	213124
FEMALE								
Traditional beer	36.05	0.76	22.35	1.43	1.48	13.5	24.42	100.00
Other beverages	40.79	0.66	31.64	4.00	1.11	7.00	14.79	100.00
Craftwork	35.96	0.89	29.66	2.52	0.79	9.61	20.57	100.00
Clothes	44.72	0.52	35.54	6.82	0.67	3.11	8.61	100.00
Cooked food	39.21	0.65	38.28	6.79	1.02	3.600	10.44	100.00
None	75.61	0.54	5.28	1.23	0.43	5.02	11.89	100.00
Other (NEC)	52.49	0.24	26.60	2.85	0.95	4.75	12.11	100.00
% FEMALE	70.02	0.57	9.08	1.65	0.53	5.51	12.64	100.00
Household	100594	813	13037	2371	767	7910	18165	143657

Table 9: The percentage of households that received income from other cash receipts by current economic status and sex-2011 Census

Cash Receipt	Current economic Activity							% Total
	Employee - Paid Cash	Employee - Paid In-kind	Self-employed (no employees)	Self-employed (with employees)	Unpaid Family Helper	Working at Own Lands/ Cattle Post	Unknown	
BOTH SEX								
Inside Botswana	70.9	0.53	7.47	3.22	0.50	7.61	9.77	100.00
Outside Botswana	67.72	0.63	9.61	7.21	0.38	4.99	9.47	100.00
Pension	29.61	0.69	8.25	2.61	0.94	31.09	26.8	100.00
Rent	63.02	0.38	12.37	6.76	0.55	6.59	10.33	100.00
Maintenance	64.36	0.58	9.51	3.35	0.56	7.39	14.25	100.00
Employment	81.57	0.43	6.81	3.54	0.26	2.74	4.65	100.00
Destitute allowance	43.48	1.15	10.24	1.58	1.12	16.32	26.1	100.00
Government Rations	41.35	0.86	9.33	1.51	1.05	19.61	26.28	100.00
None	32.29	0.95	9.45	2.19	1.42	25.66	28.04	100.00
Student Allowances	79.37	0.37	6.13	2.97	0.19	1.86	9.11	100.00
Other (NEC)	15.05	0.00	25.81	6.45	0.00	31.18	21.51	100.00
% Both Sex	71.08	0.52	7.54	3.43	0.46	7.48	9.49	100.00
Household	352419	2578	37372	17005	2295	37111	47033	495813
MALE								
Inside Botswana	71.64	0.50	6.60	4.53	0.44	9.14	7.16	100.00
Outside Botswana	66.71	0.50	8.85	10.47	0.29	6.28	6.89	100.00
Pension	30.06	0.66	6.19	3.38	0.75	38.33	20.64	100.00
Rent	63.57	0.40	9.58	9.21	0.38	8.55	8.32	100.00
Maintenance	63.99	0.43	7.20	6.31	0.35	11.29	10.43	100.00
Employment	81.57	0.42	6.34	4.81	0.22	3.15	3.49	100.00
Destitute allowance	47.51	1.05	8.22	2.39	1.09	21.37	18.37	100.00
Government Rations	42.38	0.76	7.12	2.18	0.7	25.94	20.93	100.00
None	32.8	0.89	7.18	2.76	1.56	31.23	23.57	100.00
Student Allowances	78.47	0.00	7.66	4.01	0.00	2.92	6.93	100.00
Other (NEC)	16.00	0.00	14.00	12.00	0.00	44.00	14.00	100.00
% Male	71.81	0.49	6.6	4.7	0.4	8.87	7.12	100.00
Household	208627	1422	19187	13656	1166	25774	20694	290526
FEMALE								
Inside Botswana	69.93	0.58	8.63	1.47	0.58	5.58	13.24	100.00
Outside Botswana	69.00	0.81	10.57	3.03	0.49	3.34	12.76	100.00
Pension	29.03	0.74	10.96	1.61	1.2	21.57	34.89	100.00
Rent	62.39	0.37	15.57	3.95	0.74	4.33	12.65	100.00
Maintenance	64.59	0.67	10.99	1.47	0.7	4.90	16.69	100.00
Employment	81.56	0.45	7.54	1.60	0.33	2.10	6.42	100.00
Destitute allowance	40.26	1.23	11.86	0.94	1.13	12.29	32.29	100.00
Government Rations	40.43	0.95	11.3	0.93	1.37	14.00	31.03	100.00
None	31.53	1.05	12.84	1.34	1.21	17.33	34.7	100.00
Student Allowances	80.30	0.76	4.55	1.89	0.38	0.76	11.36	100.00
Other (NEC)	13.95	0.00	39.53	0.00	0.00	16.28	30.23	100.00
% Female	70.04	0.56	8.86	1.63	0.55	5.52	12.83	100.00
Household	143792	1156	18185	3349	1129	11337	26339	205287

Table 10: The percentage of households that received income from agricultural activities by marital status and sex-2011 Census

Agricultural Activity	Marital status of Head of Household						% Total
	Never married	Married	Living together	Separated	Divorced	Widowed	
BOTH SEX							
Cattle	42.7	26.4	19.0	0.7	1.8	9.3	100.00
Goats/Sheep	38.7	28.2	22.0	0.8	1.9	8.4	100.00
Poultry	33.8	28.3	25.4	0.9	2.0	9.7	100.00
Maize	39.0	27.7	22.4	0.7	2.0	8.2	100.00
Sorghum/Millet	36.8	29.2	22.8	0.7	2.0	8.6	100.00
Melons/Sweetreeds	36.0	28.7	24.0	0.7	2.0	8.6	100.00
Fruits & vegetables	34.8	28.9	23.9	0.9	2.4	9.2	100.00
Phane	23.7	32.8	30.5	0.9	1.9	10.1	100.00
Fish	27.9	31.6	31.2	0.9	1.9	6.4	100.00
Thatch/Poles/Reeds	19.8	30.5	37.5	1.2	1.7	9.4	100.00
Firewood	24.1	33.4	32.2	1.0	1.4	8.0	100.00
None	25.2	39.1	25.5	0.8	2.0	7.6	100.00
Legumes	31.1	29.9	25.6	0.9	1.3	11.2	100.00
% BOTH SEX	28.5	35.9	24.9	0.8	1.9	8.0	100.00
Household	175723	221613	153965	4778	12000	49454	617533
MALE							
Cattle	48.5	25.7	20.4	0.7	1.6	3.2	100.00
Goats/Sheep	45.2	27.0	22.9	0.7	1.4	2.9	100.00
Poultry	42.7	24.9	27.5	0.7	1.4	2.7	100.00
Maize	48.0	24.2	23.5	0.5	1.4	2.3	100.00
Sorghum/Millet	45.1	26.3	24.3	0.5	1.2	2.7	100.00
Melons/Sweetreeds	44.6	26.2	25.2	0.5	1.1	2.5	100.00
Fruits & vegetables	49.4	20.9	26.1	0.5	1.1	1.9	100.00
Phane	35.8	24.9	35.7	0.4	0.9	2.3	100.00
Fish	34.5	28.5	32.7	0.8	1.2	2.3	100.00
Thatch/Poles/Reeds	25.1	29.5	41.9	0.6	1.0	1.9	100.00
Firewood	27.4	34.2	33.8	0.9	0.9	2.9	100.00
None	33.3	33.9	28.5	0.6	1.3	2.4	100.00
Legumes	44.4	23.3	28.6	0.7	0.6	2.4	100.00
% MALE	36.8	31.3	27.4	0.6	1.3	2.5	100.00
Household	120960	102975	90045	1995	4344	8200	328519
FEMALE							
Cattle	32.5	27.8	16.6	0.7	2.3	20.1	100.00
Goats/Sheep	28.5	30.1	20.6	0.9	2.7	17.1	100.00
Poultry	23.3	32.2	22.9	1.1	2.8	17.8	100.00
Maize	27.7	32.1	20.9	0.9	2.7	15.7	100.00
Sorghum/Millet	26.7	32.9	20.9	0.9	2.9	15.7	100.00
Melons/Sweetreeds	25.7	31.9	22.5	0.9	3.1	16.0	100.00
Fruits & vegetables	21.4	36.1	22.0	1.2	3.5	15.80	100.00
Phane	15.8	38.0	27.1	1.2	2.7	15.20	100.00
Fish	19.6	35.6	29.3	1.0	2.9	11.60	100.00
Thatch/Poles/Reeds	14.3	31.6	32.8	1.7	2.4	17.20	100.00
Firewood	18.3	32.0	29.4	1.2	2.2	16.90	100.00
None	16.5	44.6	22.2	1.0	2.6	13.10	100.00
Legumes	19.6	35.6	23.0	1.1	2.0	18.8.	100.00
% FEMALE	18.9	41.0	22.1	1.0	2.6	14.30	100.00
Household	54763	118638	63920	2783	7656	41254	289014

Table 11: The percentage of households that received income from household activities by marital status and sex-2011 Census

Household Activity	Marital status of Head of Household						% Total
	Never married	Married	Living together	Separated	Divorced	Widowed	
BOTH SEX							
Traditional beer	24.52	28.75	30.37	1.07	1.50	13.8	100.00
Other beverages	27.23	29.45	30.69	0.73	1.79	10.11	100.00
Craftwork	27.38	29.23	30.56	1.19	2.23	9.41	100.00
Clothes	37.13	30.32	20.17	1.01	3.07	8.30	100.00
Cooked food	30.94	30.65	27.13	0.97	2.27	8.04	100.00
None	27.09	37.8	24.80	0.76	1.94	7.61	100.00
Other (NEC)	31.70	30.52	24.05	0.95	1.89	10.88	100.00
% BOTH SEX	27.26	36.81	25.19	0.79	1.95	8.00	100.00
Household	151928	205134	140383	4396	10891	44566	557298
MALE							
Traditional beer	40.10	21.10	35.03	0.53	0.69	2.56	100.00
Other beverages	40.46	20.85	34.71	0.34	1.04	2.60	100.00
Craftwork	32.87	27.43	33.66	1.12	1.72	3.21	100.00
Clothes	57.01	17.56	22.67	0.45	0.79	1.52	100.00
Cooked food	49.76	16.00	31.07	0.50	0.79	1.88	100.00
None	34.82	33.23	27.47	0.62	1.37	2.50	100.00
Other (NEC)	45.74	23.94	25.89	0.53	1.06	2.84	100.00
% MALE	35.61	32.06	27.89	0.61	1.33	2.49	100.00
Household	104063	93684	81492	1792	3889	7280	292200
FEMALE							
Traditional beer	15.53	33.16	27.68	1.38	1.98	20.27	100.00
Other beverages	17.24	35.95	27.65	1.02	2.36	15.78	100.00
Craftwork	19.93	31.67	26.36	1.29	2.92	17.83	100.00
Clothes	23.78	38.90	18.49	1.39	4.59	12.86	100.00
Cooked food	18.64	40.22	24.56	1.28	3.23	12.06	100.00
None	18.04	43.15	21.67	0.93	2.62	13.60	100.00
Other (NEC)	20.45	35.80	22.59	1.28	2.56	17.33	100.00
% FEMALE	18.06	42.04	22.21	0.98	2.64	14.06	100.00
Household	47865	111450	58891	2604	7002	37286	265098

Table 12: The percentage of households that received income from other cash receipts by marital status and sex-2011 Census

Cash Receipts	Marital status of Head of Household						% Total
	Never married	Married	Living together	Separated	Divorced	Widowed	
BOTH SEX							
Inside Botswana	27.66	36.54	23.62	0.77	2.04	9.38	100.00
Outside Botswana	37.32	31.61	18.57	0.84	2.80	8.85	100.00
Pension	36.8	20.94	10.61	1.07	2.82	27.76	100.00
Rent	37.92	30.24	14.63	0.79	3.08	13.33	100.00
Maintenance	23.15	38.05	24.64	1.10	3.01	10.06	100.00
Employment	28.36	36.75	27.06	0.64	1.83	5.35	100.00
Destitute allowance	19.15	33.85	22.22	1.31	2.35	21.11	100.00
Government Rations	22.62	31.89	20.17	1.13	2.18	22.01	100.00
None	20.78	42.73	27.04	1.06	1.76	6.63	100.00
Student Allowances	9.11	70.54	16.60	0.15	1.16	2.44	100.00
Other (NEC)	27.33	40.67	20.67	0.00	1.33	10.00	100.00
% Both Sex	28.22	35.49	23.91	0.79	2.05	9.54	100.00
Household	221224	278261	187468	6183	16106	74823	784065
MALE							
Inside Botswana	36.73	32.24	26.43	0.56	1.30	2.74	100.00
Outside Botswana	47.93	27.48	20.06	0.64	1.67	2.23	100.00
Pension	59.75	13.37	12.93	1.15	2.64	10.15	100.00
Rent	55.27	21.89	16.75	0.54	1.97	3.58	100.00
Maintenance	41.81	26.04	26.92	0.61	1.29	3.33	100.00
Employment	35.78	31.31	29.56	0.49	1.16	1.71	100.00
Destitute allowance	33.07	29.07	26.54	1.16	2.15	8.01	100.00
Government Rations	38.76	25.76	24.63	0.97	1.80	8.08	100.00
None	25.98	41.10	28.49	0.88	1.42	2.13	100.00
Student Allowances	11.09	70.02	17.62	0.24	0.63	0.39	100.00
Other (NEC)	36.49	35.14	25.68	0.00	0.00	2.70	100.00
% Male	37.72	30.59	26.79	0.61	1.38	2.90	100.00
Household	151055	122503	107274	2449	5532	11609	400422
FEMALE							
Inside Botswana	18.75	40.75	20.87	0.97	2.76	15.90	100.00
Outside Botswana	27.26	35.54	17.16	1.03	3.88	15.13	100.00
Pension	19.12	26.77	8.81	1.01	2.96	41.33	100.00
Rent	23.21	37.33	12.84	1.01	4.02	21.59	100.00
Maintenance	14.38	43.69	23.57	1.33	3.82	13.22	100.00
Employment	18.77	43.77	23.84	0.84	2.71	10.06	100.00
Destitute allowance	11.73	36.39	19.92	1.39	2.46	28.09	100.00
Government Rations	13.28	35.43	17.58	1.23	2.40	30.08	100.00
None	15.88	44.26	25.68	1.22	2.09	10.87	100.00
Student Allowances	7.30	71.01	15.68	0.07	1.65	4.29	100.00
Other (NEC)	18.42	46.05	15.79	0.00	2.63	17.11	100.00
% Female	18.29	40.60	20.9	0.97	2.76	16.48	100.00
Household	70169	155758	80194	3734	10574	63214	383643

ANALYSIS OF LIVESTOCK OWNERSHIP AND CROPS PLANTED BY HOUSEHOLDS IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS PERSPECTIVES

By Prof. N.O. Ama; Dr. V. K. Dwivedi; Dr. S.T. R. Moeng;
K. Kebotsamang and B.P.G. Mabotho
Department of Statistics
University of Botswana

Abstract: This paper uses the 2011 Botswana Population and Housing Census data to answer some pertinent questions about ownership of livestock and crops planted by households in Botswana. Specifically the paper determined the distribution of households who owned different livestock and planted different crops by sex of head of households, locality and districts. The paper is organized into four sections, namely, the introduction, methodology, results and conclusions and reveals significant increase in the number of households that keep ostrich, game and plant sweet reeds. Participation of female-headed households in livestock keeping and crop plant is still lower than those of male-headed households. Based on the census data, it is recommended that empowerment of female-headed households be intensified; more agricultural education should be provided to the farming households to fully benefit from any intervention scheme introduced to enhance agricultural production.

1.0 Introduction

Botswana is a landlocked country located in Southern Africa. It is bordered and shares the longest border to the north by Namibia and Zambia, Zimbabwe to the east and the Republic of South Africa (RSA) to the south. The land area of Botswana is 582,000 square kilometers divided into three ecological zones viz. (i) Kgalagadi Desert, (ii) the Okavango Swamps, and (iii) the hard-veld in the east of the country. The country is sparsely populated with a population of a little over 2 million people (CSO, 2012). Botswana is a semi-arid country with an erratic rainfall that supports all agricultural activities carried out to sustain livelihoods of many households. About thirty-six percent (35.9%) of the population now live in rural areas and depend on agriculture for sustenance. There is a rapid urban migration. As of 2010, about 62% of the nation was living in towns as compared 60% in 2008 (<http://www.tradingeconomics.com/botswana/urban-population-percent-of-total-wb-data.html>)

Agriculture no longer claims a significant portion of the Gross Domestic Product in Botswana. The Agriculture sector has experienced a steady decline in its contribution to GDP over past 42 years. The poor performance of the sector therefore represents an added challenge to the fight against poverty. From a 42.7% share in GDP at independence in 1966, agriculture has fallen to 1.9% as at 2008 (Ministry of Finance and Development Planning, 2010) But it is still relied upon by the great majority of Botswana living in rural areas and who depend on agricultural activities for their livelihoods. The principal agricultural industry is livestock, and it earns substantial foreign exchange in the form of beef exports and raw materials from meat processing. The primary arable crop is sorghum, which is drought resilient.

A large part of the country has semi-desert and partly savannah conditions with erratic rainfall and poor soil conditions. This makes it more suitable for grazing than crop production. The livestock production is therefore the main agricultural sector. Livestock, namely, cattle, sheep and goats are the major income earner of the agricultural sector contributing on average 80% of agriculture's share of GDP. It is estimated that the animal population is close to being in excess of the land carrying capacity at 3.2 million beasts giving rise to concerns about overgrazing (MBendi, 2013; Adams, n.d.). Other agricultural sectors include forestry and fishing. Subsistence farming by peasant farmers is the predominant form of agricultural activity providing food, income, employment and capital for two thirds of the country's population. The fact that Botswana is essentially arid with frequent and extensive droughts has made irrigated crop farming very difficult to promote and caused the country to import up to 80% of its food requirements. The principal food crops are sorghum, maize, millet, pulses, groundnuts (peanuts), beans, and sunflower seed. Marketing of agricultural products is handled by the Botswana Agricultural Marketing Board which guarantees a minimum price to producers.

The government of Botswana has over the years worked tirelessly to diversify its diamond-dependent economy but to no avail. Agriculture has been identified as one of the sectors that can drive this economic diversification and growth. However the greatest challenge facing Botswana is to improve food security and rural employment and incomes under semi-arid and marginal environments. Therefore, the government has targeted rural development in an effort to promote agricultural productivity, despite its poor performance which is mainly associated with the arable sub sector as compared to the livestock sub sector (Central Statistics Office, 2008). According to Government Implementation Coordination Office (2009), the Botswana government's main objectives were to create a livestock sector which would significantly contribute to economic activity in a substantially liberalized environment, give highest priority to intensive farming projects and support agro-industry projects. This led to the government introducing some programmes such as Integrated Support Programme for Arable Agricultural Development (ISPAAD) in 2008 to address challenges in the arable sub-sector. Statistics Botswana (2013) reported in their annual agricultural survey report that in 2011 more area was planted with assistance from ISPAAD and consequently production has since increased remarkably, particularly for maize. The number of farmers with land for planting (land holdings) showed a significant increase of 5.4 percent from 76,267 in 2010 to 80,415 in 2011 (Statistics Botswana, 2013). However, the same report also indicated that the commercial sector experienced a contraction from 1,217 to 718 farmers, and also indicated that traditional sector was still predominant in the livestock industry though the performance of the sector was poor as compared to the commercial sector.

The 1991 National Policy on Agricultural Development focused on agrarian reform, which included replacing the food self-sufficiency goal with the concept of food security, promoting diversification of agricultural production, and incorporating the element of sustainable food production primarily through improved management of productive resources. Agriculture was diversified through the adoption of non-traditional production systems and products (Republic of Botswana, 1991). A number of measures have been adopted by Government to encourage and enhance farmer participation and engagement in horticulture production where conditions allow, and in harvesting and processing veld products. What seems to emerge clearly is that the transition to new forms of production has been slow. Subsidies such as the Financial Assistance Policy (FAP) to encourage people to participate have been promoted. With this reform, Botswana has exceeded the 1995 target for this programme area. The Government of Botswana launched the Arable Land Development Programme (ALDEP) in 1980

Integrated Pest Management is currently promoted through initiatives by the agricultural research system and others. These initiatives include breeding and selecting crops resistant to major pests and diseases. Capacity has been enhanced by the establishment of a Plant Protection Division within the Ministry of Agriculture. The Division is responsible for the control of migratory and economically important pests, development of procedures for safe handling and disposal of pesticides, and for promoting sustainable pest control technologies (Agenda 21, n.d).

The 2004 Agricultural Census report (CSO, 2008) indicates that agricultural holdings increased significantly by 19.6 percent from 101,434 to 121,325 at national level between the 1993 and 2004 agricultural censuses. The commercial sector increased by 46.4 percent, from 507 to 742 agricultural holdings while the traditional sector increased by 19.5 percent, from 100,927 to 120,583 agricultural holdings. Particularly, the results show that Cattle holdings increased by 33.4 percent, from 54,349 to 72,521 at national level between 1993 and 2004 agricultural censuses. The commercial sector showed an increase of 53.8 percent as compared to the 33.3 percent increase in the traditional sector. The goat holdings decreased insignificantly by 0.5 percent, from 79,189 to 78,765 at national level between the two censuses. The commercial sector showed an increase of 33.6 percent while the traditional sector showed a decrease of 0.7 percent. Sheep holdings also decreased by 7.5 percent from 19,214 to 17,771 nationally during the same period (Table 2.2). It would be of interest to show from the 2011 Census data what changes have taken place in the crop and livestock productions between the period 2001 and 2011.

Various institutions wanting to invest in agricultural production or the agribusiness sector in the SADC region need information on the quality and location of agricultural resources (Kleynhans and Vink, 1998). Botswana is no exception, hence we hope that the following census analysis of agricultural activities enumerated during the past three censuses will be helpful in providing insights to policy-makers and legislators in coming up with turnaround strategies, programmes and projects that can improve the sector's performance.

2.0 Methodology

The methodology utilized in the analysis is exactly that already used in the 2011 Census data collection and specified in the Census Report. This paper uses the 2011 Botswana Population and Housing Census data to answer some pertinent questions on Agriculture in Botswana within the census period 2011. Specifically the paper determined the following:

- i Distribution of Number of Households by Districts and Type of Livestock owned;
- ii Distribution of Number of Households by Type of locality
- iii Distribution of Number of Households By Districts and Type of Crops Planted.
- iv Distribution of Number of Households That Planted One or More Types of Crops by Type of Locality
- v The distribution of the number of livestock owned by the sex of the household head.
- vi Distribution of Number of Households That Planted One or More Types of Crops by Type of Locality

3.0 Household Agriculture

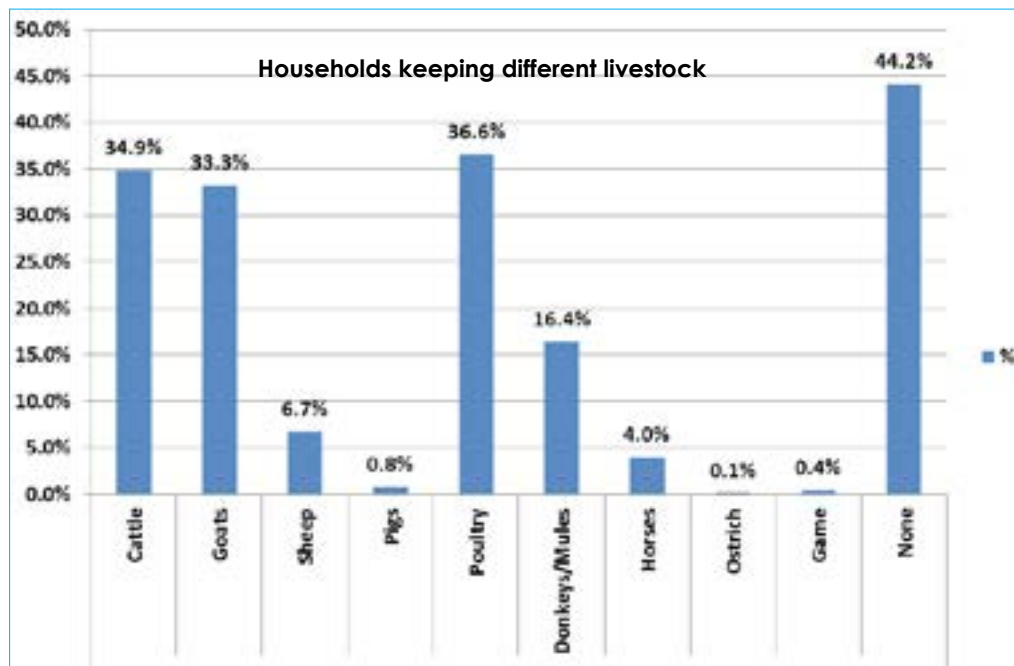
This section of the report deals with household Agriculture, namely the types of crops planted and the types of livestock kept by the households studied. The analysis of crops planted and livestock kept were carried out by filtering those households who own one or more livestock or planted one or more crop within the inter-censal period. The analysis was performed on the heads of households using different criteria viz. (i) district (ii) locality (iii) sex of head of households.

3.1 Livestock ownership

The most common livestock owned in Botswana are poultry, cattle and goats. Livestock, especially cattle is often kept for socioeconomic and cultural reasons. Small livestock, e.g. goats, sheep and poultry are usually kept as a source of quick cash in times of need.

The households were asked to indicate which livestock they owned. The responses to this question have been summarized in Figure 1. The figure shows that nationally, 44.2% of the households in Botswana do not own any livestock. Poultry is the most commonly kept livestock by the households, followed by cattle, goats, donkeys/mules and sheep with 34.9%, 33.3%, 16.4%, 6.7% of the households ownership, respectively.

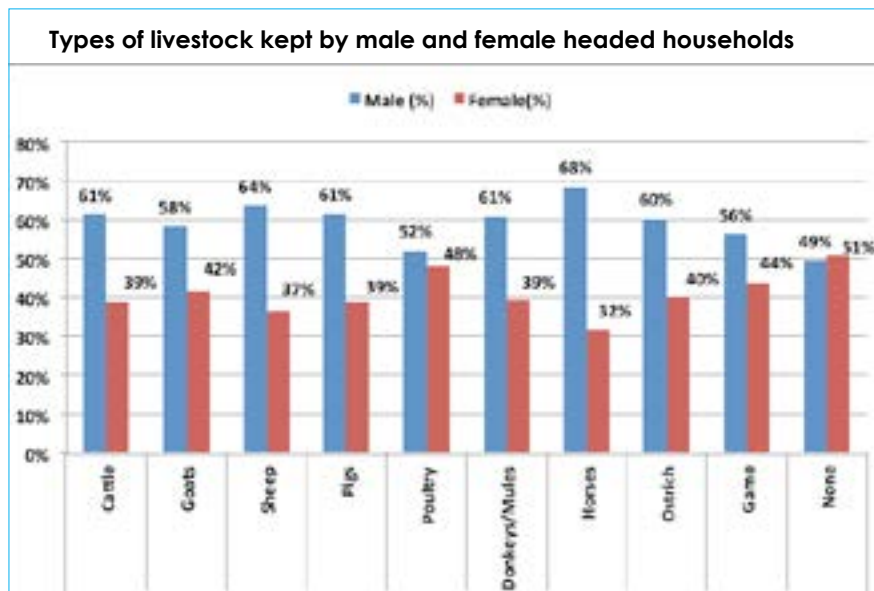
Figure 1: Percentage of households owning different livestock



3.1.1 Livestock ownership by sex of household head

Gender differentials are observed in the ownership of livestock. For example, of the households that own cattle, 61% are male-headed compared to 39% that are female-headed. Poultry which does not require grazing land, and is usually kept in the villages and lands is owned more by male-headed households (52%) compared with female headed households (48%). There are more female headed households (51%) than male headed households (49%) (Figure 2). Most of the households (51%) that do not own any livestock are the female headed households

Figure 2: Percentage of male and female headed household owning different types of livestock



3.1.2 Livestock ownership by sex, marital status and educational level of head of households

The results of the analysis (Table 1) reveal that majority households that own cattle (37.7%), goats (35.9%) and sheep (44%) are headed by the never married, followed by households headed by married people and those living together. Educationally, for majority of households that keep cattle (27.7%), the head had secondary education; 28.1% of the households that keep goats have primary education and while 27.1% of those who keep sheep have secondary education. A little over 20% of those households that keep cattle, goats and sheep, the head of households have either primary education or tertiary education.

3.1.3 Livestock ownership by district

The household ownership of livestock was further classified by the type of livestock and district to examine the differentials between the districts. This is shown in Table 2. The table shows that of the number of households that own at least one livestock in each district, the highest percentage ownership of cattle (47.2%) is from Ghanzi, followed by households from Southern (41.9%), Boteti (48.8%), Kgalagadi (38.8%) and Kgatleng (36.5%). The households from Kgalagadi (45.5%), Southern (39.1%), Ghanzi (36.1%) and North East (35.8%) were topmost in the ownership of goats. Poultry are mostly kept by the households in the North East (52.5%), Southern (49.2%), Kgatleng (42.5%) and Kgalagadi (38.7%). The households in the cities/towns are the least involved in the keeping of livestock (26% of the households own cattle, 23% of the households own goats and 18.5% own poultry).

3.1.4 Livestock ownership by type of livestock and locality type

In Table 3, the numbers of households that own livestock are classified by the type of livestock ownership and locality type. The table reveals that 60.1% of the households that live in the cattle post own cattle, followed by 52.1% of the households in land area and 48.2% of the households in the mixture of land and cattle post. Goats are kept mostly by the households in the land area (57.9%), 52.8% of the households keep cattle post while 51.4% of the households in the mixture of land and cattle post keep goats. Poultry is mostly kept by households (60.4%) in the land area, 56.4% of households in mixture of land and cattle post and 52.1% of the households in the rural village.

Between the two censal periods, there have been substantial increases in the number of households that owned livestock. For instance, while 161,046 households owned cattle in 2001, the number of households increased to 191,210 in 2011. Similar trends in the number of households that own goats (182,524 in 2011 and 168,993 in 2001) and poultry (200,244 in 2011 and 167,870 in 2001) can be observed (Figure 3).

Figure 3: Number of livestock kept by the households during 2001 and 2011 census period

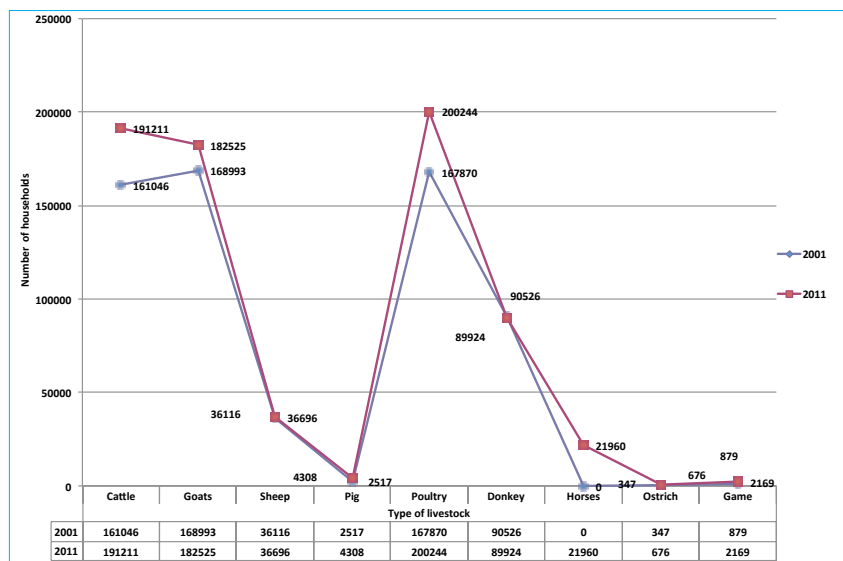
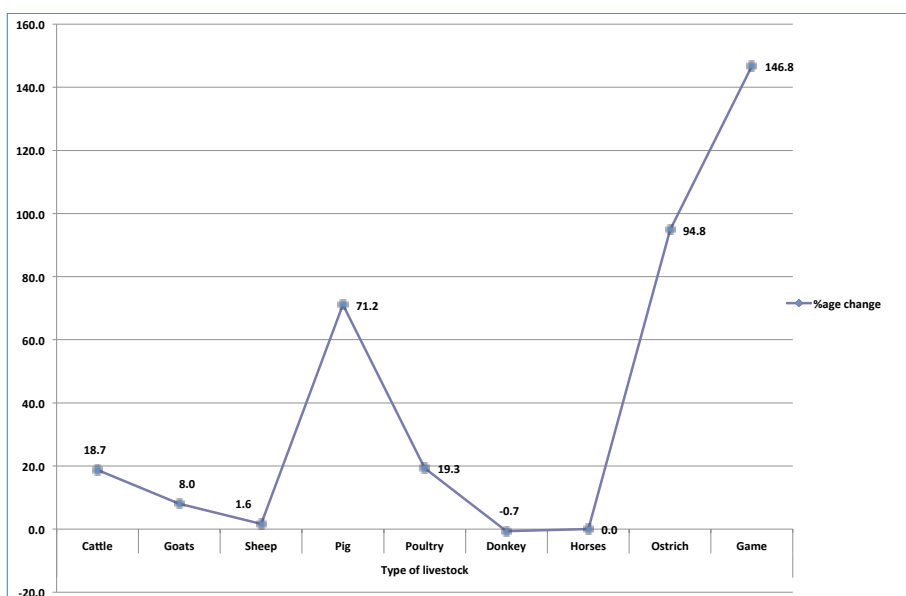


Figure 4 shows the relative percentage change in the number of households keeping the different livestock. The figure reveals substantial increases in the number of households that keep pig, ostrich and game (71.2%, 94.8% and 146.8%, respectively) and a slight decrease in the number of households that keep donkeys.

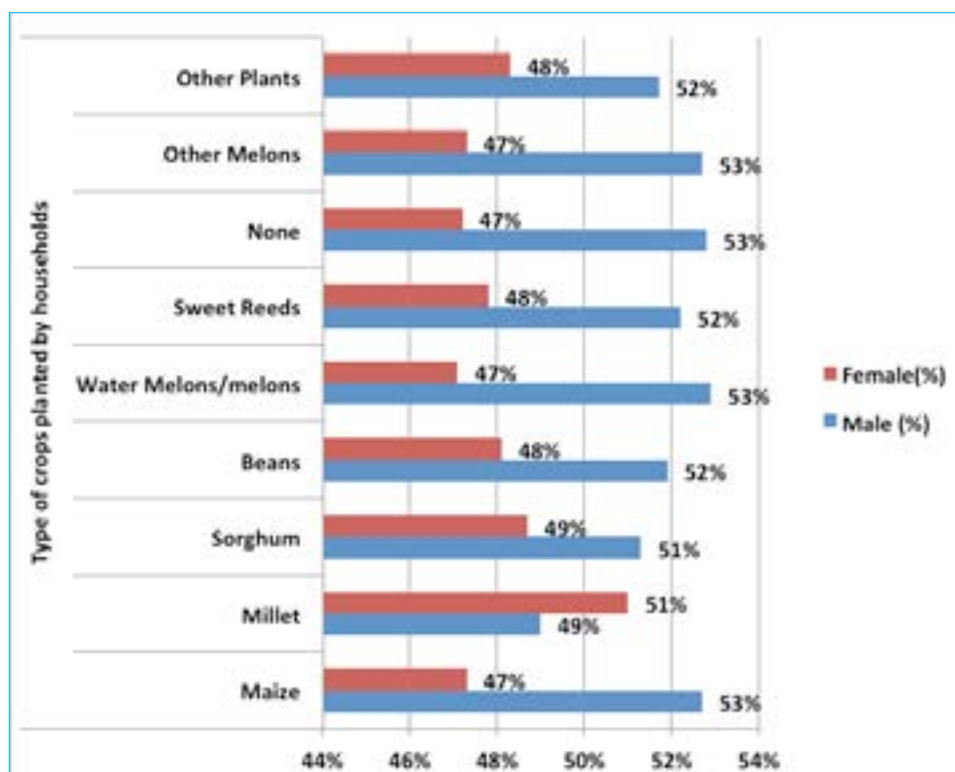
Figure 4: Percentage change in the number livestock kept by the households during 2001 and 2011 census periods (negative means decrease in number)



3.2 Crop Planted

Figure 5 shows the percentage of households who planted one or more crops. The percentages were generated from responses to a multiple response question which required the households to indicate which of the crops they planted. The figure reveals that the most commonly planted crops by the households were maize, beans, sorghum, and sweet reeds. The percentage of households that planted the crops was respectively 28.8%, 23.5%, 17.9%, and 17.9%. A substantial percentage of the households (68.6%) planted no crops.

Figure 6: Percentage of male and female headed households that planted the different crops.



3.2.2 Crop planting classified by sex, marital status and educational level of head of households

Table 4 shows the classification of households that planted crops by sex, marital status and educational level of head of households. The number of households headed by the never married men or women topped highest in the planting of all the crops (34.1%-Maize; 32.8% - Sorghum; 34% - Beans; 32.5% - Millet). Households where the heads were married ranked highest in the percentage participation in growing the crops (29.2% for maize; 30% for sorghum, 29% for beans and 29.4% for millet), followed by the households where the heads were living together with their spouses.

Educationally, in over 30% of the households that grew maize, millet, sorghum and beans, the heads of households had primary education. The percentages of the percentage of household heads that had no education for the different crops plant by the households were 27.5% (Maize), 26.7% (sorghum), 27.6% (beans) and millet (24.7%). Only between 10 and 14% of the heads of households that planted different crops had tertiary education.

3.2.2 Crop planting by districts

A classification of the households by the type of crops planted and the district where the households are located is shown in Table 5. The table shows that 50.2% of households in Ngamiland grew maize, while 41.2% of the households from North East, 37.8% of the households from Central and 34.3% from Southern district (Ngwaketse, Barolong, and Ngwaketse West) grew maize. Beans is planted mostly in Ngamiland (40.1% of the households grew it), followed by North East and Central district with 35.7% and 31.9% of the households from the districts, respectively, growing the crops. Sorghum is planted mostly in the North East and Central district. Thirty eight point six percent (38.6%) of households from the North East and 31.6% of the households from Central district planted sorghum. South East, Ghanzi and Kgalagadi are not good crop planting areas as they are predominantly desert.

Except for other melons and other plants, where decreases in the number of households planting the crops were noticed (77% and 97% decrease, respectively), for the other crops there were more than 25% increase in the number of households growing the crops between 2001 and 2011. For example, while 95,209 households planted maize in 2001, the number increased to 157,943 in 2011 (Figure 7). The more than one thousand percent increase in the number of households now planting sweet reeds is remarkable (Figure 8)

Figure 7: Trend in household crop planting as reported in 2001 and 2011 censuses

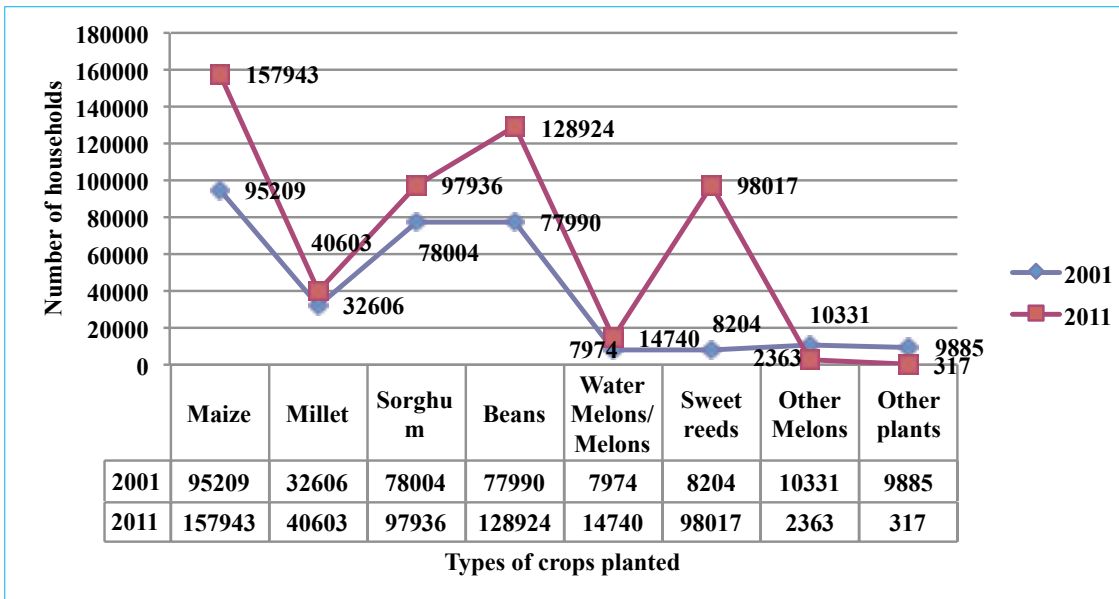
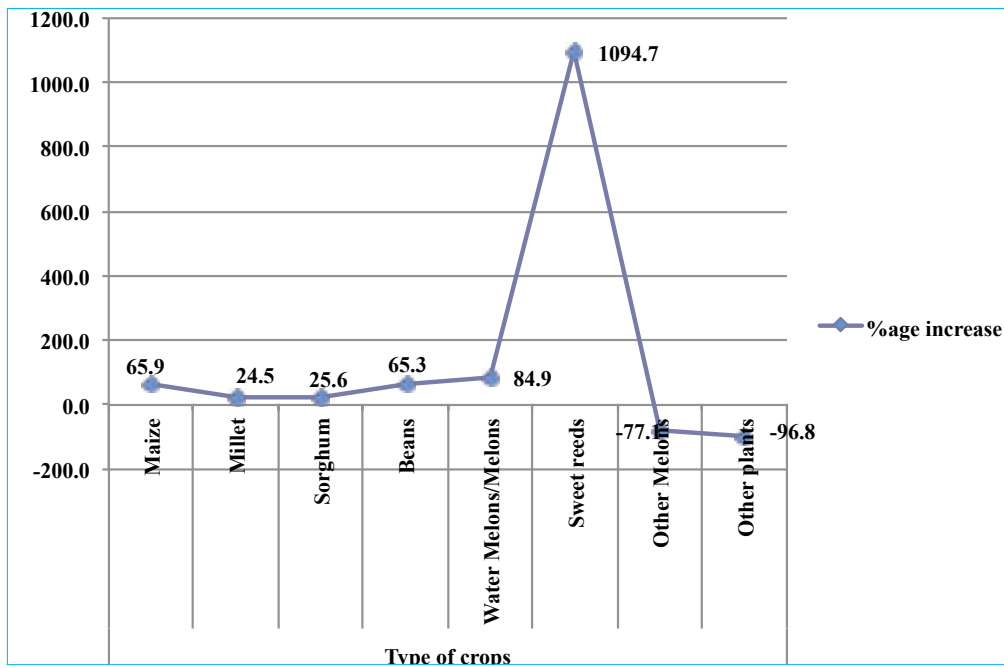


Figure 8: Percentage increase in the number of households that planted crop as reported in 2001 and 2011 censuses



3.2.3 Crop planting by locality type

The classification of households that planted one or more crops by locality type and type of crops planted shows that areas classified as Mixture of lands and Cattle Post, Land area, Cattle Post and Rural Village are the topmost crop planting areas. For instance, maize is predominantly planted in Lands Area (59.6% of the households plant maize), followed by the Mixture of Lands and Cattle Post (46.8% of the households plant maize), and Rural Village (39.1% of the households plant maize). Similar patterns of crop planting are observed for beans, sorghum and sweet reeds with Land areas being the most preferred planting areas (Table 6).

4.0 Conclusions

1. Poultry is the most commonly kept livestock as majority of the households (36.6%) keep poultry. This is followed by the households that kept cattle (34.9%), while 44.2% of the households in Botswana do not own any livestock. The data revealed that the most commonly planted crops by the households in Botswana are maize, beans, sorghum, and sweet reeds. The respective percentage of households that grew them was 28.8%, 23.5%, 17.9%, and 17.9%.
2. There are differentials in the percentages of female and male headed households that own livestock or plant crops with generally over 50% of households owning livestock or planting a particular crop being male-headed (Table 1 and 4).
3. The percentage of households owning livestock or planting crops in all the districts is still very low (below 50%) except in the case of North East where 52.5% of the households keep goats and in Ngamiland, where 50.5% of the households grew maize. This could be the result of the amount and pattern of rainfall, or type of soil, or availability of other alternatives to agriculture such informal businesses. With so much emphasis being laid on Agriculture as can be seen from NDP-10, these results call for intensive approach to generation of interest in farming.
4. The Lands areas, mixture of lands and cattle posts, and the cattle posts have been found to be areas of great utility for the growing of crops and keeping of livestock. A further development of these areas such as developments of modern agriculture, and irrigation could enhance agricultural productivity
5. Households that are headed by never married men or women were the ones that predominantly grew crops or keep livestock more than other households. Those households where the spouses are separated or divorced scarcely grew crops or kept livestock.
6. A trend that appear predominant in the results of the analysis is that the less the education, the more participation in either livestock keeping or growing of crops. This calls for greater awareness creation among the educated classes of the importance of livestock keeping and crop planting, and their participation in agriculture.

5.0 Policy implication of the findings from the analyses

One of the challenges of the census data is that it does not provide the number of livestock owned or quantity of crop yield from the interviewed households but simply provides the number of households that participated in livestock keeping or growing crops. Thus recommendations have been based on the household participations and we also worked on the premise that household participation in livestock keeping or crop planting is directly proportional to the number of the livestock kept or amount of yield from the various crops. Livestock keeping is still a predominantly male-headed household business and with less than 56% of the households in Botswana keeping livestock across the districts. Although there has been a significant increase in the number of households keeping livestock between 2001 and 2011, this increase is unlikely to meet the proposed expectation of NDP-10. Further effort by government to empower women and youths to own livestock is highly recommended. Such motivation could be in terms of supply of livestock, animal feeds and training on livestock keeping.

Poultry production superficially appear to be done by women and children, but the census data reveal it to be yet another area dominated by male-headed households with 36.6% of households keeping poultry (52% are male-headed households). Only 0.1% of the households keep ostrich in 2011, yet this is an area that the NDP-10 had proposed to expand its holding as an alternative to chicken. However, the significant increase in percentage of households that have picked up interest in ostrich keeping needs to be sustained.

Women participation in either livestock keeping or crop planting has been shown to be far below those of the men. Measures need to be put in place to motivate female-headed households to actively compete with the male-headed households. Support in form of irrigation systems to augment for the lack of water is highly recommended.

Compared to some developed countries, the percentage of households involved in agriculture in Botswana is very high yet the contribution of Agriculture to GDP is small. In addition, Botswana is still a net importer of agricultural products, despite the government effort to promote agriculture. It is then imperative that Botswana explores the reasons and identifies the handicap faced by the farmers to address these problems. Emphasis on agricultural education, provision of agricultural infrastructure would go a long way in improving fruitful participation in agriculture. Improved prices of agricultural produce, storage and food safety measures may enhance the output from agriculture. Further research may also identify other alternatives competing with agricultural activities.

Given a significant percentage of agricultural household heads that have primary or low education, probably less capital and dependent on agricultural produce, there is need to provide more agricultural education to these households to fully benefit from any intervention scheme introduced.

6.0 References

- 1 Adams M. (n.d). Land tenure policy and practice in Botswana; Governance lessons for southern Africa
- 2 Agenda 21-Botswana (1997) Natural Resource Aspects of Sustainable Development in Botswana. Available at <http://www.un.org/esa/agenda21/natlinfo/countr/botswana/natur.htm>
- 3 Botswana (n.d) Agriculture. Available at <http://sunsite.icm.edu.pl/untpdc/incubator/africahp/bwa/bw8.htm>
- 4 CSO (2001). National Statistical tables, 2001 Census
- 5 Central Statistics Office (2008) Revised 2004 Botswana Agricultural Census Report. Department of Printing and Publishing Services, Gaborone
- 6 Government Implementation Coordination Office (2009). Botswana Excellence - A Strategy for Economic Diversification and Sustainable Growth. Government Printers, Gaborone
- 7 Kleynhans T and Vink N (1998). The Agricultural Potential of SADC. Agrekon, Vol 37, No 4
- 8 MBendi (2013). Agriculture, Forestry and Fishing in Botswana - Overview. Available at <http://www.mbendi.com/indy/agff/af/bo/p0005.htm>
- 9 Ministry of Finance and Development Planning. (2010). National Development Plan 10. Gaborone: Government Printers.
- 10 Republic of Botswana (1991). National Policy on Agricultural Development. Government Printers, Gaborone.
- 11 Statistics Botswana (2013). 2011 Annual Agricultural Survey Preliminary Results: No 10 of 2013.
- 12 Statistics Botswana. (2012). 2007 and 2008 Annual Agricultural Survey Report. Gaborone: Government Printers

Table 13: Ownership of livestock classified by sex, marital status and educational level of household heads

Demographic characteristics		Livestock ownership										
		None	Cattle	Goats	Sheep	Pigs	Poultry	Donkeys/ Mules	Horses	Ostrich	Game	Total
Sex	Male	49.2	61.1	58.1	63.5	61.4	51.8	60.6	68.3	59.8	56.0	52.5
	Female	50.8	38.9	41.9	36.5	38.6	48.2	39.4	31.7	40.2	44.0	47.5
	Total	242791	192334	183690	36753	4252	201751	90546	22061	661	2157	550909
Marital status	Never Married	21.2	37.7	35.9	44.0	39.1	33.2	33.9	37.8	36.9	34.1	27.2
	Married	44.6	28.7	29.1	26.2	29.0	28.9	27.6	28.7	30.1	34.4	36.9
	Living together	25.9	21.9	23.1	18.9	21.1	24.4	26.2	24.6	22.4	22.3	25.1
	Separated	0.7	0.7	0.7	0.6	0.7	0.8	0.8	0.7	1.2	1.0	0.8
	Divorced	2.0	1.8	1.8	1.9	2.3	1.8	1.4	1.7	2.6	2.3	1.9
	Widowed	5.6	9.2	9.3	8.4	7.8	10.9	10.1	6.4	6.8	5.9	8.0
Total	242759	192320	183675	36749	4250	201738	90541	22059	661	2157	550852	
Education	None	13.3	21.2	22.9	21.2	17.6	25.3	32.9	23.4	19.4	12.4	18.9
	Primary	18.1	27	28.1	26.6	23.8	31.5	31.2	25.0	25.7	18.6	24.0
	Secondary	38.5	27.7	27.9	27.1	29.0	26.3	24.9	29.6	28.6	33.2	32.4
	tertiary	29.6	23.0	20.0	24.0	28.7	15.6	9.4	20.9	25.9	35.5	23.8
	Non-Formal	0.5	1.1	1.1	1.1	0.9	1.3	1.6	1.1	0.3	0.3	0.9
Total	241185	191516	182988	36610	4226	201082	90363	21992	653	2143	548071	

Table 14: Percentage of households owning livestock, classified by type of livestock and district -2011 Census

District	Cattle %	Goats %	Sheep %	Pigs %	Poultry %	Donkeys /Mules %	Horses %	Ostrich %	Game %	None %	Number of households
Gaborone	23.9	20.5	4.2	0.7	14.6	4.2	1.6	0.1	0.5	66.7	74963
Francistown	25.1	23.7	4.3	0.7	21.5	6.8	1.3	0.1	0.4	62.3	31298
Lobatse	22.5	19.3	4.0	0.5	16.7	4.0	1.1	0.0	0.3	65.5	9214
Selebi-Phikwe	32.2	29.2	5.1	0.7	25.9	10.6	1.1	0.1	0.5	53.9	16059
Orapa	46.4	41.0	9.6	0.7	30.6	15.1	11.0	0.1	0.6	42.5	3292
Jwaneng	33.6	28.6	7.4	0.7	25.7	7.8	4.2	0.0	0.3	52.7	5940
Sowa Town	40.7	35.5	7.5	0.9	33.4	11.5	6.2	0.3	1.5	43.0	1191
Cities/Towns	26.0	23	4.6	0.7	18.5	5.9	1.8	0.1	0.5	62.7	141957
Ngwaketse	43.2	39.0	11.0	0.7	47.3	21.1	2.9	0.1	0.3	31.7	31481
Barolong	40.8	39.7	9.8	0.6	56.2	24.0	1.8	0.1	0.3	28.2	13758
Ngwaketse West	38.1	39.4	8.5	0.7	41.5	37.6	17.8	0.2	0.3	33.3	3556
Southern	41.9	39.1	10.4	0.7	49.2	23.0	3.6	0.1	0.3	30.7	48795
South East	21.8	20.5	3.7	1.4	23.3	4.9	1.0	0.2	0.5	59.9	23993
Kweneng East	31.7	31.8	7.0	0.8	34.5	14.0	1.5	0.1	0.3	47.5	68330
Kweneng West	44.8	46.6	7.7	1.0	56.9	34.3	11.9	0.2	0.2	24.4	12231
Kweneng	30.8	30.8	6.3	0.9	34.4	14.2	2.6	0.1	0.3	47.4	104554
Kgatleng	36.5	30.1	5.0	1.2	42.5	9.2	1.5	0.1	0.3	39.9	24917
Central Serowe Palapye	38.6	35.8	6.3	0.9	45.3	18.9	1.7	0.2	0.5	36.3	46187
Central Mahalapye	40.1	41.7	8.5	0.9	52.6	24.1	2.2	0.2	0.4	31.0	29797
Central Bobonong	45.1	52.8	12.4	1.0	55.7	35.5	1.1	0.2	0.4	25.6	19156
Central Boteti	48.8	45.3	8.3	0.6	39.1	29.3	17.0	0.2	0.6	33.4	14110
Central Tutume	35.5	39.2	7.3	0.8	51.4	17.5	3.0	0.1	0.4	34.5	38353
Central	34.0	34.9	6.8	0.7	41.8	19.4	3.0	0.1	0.4	28.2	172520
North East	30.5	35.8	4.0	0.8	52.5	16.6	0.7	0.2	0.5	36.6	15865
Ngamiland East	49.4	42.4	7.8	0.6	30.1	27.6	14.8	0.2	0.4	36.3	21736
Ngamiland West	45.8	36.0	2.6	0.5	42.8	33.0	9.7	0.0	0.3	30.9	13164
Chobe	29.1	18.9	1.9	0.5	27.0	4.3	1.1	0.1	0.4	54.5	6830
Okavango Delta	36.5	31.7	1.1	0.3	19.5	14.6	4.6	0.0	0.0	46.6	655
Ngamiland	31.7	25.8	3.7	0.4	23.5	17.8	7.7	0.1	0.2	26.8	58250
Ghanzi	47.4	36.2	8.1	0.6	36.5	28.5	24.4	0.3	0.6	35.3	11354
Central Kgalagadi Game Reserve (CKGR)	55.0	65.0	15.0	0.0	50.0	40.0	30.0	0.0	0.0	5.0	21
Ghanzi	47.2	36.1	8.1	0.64	36.4	28.4	24.3	0.3	0.6	35.1	11375
Kgalagadi South	35.2	46.1	18.9	0.8	37.9	29.3	14.2	0.2	0.4	35.1	7956
Kgalagadi North	44.6	45.2	7.1	0.3	40.3	20.8	16.4	0.1	0.2	31.9	5542
Kgalagadi	38.8	45.5	13.9	0.6	38.7	25.7	15.0	0.2	0.3	33.6	13498
Total	34.9	33.3	6.7	0.8	36.6	16.4	4.0	0.1	0.4	44.2	550949
Total (2011)	191211	182525	36696	4308	200244	89924	21960	676	2169	242054	
Total(2001)	161046	168993	36116	2517	167870		90,526	347	879	150,687	

Table 15: Percentage of households owning livestock classified by types of livestock and locality type-2011 Census

Locality Type	Cattle %	Goats %	Sheep %	Pigs %	Poultry %	Donkeys /Mules %	Horses %	Ostrich %	Game %	None %	Number of households
City/Town	26.1	23.0	4.6	0.7	18.5	5.9	1.8	0.1	0.5	62.9	141957
Urban Village	34.3	30.6	6.1	0.8	34.3	12.5	3.4	0.1	0.4	45.8	215621
Rural Village	37.1	39.8	6.4	0.7	52.1	23.1	4.7	0.1	0.3	31.0	121768
Lands area	52.1	57.9	14.8	1.3	60.4	43.6	5.9	0.2	0.3	19.2	32287
Cattle Post	60.1	52.8	14.3	1.0	51.3	41.3	16.2	0.2	0.3	20.5	20661
Freehold Farm	25.8	26.2	8.1	1.6	36.6	22.6	11.1	0.8	1.6	45.8	5682
Mixture of lands and Cattle Post	48.2	51.4	13.8	1.4	56.4	37.0	6.2	0.2	0.4	24.2	7248
Camp or Other Locality Type n.e.s	36.7	31.3	5.9	0.7	27.7	10.8	4.8	0.1	0.4	47.3	5724
Total	34.9	33.3	6.7	0.8	36.6	16.4	4.0	0.1	0.4	44.2	550948

Table 16: Crop planted classified by sex, marital status and educational level of household heads

Demographic characteristics		Crops Planted									Total %
		Maize %	Millet %	Sorghum %	Beans %	Melons/melons %	Sweet Reeds %	Other Melons %	Other Plants %	None %	
Sex	Male	52.6	49.3	51.2	51.8	52.9	52.1	52.6	52.2	52.7	52.5
	Female	47.4	50.7	48.8	48.2	47.1	47.9	47.4	47.8	47.3	47.5
	Total	159292	41251	98920	130081	14819	98980	2339	270	377441	550913
Marital status	Never married	34.1	32.5	32.8	34	32.8	34.1	33.2	31.9	24.2	27.2
	Married	29.2	29.4	30.0	29.0	29.5	29.2	28.6	31.1	40.4	36.9
	Living together	23.0	23.3	23.3	23.3	24.7	23.2	23.9	24.1	26.1	25.1
	Separated	0.8	1.0	0.8	0.8	0.8	0.8	0.9	0.7	0.8	0.8
	Divorced	1.8	2.0	1.8	1.7	1.7	1.8	1.8	2.6	2.0	1.9
	Widowed	11.1	11.8	11.3	11.1	10.5	11.0	11.7	9.6	6.5	8.0
Total	159279	41248	98908	130068	14819	98971	2339	270	377398	550856	
Education	None	27.5	24.7	26.7	27.6	24.9	25.8	26.8	14.9	14.7	18.9
	Primary	30.9	32.9	32.2	31.6	32.2	31.4	33.0	27.9	20.7	24.0
	Secondary	25.9	27.5	26.6	25.7	27.6	26.8	25.2	32.3	35.6	32.4
	tertiary	14.3	13.8	13.1	13.7	13.6	14.6	12.1	24.9	28.3	23.8
	Non-formal	1.4	1.2	1.4	1.4	1.6	1.5	2.9	0.0	0.6	0.9
Total	158795	41149	98675	129670	14770	98676	2331	269	375142	548075	

Table 17: The percentage of households that planted different crops classified by districts and type of crops-2011 Census

District	Maize %	Millet %	Sorghum %	Beans %	Water Melons/ melons %	Sweet Reeds %	None %	Other Melons %	Other Plants %	Number of households
Gaborone	13.3	3.3	8.4	10.3	0.8	7.5	85.8	0.1	0.0	74963
Francistown	18.7	10.5	15.6	15.1	1.7	12.7	80.2	0.2	0.0	31298
Lobatse	13.0	0.9	5.9	9.5	0.6	7.6	86.3	0.1	0.0	9214
Selebi-Phikwe	19.7	6.8	15.1	16.5	2.8	14.5	78.7	0.3	0.1	16059
Orapa	25.9	7.2	16.7	21.1	0.2	20.5	73.2	0.1	0.0	3292
Jwaneng	15.9	1.2	6.2	12.0	4.0	9.9	83.5	0.0	0.0	5940
Sowa Town	19.6	10.5	17.4	16.1	0.3	14.0	78.7	0.1	0.0	1191
City/Town	15.6	5.2	10.7	12.4	1.3	9.9	83.2	0.1	0.0	141957
Ngwaketse	35.8	1.0	6.3	27.7	2.1	20.9	63.2	0.5	0.0	31481
Barolong	29.9	1.0	7.6	20.1	0.9	11.4	69.0	0.1	0.0	13758
Ngwaketse West	40.7	1.9	11.5	33.1	2.5	17.0	58.9	0.3	0.0	3556
Southern	34.3	1.1	7.0	25.8	1.8	17.8	64.1	0.3	0.0	48795
South East	18.3	1.5	6.9	14.5	0.5	10.6	80.3	0.1	0.0	23993
Kweneng East	28.7	2.7	13.7	23.9	3.0	17.7	70.2	0.5	0.0	68330
Kweneng West	49.8	2.3	27.1	39.2	1.7	29.6	49.1	0.4	0.0	12231
Kweneng	31.8	2.6	15.7	26.1	2.8	19.4	66.6	0.5	0.0	80561
Kgatleng	31.6	3.2	13.5	25.7	3.3	17.6	67.0	0.4	0.1	24917
Central Serowe Palapye	35.5	6.7	31.0	30.5	4.7	24.6	60.2	0.8	0.1	46187
Central Mahalapye	39.7	6.6	32.6	36.5	4.5	24.8	54.9	0.6	0.0	29797
Central Bobonong	45.2	13.7	40.6	39.9	10.1	27.6	48.2	1.3	0.1	19156
Central Boteti	42.3	9.2	18.7	31.7	4.6	27.7	56.5	0.7	0	14110
Central Tutume	34.5	22.4	32.3	26.7	2.2	22.8	59.1	0.5	0.2	38353
Central	37.8	11.8	31.6	31.9	4.7	24.7	56.7	0.7	0.1	147603
North East	41.2	29.8	38.6	35.7	1.0	30.8	55.8	0.3	0.1	15865
Ngamiland East	37.3	9.2	16.6	28.5	4.3	25.1	61.6	0.7	0.1	21736
Ngamiland West	42.4	37.2	28.4	36.3	1.6	29.7	42.2	0.7	0.0	13164
Chobe	20.0	4.1	11.7	9.3	1.4	9.7	78.0	0.3	0.2	6830
Okavango Delta	33.4	9.0	14.1	24.8	11.2	21.9	64.3	4.1	0.0	655
Ngamiland	50.2	27.3	33.1	40.1	3.4	34.7	77.8	0.8	0.1	42385
Ghanzi	18.0	2.1	4.6	15.8	2.1	7.1	81.3	0.1	0.0	11354
Central Kgalagadi Game Reserve (CKGR)	55.0	5.0	15.0	55.0	30.0	10.0	35.0	0.0	0.0	21
Ghanzi	18.0	2.1	4.6	15.8	2.1	7.1	80.8	0.1	0.0	11375
Kgalagadi South	12.5	0.9	2.4	11.3	0.8	3.9	86.8	0.4	0.1	7956
Kgalagadi North	20.9	1.7	6.6	20.3	1.6	7.2	77.6	0.3	0.0	5542
Kgalagadi	15.9	1.2	4.1	14.9	1.2	5.2	82.5	0.3	0.1	13498
Total	28.8	7.4	17.9	23.5	2.7	17.9	68.6	0.4	0.1	

Table 18: The percentage of households that planted different crops classified by locality type and type of crops-2011 Census

Locality Type	Water Melons								
	Maize %	Millet %	Sorghum %	Beans %	/melons %	Sweet Reeds %	None %	Other Melons %	Other Plants %
City/Town	15.7	5.2	10.7	12.4	1.3	9.9	83.4	0.1	0
Urban Village	26.2	5.4	14.9	21.3	2.4	16.5	72	0.4	0.1
Rural Village	39.1	12.5	27.1	32.5	3.4	24.3	56.2	0.6	0.1
Lands area	59.6	12.3	33.1	49.8	6.3	36.8	35.1	1.3	0.1
Cattle Post	38.2	7.1	20.8	30.1	5	21.4	58.4	0.7	0
Freehold Farm	16.5	3.3	9.2	12.4	1.9	7.4	81.3	0.1	0.3
Mixture of lands and Cattle Post	46.8	8.3	29.2	36.7	4.3	25.5	49	0.7	0.1
Camp or Other Locality Type n.e.s	23.7	5.5	13.8	16.7	3	15.1	74.7	0.4	0.1
Total	28.8	7.4	17.9	23.5	2.7	17.9	68.6	0.4	0.1

ANALYSIS OF LAND ACQUISITION FOR PLANTING BY HOUSEHOLDS IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS PERSPECTIVES

By Dr. V. K. Dwivedi, Prof. N.O. Ama; Dr. S.T. R. Moeng;
K. Kebotsamang and B.P.G. Mabotheo

Department of Statistics, University of Botswana, Gaborone

Abstract: Agriculture is one of the sectors that have been identified by the Government to drive economic diversification and growth. The limited availability of land for development is primary concern of the government. This paper uses the 2011 Botswana Population and Housing Census data to answer some pertinent issues on land acquisition for planting by households in Botswana. Of the total households, about 50% households acquired land for planting. The highest households response who acquired land for planting was from land-board (60%) followed by inheritance (17.4%) and employer/relatives (14.2%). The Central District had the largest share of the allocations; the largest (62%) allocation came from Land boards followed through employer/relative (14%) and inheritance (13%). The percentage distributions of households' response by usual economically active and inactive were 69.6% and 30.4% (both sexes), 80.3% and 19.7% (male) and 58% and 42 % (female). In 2001 Census, this distribution also followed the same trend such as the proportion of usual active and inactive were 60.6% and 39.4% (both sexes), 73.4% and 26.6% (male), 58.0% and 42.0% (female). Within the self-allocation mode, 33.01% of the household heads responses were from agriculture, hunting and forestry industry and 45.56% were from other industry. Most of households who responded that they acquired the land for farming through land-boards were in the elementary occupations (23.49%). The households who stated that they allocated land for themselves, majority of them are in the elementary occupation and skilled agricultural and related workers with 36.95% and 36.78% respectively.

1.0 Introduction

Botswana is a landlocked country located in Southern Africa (shares border to north by Namibia and Zambia, to the east by Zimbabwe and to south by the Republic of South Africa). The area of Botswana is divided into three ecological zones viz. (i) Kgalagadi Desert, (ii) the Okavango Swamps, and (iii) the hard-veld in the east of the country. The country is sparsely populated with a population of a little over 2 million people (Statistics Botswana, 2012). Botswana is a semi-arid country with harsh climatic conditions and a fragile ecosystem. Arable land is extremely limited, and livestock is the primary source of subsistence and income for two-thirds of rural households. Thirty-six (36%) percent of the population live in rural areas and depend on agriculture for sustenance.

Botswana's total land area is approximately 582,000 km², comprising three land categories, viz; customary (71 percent), state (25 percent) and freehold land (4 percent). The main uses of land are for agricultural, residential, commercial, industrial, civic, community and recreational activities (NDP 10).

Most of Botswana is flat, arid land with unreliable, low rainfall. Roughly 46% of the total land area is classified as agricultural land, although only 5% is suitable for cultivation and only 1% was cultivated in 2002. The Kalahari Desert, much of which is savanna grassland and sparse woodland, covers two-thirds of the land area and supports large herds of cattle, goats, and wildlife. Twenty-one percent (21%) of total land area is forest land and 31% designated as nationally-protected areas. Deforestation is occurring at a rate of 1% per year (World Bank 2009; FAO 2005).

Various institutions wanting to invest in agricultural production or the agribusiness sector in the SADC region need information on the quality and location of agricultural resources (Kleynhans and Vink, 1998). Botswana is no exception, hence it is hoped that the following census analysis on agricultural activities enumerated during 2011 census will be helpful in providing insights to policy-makers and legislators in coming up with turnaround strategies, programmes and projects that can improve the sector's performance.

The analysis of agriculture and land acquisition activities will also form the basis of the sampling frame and bench mark information for forthcoming agriculture census and subsequent agricultural surveys.

The paper is structured with introduction, review of literature, methodology, results and discussions and conclusions. At the end, the policy implication with NDP-10 of Botswana is also attempted.

2.0 Review of Literature

Agriculture has been identified as one of the sectors that can drive economic diversification and growth. In 2008 Government introducing some programmes such as the Integrated Support Programme for Arable Agricultural Development (ISPAAD) to address challenges in the arable sub-sector. The number of farmers with land for planting (land holdings) showed a significant increase of 5.4 percent from 76,267 in 2010 to 80,415 in 2011 (Statistics Botswana, 2013). However, the same report also indicated that the commercial sector experienced a contraction from 1,217 to 718 farmers, and also indicated that traditional sector was still predominant in the livestock industry though the performance of the sector was poor as compared to the commercial sector.

The 2004 Agricultural Census report (CSO, 2008) indicates that agricultural holdings increased significantly by 19.6 percent from 101,434 to 121,325 at national level between the 1993 and 2004 agricultural censuses. The commercial sector increased by 46.4 percent, from 507 to 742 agricultural holdings while the traditional sector increased by 19.5 percent, from 100,927 to 120,583 agricultural holdings.

Most of Botswana's farms (about 63,000) average roughly 5 hectares and are devoted to rainfed farming. The country has about 112 farms larger than 150 hectares. Commercial farms represent less than 1% of all farms in the country and use 8% of the total land area. The number of landless and land-poor households in Botswana is unknown (ROB 2010a; Taylor 2007; FAO 2005).

The legal framework governing Botswana's land is a mixture of formal and customary laws, with much of the formal law reflecting longstanding principles of customary law. The six major pieces of formal legislation include: (1) The State Land Act, 1966; (2) The Tribal Land Act, 1968; (3) The Tribal Grazing Lands Policy, 1975; (4) The Town and Country Planning Act, 1977; (5) The National Agricultural Development Policy, 1991; and (6) The Sectional Titles Act, 1999 (Adamset al. 2003; Taylor 2007; ROB 2008a; ROB 2010b).

The Tribal Grazing Lands Policy, 1975, allows for the privatization of grazing land by vesting the Land Boards with the authority to grant private individuals and entities exclusive leasehold rights to tracts of formerly unfenced, communal land regardless of tribal affiliation. The Town and Country Planning Act, 1977, govern the development of rural and urban land (Adams et al. 2003; Taylor 2007).

The Ministry of Lands and Housing has begun a drive in which they encourage people to maximize the use of agricultural land they own. This follows a Presidential Directive of February 2013 to approve the introduction of integrated farming on land allocated for agricultural use. Integrated farming is practicing the various agricultural enterprises including arable, small stock and beef, which are compatible and support each other in an enclosed parcel of land.

3.0 Methodology

The methodology utilized in the analysis is exactly that already used in the 2011 Census data collection and specified in the Census documents. This paper analyses the 2011 Census data to answer questions on land acquisition for planting by households in Botswana. Specifically the paper determined the distribution of household who acquired the land for planting by one or more (multiple response) land acquisition mode (viz. Land-board, Tribal/commercial, Inheritance, Freehold, Lease, TGLP, Syndicate, Employer/Relative, and Self-allocation) and gender by (i) district (ii) marital status (iii) usual economic activity, (iv) current economic activity, (v) industry, and (v) occupation.

The statistical analysis has been carried out using descriptive statistical methods using SPSS package for multiple response analysis and the outcomes have been presented in the form of Tables, and Charts.

3.1 Definition of Land Acquisition Mode

- i. **Land-board:** Allocated by land board at district level.
- ii. **Tribal:** Allocated by tribal authorities (dikgosi or dikgosana) before the formation of land board.
- iii. **Inheritance:** Inherit land from parents, relatives etc. regardless of means of previous acquisition.
- iv. **Freehold:** Acquired through purchasing land. The land is held in absolute ownership.
- v. **Lease:** Entitles the owner a lease for a specified period of time.
- vi. **TGLP:** Land acquired through Tribal Grazing Land Policy e.g. Hainveld farms/ranches etc.
- vii. **Syndicate:** It is a group of two or more people who collectively acquire a plot/field/farm.
- viii. **Employer/Relative:** A situation when one access land for planting which belongs to employer/relative.
- ix. **Self-Allocated:** A situation where no land authority has made any allocation.

4.0 Results and Discussions:

4.1 Acquisition of planting land

Of the total 550946 households, about 50% households acquired land by one or more (multiple response) of land acquisition mode (Table 1 & Figure 1). Thirty six (36%) households did planting on own land while 14% households planted crops on borrowed/ rented land i.e. households had access to the land used for planting. The responses from the households residing in cities for own land and access land for planting were 20.5% 14.2% respectively. These results indicate that the households may be having lands for planting elsewhere than in cities/towns. In the rural around 47% households own lands for planting. These findings indicate that allocation of lands to needy farmers (who access/no lands) should be expedited.

Table 19: Percent distribution of households by land acquisition status and Locality-2011 Census

Locality	Land acquisition status			Number of Households
	Yes – Own Land	Yes – Access Land**	No Land	
City/Town	20.5	14.2	65.3	141955
Urban Village	35.9	12	52.1	215611
URBAN	29.7	12.9	57.4	357566
Rural Village	48	14.6	37.4	121778
Lands area	59.2	17.6	23.2	32287
Cattle Post	38.4	16.7	44.9	20661
Freehold Farm	17.2	14.3	68.4	5682
Mixture of lands and Cattle Post	50.3	15.5	34.2	7248
Camp or Other Locality	26.9	18.7	54.4	5724
RURAL	47.4	15.4	37.1	193380
TOTAL	35.9	13.8	50.3	550946

** Access land: Household borrowed/rented the land used for planting

Figure 9: Percent distribution of households by land acquisition status and locality-2011 Census

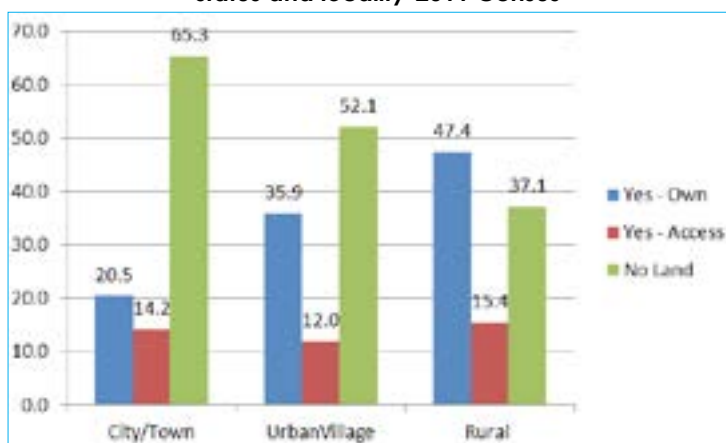


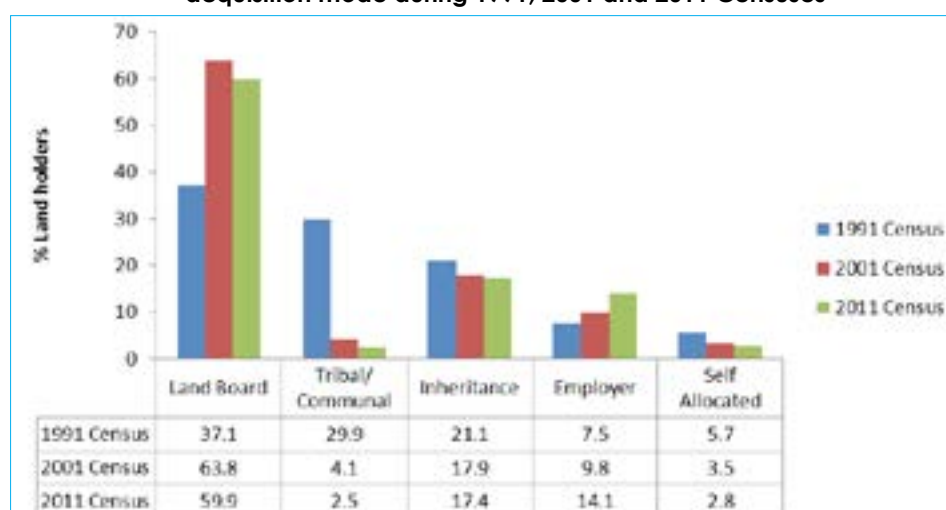
Table 20: The percentages distribution of heads of households' response by land acquisition mode -2011 Census

Land acquisition mode	Response		Percent response to cases**
	Number	Percent	
Landboard	166108	59.9	61.2
Tribal/commercial	6920	2.5	2.6
Inheritance	48367	17.4	17.8
Freehold	3193	1.2	1.2
Lease	3788	1.4	1.4
TGLP	830	0.3	0.3
Syndicate	1234	0.4	0.5
Employer/Relative	39264	14.1	14.5
Self-allocation	7781	2.8	2.9
Total	277485	100	102.3

**Number of cases (Households): 271309

The above Table 2 show that the highest (60%) responses of households acquired land for planting was from landboard followed by inheritance (17.4%) and employer/relatives (14.1%). Besides these about 9% households acquired planting lands from other means of land acquisition mode.

Figure 10: The percentages distribution of heads of households by major land acquisition mode during 1991, 2001 and 2011 Censuses



The above Figure 2 show the percentages distribution of heads of households' response by major land acquisition mode during 1991, 2001 and 2011 Censuses. Under Landboard land allocation mode there is a significant increase in percent households from 37.1% (1991 Census) to 63.8% (2001 Census) on the other hand under tribal/communal a significant decrease in households from 29.9% (1991 Census) to 4.1% (2001 Census). These results show the transition of land allocation through landboard instead tribal/communal. There is a marginal decrease in percent number of households for landboard, tribal and communal and self-allocated land acquisition mode from 2001 to 2011 census.

The land acquisition analysis (E4) is performed on the heads of households using different categories viz. (i) district (ii) usual economic activity, (iii) current economic activity, (iv) industry, and (v) occupation. The respective results are discussed below.

4.2 Acquisition of planting land by gender and district

A total of 277,472 responses from the households indicated that they acquired land through at least one of the planting land acquisition mode. Cities/towns got the second largest share of the total allocations (50059 responses), the largest allocation coming from land boards (49%) followed by inheritance (23%) and employer/relative (20%). In all districts the highest number of allocations was obtained through Land boards, followed by inheritance and employer/relative. (Table 3)

A total of 144, 632 responses from male headed households acquired land through at least one of the planting land acquisition mode. Almost half (49.4%) of the responses in the Cities/Towns acquired land through Land board allocation. The Central District appears to have had the largest share of the allocations; (42, 962 male headed households) with highest allocation (62%) from Land boards followed through employer/relative (14%) and inheritance (13%) (Table 4).

A total of 132, 840 responses from female headed households were allocated planting land through at least one of the land acquisition modes. Most of the allocations were done by land boards (61.5%) followed by Inheritance (17.2%) and employer/relative (13.3%). Central district had the highest number female headed households response (49, 577), who were allocated planting land using at least one of the allocation methods. Kweneng district had the second largest share of all allocations (19, 435 responses) followed by cities/towns (18, 555 households), Southern district (13, 785 responses) and North West district (12, 114 households) (Table 5).

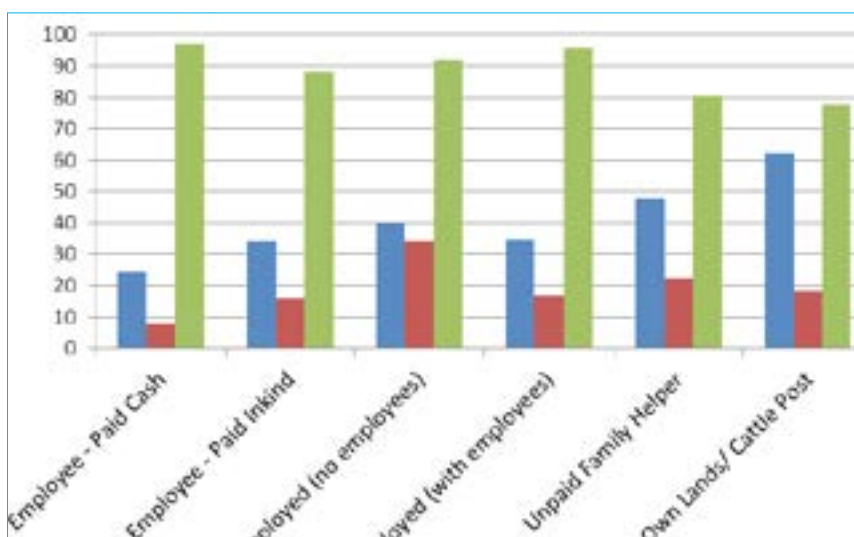
The above results show there was no significant difference in the allocation of lands between male and female headed households.

4.3 Acquisition of planting land by gender and usual economic status of heads of households

The term economic activity is termed as the usual economic activity that a person has been doing work mainly since Independence day 2009 (i.e. since the last one year). They include (a) Seasonal work (paid, or Unpaid) (b) Non-seasonal work (paid, or Unpaid), and (c) jobseeker.

Percentage distribution of responses from households by usual economic activity (economically active and economically inactive) within land acquisition mode by sex is depicted in Table 6 and Figure 3

Figure 11: The percentage distribution of heads of households' responses in Botswana by economically active and inactive categories in



The percentage distributions of responses from heads of households by economically active and inactive were 69.6% and 30.4% (both sexes), 80.3% and 19.7% (male) and 58% and 42% (female). In 2001 Census, this distribution also followed the same trend such as the proportion of usual active and inactive were 60.6% and 39.4% (both sexes), 73.4% and 26.6% (male), 46.0% and 54.0% (female). The percentage points increase from 2001 census to 2011 census period in the usual active population were 9 (both sexes, 60 to 69%), 7 (male, 73 to 80%) and 12 (female, 46 to 58%).

In 2011 census, the percent responses from landowners were highest (40.8%) as non-seasonal paid worker, while the percent seasonal paid and unpaid, non-seasonal unpaid and jobseekers ranged between 5.9 and 8.1. However in 2001 census, the percentages responses from landowners were also highest (39.6%) as non-seasonal paid worker, while the percent seasonal paid and unpaid, non-seasonal unpaid and jobseekers ranged between 4.6 and 5.5. The highest percentages point increase (3.4) is observed in seasonal paid landowners from (4.6%) 2001 to (8%) 2011 Census. In contrary, the landowners under home maker category decreased by 8.7 percentage points from (28.7) 2001 census to (20%) 2011 census. The seasonal paid and unpaid landowners increased (about 3 percentage points) for male, female and both sexes during two census periods.

4.4 Acquisition of planting land by gender and current economic status of heads of households

The current economic activity is that a person did any type of work for pay, profit or home use for at least one hour in the past 7 days. These were 1. Employee-paid cash, 2. Employee-paid in kind, 3. Self-employed (no employees), 4. Self-employed (with employees), 5. Unpaid family helper, 6. Working at own land /cattle post (Question A23 in census questionnaire).

The percentage distribution of responses from heads of households by current economic activity in each land acquisition mode and sex is given in Table 7. Within each mode of land acquisition and sex, the percent of households heads under employee-paid cash category were highest followed by working at own land/cattle post. Overall it was 71.18% under paid cash category followed by working at own land/cattle post (15.45%) while in 2001 Census 75.55% were paid in cash followed by 9.9% self-employed with no employee. It is to note that for paid cash category the percent of heads households was almost same (around 71%) for male, female and both sexes in 2011 census and 73 to 76% in 2001 census (off course showing a marginal decrease of 2-5 percentage points).

The percent of male and female landowners under working at own lands/cattle post during 2011 were 16.78% and 13.18% respectively while in 2001 census these figures for male and female landowners were 10.06% and 5.9% respectively. This shows that male landowners recorded one and half time increase from 2001 to 2011 and while in female this increase was almost double.

4.5 Acquisition of planting land by gender and industry of heads of households

The industry identifies the main product or services provided by the establishment or the work unit in which a person is employed.

Table 8 presents percentage distribution of responses by industry of household heads by gender within each land acquisition mode. Households whose head's industry was classified under other industries dominated all land acquisition modes. It ranged between 32.42% and 47.31% within each land acquisition mode. Within the self-allocation mode, 33.01% of the household heads were from agriculture, hunting and forestry industry and 45.56% were from other industry, and any other industries accounted for less than 6% of the households.

Comparing for male and female household heads responses, other industry still accounts for the majority of households for each land acquisition mode except for the self-allocation mode for male household heads. Between male and female headed households responses, landboard was still the main mode for acquiring land for farming, accounting for a total of 84 270 (58.38%) and 81 493 (61.46%) for male and female headed households respectively. Inheritance and employer/relative were the other two mostly used modes for acquiring farm land for both male and female headed households. Within the landboard mode, majority of male headed households (32.35%) were from other industry followed by 20.84% and 12.54% for agriculture, hunting and forestry industry and public administration industry respectively. In comparison, majority of female headed households were from other industry (58.50%), followed by public administration (8.42%) and agriculture, hunting and forestry industry (7.86%). Within the self-allocation mode, majority of male headed households (45.86%) were from the agriculture, hunting and forestry industry followed by other industry which accounted for 31.92% of the households. In contrast, within the female headed households, the majority (62.27%) were from other industry followed by the agriculture, hunting and forestry industry which only accounted for 16.63% of the households. Other industries accounted for less than 5% for both male and female headed households.

Table 9 presents percentage distribution of responses from household heads industry within each land acquisition mode comparing 2001 and 2011 census results. Within each land acquisition modes, there was a huge increase in proportion of households whose heads were classified under other industries as compared to 2001. Within land boards, in 2001, 0.43 % of households head were under other industries compared to 45.21% of the same category in 2011. Within tribal/commercial mode, the proportion increased from 0.66% in 2001 to 47.31% in 2011, this trend is common to all other land acquisition modes.

4.6 Acquisition of planting land by gender and occupation of heads of households

Question on occupation capture information on the type of economic activities taking place and professions. Table 10 presents percentage distribution of occupation of household heads by gender within each land acquisition mode. Most of households responses indicated that they acquired the land for farming through landboards were in the elementary occupations (23.49%) and the least were the legislators, administrators and managers with 5.18%. Households who stated that they allocated land for themselves, majority of them are in the elementary occupation and skilled agricultural and related workers with 36.95% and 36.78% respectively. The least method of acquiring land by household is through TGLP with less than 1%.

Comparing between male and female headed households responses, landboard, inheritance and employer were still the main modes used to acquire land for farming for respective households. Within landboard mode, majority of male household heads (21.01%) were skilled agricultural and related workers compared to the majority (31.39%) of female household heads who held elementary occupations. Within the inheritance land acquisition mode, majority of male household heads (19.41%) were craft and related workers, followed by those on elementary occupations (17.76%) and skilled agricultural and related workers (13.22%). In contrast, majority of female household heads (35.36%) who acquired land for farming through inheritance held elementary occupations, followed by those who were service, shop and market sale workers (17.27%) and technicians and associate professionals (11.36%). For male household heads who acquired land through employer/relative, majority were those holding elementary occupations (25.21%) followed by craft and related workers (19.34%) and service, shop and market sales workers (13.60%). Similarly majority of female household heads (38.78%) held elementary occupations acquired land for farming through employer/relatives. Unlike with the male household heads, these were followed by service, shop and markets sales workers (19.28%) and technicians and associate professionals (10.02%).

5.0 Conclusions

1. The highest number of households responses who acquired land for planting was from landboard (60%) followed by inheritance (17.4%) and employer/relatives (14.2%). Besides these about 9% households acquired planting lands from other means of land acquisition mode.
2. A total of 277472 responses from households indicated that they acquired land through at least one of the planting land acquisition mode. Cities/towns got the second largest share of the total allocations (50059 households responses), the largest allocation coming from land boards (49%) followed by inheritance (23%) and employer/relative (20%). In all districts the highest number of allocations was obtained through Land boards, followed by inheritance and employer/relative. The Central District appears to have had the largest share of the allocations, the largest allocation came from Land boards (62%) followed through employer/relative (14%) and inheritance (13%).
3. The percentage distributions of responses from heads of households by usual economically active and inactive were 69.6% and 30.4% (both sexes), 80.3% and 19.7% (male) and 58% and 42 % (female). In 2001 Census, this distribution also followed the same trend such as the proportion of usual active and inactive were 60.6% and 39.4% (both sexes), 73.4% and 26.6% (male), 58.0% and 42.0% (female).
4. With respect to current economic activity, within each mode of land acquisition and sex, the percentage response from households heads under paid cash category were highest (71.8%) followed by working at own land/cattle post (15.45%).
5. Households whose head's industry was classified under other industries dominated all land acquisition modes. The proportions ranged from 32.42% to 47.31% within each land acquisition mode. Within the self-allocation mode, 33.01% of the household heads were from agriculture, hunting and forestry industry and 45.56% were from other industry, and any other industries accounted for less than 6% of the households.
6. Most of households' responses indicated that they acquired the land for farming through landboards was in the elementary occupations (23.49%). The households who stated that they allocated land for themselves, majority of them are in the elementary occupation and skilled agricultural and related workers with 36.95% and 36.78% respectively.
7. Overall it is concluded that the number of households who acquired land for planting was highest from landboard followed by inheritance and employer/relative.

6.0 Policy Implications

1. As the land for agriculture development is quite limited, the Government may like to modify its land allocation policy so as to give priority for allocation of land to the farmers and to the landless people living in the rural areas instead of non-farming people.
2. The government should develop programs for arable agricultural development to improve small farmers' production through increased access to technology-transfer and treated wastewater for irrigation and application, livestock development through improved infrastructure and supply of inputs, and agricultural business development, which will focus on supply chains and production standards (USAID/SA 2010).
3. As the most of the agriculture sector depends on rain, the Government need to increase the irrigation facilities through building dams and canals as well as provision of more borewells wherever possible.
4. The present policy of land allocation needs to further simplify for early possession to landowners.
5. From the present census information, it is very difficult to associate the ownership of land for planting with the residence of the owners. Accordingly Statistics Botswana may like to include some more questions in future censuses so as to establish such associations.

Table 21: Percentage distribution of households (male & female headed) that acquired planting land by land acquisition mode and sex- 2011 Census

District	Land Acquisition									Total Household responses	
	Land bord	Tribal/commercial	Inheritance	Freehold	Lease	TGLP	Syndicate	Employer/Relative	Self allocation		%Total
Both Sexes											
Gaborone	46.54	2.72	26.02	1.86	2.34	0.36	0.41	19.16	0.59	100.00	24390
Francistown	52.56	2.17	19.47	1.02	1.29	0.29	0.32	21.53	1.35	100.00	11066
Lobatse	43.10	5.22	28.36	1.23	3.01	0.28	0.46	17.58	0.77	100.00	2856
Selebi_Pikwe	51.30	1.61	19.46	0.78	1.28	0.27	0.25	22.45	2.59	100.00	7286
Orapa	66.75	1.55	16.21	1.13	1.19	0.18	0.54	11.92	0.54	100.00	1678
Jwaneng	51.11	2.04	15.72	1.06	2.26	0.27	0.40	26.31	0.84	100.00	2258
Sowa Town	53.14	0.95	15.62	2.10	1.14	0.19	0.00	25.71	1.14	100.00	525
Cities/Towns	49.32	2.49	22.85	1.42	1.94	0.31	0.37	20.22	1.08	100.00	50059
Ngwaketse	56.56	5.12	22.97	1.07	1.74	0.35	0.41	9.20	2.58	100.00	19176
Barolong	56.84	4.83	23.96	0.68	1.79	0.21	0.34	10.74	0.61	100.00	7927
Ngwaketse West	76.68	1.57	10.04	0.48	1.52	0.05	0.67	8.66	0.33	100.00	2101
Southern	58.08	4.79	22.31	0.92	1.74	0.29	0.41	9.58	1.88	100.00	29204
South East	46.96	4.15	33.14	1.51	2.26	0.42	0.46	10.72	0.40	100.00	8902
Kweneng East	57.57	3.48	21.08	1.33	1.68	0.28	0.69	13.16	0.74	100.00	33690
Kweneng West	75.38	2.13	7.09	0.76	1.05	0.18	0.26	12.78	0.37	100.00	8437
Kweneng	61.13	3.21	18.28	1.22	1.55	0.26	0.60	13.09	0.66	100.00	42127
Kgatleng	55.72	1.65	27.28	0.96	1.73	0.39	0.51	11.12	0.63	100.00	13788
Central Serowe Palapye	63.21	2.00	16.21	1.01	1.04	0.23	0.40	13.71	2.20	100.00	27611
Central Mahalapye	60.40	2.69	15.62	1.09	1.11	0.30	0.41	14.71	3.67	100.00	19059
Central Bobonong	64.65	1.75	9.01	1.26	0.67	0.34	0.35	12.2	9.76	100.00	13529
Central Boteti	66.88	1.13	10.23	1.44	0.59	0.33	0.55	10.81	8.04	100.00	8142
Central Tutume	65.08	1.27	11.07	0.93	1.07	0.29	0.45	14.51	5.34	100.00	24198
Central	63.65	1.84	13.17	1.08	0.97	0.29	0.42	13.65	4.94	100.00	92539
North East	73.55	1.04	9.56	0.80	1.00	0.34	0.41	12.4	0.89	100.00	9321
Ngamiland East	65.27	1.71	6.99	1.07	0.69	0.18	0.42	16.94	6.73	100.00	11354
Ngamiland West	72.42	0.81	7.67	0.85	0.47	0.20	0.28	14.55	2.75	100.00	8717
Chobe	50.70	1.18	27.19	1.71	1.39	0.38	0.45	16.26	0.73	100.00	2872
Okavango Delta	40.63	3.46	12.68	1.15	1.73	3.46	0.29	19.88	16.71	100.00	347
North West	65.78	1.34	9.82	1.06	0.71	0.26	0.37	16.00	4.65	100.00	23290
Ghanzi	55.81	2.63	8.82	2.46	0.98	0.36	0.84	15.32	12.77	100.00	3571
CKGR	11.76	5.88	11.76	0.00	5.88	5.88	0.00	11.76	47.06	100.00	17
Ghanzi	55.60	2.65	8.84	2.45	1.00	0.39	0.84	15.30	12.93	100.00	3588
Kgalagadi South	81.9	2.01	7.39	0.45	0.57	0.41	0.57	5.29	1.40	100.00	2437
Kgalagadi North	79.25	3.34	6.45	0.59	0.68	0.27	0.23	6.81	2.39	100.00	2217
Kgalagadi	80.64	2.64	6.94	0.52	0.62	0.34	0.41	6.02	1.87	100.00	4654
Total	59.86	2.49	17.43	1.15	1.37	0.30	0.44	14.15	2.80	100.00	277472

Table 22: Percentage distribution of of households (male headed) that acquired planting land by land acquisition mode and sex- 2011 Census

District	Land Acquisition										Total Household responses	
	Land bord	Tribal/commercial	Inheritance	Freehold	Lease	TGIP	Syndicate	Employer/ Relative	Self allocation	%Total		
Male												
Gaborone	46.47	2.76	25.46	1.91	2.62	0.34	0.41	19.44	0.59	100.00	15424	
Francistown	52.33	2.3	19.73	0.99	1.32	0.25	0.22	21.64	1.22	100.00	6381	
Lobatse	41.29	5.16	29.38	1.30	3.23	0.40	0.57	17.92	0.74	100.00	1763	
Selebi_Pikwe	52.14	1.52	19.52	0.79	1.38	0.26	0.18	21.69	2.5	100.00	4919	
Orapa	67.03	1.74	16.80	1.64	1.10	0.18	0.73	10.23	0.55	100.00	1095	
Jwaneng	53.63	2.2	15.87	0.97	2.40	0.26	0.26	23.83	0.58	100.00	1544	
Sowa Town	51.85	0.79	17.99	1.85	0.53	0.26	0	25.66	1.06	100.00	378	
Cities/Towns	49.38	2.52	22.73	1.46	2.11	0.30	0.34	20.12	1.03	100.00	31504	
Ngwaketse	56.26	5.22	21.65	1.01	1.95	0.36	0.41	10.15	2.99	100.00	10030	
Barolong	56.02	4.24	24.64	0.78	1.88	0.16	0.38	11.28	0.61	100.00	4245	
Ngwaketse West	73.95	2.01	10.23	0.61	2.19	0.09	0.79	9.79	0.35	100.00	1144	
Southern	57.51	4.71	21.62	0.91	1.95	0.29	0.43	10.44	2.14	100.00	15419	
South East	44.57	3.88	33.12	1.84	2.58	0.54	0.58	12.48	0.41	100.00	4846	
Kweneng East	56.43	3.35	20.74	1.34	1.80	0.27	0.67	14.80	0.60	100.00	18215	
Kweneng West	75.05	2.14	6.81	0.56	1.21	0.13	0.16	13.63	0.31	100.00	4477	
Kweneng	60.1	3.12	17.99	1.19	1.68	0.24	0.57	14.57	0.54	100.00	22692	
Kgatleng	55.62	1.65	25.67	0.93	1.91	0.42	0.53	12.78	0.50	100.00	7208	
Central Serowe Palapye	62.70	1.73	15.63	0.95	1.08	0.24	0.4	14.47	2.79	100.00	13170	
Central Mahalapye	59.29	2.99	15.97	0.95	1.09	0.24	0.37	14.38	4.72	100.00	8659	
Central Bobonong	62.85	2.11	8.86	1.27	0.60	0.39	0.33	12.09	11.51	100.00	6153	
Central Boteti	65.01	1.04	10.29	1.71	0.60	0.35	0.57	10.98	9.44	100.00	4024	
Central Tutume	62.34	1.19	11.08	1.03	1.32	0.32	0.48	15.43	6.80	100.00	10956	
Central	62.16	1.84	13.07	1.09	1.03	0.29	0.42	14.03	6.08	100.00	42962	
North East	71.05	1.23	10.12	1.18	1.18	0.45	0.50	13.3	1.00	100.00	3993	
Ngamiland East	65.44	1.85	6.62	1.00	0.68	0.17	0.45	16.99	6.79	100.00	5727	
Ngamiland West	74.73	0.95	7.52	0.89	0.38	0.22	0.30	12.07	2.95	100.00	3696	
Chobe	49.39	1.21	26.2	1.47	1.66	0.38	0.38	18.4	0.89	100.00	1565	
Okavango Delta	47.87	4.26	12.23	1.06	1.06	2.66	0.00	18.09	12.77	100.00	188	
North West	65.97	1.50	9.75	1.03	0.72	0.26	0.38	15.58	4.80	100.00	11176	
Ghanzi	54.05	2.65	8.99	2.6	1.28	0.47	0.71	16.04	13.2	100.00	2113	
CKGR	6.67	6.67	13.33	0.00	6.67	6.67	0.00	13.33	46.67	100.00	15	
Ghanzi	53.71	2.68	9.02	2.58	1.32	0.52	0.70	16.02	13.44	100.00	2128	
Kgalagadi South	80.54	2.15	7.06	0.42	0.48	0.28	0.48	6.86	1.73	100.00	1444	
Kgalagadi North	79.37	2.86	6.19	0.63	0.71	0.16	0.16	7.62	2.30	100.00	1260	
Kgalagadi	79.99	2.48	6.66	0.52	0.59	0.22	0.33	7.21	2.00	100.00	2704	
Total	58.39	2.53	17.64	1.19	1.54	0.30	0.44	14.95	3.01	100.00	144632	
Total Households	84454	3665	25514	1724	2223	439	637	21617	4359			

Table 24: Percentage distribution of households that acquired planting land by land acquisition mode and marital status- 2011 Census

	Marital status of Head of Household						% Total	Households responses
	Never married	Married	Living together	Separated	Divorced	Widowed		
BOTH SEXES								
Land-board	35.67	27.83	20.39	0.83	1.94	13.35	100.0	166079
Tribal/commercial	31.19	28.49	20.54	0.71	2.12	16.95	100.0	6919
Inheritance	28.44	35.50	23.65	1.05	2.33	9.03	100.0	48359
Freehold	34.09	30.36	22.84	0.94	2.60	9.18	100.0	3192
Lease	35.30	28.30	25.95	0.71	2.82	6.92	100.0	3788
TGLP	29.04	36.51	23.73	0.84	2.05	7.83	100.0	830
Syndicate	29.98	34.20	25.36	0.89	2.51	7.05	100.0	1234
Employer/Relative	20.98	39.29	31.45	0.83	1.79	5.66	100.0	39262
Self-allocation	27.01	28.68	30.15	0.84	1.86	11.47	100.0	7780
% BOTH SEXES-2011	31.91	30.92	22.93	0.86	2.01	11.36	100.0	277443
% BOTH SEXES-2001	28.46	37.26	19.55	1.18	2.05	11.50	100.0	214579
MALE								
Land-board	46.83	24.40	22.81	0.64	1.47	3.85	100.0	84443
Tribal/commercial	41.17	26.14	24.42	0.76	1.69	5.81	100.0	3665
Inheritance	37.27	30.09	27.08	0.92	1.74	2.90	100.0	25513
Freehold	44.81	25.25	24.09	0.99	2.21	2.67	100.0	1723
Lease	43.77	25.10	26.27	0.67	1.93	2.25	100.0	2223
TGLP	37.81	31.44	25.28	1.37	1.37	2.73	100.0	439
Syndicate	38.15	28.57	27.94	0.94	2.20	2.20	100.0	637
Employer/Relative	25.93	35.98	34.65	0.57	1.02	1.85	100.0	21615
Self-allocation	32.37	27.83	33.47	0.76	1.42	4.15	100.0	4359
% MALE-2011	41.30	27.34	25.79	0.70	1.47	3.39	100.0	144617
% MALE-2001	24.87	47.67	22.12	0.87	1.43	3.06	100.0	114035
FEMALE								
Land-board	24.13	31.37	17.88	1.02	2.42	23.18	100.0	81636
Tribal/commercial	19.94	31.13	16.16	0.65	2.61	29.50	100.0	3254
Inheritance	18.59	41.53	19.82	1.20	2.99	15.87	100.0	22846
Freehold	21.51	36.35	21.38	0.88	3.06	16.81	100.0	1469
Lease	23.26	32.84	25.50	0.77	4.09	13.55	100.0	1565
TGLP	19.18	42.20	21.99	0.26	2.81	13.55	100.0	391
Syndicate	21.27	40.20	22.61	0.84	2.85	12.23	100.0	597
Employer/Relative	14.93	43.34	27.52	1.13	2.74	10.33	100.0	17647
Self-allocation	20.17	29.76	25.93	0.94	2.43	20.78	100.0	3421
% FEMALE 2011	21.68	34.81	19.82	1.05	2.60	20.05	100.0	132826
% FEMALE 2001	32.51	25.46	16.64	1.53	2.78	21.09	100.0	100544

Table 25: Percentage distribution of households by current economic activity in each land acquisition mode and sex of household head-2011 Census

Land Acquisition	Current economic activity							Total %	Households responses
	Employee - Paid Cash	Employee - Paid Inkind	Self-employed (no employees)	Self-employed (with employees)	Unpaid Family Helper	Working at Own Lands/ Cattle Post	Unknown		
BOTH SEXES									
Landboard	68.17	0.67	8.61	3.31	0.84	18.38	0.03	100.00	83915
Tribal/commercial	68.14	0.62	9.18	3.51	0.80	17.69	0.06	100.00	3387
Inheritance	74.86	0.59	8.94	3.59	0.69	11.30	0.03	100.00	26775
Freehold	72.70	0.39	8.26	6.91	0.56	11.07	0.11	100.00	1780
Lease	73.73	0.80	8.78	7.98	0.80	7.81	0.08	100.00	2368
TGLP	77.63	1.29	7.10	3.44	0.86	9.25	0.43	100.00	465
Syndicate	78.05	0.29	9.01	4.36	0.73	7.41	0.15	100.00	688
Employer/Relative	80.5	0.56	8.27	2.59	0.61	7.45	0.02	100.00	23441
Self-allocation	53.93	0.99	7.66	1.62	0.80	34.94	0.05	100.00	4124
% BOTH SEXES-2011	71.18	0.65	8.60	3.33	0.77	15.45	0.03	100.00	146943
% BOTH SEXES-2001	75.55	0.55	9.94	3.96	1.23	8.7	0.06	100.00	106019
MALE									
Landboard	68.11	0.59	6.46	4.05	0.73	20.04	0.02	100.00	52475
Tribal/commercial	67.78	0.41	7.48	4.19	0.77	19.33	0.05	100.00	2219
Inheritance	74.2	0.54	7.37	4.45	0.56	12.84	0.04	100.00	16685
Freehold	71.99	0.34	6.70	8.76	0.52	11.6	0.09	100.00	1164
Lease	73.12	0.75	7.46	10.09	0.69	7.83	0.06	100.00	1596
TGLP	78.38	0.68	6.08	3.72	0.68	10.14	0.34	100.00	296
Syndicate	78.15	0.24	6.89	5.46	0.71	8.55	0.00	100.00	421
Employer/Relative	81.75	0.47	6.29	3.15	0.50	7.83	0.02	100.00	15039
Self-allocation	57.09	1.11	5.34	1.49	0.97	33.96	0.03	100.00	2883
% MALE 2011	71.28	0.57	6.61	4.07	0.67	16.78	0.03	100.00	92778
% MALE 2001	76.68	0.59	7.11	4.44	1.07	10.06	0.05	100.00	71366
FEMALE									
Landboard	68.26	0.81	12.20	2.07	1.02	15.61	0.03	100.00	31440
Tribal/commercial	68.84	1.03	12.41	2.23	0.86	14.55	0.09	100.00	1168
Inheritance	75.96	0.66	11.56	2.16	0.91	8.74	0.01	100.00	10090
Freehold	74.03	0.49	11.20	3.41	0.65	10.06	0.16	100.00	616
Lease	75.00	0.91	11.53	3.63	1.04	7.77	0.13	100.00	772
TGLP	76.33	2.37	8.88	2.96	1.18	7.69	0.59	100.00	169
Syndicate	77.9	0.37	12.36	2.62	0.75	5.62	0.37	100.00	267
Employer/Relative	78.28	0.73	11.81	1.58	0.81	6.77	0.02	100.00	8402
Self-allocation	46.58	0.73	13.05	1.93	0.40	37.23	0.08	100.00	1241
% FEMALE 2011	71.00	0.78	12.01	2.06	0.95	13.18	0.03	100.00	54165
% FEMALE 2001	73.23	0.47	15.78	2.98	1.56	5.89	0.08	100.00	34653

Table 26: Percentage distribution of households by industry and sex of head of households within each mode of land acquisition-2011 Census

SEX & LAND ACQUISITION	INDUSTRY																		TOTAL RESPONSES	
	Agriculture Hunting and Forestry	Fishing	Mining and Quarrying	Manufacturing	Electricity, Gas & Water Supply	Construction	Wholesale & Retail Trade	Hotels and Restaurant	Transport, Storage & Communication	Financial Intermediaries	Real Estate, Renting & Business Activities	Public Administration	Education	Health & Social Work	Other Community, Social and Personal Service activities	Private Households with Employed Persons	Foreign Missions, International Organisations	Other Industry		Total (%)
BOTH SEX																				
Landboard	14.46	0.03	2.21	2.19	0.59	3.76	5.48	0.87	1.50	0.57	3.41	10.51	4.79	2.12	0.88	1.38	0.04	45.21	100.00	165763
Tribal/commercial	13.98	0.06	1.45	2.84	0.45	4.17	4.87	1.09	1.83	0.56	3.77	8.49	3.98	2.32	1.19	1.64	0.03	47.31	100.00	6904
Inheritance	10.64	0.04	2.44	3.04	0.75	5.45	6.75	1.16	2.02	0.82	4.98	11.42	4.92	2.20	1.31	2.23	0.08	39.76	100.00	48252
Freehold	13.59	0.06	1.91	2.48	0.85	5.18	6.87	1.07	1.82	0.75	4.8	10.83	5.30	2.23	1.16	1.60	0.09	39.39	100.00	3186
Lease	13.26	0.00	3.02	2.91	0.53	6.27	7.36	1.03	2.49	1.16	5.45	12.04	6.11	2.57	1.48	1.75	0.16	32.42	100.00	3779
TGLP	10.98	0.00	2.29	2.65	0.72	4.83	7.60	0.97	2.65	0.60	4.34	11.58	5.07	1.69	1.33	2.90	0.24	39.57	100.00	829
Syndicate	9.44	0.00	2.03	2.44	1.38	5.37	8.71	1.22	2.12	0.73	3.91	10.66	6.27	2.36	1.46	1.95	0.08	39.87	100.00	1229
Employer/Relative	12.48	0.05	2.79	3.19	0.57	6.25	7.88	1.38	2.12	0.72	4.96	12.03	5.82	2.04	1.35	3.01	0.05	33.31	100.00	39205
Self allocation	33.01	0.08	1.13	1.56	0.28	2.36	3.41	0.46	0.93	0.05	1.75	5.27	1.49	1.13	0.51	1.29	0.03	45.26	100.00	7768
Total	13.96	0.04	2.29	2.49	0.61	4.44	6.03	1.00	1.69	0.63	3.91	10.72	4.88	2.11	1.03	1.78	0.05	42.35	100.000	276915
MALE																				
Landboard	20.84	0.06	4.03	2.29	0.96	6.74	4.56	0.6	2.41	0.54	4.94	12.54	3.83	1.95	1.01	0.32	0.04	32.35	100.00	84270
Tribal/commercial	20.09	0.08	2.41	3.44	0.79	7.22	4.76	0.79	2.84	0.41	5.41	9.84	3.33	2.13	1.20	0.93	0.03	34.3	100.00	3659
Inheritance	15.15	0.06	4.29	3.56	1.15	9.66	5.89	0.78	3.09	0.74	6.77	12.7	3.84	1.84	1.43	0.55	0.11	28.4	100.00	25454
Freehold	19.66	0.12	3.32	2.79	1.34	8.84	6.63	0.76	2.85	0.64	6.98	11.4	4.42	1.98	1.16	0.41	0.06	26.64	100.00	1719
Lease	17.71	0.00	4.51	3.42	0.77	10.09	6.62	0.72	3.79	0.95	7.21	12.53	5.05	1.98	1.58	0.41	0.18	22.49	100.00	2219
TGLP	16.21	0.00	3.88	2.74	0.91	8.45	6.85	0.68	4.34	0.23	5.71	13.7	5.48	1.14	1.14	1.14	0.23	27.17	100.00	438
Syndicate	14.85	0.00	3.48	2.53	2.05	9.64	6.95	1.11	3.32	0.79	5.69	11.22	4.74	1.58	1.58	0.95	0.16	29.38	100.00	633
Employer/Relative	18.2	0.08	4.71	3.5	0.81	10.6	6.57	0.93	3.18	0.61	6.63	13.36	4.63	1.70	1.43	0.59	0.06	22.4	100.00	21579
Self allocation	45.86	0.11	1.95	1.03	0.34	3.75	2.69	0.28	1.22	0.05	2.48	4.87	1.10	1.26	0.53	0.55	0.00	31.92	100.00	4352
Total	20.08	0.06	4.07	2.71	0.95	7.85	5.12	0.68	2.66	0.57	5.52	12.38	3.89	1.88	1.15	0.43	0.06	29.95	100.00	144323
FEMALE																				
Landboard	7.86	0.01	0.34	2.09	0.20	0.67	6.44	1.16	0.55	0.60	1.83	8.42	5.79	2.30	0.74	2.47	0.04	58.5	100.00	81493
Tribal/commercial	7.09	0.03	0.37	2.16	0.06	0.74	4.99	1.42	0.68	0.74	1.91	6.96	4.71	2.53	1.17	2.43	0.03	61.97	100.00	3245
Inheritance	5.59	0.03	0.37	2.47	0.30	0.75	7.71	1.59	0.82	0.90	2.98	9.98	6.13	2.59	1.18	4.11	0.06	52.43	100.00	22798
Freehold	6.48	0.00	0.27	2.11	0.27	0.89	7.16	1.43	0.61	0.89	2.25	10.16	6.34	2.52	1.16	3.00	0.14	54.33	100.00	1467
Lease	6.92	0.00	0.90	2.18	0.19	0.83	8.40	1.47	0.64	1.47	2.95	11.35	7.63	3.40	1.35	3.65	0.13	46.54	100.00	1560
TGLP	5.12	0.00	0.51	2.56	0.51	0.77	8.44	1.28	0.77	1.02	2.81	9.21	4.60	2.30	1.53	4.86	0.26	53.45	100.00	391
Syndicate	3.69	0.00	0.50	2.35	0.67	0.84	10.57	1.34	0.84	0.67	2.01	10.07	7.89	3.19	1.34	3.02	0.00	51.01	100.00	596
Employer/Relative	5.47	0.02	0.43	2.80	0.28	0.93	9.49	1.93	0.81	0.85	2.92	10.39	7.26	2.46	1.25	5.97	0.04	46.67	100.00	17626
Self allocation	16.63	0.03	0.09	2.22	0.20	0.59	4.33	0.70	0.56	0.06	0.82	5.77	1.99	0.97	0.50	2.22	0.06	62.27	100.00	3416
Total	7.31	0.01	0.36	2.26	0.23	0.72	7.03	1.34	0.64	0.69	2.17	8.91	5.95	2.36	0.91	3.24	0.04	55.83	100.00	132592

Table 27: Percentage distribution of households by industry of head of households within each mode of land acquisition comparing 2001 and 2011 censuses

SEX AND LAND ACQUISITION	Year	INDUSTRY																			Total responses
		Agriculture Hunting and Forestry	Fishing	Mining and Quarrying	Manufacturing	Electricity, Gas and Water Supply	Construction	Wholesale & Retail Trade	Hotels and Restaurant	Transport, Storage & Communication	Financial Intermediaries	Real Estate, Renting and Business Activities	Public Admin	Education	Health and Social Work	Other Community, Social and Personal Service activities	Private Households with Employed Persons	Foreign Missions, International Organisations	Other Industry	% Total	
BOTH SEX																					
Land board	2011	14.46	0.03	2.21	2.19	0.59	3.76	5.48	0.87	1.50	0.57	3.41	10.51	4.79	2.12	0.88	1.38	0.04	45.21	100.00	165763
	2001	8.44	0.03	3.78	8.41	1.04	11.22	13.02	2.66	3.76	1.42	6.62	17.29	8.81	3.68	2.66	6.52	0.22	0.43	100.00	63780
Tribal/commercial	2011	13.98	0.06	1.45	2.84	0.45	4.17	4.87	1.09	1.83	0.56	3.77	8.49	3.98	2.32	1.19	1.64	0.03	47.31	100.00	6904
	2001	19.93	0.00	2.62	7.72	1.03	12.08	11.92	2.64	3.04	0.58	5.31	15.12	6.79	2.27	3.01	5.15	0.11	0.66	100.00	3783
Inheritance	2011	10.64	0.04	2.44	3.04	0.75	5.45	6.75	1.16	2.02	0.82	4.98	11.42	4.92	2.2	1.31	2.23	0.08	39.76	100.00	48252
	2001	12.75	0.03	4.58	8.56	1.27	14.1	11.67	2.44	3.36	0.93	5.46	16.26	7.67	3.01	2.41	4.84	0.09	0.56	100.00	20886
Freehold	2011	13.59	0.06	1.91	2.48	0.85	5.18	6.87	1.07	1.82	0.75	4.8	10.83	5.3	2.23	1.16	1.60	0.09	39.39	100.00	3186
	2001	27.03	0.16	2.07	6.20	0.95	9.06	13.51	2.54	2.38	0.64	9.54	11.61	5.56	2.7	2.23	3.02	0.00	0.79	100.00	629
Lease / TGLP	2011	12.85	0.00	2.89	2.86	0.56	6.01	7.40	1.02	2.52	1.06	5.25	11.96	5.92	2.41	1.45	1.95	0.17	33.7	100.00	4608
	2001	18.88	0.00	1.53	8.67	0.51	13.27	15.82	3.57	6.12	2.55	7.14	10.2	5.1	0.00	2.04	3.57	0.00	1.02	100.00	196
Syndicate	2011	9.44	0.00	2.03	2.44	1.38	5.37	8.71	1.22	2.12	0.73	3.91	10.66	6.27	2.36	1.46	1.95	0.08	39.87	100.00	1229
	2001	19.9	0.00	4.59	6.63	0.51	11.73	12.76	2.04	3.57	0.51	4.59	15.82	8.16	2.55	1.53	5.10	0.00	0.00	100.00	196
Employer/Relative	2011	12.48	0.05	2.79	3.19	0.57	6.25	7.88	1.38	2.12	0.72	4.96	12.03	5.82	2.04	1.35	3.01	0.05	33.31	100.00	39205
	2001	10.98	0.04	4.43	8.35	1.02	14.61	12.42	2.69	3.53	1.07	5.47	17.56	6.35	2.68	2.32	6.15	0.10	0.22	100.00	13371
Self allocation	2011	33.01	0.08	1.13	1.56	0.28	2.36	3.41	0.46	0.93	0.05	1.75	5.27	1.49	1.13	0.51	1.29	0.03	45.26	100.00	7768
	2001	51.22	0.20	2.58	5.75	0.36	8.23	8.81	2.19	1.21	0.16	1.89	6.99	4.21	1.63	2.12	2.02	0.00	0.42	100.00	3063

Table 28: Percentage distribution of households by occupation and sex of head of households within each mode of land acquisition-2011 Census

SEX & LAND ACQUISITION	OCCUPATION											Total responses	
	Not Stated	Legislators, Administrators and Managers	Professionals	Technicians and Associate Professionals	Clerks	Service, Shop and Market Sales Workers	Skilled agricultural and related workers	Craft and related workers	Plant and Machine operators & assemblers	Elementary Occupations	BDF Personnel		Total (%)
BOTH SEX													
Landboard	0.02	5.18	5.68	7.41	4.97	13.31	19.25	11.96	7.31	23.49	1.43	100.00	90692
Tribal/commercial	0.06	4.74	6.1	7.97	5.10	13.46	18.76	13.38	6.65	22.51	1.27	100.00	3625
Inheritance	0.03	4.90	6.11	8.37	5.99	14.66	11.81	14.35	7.79	24.32	1.67	100.00	29029
Freehold	0.21	8.39	7.76	8.90	4.50	12.89	13.15	13.04	5.54	24.84	0.78	100.00	1932
Lease	0.08	9.01	8.57	9.01	5.17	12.73	10.81	13.31	7.44	22.32	1.57	100.00	2554
TGLP	0.00	4.99	7.58	8.18	4.79	15.57	10.58	13.97	6.19	27.15	1.00	100.00	501
Syndicate	0.00	5.26	7.29	9.85	5.26	15.11	9.04	14.84	7.15	26.05	0.13	100.00	741
Employer/Relative	0.02	3.22	5.44	7.15	5.64	15.64	8.12	14.7	7.71	30.09	2.26	100.00	26123
Self allocation	0.05	1.63	1.39	2.36	1.63	7.59	36.78	8.09	3.3	36.95	0.24	100.00	4241
TOTAL	0.03	4.80	5.70	7.48	5.18	13.79	16.24	12.83	7.31	25.08	1.56	100.00	159438
MALE													
Landboard	0.02	6.31	5.79	5.59	2.97	11.20	21.01	15.15	10.9	18.8	2.25	100.00	56925
Tribal/commercial	0.08	5.64	6.35	6.44	3.18	11.49	20.02	16.59	9.65	18.68	1.88	100.00	2393
Inheritance	0.01	5.89	6.21	6.59	3.61	13.11	13.22	19.41	11.55	17.76	2.63	100.00	18210
Freehold	0.08	9.5	8.23	7.44	2.93	11.16	14.33	16.94	8.16	20.03	1.19	100.00	1263
Lease	0.06	11.58	7.56	7.62	2.97	10.94	10.88	17.1	10.53	18.5	2.27	100.00	1719
TGLP	0.00	6.90	8.78	6.27	3.13	15.05	10.97	16.3	9.4	21.63	1.57	100.00	319
Syndicate	0.00	6.46	8.24	6.90	4.68	12.03	11.14	18.93	11.36	20.04	0.22	100.00	449
Employer/Relative	0.01	3.76	5.49	5.54	3.68	13.6	8.63	19.34	11.23	25.21	3.50	100.00	16730
Self allocation	0.03	1.73	1.39	1.86	0.95	5.86	36.07	8.33	4.47	38.98	0.34	100.00	2953
TOTAL	0.02	5.79	5.78	5.74	3.16	11.81	17.64	16.53	10.81	20.29	2.44	100.00	100961
FEMALE													
Landboard	0.02	3.26	5.51	10.46	8.33	16.87	16.28	6.57	1.24	31.39	0.06	100.00	33767
Tribal/commercial	0.00	3.00	5.6	10.96	8.85	17.29	16.31	7.14	0.81	29.95	0.08	100.00	1232
Inheritance	0.06	3.23	5.95	11.36	10.00	17.27	9.43	5.83	1.44	35.36	0.06	100.00	10819
Freehold	0.45	6.28	6.88	11.66	7.47	16.14	10.91	5.68	0.6	33.93	0.00	100.00	669
Lease	0.12	3.71	10.66	11.86	9.7	16.41	10.66	5.51	1.08	30.18	0.12	100.00	835
TGLP	0.00	1.65	5.49	11.54	7.69	16.48	9.89	9.89	0.55	36.81	0.00	100.00	182
Syndicate	0.00	3.42	5.82	14.38	6.16	19.86	5.82	8.56	0.68	35.27	0.00	100.00	292
Employer/Relative	0.03	2.27	5.34	10.02	9.15	19.28	7.21	6.44	1.44	38.78	0.04	100.00	9393
Self allocation	0.08	1.40	1.40	3.49	3.18	11.57	38.43	7.53	0.62	32.3	0.00	100.00	1288
TOTAL	0.04	3.08	5.57	10.47	8.67	17.22	13.83	6.44	1.27	33.35	0.06	100.00	58477

References

- Adams, Martin, F. Kalabamu, and R. White. (2003). Land tenure policy and practice in Botswana: Governance lessons for southern Africa. *Austrian Journal of Development Studies*, 19 (1).
- Adams, Martin and Robin Palmer. 2007. Independent review of land issues. Southern African Regional Poverty Network, 3, 2006–2007, Eastern and Southern Africa.
- Agenda 21-Botswana (1997) Natural Resource Aspects of Sustainable Development in Botswana. Available at <http://www.un.org/esa/agenda21/natlinfo/countr/botswana/natur.htm>
- Botswana (n.d) Agriculture. Available at <http://sunsite.icm.edu.pl/untpdc/incubator/africahp/bwa/bw8.htm>
- CSO (2001). National Statistical tables, 2001 Census
- CSO (2008) Revised 2004 Botswana Agricultural Census Report. Department of Printing and Publishing Services, Gaborone
- Government Implementation Coordination Office (2009). Botswana Excellence - A Strategy for Economic Diversification and Sustainable Growth. Government Printers, Gaborone
- Kleynhans T and Vink N (1998). The Agricultural Potential of SADC. *Agrekon*, Vol 37, No 4
- MBendi (2013). Agriculture, Forestry and Fishing in Botswana
- Overview. Available at <http://www.mbendi.com/indy/agff/af/bo/p0005.htm>
- Republic of Botswana (ROB) 1991. National Policy on Agricultural Development. Government Printers, Gaborone.
- ROB. 2002. Botswana National Land Policy: Issues Report. Ministry of Lands, Housing and Environment: Department of Lands. Gaborone: Natural Resource Services.
- Statistics Botswana (2013). 2011 Annual Agricultural Survey Preliminary Results: No 10 of 2013.

HOUSEHOLD PERSPECTIVES

By Dr. Gwen N. Lesetedi
Sociology Department, University of Botswana

Abstract: The household has been used most frequently as a unit of analysis in the collection of census and survey data. It has become a standard unit of analysis for ecological and economic purposes because pooling and sharing of resources, processing of food, cooking, eating and sheltering from elements of weather, all tend to happen in the household. In addition, the household is a fundamental social unit and it is the next biggest thing on the social map after the individual. It is within the household that gender and social dynamics are socially constructed and manifested. The major objective of this study is to analyze dynamics prevailing in the household utilizing the 2011 Population and Housing Census data. Data from the 1981 and 1991 censuses will also be utilized as a basis for comparison. The key demographic areas to be considered include household size, household headship, education attainment, economic activity, livestock ownership and remittances. In addition the paper will also discuss issues of ownership of durables and ICT Equipment. Given variations among households and the flexibility characteristic of households, it is imperative to also interrogate the concept of household. The concept of family will also be interrogated within the context of this study.

1.0. Introduction

This paper profiles the household perspectives in Botswana utilizing the 2011 Population and Housing Census data. The concept of household is an important unit of analysis and is utilized in the collection of information for statistical and planning purposes. The paper is organised into four sections. The first section is the introduction and also highlights the policies and programmes having an impact on households followed by a discussion on the methodological issues concerning the utilization of the household and other related concepts like household headship and family in data collection in section two. Section three presents an analysis of the 2011 census data beginning with a comparative analysis on the trends obtaining based on the data from the 1981, 1991 and 2001 censuses. The will provide a better understanding of the changes households have undergone. Section three also presents an analysis of household perspectives of the 2011 census. The perspectives are analyzed in terms of household size, household headship, economic activity, ownership of land and of durables just to mention a few. The fourth section presents the discussion of the data and the conclusion to the paper.

1.2 Policies and Programmes

Government policies and programmes are designed to benefit all members of the population equally and therefore access to economic opportunities for all Botswana citizens in all sectors of development is an overall goal clearly stated in the various National Development Plans, Vision 2016, and the National Population Policy. For instance the National Population Policy which, in recognition of the fact that female-headed households are more vulnerable to poverty, has come up with several strategies to improve women's status (Ministry of Finance, 1997). The strategies include targeting programmes to these vulnerable female-headed households to enhance their participation in the economy. Despite such policy efforts geared towards improving the status of women, unequal gender relations persist in the different sectors of the economy. Inequalities between women and men are pronounced as far as access to income and resources are concerned, varying in degrees between urban and rural areas. Income distribution remains skewed in terms of gender. Women and female headed households are more likely to suffer poverty and economic marginalization. Poverty analysis indicates that the proportion of people living below the national poverty datum line had declined extensively from 31% in 2002/3 to 21% in 2009/10 (UNICEF, 2011:6). This can be attributed to the government's socio-economic policies and programmes to eradicate poverty. Despite these well-intentioned actions, poverty remains high and is more prevalent among female headed households, 46 percent of female headed households suffered from poverty compared to 27 percent of male headed households (UNICEF, 2011:13).

2.0. Methodological Considerations: Household, Household Headship and Family

2.1 Household as a Unit of Analysis

A household may mean different things to different people in different places. There is no universal meaning of the term 'household'. This has resulted in a growing debate among scholars on trying to generate definitions that might be universally applicable. For the purposes of the 2011 Population and Housing Census, household is defined as a unit composed of one or more persons 'living together under the same roof' and 'eating from the same pot' and /or making common provision for food and other living arrangements (CSO, 2011). The two concepts need not be interpreted literally, because they have a broader meaning. 'Eating from the same pot' attempts to summarize a variety of situations where a group of people may combine all or part of their incomes for their maintenance as one unit. While, 'living under the same roof' may serve to strengthen the first concept by confining it to a specific physical location. In this regard household may be understood as kinship unit or economic unit rather than a housing unit. A household often consists of individuals related by blood or marriage, but they are not always family-based entities. They may comprise of unrelated persons such as colleagues and friends. A family can be a household but a household is not always a family. While the use of the term household depicts the family as a group of people who live together and share shelter, food and other basic requirements, the term kinship stretches the notion of family to include three or more generations and all their collateral relations. The household is regarded as a socio-economic unit where production, distribution and consumption activities take place.

2.2 Household Headship

A concept interlinked with household is household headship. It implies the power to make important decisions in a number of matters such as allocation of household resources, responsibilities, organization of household production, schooling of children and supporting the household economically (Chant 1997). In the 2011 census, consistent with previous censuses, it was specified that the head of household is any male or female, at least 12 years old who is regarded by other members of the household as head (CSO, 2011). The person can be a blood relative or not. In cases where there is no one aged 12 or over, the eldest child will have to be entered as the head. A household headship is complicated and fluctuating. A household may be headed by a woman at one time and by a man at another and women may head other households forever.

Household headship is complicated and fluctuating. At one time a household may be headed by a woman and by a man at another. Past research has shown that the female-headed households are economically disadvantaged than the male headed ones. Male-headed households are economically better than the female-headed ones because they have access to productive resources and they could also migrate to mines and other places to seek alternatives. They are male-headed households, which are poorer than the female headed ones. Most of the female-headed households are poor because they do not have access and control of the productive resources, and this is attributable to a number of reasons that may differ from one case to another. The main reason is that they face very serious socio-economic limitations in their lives. A single woman heading her household can marry at a later stage and become a member of a male-headed household. She may later become a widow and take over the headship. Most of the national and international data report a 'female headed household' as a unit where an adult woman (usually with children) resides without a male partner. In other words, a head of a household is female in the absence of a co-resident legal or traditional-law spouse or in some cases, another adult male such as a father or brother.

Relative to the family, the household has certain advantages as a unit of analysis. First, it is a much broader and diversified concept which may include within it the family (Datta et al, 2000). Not only is the household more flexible in terms of collecting standardized data than the family, it is also more easily identifiable and much easier to work with as unit of analysis and for other data collection tasks. Unlike the family, the household is also more "static" or "stable" in terms of consumption and production purposes. Second, the household has been used most frequently as a unit of analysis in the collection of census and survey data. It has become a standard unit of analysis for ecological and economic purposes because pooling and sharing of resources, processing of food, cooking, eating and sheltering from elements of weather, all tend to happen in the household. In addition, the household is a fundamental social unit and it is the next biggest thing on the social map after the individual and most people in the majority of societies at most times live in households (McC. Netting et al, 1984). According to McC. Netting et al, (1984) it is in the household where most decisions are made, through negotiations, disagreement, conflict and bargaining.

2.3 Family a Unit of Analysis

Closely related to the concept of the household is the family. In light of the definition of the household highlighted earlier, a family can be a household but a household is not necessarily a family (WLSA, Botswana, 1997). Similarly a household may contain one or more separate families and may also include members who are not related to one another. During population and housing censuses members of the household are asked to state their relationship to the household head. Based on this information one can deduce they types of family forms in existence.

Relative to the family, the household has certain advantages as a unit of analysis. It is a much broader and diversified concept which may include within it the family (Datta et al, 2000). Not only is the household more flexible in terms of collecting standardized data than the family, it is also more easily identifiable and much easier to work with as unit of analysis and for other data collection tasks. Unlike the family, the household is also more "static" or "stable" in terms of consumption and production purposes. Second, the household has been used most frequently as a unit of analysis in the collection of census and survey data. It has become a standard unit of analysis for ecological and economic purposes because pooling and sharing of resources, processing of food, cooking, eating and sheltering from elements of weather, all tend to happen in the household. In addition, the household is a fundamental social unit and it is the next biggest thing on the social map after the individual and most people in the majority of societies at most times live in households (McC. Netting et al, 1984).

3.0 Data Analysis

3.1 Past Trends: 1981, 1991 and 2011 Household and Population Censuses

Over the years the number of households just like the population has been increasing. In 1981 the census recorded 170,833 households, in 1991 the number of households rose to 276,209 and by 2001 the number had risen to 404,706. In the 2011 Population and Housing Census 550,926 households were enumerated. The increase in the population size as well as in the number of households has been accompanied by a decline the average household size. Based on the 1981 census the average household size was 5.5, in 1991 it went down to 4.8 and by 2001 it was 4.2. By 2011 the average household size had decreased to 3.7. The significant increase in the number of households can be attributed to the formation of new households. Households are breaking into smaller units as seen by the declining household size from an average of 5.5 persons per household in 1981 to 3.7 persons in 2011. Table 1 presents a summary of these trends from 1981 to 2011.

Table 1: Total Population, Number of Households and Household Size 1981, 1991, 2001 and 2011

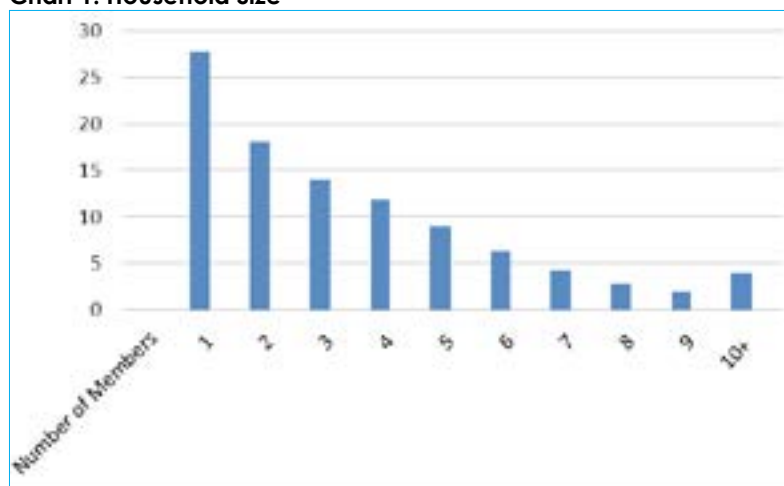
Year	Population	Number of Households	Average Household size
1981	941,027	170,833	5.5
1991	1,326,796	276,209	4.8
2001	1,680,863	404,706	4.2
2011	2,024,904	550,926	3.7

3.2 Household Headship

As indicated earlier a total of 550,926 households were enumerated in 2011. Of these 52.5 percent were headed by males while the remaining 47.5 percent were headed by females. These figures are consistent with those obtained in for 2001 where 53.86 percent of the households were male-headed while 46.14 percent were female-headed and 1991 during which 53 percent of households were male headed while women headed 47 percent. The corresponding figures for 1981 census were 54.8 percent households headed by males and 45.2 percent headed by men. On the whole males head more households than females in Botswana.

3.3 Household Size

Most of the households are single member households i.e. 27.8 percent of the heads of the households reported that they lived alone, 18.0 percent of the heads were in households with 2 members and 14 percent headed households with 3 members. Very few of the household heads presided over large households of at least 5 or more members. Of these households 9.0 percent had 5 members, 6.4 percent comprised of 6 members, and 4.2 percent had 7 members. While 2.8 percent had 8 members, 2.0 percent had 9 members and 3.9 percent had 10 or more members. This information is presented in Chart 1.

Chart 1: Household Size

3.3.1 Household Size and Gender

Males tend to head small households compared to females as illustrated in table 2. Amongst the households comprising of single members, 65.8 percent were headed by males while the rest 34.2 percent were headed by females. Amongst those households with 2 members 55.3 percent were male headed and 44.7 percent were female headed. The proportion of female heads as compared to male headship is higher as the household sizes increases. For instance 60.1 percent of the households comprising of 8 members were headed by females and 39.5 percent were headed by males. This pattern prevails as the household size increases, while 62.7 percent of households with 10 or more members were headed by females le the remaining 37.3 percent were male headed. See table 2.

Table 2: Heads of Households by Sex and Size of Households

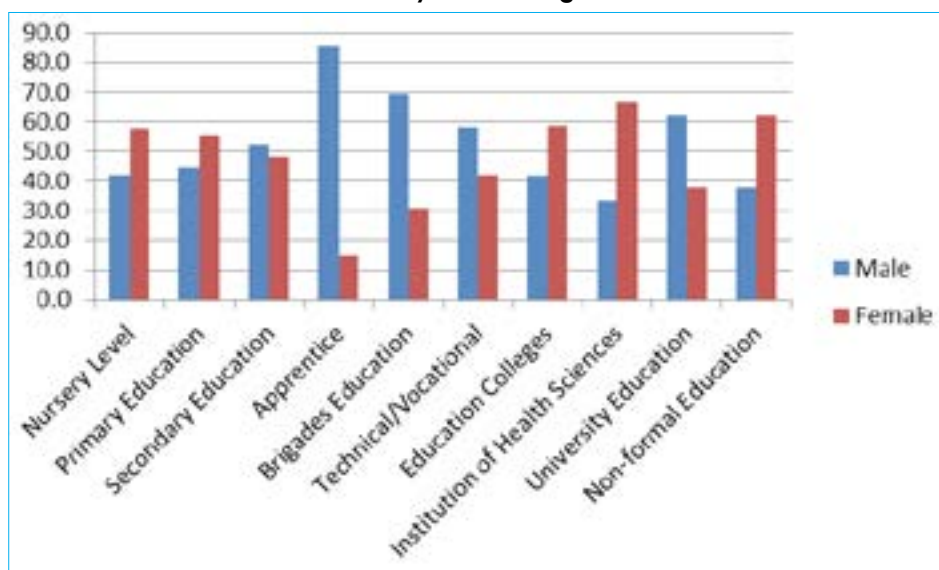
Tenure of housing	Sex of Household Head				Total
	Male		Female		
	No.	%	No.	%	
Self built	134,259	46.4	156,300	59.8	290,559
Rent individual	83,646	28.9	55,759	21.3	139,405
Job related-free	29,738	10.3	16,595	6.3	46,333
Rent Central Government	11,066	3.8	10,736	4.1	21,802
Free: Inheritance	6,150	2.1	5,332	2.0	11,482
Purchased	5,129	1.8	3,374	1.3	8,503
Rent: Company	8,189	2.8	2,757	1.1	10,946
Rent: BHC	3,503	1.2	2,662	1.0	6,165
Rent: Local institution	3,523	1.2	4,079	1.6	7,602
Rent: VDC	1,779	0.6	1,797	0.7	3,576
Donated	1,380	0.5	1,585	0.6	2,965
Do not know	998	0.3	590	0.2	1,588
Total	289,360	100.0	261,566	100.0	550,926

3.4 Household Headship and Education

A small proportion of head of households reported that they were still at school (3.4 percent) 77.8 percent of the heads reported that they had left, while 18.8 percent had never attended school. Comparing across the gender divide, slightly more female heads compared to male heads reported that they were still at school i.e. 50.7 percent males and 49.3 percent males. On the other hand 52.2 percent of the male heads and 45.8 percent of the female heads had left school. Slightly more male heads (54.2 percent) in comparison to the female heads (45.8 percent) had never attended school.

With reference to highest level of education attained the household heads, more female heads of households than the male headed households dominated the lower levels of education rank i.e. nursery school and primary education. The female heads also dominate when it comes to education attained at colleges of education, Institution of Health Sciences and non-formal education. However, the tables are turned when it comes to secondary education, apprenticeship, brigades' education and university educations. These levels are dominated by male headed households. Chart 2 illustrates the highest level of education attained by the heads of households.

Chart 2: Heads of Households by Sex and Highest Level of Education



3.5 Economic Activities

Data on economic activity is intended to show the number of people who are economically active and the type of activities they are engaged in. The economically active refers to those who are employed as well as the unemployed. This question was addressed to those 12 years and above.

3.5.1. Headship and Usual Economic Activity

Usual economic activity referred to activity in which the head of household was engaged in during the last twelve months before the census. These activities included Seasonal work, paid or unpaid; non seasonal, paid or unpaid; job-seeker, homemaker, student, those who had retired; the sick and prisoners. For both male heads of household and female head of household the main activity that they are engaged in unpaid non-seasonal work. It was registered that 48.0 percent of the male heads were engaged in non-seasonal unpaid work while 39.6 percent of the female heads were also engaged in non-seasonal unpaid work. The next significant category was that of students were 13.3 percent of the male heads and 23.0 percent of the female heads registered that they were students. This was followed by 11.1 percent male heads and 12.3 of female heads who reported that they were home makers. The heads of households also indicated that they were involved in seasonal work both paid and unpaid. Amongst the male headed household heads, 6.9 percent and 2.5 percent were involved in paid and unpaid seasonal work respectively. With reference to the female headed households 5.7 percent and 2.2 percent indicated that they were engaged in paid and unpaid seasonal work respectively. An insignificant number of both males and female heads reported that they were in prison.

Examining the gender differentials i.e. comparing the male heads of household to the female heads of households against the different economic activities listed, there are more male heads of households involved in economic activities in comparison to the female heads. For instance in the category non-seasonal unpaid activity, 75 percent were male heads compared to 25 percent. This pattern is reflected in most of the categories except for the category of student and those who reported that they were sick. Amongst those who reported that they were students 54.4 percent were female heads compared to 45.6 male heads. Those who reported that they were sick comprised of 54.4 percent female heads and 45.6 percent females. Table 4 presents a summary of the data on usual activity of head of household by sex

Table 4: Usual Economic Activity by Sex of Head of Household

Usual Economic Activity	Sex of Head of household				Total
	Male		Female		
	No	%	No	%	
Seasonal - Paid	14,381	63.6	8,213	36.4	22,594
Seasonal - Unpaid	5,173	60.3	3,402	36.7	8,575
Non-seasonal - Paid	99,582	63.7	56,677	36.3	156,259
Non-seasonal - Unpaid	10,231	75.0	3,416	25.0	13,647
Job seeker	21,377	58.4	15,231	41.6	36,608
Home maker	23,137	56.8	17,589	43.2	40,726
Student	27,598	45.7	32,831	54.3	60,429
Retired	2,711	63.0	1,595	37.0	4,306
Sick	3,385	45.6	4,043	54.4	7,428
Prisoners	86	67.7	41	32.3	127
TOTAL	207,661	59.2	143,038	40.8	350,699

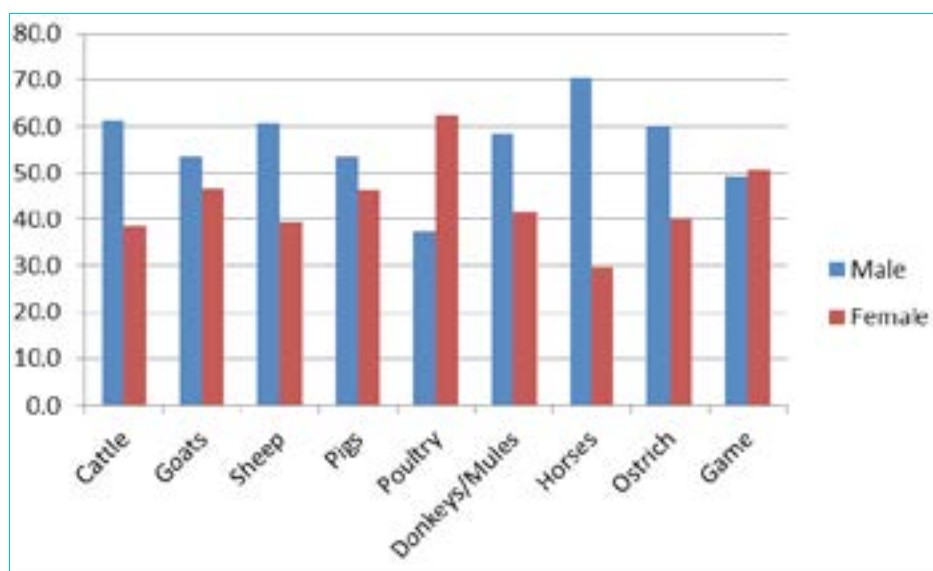
3.6 Agricultural and Land Acquisition

Respondents were asked whether any members of the household owned livestock and to specify they owned. They were also asked whether the household had planted any crops during the last ploughing season and the type they had planted. Respondents had to say whether a member of the household owned or had have access to land used for planting and they were required to state how the land used for planting was acquired land.

3.6.1 Headship and Type of Livestock owned

When it came to ownership of livestock, male headed households tended to dominate i.e. they owned more livestock in comparison to their female counterparts. The differences in ownership between male and female headed households, where quite evident particularly with ownership of cattle, sheep, horses and ostriches. Of those households that had reported owning cattle, 61.3 percent were male headed households and 38.7 percent were headed by females. With sheep, 60.6 percent of the male headed households owned ship compared to 39.4 percent households headed by females. Close to 70 percent of male headed households owned horses compared to about 30 percent of the households headed by females. Of the households that had reported thy owned ostriches 60 percent were male headed and 40 percent were female headed. The pattern was quite different when it came to ownership of poultry and game. See chart 5.

Chart 5: Number of Households by Sex of Household Head and Type of Livestock owned

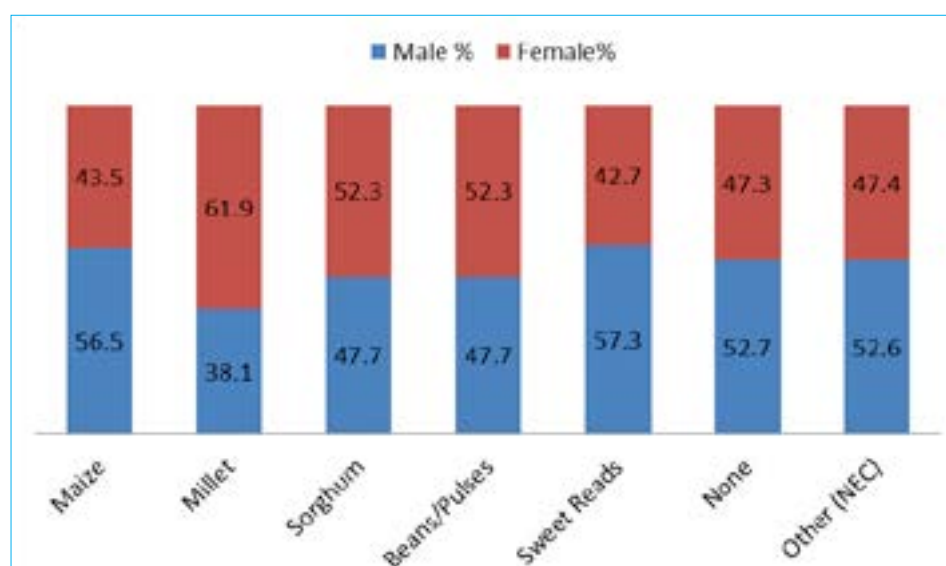


According to chart 5, 62.4 percent of the female heads compared to only 37.2 percent of the male heads owned poultry. While slightly above 50 percent of households headed by females i.e. 50.6 percent reported as owning game compared to 49.4 percent of households headed by males.

3.6.2. Household Headship and Type of Crops Planted

A great majority of the respondents i.e. 95.4 percent reported that they had not planted any crops during the agricultural season. Of the few that had planted crops most reported that they had planted maize followed by sorghum, beans/pulses and sweet reeds. Further analysis reveals that more male headed households planted sweet reeds and maize in comparison to the female headed households. On the other hand more female headed households planted millet, sorghum and beans/pulses as compared to those households headed by males. This is illustrated in chart 3

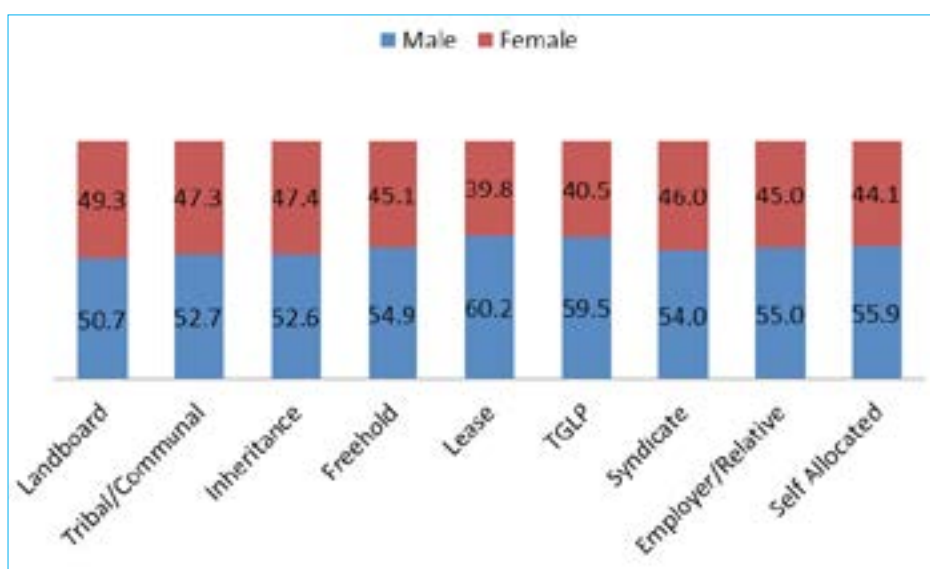
Chart 3: Number of \ households by Sex of Household head and Type of Crop Planted



3.6.3. Mode of Acquisition of Planting Land

Households were required to state how they had acquired the land they used for planting. The majority i.e. 61.3 percent reported that they had acquired the land from the land board while 17.2 percent said it was through inheritance and 14.4 percent from employer or relative. Out of the remaining households 2.9 percent had allocated the land to themselves, 2.3 percent had planted on tribal/communal land, and 1.1 percent was leasing land. A few also indicated that they were planting on freehold land (0.6 percent), Syndicate (0.2 percent) and a negligible number were using land under the TGLP. Comparing the acquisition of land across the sex of the household head, male headed households have an upper hand in all modes of acquisition of planting land. This is more noticeable when one considers land acquired through leasing and TGLP. This information is summarized in Chart 4.

Chart 4: Number of Households by Sex of Household Head and Mode of Acquisition of Planting Land



3.7 Receipt of Cash

The census also sought to establish cash activities that households performed for their sustenance. These activities included household quasi-businesses and agricultural related tasks.

3.7.1 Receipt of Cash from Household Activities

Respondents were also asked as to whether any member of the household had received cash from household activities that they were engaged in. These activities included traditional beer, other beverages, craftwork, clothes and cooked food. Most households, that is 92 percent of them male headed and 88.3 percent female headed, reported as having received no cash from any of the household activities that they were engaged in. However, 2.7 percent of the male headed households and 5.5 percent of those headed by females reported that they had received cash from selling traditional beer. Very few of the respondents indicated as to whether any member of the household as having received cash from activities such as craftwork, clothes and cooked food.

Most members in female headed households were involved in dealing in traditional beer i.e. 64.8 percent compared to 35.2 percent of members living in male headed households. While 57.1 percent of female headed households and 42.9 percent of the households got cash from other beverages. More members in female head households were also involved in selling clothes compared to those members in households headed by males. Those who reported as having received cash from clothes included 60.0 percent female headed households and 40 percent male headed households. The same applied to cooked food as a source of cash. In this regard 60.2 percent of households headed by females compared to 39.2 percent of households headed by males received cash from cooked food. On the other hand they were more households headed by males than female headed households who were involved in craft work. Amongst male headed households 60.8 percent engaged in craft work as a source of cash compared to 39.2 percent of the female headed households. This is illustrated in table 5.

Table 4: Receipt of Cash from household activities by Sex of household head

Household activities	Sex of Head of household				Total
	Male		Female		
	No	%	No	%	
Traditional Beer	7,697	35.2	14,141	64.8	21,838
Other beverages	2,274	42.9	3,028	57.1	5,302
Craftwork	3,733	60.8	2,403	39.2	6,136
Clothes	3,357	40.0	5,038	60.0	8,395
Cooked Food	3,235	39.8	4,891	60.2	8,126
None	265,278	53.9	227,069	46.1	492,347
Other	411	43.8	527	56.2	938
Total	285,985	52.7	257,097	47.3	543,082

3.7.2. Receipt of Cash from Agricultural Produce

Over 50% of the households headed by males had received no cash from sale agricultural produce. Of the male headed households that had received cash from agricultural produce at least 10.2 percent received cash from cattle and 5.5 percent from goats and sheep. In terms of crops 2.6 percent of households headed by males received cash from the sale of maize and 2.5 percent from melon and sweet reeds. Majority of the female headed households reported that they had not received any cash for agricultural produce. Amongst those who had received cash only 6.6 percent 4.0 percent of them received cash from the sale of cattle and goats and/ or sheep respectively. At least 3.2 percent of the female headed households also realized cash from the sale of phane. With regard to melon and sweet reeds 2.4 percent of the female headed households had received cash from their sale.

Sale of livestock is generally a source of cash for male headed households in comparison to those headed by females. Details are provided in Table 6. Of those households which received cash from cattle males 63.8 percent were male headed households compared to 36.2 percent of the households headed by females.

Table 6: Receipt of Cash from Agricultural Produce by Sex of Household Head

Agricultural Produce	Sex of Head of household				Total
	Male		Female		
	No	%	No	%	
Cattle	33,586	63.8	19,061	36.2	52,647
Goats/Sheep	18,169	61.2	11,501	38.8	29,670
Poultry	11,725	54.1	9,958	45.9	21,683
Maize	8,498	55.7	6,762	44.3	15,260
Sorghum/Millet	3,920	54.8	3,235	45.2	7,155
Melons/Sweet reeds	8,325	54.6	6,926	45.4	15,251
Fruits & vegetables	5,337	47.6	5,871	52.4	11,208
Phane	6,107	39.6	9,333	60.4	15,440
Fish	1,470	56.0	1,157	44.0	2,627
Thatch/Poles/Reeds	3,331	51.0	3,197	49.0	6,528
Firewood	5,308	63.6	3,040	36.4	8,348
Legumes*	703	46.5	810	53.5	1,513
None	221,902	51.6	208,021	48.4	429,923
Total	328,381	53.2	288,872	46.8	617,253

*Beans, Diiloo, Manoko, Cow-Peas etc

The same applies to receipt of cash from goats and sheep, 61.2 percent were male headed and 38.8 percent were female headed. Of those households headed by reported that they had received cash for cattle compare to percent of the females. More male headed households also received cash from produce such as maize; sorghum/millet; and melon/sweet reeds. On the other hand female headed households fared better compared to the male headed households when it came to receipt of cash from agricultural produce like fruits and vegetables; phane and legume.

3.7.3 Other Cash Receipts

In addition to receiving cash from household activities like traditional beer, other beverages, craft work, clothes and cooked food, other sources of cash receipts were considered. These included remittances from both inside and outside Botswana, pension, rent maintenance, employment, and destitute allowance and Government rations. In this regards for both male and female headed households employment was a major source of cash. Of the households headed by male 69.3 percent reported that their other source of cash was employment while 56.4 percent of female headed households also indicated that they had received cash from employment. Households also received cash through remittances from inside as well as outside Botswana. Out of the total number of female headed households 7.5 percent indicated that they had received remittances from inside Botswana and only 0.4 percent from outside Botswana. Amongst the male headed households 4.5 percent had received remittances from inside Botswana and only 0.4 percent had received cash from outside Botswana. A substantial number of both male and female headed households indicated that they had not received any cash i.e. 18.4 percent male headed households and 23.5 percent female headed households.

Based on gender differentials more female headed households received remittances from both inside and outside Botswana, pension, rent, maintenance, destitute allowance, government rations than the male headed households. On the other hand more male headed households received cash from employment than the female headed households. However a majority of the female headed households i.e. 51.9 percent compared to 48.4 percent of the male headed households reported that they had not received any cash. This information is presented in Table 7.

Table 5: Other cash receipts by Sex of Head of household

Other cash receipts	Sex of Head of household				Total
	Male		Female		
	No	%	No	%	
Inside Botswana	8,759	41.9	12,170	58.1	20,929
Outside Botswana	721	43.0	956	57.0	1,677
Pension	8,703	46.1	10,188	53.9	18,891
Rent	1,508	42.5	2,039	57.5	3,547
Maintenance	609	30.4	1,394	69.6	2,003
Employment	134,378	59.6	91,266	40.4	225,644
Destitute Allowance	939	34.9	1,754	65.1	2,693
Government rations	2,038	37.2	3,439	62.8	5,477
None	35,757	48.4	38,049	51.6	73,806
Other	635	48.1	685	51.9	1,320
Total	194,047	54.5	161,940	45.5	355,987

3.8 Tenure ship of Housing Unit

A question was posed to how the respondents had acquired the housing unit they were residing in. The responses included that the unit was self-built, rented from different institutions, purchased or acquired through the job they were engaged in. The majority of the household heads that is both males and females reported that the housing unit that they occupied had been self-built. Out of a total of 289,360 households headed by males 46.4% were self-built. Quite a good number of the housing headed by males resided in rented housing units. They rent from individuals, Central Government, company, BHC and VDCs. The rented units made up a total of 34.1 percent. The same pattern of housing prevails amongst the female headed households. Almost 60 percent of them lived in housing units they had built for themselves and at least 29.8 percent of them rented their housing units from various institutions. Very few of the households reported that they had purchased their housing unit. Close to two percent (1.8 percent) of the male heads of households had bought the unit while only 1.3 percent of the female headed households had purchased the housing unit they were living in. It should be noted that close to one percent of the heads both males and females reported that they were living in housing which had been donated. See table 8 for a breakdown of the data.

Table 8: Tenure of Housing Unit by Sex of Household Head

Tenure of housing	Sex of Household Head				Total
	Male		Female		
	No.	%	No.	%	
Self built	134,259	46.4	156,300	59.8	290,559
Rent individual	83,646	28.9	55,759	21.3	139,405
Job related-free	29,738	10.3	16,595	6.3	46,333
Rent Central Government	11,066	3.8	10,736	4.1	21,802
Free: Inheritance	6,150	2.1	5,332	2.0	11,482
Purchased	5,129	1.8	3,374	1.3	8,503
Rent: Company	8,189	2.8	2,757	1.1	10,946
Rent: BHC	3,503	1.2	2,662	1.0	6,165
Rent: Local institution	3,523	1.2	4,079	1.6	7,602
Rent: VDC	1,779	0.6	1,797	0.7	3,576
Donated	1,380	0.5	1,585	0.6	2,965
Do not know	998	0.3	590	0.2	1,588
Total	289,360	100.0	261,566	100.0	550,926

A further analysis revealed that female heads of household were more likely to live in units which had been self-built than their male counterparts. While 53.8 percent of the female heads lived in self-built accommodation compared to 46.2 percent of the male household heads. At the same time 60.3 percent of the male heads resided in accommodation that had been purchased and only 39.7 percent of the female heads were accommodated in units which had been purchased. When it came to rented accommodation more male headed household units lived in rented accommodation than the female headed ones. For instance 74.8 percent of the male headed households lived in housing which had been rented from a company compared to 25.2 percent of the female headed households. This is also evident when you consider the households renting from individuals and BHC. Male heads of households outnumber the female heads of households. However, there are some exceptions in this regards, more female heads rent from local institutions (53.7 percent) than their male counterparts (46.3 percent). Almost an equal number of both male heads and female heads rented from Central Government and from Village Development Committees. A good number of male headed household (53.6 percent) lived in property they had inherited compared to 46.4 percent of their female counterparts. On the other hand 53.5 percent of female headed households resided in donated accommodation as compared to 46.5 percent of male headed households.

3.8 ICT Equipment and Internet Access

3.8.1 Household Ownership of ICT Equipment

The respondent was asked whether any member of household owned ICT equipment which was in working condition. Amongst those residing in male headed households, 21.9 percent indicated that they did not own any ICT equipment. Of those members in male headed households who had indicated that they did own ICT equipment 19.3 percent owned a radio and 6.7 percent had a TV. The rest of the members in these households reported that they owned desktop computer (0.8 percent), laptop computer (0.5 percent) and telephone landline (0.4 percent). With the female headed households, 29.6 percent of the members had no ICT equipment. Of those who had ICT equipment, 15.9 percent said they owned a radio and 8.9 percent owned a TV. Very few members in the members in male headed households owned a desktop computer (0.3 percent), laptop computer (0.4 percent) and telephone landline (0.7 percent).

Comparing the ownership of ICT equipment along gender lines members in male headed households had more ICT equipment in working condition in comparison to those members who belonged to female headed households. As presented in Table 9, more members in male headed households owned desktop computer, laptop and radio in comparison to those members who belonged to female headed households. On the other hand they were more members in households headed by females in contrast to those headed by males who owned telephone landline and TV.

Table 9: Members of households who own ICT equipment by Sex of Head of household

ICT Equipments	Sex of Head of household				Total
	Male		Female		
	No.	%	No.	%	
Desktop	1,188	58.3	851	41.7	2,039
Laptop	1,508	57.5	1,113	42.5	2,621
Radio	55,861	57.3	41,551	42.7	97,412
TV	19,517	45.6	23,323	54.4	42,840
Telephone (Landline)	1,157	37.4	1,938	62.6	3,095
None	63,414	45	77,416	55	140,830
Total	289,361	52.5	261,563	47.5	550,924

3.8.2 Household Members Access to Internet

Respondents were asked to indicate whether any member of the household had access to the internet. Amongst members of the household belonging to male headed households 55.2 percent had no access to internet. Of those who had access, 6.7 percent said they accessed the internet at work, 4.4 percent through the cellular phone internet, 3.9 percent at internet cafes and 1.7 percent at home. The rest of the members in male headed households accessed the internet through the school (0.7 percent, other institutions (0.7 percent), at the post office (0.3 percent), library (0.5 percent) and elsewhere (0.4 percent). While 59.0 percent of the members belonging to female headed households said they had no access, 5.5 percent accessed it at work, 4.0 percent through the cellular phone internet, and 3.6 percent at the internet cafe. Other accessed the internet through the home (1.1 percent), school (1.1 percent, other institutions (1.0 percent). Very few access the net at the post office (0.3 percent), library (0.6 percent) and elsewhere (0.4 percent).

Table 10 illustrates the gender differentials of accessing internet between members belonging to male and female headed households. There is a slight difference in those who don't know and those who have no access to the internet. There are almost equal proportions of those who don't know and have no access in both male and female headed households. However when it comes to access through the home or the work place, a higher proportion of members belonging to male headed households have access to the internet through the home (65 percent) and workplace (57.6percent). While only 36.5 percent and 42.4 percent of member belonging to female headed households had access to the internet through the home and the workplace respectively. Higher proportions of members in female headed than those in male headed households are able to access the internet through primary school (59.4 percent), secondary school (60.3 percent) and other institutions (54.7 percent). See table 10.

Table 10: Household Members Access to Internet by Sex of Household Head

Access to Internet	Sex of Head of household		Total		
	Male	Female			
Home	5,014	63.5	2,887	36.5	7,901
Workplace	19,437	57.6	14,310	42.4	33,747
Primary school	232	40.6	340	59.4	572
Secondary school	1,646	39.7	2,502	60.3	4,148
Other institution	2,067	45.3	2,495	54.7	4,562
Internet cafe	11,319	54.5	9,442	45.5	20,761
Cellular phone internet	12,624	54.6	10,502	45.4	23,126
Post Office	734	48.7	774	51.3	1,508
Library	1,346	46.3	1,560	53.7	2,906
Elsewhere	1,085	52.8	971	47.2	2,056
No access	159,775	50.9	154,257	49.1	314,032
Don't know	33,139	50.1	33,040	49.9	66,179
TOTAL	289,350	52.5	261,564	47.5	550,914

4.0 Discussion and Conclusion

There has been an increase in the number of households in country from 1981 to 2011. This is a reflection of the formation of new households due to the breakdown of households into smaller units. The breakdown of households into smaller units is evidenced by a decrease in household sizes over the same period. The 2011 data also showed that the gender variation in the household headship remains the same with males heading more households than females. This figure is consistent with what was obtained in 1981, 1991 and 2001 population censuses. It is evident that males head more households than females in Botswana, and this trend has been observed in past censuses. Most households are single member households and there a very few households comprising of 10 or more members. The data revealed that male presided over small households compared to females. The proportion of households is larger female heads as compared to male headship as the household sizes increases.

Examining the data on education with particular reference to school attendance slightly more female heads compared to male heads reported that they had never attended school or were still at school. On the other hand more male heads than female heads had left school. Female heads of households dominated the lower levels of education rank i.e. nursery school and primary education as well as tertiary education such as colleges of education, institution of health sciences and non-formal education. More male heads than female heads had attained secondary education, apprenticeship, brigades' education and university educations. Education has a significant impact on both men's and women's opportunities in society and more importantly, education determine the level of participation of an individual in the various sectors of the economy including employment. When comparing the male heads of household to the female heads of households against the different economic activities listed, there are more male heads of households who are economically active in comparison to the female heads.

There was a difference noted in the ownership of livestock between male and female headed households. More male headed households than female headed households owned cattle, sheep, horses and ostriches. When it came to ownership of poultry and game the pattern was quite different, more female headed households than the male ones owned poultry and game. A few of the households reported that they had planted any crops during the agricultural season. More male headed households planted sweet reeds and maize in comparison to the female headed households. On the other hand more female headed households planted millet, sorghum and beans/pulses as compared to those households headed by males. Male headed households planted crops from which they could gain more from selling. When it comes to the acquisition of planting land male headed households have an upper hand in all modes of acquisition of land and in particular land acquired through leasing and TGLP

Despite the fact that most households, both male headed and female headed household members reported as having received no cash from any of the household activities that they were engaged in, members in male heads of household tend to be involved in more lucrative activities than the female heads. For instance most members of female headed households reported as having received cash from activities like the sale of beer or clothes members belonging to male headed households were engaged in craftwork which is more lucrative and stable.

More female headed households reported as having received remittances from both inside and outside Botswana, pension, rent, maintenance, destitute allowance, government rations than the male headed households. This could be an indication of the vulnerability of female headed households as they have depended on remittances, maintenance, and destitute allowance as a source of cash. Whereas more male headed households reported as having received cash from employment than the female headed households. Employment is a more reliable and consistent source of cash. Other source of cash included sale of agriculture produce such as livestock, maize, sorghum, fruits and vegetables. Male headed households seem to benefit more from the sale of livestock and commercial crops like maize and sorghum. Whereas female headed households tend to benefit from the sale of produce such as fruits, vegetables and phane. Most of which like phane are seasonal.

Although a majority of the household heads that is both males and females reported that the housing unit that they occupied had been self-built, they were more female headed households who resided in donated accommodation as compared to male headed households. When it came to comparing the ownership of ICT equipment in working condition along gender lines members in male headed households had more ICT equipment than those members who belonged to female headed households. More members in male headed households owned desktop computer, laptop and radio in comparison to those members who belonged to female headed households. They were more members in households headed by females in contrast to those headed by males who owned telephone landline and TV.

Based on the 2011 data male heads and their households seem to fare much better in comparison to their female counterparts and the households they headed. The analysis of the data shows that female headed households are more vulnerable than those headed by males. Females tend to head larger households compared to males. The proportion of households is larger female heads as compared to male headship as the household sizes increases. Male heads have attained better education qualifications resulting in a greater number of them economically active in comparison to the female heads. More male headed households than the female headed households reported as having received cash from employment which is a more reliable and consistent source of cash. When it came to receiving cash from the activities that household were engaged in, members in male heads of household tend to be involved in more lucrative activities than the female heads. In turn the more male headed households reported ownership of profitable livestock like cattle, sheep and horses. In comparison more female headed households than the male headed ones owned livestock like poultry.

However, further analysis is necessary in order to reach a conclusion as to the extent of their vulnerability. It is also important to draw upon other surveys as a basis of comparison. What should also be examined is the impact of the different government policies and programmes which have been implemented in order to address issues of poverty and gender inequalities and yet the gaps between male and female headed households still continue to persist. Based on this analysis one can also conclude that the household is a more effective unit of analysis as evidenced from the reliable and consistent data that has been produced across all the censuses and surveys conducted over the years.

REFERENCES

Chant, S. 1997. *Women-Headed Households; Diversity and Dynamics in the Developing World*. London: Macmillan Press.

Central Statistics Office, 2011. *2011 Population and Housing Census Enumerators Manual* CSO: Gaborone

Central Statistics Office, 1994. *1991 Population and Housing Census: Selected Demographic and Socio-Economic Indicators – National Summary Data by Districts* CSO: Gaborone

Datta, K. et al. 2000. *Beyond Inequalities; Women in Botswana*. *Ditshwanelo, The Botswana Centre for Human Rights*: Gaborone.

McC. Netting, R. et al 1984. "Households: Changing Forms and Functions", in R. McC. Netting, R. R. Wilk, E. J. Arnould (eds.) *Households: Comparative and Historical Studies of the Domestic Group*, Berkely: University of California Press, pp. 1-28.

Ministry of Finance. 1997. *National Population Policy*. Government Printers: Gaborone

O'Laughling, B. 1998. "Missing Men? The Debate Over Rural Poverty and Women-Headed Households in Southern Africa", *Journal of Population Studies*, 125 (2).

UNDP. 1997. *Human Development Reports 1993 and 1997*. Oxford University Press: New York.

UNICEF Botswana Country Office, 2012. *2011 Annual Report*. www.unicef.org/botswana/BCO Retrieved 20th January, 2013.

Vision 2016. *Long Term Vision for Botswana: Towards Prosperity For All*.

HOUSING SITUATION IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS PERSPECTIVES

By Dr. Ravendra Singh, UNDP & Statistics Botswana
Dr. V. K. Dwivedi, University of Botswana

Abstract: Shelter is the basic human requirement that needs to be met on priority basis. It is much broader concept than housing. Investments in shelter not only improve and expand the available stock of housing units, but also improve both the working and living environment. The recognition of this fact has led to the Government of Botswana putting in place policy programmes aimed at improving housing situation among Botswana in general and individuals in particular. There has been significant decline in the proportion of traditional type of housing over time, which is now about 13 percent in 2011 to about 64 percent during 1991 census. There has also been an increase in the proportion of own occupier housing units over the years. However, in the urban areas, the proportion of households living in individual rental is also increasing over the years. In terms of housing conditions, the data show that there has been an improvement in the type of housing in Botswana. Furthermore, durable types of materials of construction are being used. While these findings are general indicators of housing conditions they are indicative of the quality of housing in Botswana.

1.0 Introduction

Human beings have a right to basic needs that enable them to live a decent life. Housing is one of the basic needs of all human beings. The Universal Declaration of Human Rights states: "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care, and necessary social services." Other international declarations on the implementation of housing rights include emphasis on the physical structure such as the provision of drinking water, sanitation facilities, access to credit, land and building material as well as de-jure recognition of security of the tenure and other related issues. The United Nations Centre for Human Settlements (UNCHS) uses a broader term "Settlement conditions" because it extends to all those components of the physical environment with which an individual or a community comes into contact and which are used on a regular basis for a whole range of human activities - the individual dwelling and its related services, the dwelling's immediate surroundings, community facilities, transportation and communications network and so on. The National Housing Policy of Botswana, as advocated by the Global Shelter Strategy, seeks to facilitate provision of affordable shelter for all by creating an enabling environment for housing by State public agencies. The basic needs like Food, clothing and housing are required in that order for fulfilling the aspirations of the people.

For many years, the housing environment has been acknowledged as one of the main settings that affect human health. Living and housing conditions are the basis of many factors influencing residential health. The Scottish Office (2001) found a high correlation between poor housing and ill health especially in children. The survey also found that overcrowding causes depression. It also found that anxiety increases with an increase in housing problems. The quality of housing conditions plays a decisive role in the health status of the residents. Many health problems are either directly or indirectly related to the building itself, because of the construction materials that were used and the equipment installed, or the size or design of the individual dwellings.

The 2011 population census of Botswana collected detailed information on housing characteristics in the country. In the 2011 population census, a housing unit is defined as a fixed place of abode for habitation by one household. For every household occupying a housing unit, information related to the type of structure, material used in construction of the roof, wall and floor, etc. was collected in addition to household level amenities such as source of energy, source of water and sanitation facilities, etc.

Housing structures in Botswana have undergone a lot of changes. There seem to be a general move from typical traditional structures to more modern ones. While Botswana still maintain three residences, the village, lands area and cattle post, the units in villages (the core of the three residences) are being transformed into urban types. Furthermore, settlements like cattle post and lands, which were previously settled on seasonal basis, are being settled permanently. This has led to improved housing units in these localities. The

improvement is more visible in the quality of housing units as a result of use of more durable materials as compared to traditional thatch roofs and hand mould mud bricks walls. As modern housing is more expensive than the traditional one, the accessibility of this type of housing depends on affordability by the household. The demand of housing increases with growth of population, rapid pace of industrialisation and urbanisation. Housing situation and provision in Botswana can be looked at from privately developed housing to institutions that provide housing to individuals and/or employees. Among these are the following: the government that provides pool housing to employees, Botswana Housing Corporation (BHC), a parastatal that is responsible for building houses for government in urban areas and allocating houses to individuals and district councils. The increased demand on BHC housing has resulted in the corporation changing its policy from renting out units to building and selling of the houses with a view of trying to meet the demand. This was also necessitated by the realisation that not every person who was a wait-listed for BHC housing was actually in need of accommodation. The money raised from the sales of the houses by BHC is ploughed back into building new houses. The void in renting out units left by the corporation is being filled by the private sector. Unfortunately, many private landlords are mainly in the housing business for the money, so they may not provide the best accommodation they can afford, as BHC would. The other point is that the private sector rentals are driven by the supply and demand of the housing units in the market, while BHC has been more of a service provider as opposed to profit making. This makes rented accommodation in the private sector more expensive than what BHC would charge.

Apart from the institutions, whose mandate is to provide housing, there are other institutions that facilitate acquisition of houses by individuals. These institutions are- Attorney General's Chambers that issues title deeds to land and houses, Self Help Housing Agency (SHHA) that manages land for low income housing in urban areas, and Land boards that are responsible for leasing land in rural areas. There are also other government departments that are responsible for cadastral surveying, demarcating and allocating residential plots in urban areas. In terms of housing finance, banks provide mortgages and SHHA gives loans for basic housing materials to those who qualify for the scheme.

1.1 Objectives:

The paper is aimed at the following objectives:

- i. To analyse distribution of housing units across districts of Botswana
- ii. To classify availability of housing at the 2011 population census.
- iii. To analyse housing tenancy.
- iv. To analyse the material commonly used in the construction of houses and changes in the construction material over time
- v. To compare the housing situation at the three population censuses, 1991, 2001 and 2011.

2.0 Policies on Housing in Botswana

Inadequacy of basic shelter is one of the major problems faced by many Batswana today. Consequently, there are enormous challenges in the Housing sector to develop initiatives to address the problems associated with poor living conditions. A country's housing situation is the by-product of household socio-economic conditions (including household income, property and assets) and government habitat policies and programmes. Success in improving housing conditions can be limited because policymakers often limit their efforts to housing policies and programmes and do not look at the whole picture, particularly key drivers like socio-economic conditions. Housing contributes to the socio-economic development of a society. The Government of Botswana is concerned with housing issues especially those in the low-income category. Recognising the importance of housing in improving the quality of life, the Government adopted a housing policy in 1982, following a white paper on housing. This policy elevated the status of the housing sector and laid the foundation for the formation of a Department of Housing to oversee implementation of the national policy. This housing policy was reviewed in 1997 and the current housing policy was adopted in 1999 on the basis of this review. Through the National Housing Policy 2000, the Government of Botswana commits itself to addressing housing needs of the population at large. The main goal of this policy is to provide decent and affordable housing for all with a safe and sanitary environment with the following four main objectives:

- To change the emphasis of the government from home provision to facilitation in partnership with other stake holders;
- To channel more government resources to low and middle lower income housing in both urban and rural areas;
- To promote housing as an instrument for economic empowerment and poverty alleviation;
- To foster a spirit of partnership with the private sector and all major employers in housing

development and facilitating home ownership by individuals.

The thrust of the Policy is to facilitate provision of houses in partnership with stakeholders through more Government resources to low and middle lower income housing and promote housing as an instrument for economic empowerment and poverty alleviation. The policy endeavors to ensure access to safe and sanitary housing as well as increasing the number of citizen owned housing. The strategy set by the policy is to create conducive policy environment to facilitate public, private and community participation in the provision of affordable quality housing. The policy addresses key elements of the housing sector including institutional capacity building, land, finance, subsidies, rentals, housing standards, building materials, housing legislation, Self Help Housing Agency (SHHA), District Housing, Botswana Housing Corporation (BHC) and private sector participation.

The Vision 2016 (1997) also stresses the importance of housing in the development of Botswana. The Vision envisages that all citizens of Botswana would have access to adequate shelter, including privacy, space, security, lighting and ventilation, and basic infrastructure at a reasonable cost in relation to income. It recognizes that not every person in the country would achieve the target on their own, and therefore pledges that where necessary subsidies will be instituted to make sure that a large proportion of the population has access to adequate housing. The challenge for Botswana is to enable all citizens to have access to adequate shelter, including privacy, space, security, lighting and ventilation and basic infrastructure at a reasonable cost in relation to incomes. The challenge is also there to plan for increasing Urbanisation, and to provide the necessary housing and amenities.

3.0 Results and Discussions

3.1 Distribution of Housing Units by Type of Housing during 1991, 2001 and 2011

In Botswana, the types of housing units vary within the same locality and among localities. There are also regional variations in the types of units. The variations in the type of housing units within localities can be explained in terms of affordability of the materials by households while in most cases variations among regions could be explained by the availability of materials of construction. At the 2011 population census, all housing units were classified into one of the following classes:

- a. **Traditional (lolwapa)**: This comprises of one or more huts and/or other fractures which are usually fenced together or are in one yard even if it may not have a physical fence. The walls of the hut are usually made of handmade mould mud bricks while the roof is usually thatch.
- b. **Detached House**: The building that stands alone without sharing a wall with any other building. A traditional house is not classified as a detached house even if it stands alone.
- c. **Semi-detached House**: A housing unit that shares a wall with another housing unit
- d. **Town House**: A group of units sharing walls on two sides but each having its own entrance. It has two or three storeys.
- e. **Mixed House**: A housing unit is classified as mixed if there are both traditional and modern structures within the yard occupied by one household. When the two units are occupied by two separate households, one traditional and the other modern, units are classified as traditional and modern.
- f. **Flat**: A housing unit in two or more storeyed building and the unit is just one of the storeys
- g. **Part of Commercial Building**: A residential unit which forms part of a commercial building
- h. **Shack**: A temporary structure built of packing material
- i. **Moveable**: A housing unit that can be moved from place to place as a unit or in parts
- j. **Room**: Rooms in a building that are sublet to tenants
- k. **Dwelling**: A place of residence which can be divided into dwelling rooms by means of walls

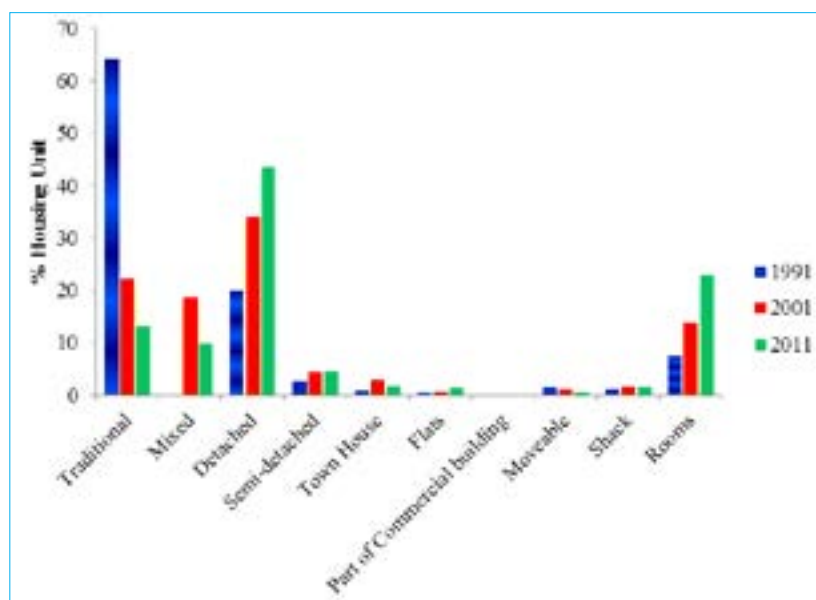
Table 1 gives percent distribution of housing unit in Botswana according to the above classification at 1991, 2001 and 2011 population censuses. There has been a shift from traditional to modern housing units in the country during the 20 years under reference. The proportion of traditional housing units decreased from 64 percent to 13 percent between 1991 and 2011. Most of this decrease occurred during 1991-2001. The distribution shows that the common type of housing unit in 1991 was the traditional type with 64.04 percent, followed by the detached type, which made up 20.06 percent. Rooms also contributed to the proportion of housing units with 7.54 percent of households. By 2011, traditional housing had lost its prominence. It contributed only

13.2 percent of the total housing. The decline in the proportion of traditional housing units between 1991 and 2001 was quite large compared to decline between 2001 & 2011. There are however, increase in the number of households occupying detached type-housing units from 20.06 percent in 1991 to 34.08 percent in 2001 and subsequently to 43.4 percent in 2011. Similarly, proportion of rooms increased from around 8 percent in 1991 to 14 percent in 2001 and 23 percent in 2011. This shows the emergence of shared housing units out of necessity, mainly used for rental purposes.

Table 29: Percent distribution of housing units by housing type 1991, 2001 and 2011 Censuses

Type of Housing	1991	2001	2011
Traditional	64.04	22.17	13.2
Mixed	-	18.65	10.0
Detached	20.06	34.08	43.4
Semi-detached	2.7	4.43	4.6
Town House	1.02	2.84	1.9
Flats	0.47	0.85	1.5
Part of Commercial building	0.07	0.2	0.1
Moveable	1.53	1.24	0.7
Shack	1.12	1.7	1.7
Rooms	7.54	13.81	22.9
Shared	-	0.2	-
other	0.93	0.01	-
Not stated	-	0.23	-
Total	100.00	100.00	100.00
Number of housing units	276,209	404,706	550,946

Figure 1: Percent distribution of housing units by housing type 1991, 2001 and 2011 Censuses



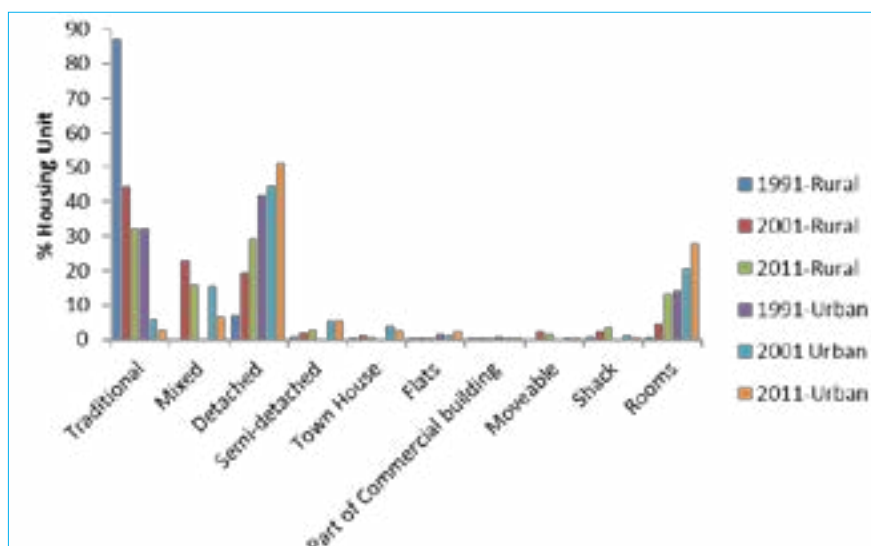
3.2 Distribution of Housing Units in Rural and Urban Areas by Type of Housing

The decrease in the proportion of traditional housing units is also very much visible in rural and urban areas. In the rural areas, proportion of traditional housing units decreased from 87 percent in 1991 to 32 percent in 2011. In the urban areas, this proportion decreased from 32 percent in 1991 to just around 3 percent in 2011. Another important observation of table 2 is that rooms as a housing unit increased from 0.6 percent in 1991 to more than 13 percent in 2011 reflecting an increasing trend towards shared housing. The proportion of detached houses also increased significantly from 7 percent to more than 29 percent in the rural areas during the period under reference. While information on mixed type of housing unit was not collected during the 1991 census, by 2001 this type of unit was 23 percent, which has now reduced to 16 percent in 2011. For urban areas, the most common type of housing unit is the detached type, which accounts for 51 percent. This is followed by rooms with 28 percent. The least common is the one that is part on the commercial building with 0.10 percent. While in 1991 a substantial proportion (32 percent) of housing units were still the traditional type in urban areas, by 2011 only a small proportion i.e. 3 percent fell under this category. Rooms are also an emerging type of housing units, which are steadily increasing apart from detached houses.

Table 30: Percent distribution of housing units by housing type 1991, 2001 and 2011 Censuses

Type of Housing	Rural			Urban		
	1991	2001	2011	1991	2001	2011
Traditional	87.00	44.51	32.15	32.3	5.99	2.93
Mixed	-	22.90	16.13	-	15.56	6.69
Detached	7.3	19.30	29.32	41.7	44.78	51.01
Semi-detached	0.9	2.14	3.02	-	5.4	5.41
Town House	0.2	1.42	0.70	-	3.86	2.59
Flats	0.08	0.08	0.17	1.80	1.41	2.27
Part of Commercial building	0.1	0.17	0.22	0.9	0.22	0.10
Moveable		2.25	1.6	-	0.51	0.22
Shack	1.0	2.28	3.5	-	1.28	0.68
Rooms	0.6	4.55	13.18	14.2	20.52	28.1
Shared	-	0.17	-	-	0.22	-
other	-	0.01	-	-	0	-
Not stated	-	0.00	-	-	0.24	-
Total	100.00	100.00	100.00	100.00	100.00	100.00
Number of housing units	135,326	209,474	193,379	140,883	195,232	357,567

Figure 13: Percent Distribution of housing in rural and urban areas by housing type, 1991, 2001 and 2011 Censuses



For administrative purposes, Botswana is divided into 16 districts – 7 urban and 9 rural. Table 3 gives the classification of housing units at the district level at the 2011 population census. In the urban districts, about four-fifth of the housing units were either detached or rooms at the 2011 population census. The only exception to this pattern is Jwaneng district where detached housing and rooms constitute less than 70 percent of the total housing units at the 2011 population census. In the rural districts, on the other hand, traditional and mixed housing units are still common in Central and North-west districts. In these districts more than 40 percent of the housing units were either traditional or mixed at the 2011 census. By comparison, detached housing units appear to be more common. The Table shows that in all the urban districts of Gaborone, Francistown, Lobatse, Selebi-Phikwe, Orapa, Jwaneng and Sowa, the detached housing units are common with the proportion of such units ranging from 43 percent in Selebi-Phikwe to 83.7 percent in Sowa. The second most common type of housing units in urban districts is rooms. The only urban district that does not have a high proportion of rooms as housing units is Orapa (5.6 percent) & Sowa (4.6 percent). This may be because Orapa's main economic activity is mining and the mining company provides housing to all employees, while in case of Sowa, most of the people (84 percent) have the detached houses. Furthermore, movement into Orapa is restricted to people who have some business with the town. Individuals do not just migrate into the area like they would in other towns like Gaborone. Therefore, occupying one or two rooms would not be an option for a large number of people working in Orapa most of whom work for the mining company.

For the other districts, which are mainly rural in nature, the common type of housing units are the traditional, mixed and detached in that order. Detached housing is especially common in Southern (55.2 percent), Kgatleng (61 percent) and South East (53.6 percent) districts. These districts house some of the large villages, which have been classified as urban, and are in close proximity to Gaborone. A substantial number of workers in Gaborone find it necessary as a result of shortage and cost of accommodation to commute from these villages. To be able to attract tenants and to compete effectively with residential areas in Gaborone, the landlords build urban-type of housing. Finally, in all districts - rural or urban - Rooms are emerging as the alternative to detached housing.

Table 31: Percent Distribution of Housing Units within Administrative Districts by Type, 2011

District	Type of housing unit										Total housing units
	Traditional	Mixed	Detached	Semi-detached	Town House/Terraced	Flats, Apartment	Part of Commercial building	Movable	Shack	Rooms	
URBAN											
Gaborone	0.2	1.2	49	4.9	5.1	6.7	0.1	0.1	0.6	32	74963
Francistown	0.2	0.8	47.8	4.8	3.1	2.6	0	0.2	0.3	40.1	31298
Lobatse	0.5	1.3	51.6	6.5	1.5	3.5	0.1	0	0.6	34.4	9214
Selebi_Phikwe	0.7	1.9	42.8	9.5	2	1.6	0.2	0.1	0.1	41.2	16059
Orapa	0.1	0.1	73.7	13.5	1.1	4.8	0.5	0.7	0	5.6	3292
Jwaneng	0.1	0.1	53.5	8.9	9.9	2.2	0.1	0.8	9.3	15.2	5940
Sowa Town	1.5	0.4	83.7	1.5	2.8	0	0.7	4.5	0.3	4.6	1191
RURAL											
Southern	14.7	9.9	55.2	3.7	1	0.6	0.1	0.7	3.6	10.6	48794
South East	2.2	3.8	53.6	7.2	2.6	1.4	0.2	0.3	1.4	27.4	23993
Kweneng	13.6	11.3	44	4.3	1.3	0.5	0.1	0.4	1.6	23.1	80560
Kgatlang	6.7	6.7	61	5	1.2	0.2	0.3	0.6	3	15.5	24917
Central	22.2	16.7	34.9	3.7	1	0.2	0.2	0.9	1.4	18.8	147603
North East	10.2	27	37.3	4	1.5	0.2	0.1	0.8	0.8	18.1	15865
North West	29.3	13.1	25.5	4	1.1	0.5	0.2	1.8	1.1	23.3	42384
Ghanzi	23.3	9.7	36.6	3.9	0.2	0.2	0	1.4	6.9	17.7	11375
Kgalagadi	18.2	10.5	47.4	4.2	0.4	0.1	0.1	2.1	3.1	13.9	13498
Total	13.2	10	43.4	4.6	1.9	1.5	0.1	0.7	1.7	22.9	550946

3.3 Number of Rooms

Number of rooms in a housing unit is an indicator of the size of the housing unit as well as quality of life pertaining to various households. In a traditional structure a hut in a lolwapa usually has a single room. If there is more than one hut in a lolwapa occupied by a single household, each hut is treated as a room. Therefore, the number of rooms in such a situation is equal to the number of huts. Figure 3 shows that almost two-third of the housing units were small having 1-2 rooms at the 2011 population census. Moreover, majority of the housing units were small irrespective of the type of housing units. On the other hand, a very small proportion of housing units were having five or more rooms. In general, the proportion of households decreases with an increase in the size of a housing unit. Of the total 550,741 households, a large number (37.07 percent) of units were of the one room type. Housing units with two rooms accounted for 25.43 percent of all the units. Only about 7 percent of households were occupying housing units with five rooms or more.

Figure 14: Percent type of housing units by number of rooms, 2011 Census

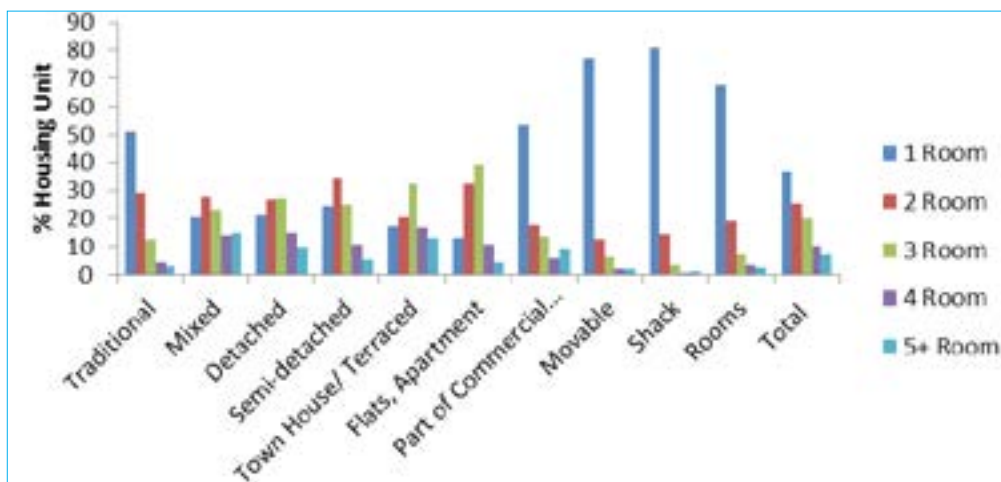


Table 4 presents the size of housing units by type with the number of rooms. The table shows that within each type of housing unit, most of the structures are smaller with three rooms or less. The smallest size is the shacks (81 percent) then movables (77 percent), and rooms with 68%. The types of units, which have more than five rooms, are mixed, town-houses, detached, semi-detached and Part of Commercial building. However, even within these categories the proportion of units with more than five rooms is small.

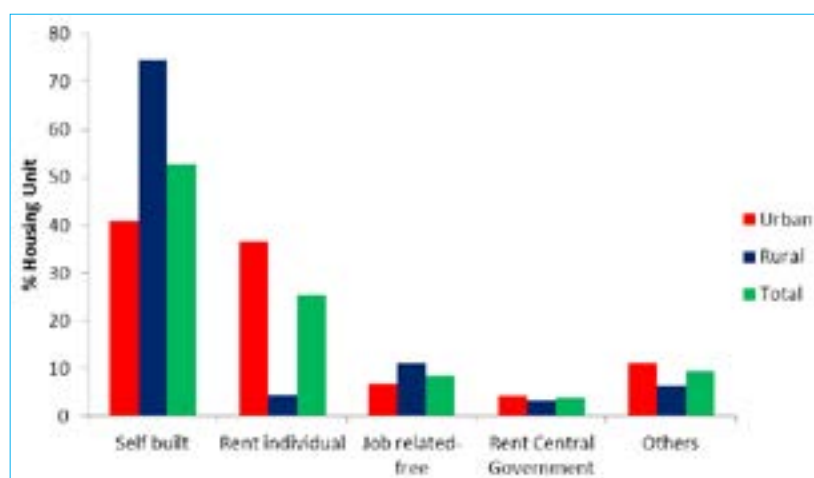
Table 32: Percent type of housing units by number of rooms, 2011 Census

House Type	No rooms	1 Room	2 Rooms	3 Rooms	4 Rooms	5 Rooms	6 Rooms	7+ Rooms	Total housing units
Traditional	0.02	51.01	29.01	12.7	4.45	1.51	0.58	0.72	72,604
Mixed	0.02	20.18	27.53	23.04	14.15	7.46	3.78	3.85	55,094
Detached	0.03	21.18	26.82	27.13	15.1	5.41	2.37	1.97	239,014
Semi-detached	0.02	24.74	34.7	24.75	10.55	2.67	1.31	1.25	25,184
Town House/ Terraced	0.07	17.36	20.54	32.39	16.75	6.92	2.71	3.28	10,625
Flats, Apartment	0.01	13.03	32.24	39.32	10.86	2.44	1.18	0.92	8,444
Part of Commercial building	0.00	53.54	17.42	13.64	5.81	3.41	1.77	4.42	792
Movable	0.03	77.36	12.38	6.24	1.97	0.96	0.26	0.8	3,861
Shack	0.03	80.72	14.23	3.24	0.82	0.37	0.13	0.46	9,197
Rooms	0.01	67.79	19.18	7.14	3.21	1.37	0.63	0.67	125,926
Total	0.02	37.07	25.43	19.86	10.3	3.92	1.76	1.64	550,741

3.4 Housing Units Tenure

Housing tenure refers how the unit is acquired. Figure 4 shows that more than half of the households stayed in their own housing units followed by rented housing units, which they built themselves. The number of households that rent from individuals follows this. Renting from BHC and the council, the two institutions that are mandated to provide housing contributes only 1.12 and 0.65 percent respectively. While purchasing of a housing unit does not seem to very common, it can be seen as a major impact of sale of houses by BHC.

Figure 15: Percentage of housing units by Housing Tenure and type of residence, 2011 Census



There is a clear rural-urban difference in the tenancy status of housing units. In the rural areas, almost four-fifth of the housing units were self-built whereas in the urban areas, self-built housing units were only about 40 percent of the total housing units enumerated at the 2011 population census. On the other hand, rented units accounted for more than 36 percent of the total housing units in the urban areas, whereas this proportion was less than 5 percent in the rural areas. In fact, these two types of tenancy status accounted for more than 78 percent of the total housing units in the country. Remaining type of tenancy units accounted for less than 22 percent of the housing units. Renting a housing unit in rural areas seems not to be common as it contributed less than 10 percent of the housing units occupied. Individuals were the main providers of rented accommodation in rural areas. Those who purchased their housing units accounted for only 0.41 percent. This may be a result of free access to land in rural areas. On the other hand, urban areas portray a slightly different picture in that a large (47.23 percent) of the households occupying a housing unit through renting them. Those who had built their own housing units are equally at 40.98 percent. As is the case with rural areas, individual landlords were the main providers of rented housing in urban areas also. On analysis of district data, it is also found that in four urban districts viz. Gaborone, Francistown, Lobatse and Selebi-Phikwe, over 50% of the households are living in the rental housing provided by individual house-owners.

Comparison of males and females housing unit tenure-ship shows that of the total 216,574 units occupied by female-headed households, 57.03 percent were owner occupied. For the males of the total 218,007 those occupied by owners, were relatively fewer at 50.29 percent.

Table 33: Percentage of housing units by Housing Tenure and type of residence, 2011 Census

Housing Tenure	Urban	Rural	Total
Self built	40.98	74.48	52.74
Rent individual	36.57	4.46	25.3
Rent Central Government	4.28	3.36	3.96
Free: Inheritance	2.2	1.88	2.08
Purchased	2.16	0.41	1.54
Rent: Company	2.85	0.38	1.99
Rent: BHC	1.72	0.01	1.12
Rent: Local institution	1.44	1.27	1.38
Rent: VDC	0.37	1.17	0.65
Donated	0.28	1.01	0.54
Do not know	0.23	0.39	0.29
Housing Units	357567	193378	550945

3.5 Housing by Material of Construction

The material used in the construction of the housing unit reflects its quality. This quality can be assessed using the materials used for the construction of floors, roofs and walls for housing unit. Good quality materials of construction are good for the safety and health of occupiers. However, decision on what material to use may not be option for the low-income households. In Botswana, Development Control Code and Building Regulations, 1983 (amended from time to time) regulate the material used in the construction of new houses. As a result more and more houses in urban areas use the modern type of materials. For rural areas, the types of materials used differ significantly and become more traditional with an increase with the distance from major towns.

Among the material regarded as quality for housing units are corrugated iron, concrete, slates, tiles, wood and treated thatch. Asbestos, which used to be common in the past, is currently viewed as a health hazard because it is associated with illnesses like tuberculosis. As a result not many houses built in recent years use asbestos. However, there are still some buildings constructed earlier.

Information available from the 2011 population census suggests that in almost 87 percent of the housing units in the country, the floor of the housing units was cemented while about 10 percent of the housing units had mud and dung floor. Moreover, since 1991, there is a significant increase in the proportion of housing units having cemented floor while proportion of housing units having mud and dung floor has decreased almost in the same proportion. The proportions indicate the floors of most housing units are more durable, and there is a substantial increase in cement flooring from the traditional type of floor composed of mud and dung. This type of floor contributes only 10.4% of the total materials used for the floors.

Table 6 presents the material of construction for 2011, 2001 and 1991. As with the type of housing, the table shows that there has been a general improvement in the quality of materials used especially for floor and roof. More durable floors and walls are becoming common.

Table 34: Percent housing unit by material of construction (floor and roof); 1991, 2001 and 2011 Censuses

Material of construction	1991	2001	2011
Floor			
Cement	57.7	78.16	86.9
Mud	35.9	18.01	10.4
Others	6.4	3.83	2.7
Roof			
Corrugated Iron	49.6	68.88	86.4
Thatch	41.2	22	11.8
Others	9.2	9.12	1.8
Number of housing units	276209	4,04,706	5,50,946

Figure 16: Percent housing unit by material of construction of floor; 1991, 2001 and 2011 Censuses

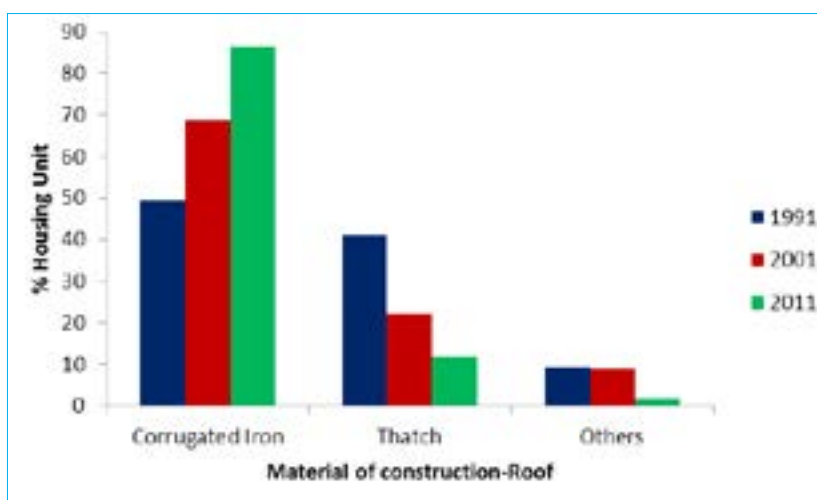
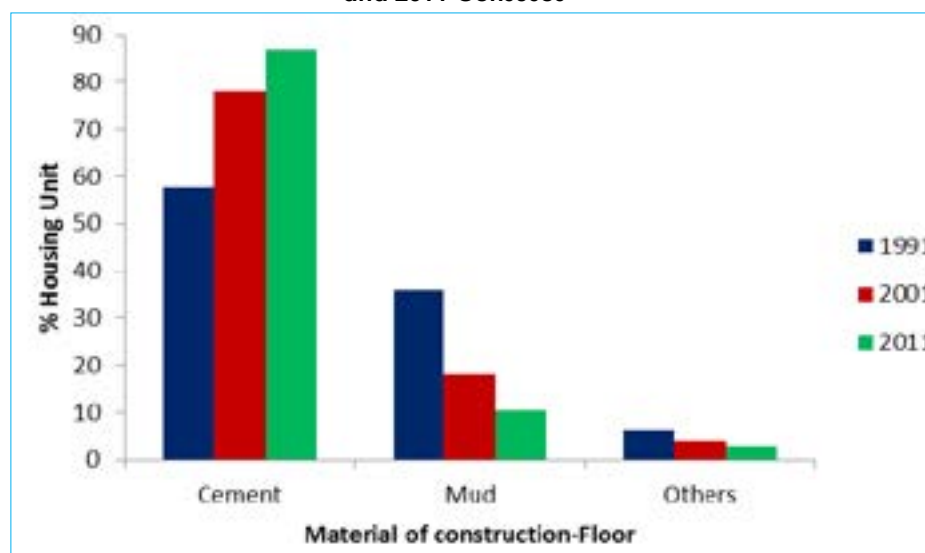


Figure 17: Percent housing unit by material of construction of roof; 1991, 2001 and 2011 Censuses



4.0 Summary and Conclusions

Information available from the 2011 population census reveals that there has been a significant change in the types of housing units in Botswana from traditional and mixed type of housing units to detached housing units and rooms. This change is particularly visible in the urban areas of the country. Moreover, the tenancy status has also changed over time with more and more housing units being owned by households in the rural areas and a clear trend towards individual renting in the urban areas. Similarly, data available through the 2011 population census suggest that there has also been a change in the material used in the construction of housing units leading to an improvement in the quality of housing. Majority of housing units in Botswana however remain small with 1-2 rooms in general. There are very few large housing units – units with at least five rooms. The main limitation of the results is that the actual number of the housing stock cannot be established from the results. As a result it is not possible to establish housing demands. The results show that there has been a general improvement in the quality of housing units in Botswana. This improvement is reflected in the decrease in the proportion of housing units classified as traditional type from 64 percent in 1991 to 22 percent in 2001 and 13 percent in 2011. On the other hand, there has been an increase in the proportion of more modern housing units. These are the detached and mixed housing units.

The rural and urban classification of housing units also reflects the same situation as at the national level. While in rural areas, the prominent type of housing unit remains the traditional type, there has been a large decrease in the proportion of households residing in the traditional type from 87 percent in 1991 to 44 percent in 2001 and further to 13.2 percent in 2011. The detached type of housing units increased to 43.4 percent in 2011 from 7 percent in 1991 and 19 percent in 2001. Rooms as a type of housing units were almost none existent in rural areas in 1991. By 2001 the proportion of households residing in rooms was almost 5 percent, which has now increased to 13 percent in 2011. While in the urban areas, the traditional houses are quite less (3 percent), while there has been substantial increase in the proportion of detached houses (51 percent) and Room (28 percent).

Distribution of housing units by type of unit and in terms of the number of rooms shows that the highest proportion of houses (37 percent) are of one room, followed by two room and three room houses. Most of the traditional houses are of one room type, while the semi-detached, town house, flats and detached houses have mostly two or three rooms.

Most Botswana stay in the units they built by themselves. About 53 percent of the people live in self-built homes. The BCWI Survey, 2009-10 also found that over 50% of the household were occupying self-built housing units. In terms of unit ownership, more female-headed households own the unit they resided in than males-headed households. For female-headed households, the proportion residing in their own housing units was 57 percent compared to 50 percent for males headed households. Further, there has been increase in households living in individually owned rented housing units during 2011 census, which is 25.30 percent overall, with 36.57 percent of the household living in rental housing units in Urban areas, whereas the rental households in the rural areas was just 4.46 percent. The corresponding position in the 2001 census was 31 percent in urban areas and just 3.40 percent in rural areas.

5.0 Policy Implications

The information collected on housing conditions during the population and housing census, 2011 are useful to monitor and evaluate the implementation of the policies and programmes of the Government especially on housing & land tenures, whether the targets set by the policy documents are being met.

In the urban areas of the country, renting of housing units by individual house owners seems to be common and appears to be gaining ground. Therefore, there is a need to formulate proper laws that should aim at protecting both the tenant and the house owners. At the same time, there is an urgent need to develop affordable housing units in the urban areas by the Government in partnership with private sector. Otherwise there is quite likely that the country will not be in position to achieve the goals of Vision 2016 and National Development Plan 10 to provide decent and affordable housing for all with a safe and sanitary environment.

The BHC has been established for the purpose of providing affordable housing but the proportion of houses provided by BHC has decreased from 4.60 percent in 2001 to 1.72 percent in 2011. In the four urban districts viz. Gaborone, Francistown, Lobatse and Selebi-Phikwe, where over 50% of the households are living in the rented houses provided by individual house-owners, BHC is required to increase its efforts for building more housing stock, which can be made available to citizen on easy terms in an affordable manner with financial support extended to by the financial institutions.

Botswana must further develop its housing infrastructure and provide support for the proper operation of the housing market so that good quality basic shelter is available to all. It is inevitable that this will require a level of subsidy that can be regarded as a social and economic investment by the state.

The land for agricultural development is very limited, therefore, while providing the land for residential housing, the Government should protect the agricultural land, as far as possible.

There is no information on the vacant houses, there is need to take stock of these together with those that are under construction. Those left for a long time without occupation should be assessed with a view of respective councils acquiring them.

Housing information is only collected on the housing units occupied by the households without identifying the adequacy of the units. There is, therefore, a need to have an estimate of the actual housing demands.

References

1. Botswana Government. 2003. *National Development Plan 9; 2003/04 - 2008/09*. Gaborone: Government Printers.
2. Botswana Government. 2002. *Revised National Policy For Rural Development* Gaborone: Government Printers.
3. Botswana Government. 1999. *National Housing policy*: Government Printers.
4. Botswana Government. 1997. *Vision 2016: Long Term Vision for Botswana*, Gaborone: Government Printers.
5. Botswana Government. 1997. *National Population Policy* Gaborone: Government Printers.
6. Botswana Government. 1997. *National Development Plan 8; 1997/98 - 2002/03*. Gaborone: Government Printers.
7. Botswana Government. 1994. "1991 Census of Population and Housing: Population Composition and Distribution". *Stats Brief*, 94 (3). Gaborone: Central Statistics Office.
8. Botswana Government. 2011. *National Development Plan 10; 2011/12 - 2016/17*. Gaborone: Government Printers.
9. Central Statistics Office. 1997. *1991 Population and Housing Census: Population Projections 1991-2021*. Gaborone: Government Printers.

10. Central Statistics Office. 1995. *1981 Population and Housing Census Dissemination Seminar*, May 1-4, 1995. Gaborone: Government Printers. Central Statistics Office. 1994. *Labour Statistics 1993/94*. Gaborone: Government Printers.
11. Central Statistics Office 1991a. *1991 Population and Housing Census: Technical/Administrative Report and National Statistical Tables*. Gaborone: Government Printers.
12. Mukamaambo, E.P., 2003. *2001 Population and Housing Census: Analysis of Housing Situation*
13. Scottish Office 2003. *Poor Housing and Ill Health: A summary of Research Evidence*, <http://www.Scotland.gov.uk/cru/document/poor-housing-03.htm>

ADULT MORTALITY LEVELS AND TRENDS IN BOTSWANA

By Rolang G. Majelantle
University of Botswana

Abstract: This paper uses the data from 2011 Population Census of Botswana to examine levels and trends in adult mortality in Botswana using information on the distribution of deaths and population by age. Estimates of mortality indicate that mortality levels in Botswana have gone down between 2001 and 2011 nationally and across all districts. The data also shows that gains in life expectancy favoured urban areas to rural areas. The gains in life expectancy gained in the 1980's and reversed in 2001 have been regained. The sex differentials in mortality are still observed.

Introduction

This Paper is based on the 2001 and 2011 Population Censuses data. The author recognizes the fact that both morbidity and mortality are influenced by socio-economic and health conditions that prevail at a particular time and have are influenced by National policies and intervention programmes.

Methods

The paper uses the number of deaths during the twelve months preceding the 2011 Population census. Life tables for the whole country, rural, urban area, Cities/towns and Urban Villages were constructed using the reported age specific death rates by gender. First the numbers of deaths were multiplied by 1.083 to adjust for the fact that the reference period used to collect deaths was 11 months as opposed to 12 months. It is assumed that the deaths taking place twelve months before the population census were accurately reported.

Overview of Mortality Trends and Levels

Botswana experienced declines in both mortality and fertility levels since the 1980's, from the mid 1990's the country started experiencing an increase in the level of mortality.

Between 1991 and 2001 the level of mortality went up mainly as a result of the increased number of deaths associated with HIV/AIDS epidemic. As a result of the introduction of free ARV's mortality declined over the intercensal period 2001 to 2011. This demographic change has resulted from socio-economic change and investment in public health and other social services by the government of Botswana.

The estimates from the recent population censuses indicate that the crude death rate declined from 13.7 in 1971 to 11.5 in 1991 and increased to 12.4 in 2001 (CSO, 2001) in declined to 6.35 in 2011. While infant mortality rate dropped from 97.1 infants per 100 live births in 1971 to 48.0 per 1000 live births in 1991 and increased to 56 per 1000 live births in 2001 and declined to a low level of 17.2 infants deaths per 1000 live births in 2011. The life tables constructed based on information on deaths during the 12 months preceding the survey shows that the probability that a one-year-old child will die before reaching age 5 has declined from 0.0358 in 1981 to 0.0160 in 1991 and increased to 0.039 in 2001 and declined again to 0.0281 in 2011. Life expectancy at birth (the average number of years a newly born baby would expect to live) has increased from 55.5 in 1971 to 56.5 in 1981 increased to 65.3 years in 1991, declined to 55.6 in 2001 and increased to a record high of 68 years in 2011.

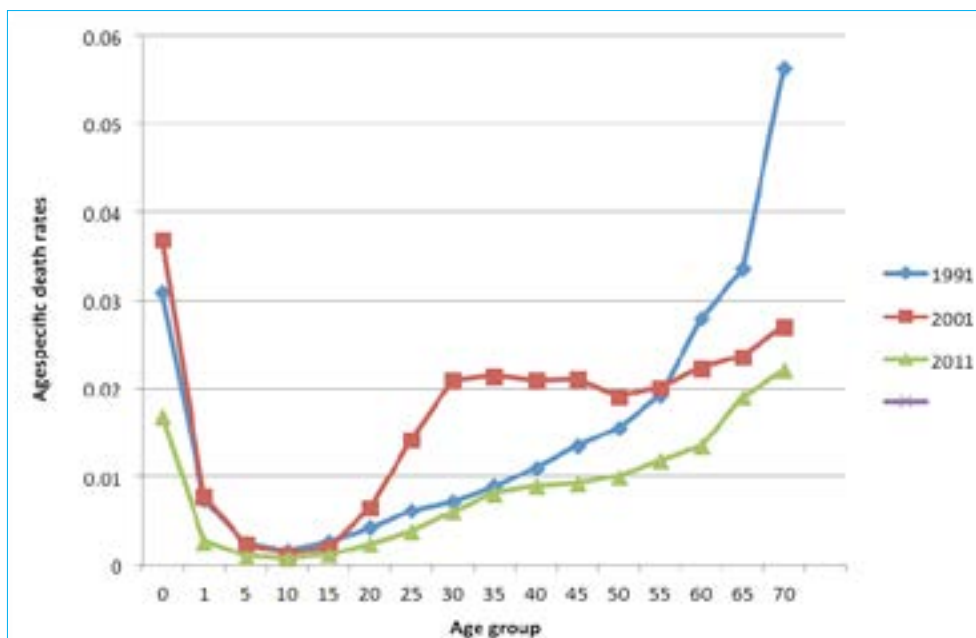
National Adult Mortality Patterns

The two main objectives of the 2010 Revised National Population Policy was to reduce AIDS deaths, infant, child and adult mortality, especially maternal mortality including high-risk pregnancies. The data from the 2011 Population Census indicates that the aforementioned objectives are been met.

Figure 1 below shows the age pattern of mortality by age calculated from the age distribution of deaths by age from the 1991, 2001 and 2011 Population Census of Botswana.

The age pattern of mortality shows that mortality during the first year of life was very high in 2001 compared to 1991 and 2011. There is very clear evidence that Infant mortality declined drastically over the period 2001 to 2011, this can be explained by the success of the National ARV and Prevention of Mother to Child Transmission Programmes. The gains in avoiding life wastage in infancy which were achieved in 1991 and reversed between 1991 and 2001 have been gained by 2011 and we are now experiencing the lowest Infant Mortality in the history of the country.

Figure1. Age Specific Death Rates Botswana: 1991; 2001; and 2011.



The age pattern of Mortality shows that the Epidemiological Transition in Botswana spear headed by HIV/ AIDS Epidemic have generally led to high mortality in the 1990's and the Introduction of free ARVS have contributed to mortality decline over the decade 2001 to 2011.

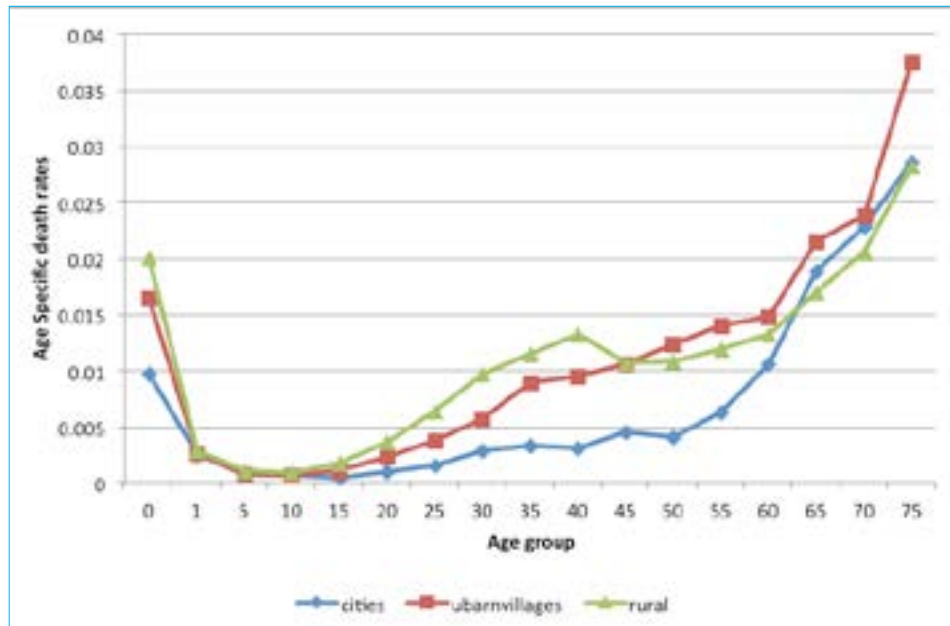
Figur1. Above shows that from age 15 to age 50 (highly sexually active population) mortality in 2001 was extremely high compared to both 1991 and 2011, which shows the impact of HIV/AIDS among persons in Childbearing ages in 2001 and the reduction in AIDS related deaths between 2001 and 2011 as per the objectives of the Revised National Population Policy. Generally mortality at all ages was reduced between 2001 and 2011.

Age Patterns of Mortality by Type of residence

The Age patterns of Mortality in 2011 differed by type of residence, namely Cities/Towns, Urban Villages and Rural. Generally speaking mortality is high in rural areas, followed by urban villages and very low in Cities and Towns. The age patter of mortality also differs by type of locality. The Rural areas shows relatively high Infant mortality (under 1 year) compared to urban villages and Cities and towns. Childhood mortality (ages 1 to 5 years) is almost the same for all three types of residence. During the childbearing ages (15 to 45 years) mortality in rural areas is very high followed by urban villages and very low in towns and cities. From age 50 the Urban Villages experienced the highest mortality compared to Rural and Cities and towns. From age 65 Cities have high morality than rural areas.

This finding clearly indicates that the Intervention programmes aimed at promoting population health and mortality had different impact on the aforementioned types of residence. The Rural areas did not gain as well as urban residence from the population health intervention programmes more especially the National ARV programmes.

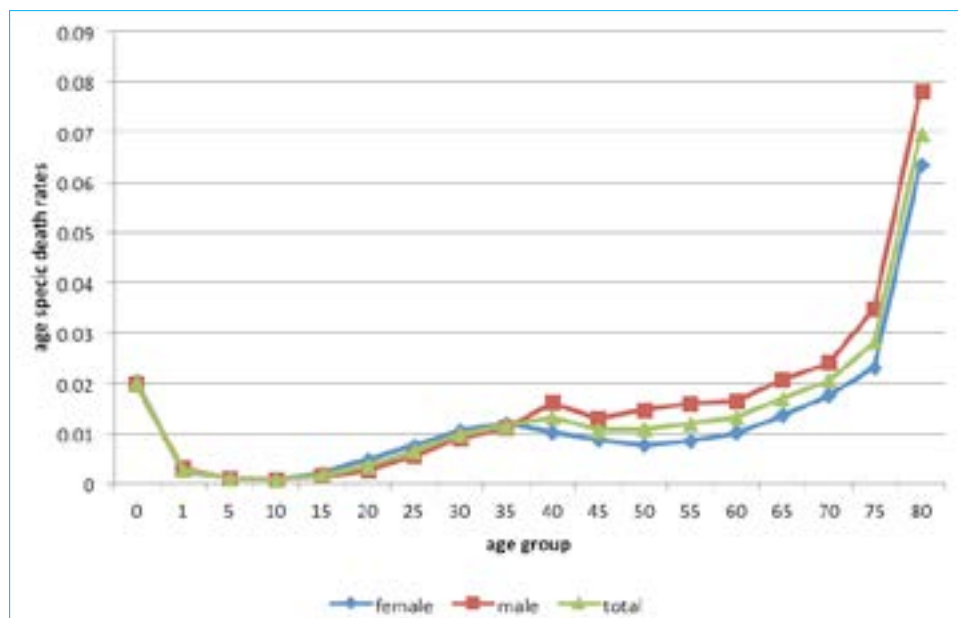
Figure 2. Age specific Death Rates for Cities/Towns, Urban Villages and Rural Areas Botswana 2011.



The data on the Distribution of deaths by age in 2011 shows that levels of mortality between males and females are almost identical up to age 35 with males experiencing slightly high mortality before age 15. Between age 15 and age 35 females experienced slightly higher mortality which can be explained by either high maternal mortality associated with HIV/AIDS.

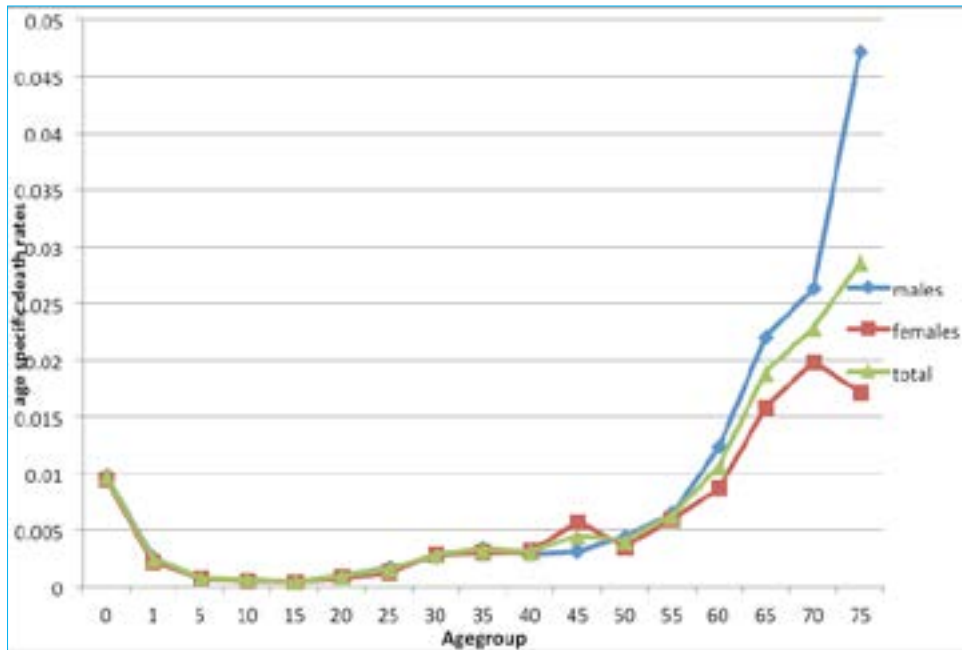
From age 35 men experience relatively high mortality than women. The gender differentials in mortality at ages above 35 can be explained by unusually high incidence of Tuberculosis among men and high rates of road accidents and differentials in health seeking behaviors between men and women. The high incidence of Tuberculosis among men in Botswana is not new; the HIV/AIDS epidemic has made the situation worse.

Figure 3. Age Specific Death Rates Botswana 2011



The sex differentials in the age pattern of mortality are more pronounced when we disaggregate the data by type of residence (see Figures 4 to 6)

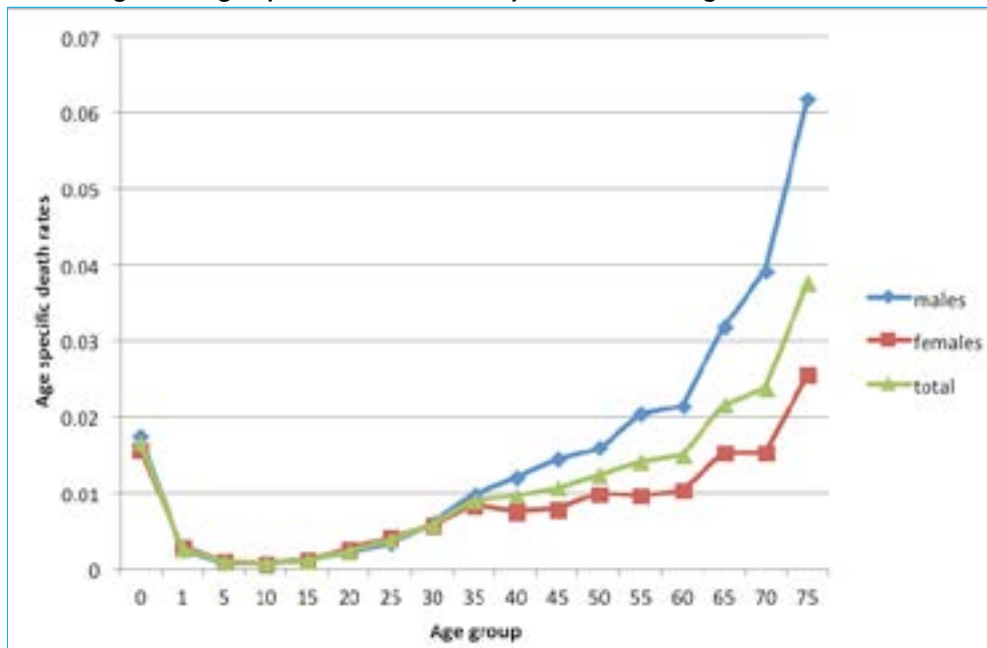
Figure 4. Age Specific Death Rates by Sex in Cities and Towns 2011



In cities and towns there are no gender differentials in mortality by age up to age 40. Between ages 40 and 50 females' experienced higher mortality and from age 55 males mortality is high compared to that of females.

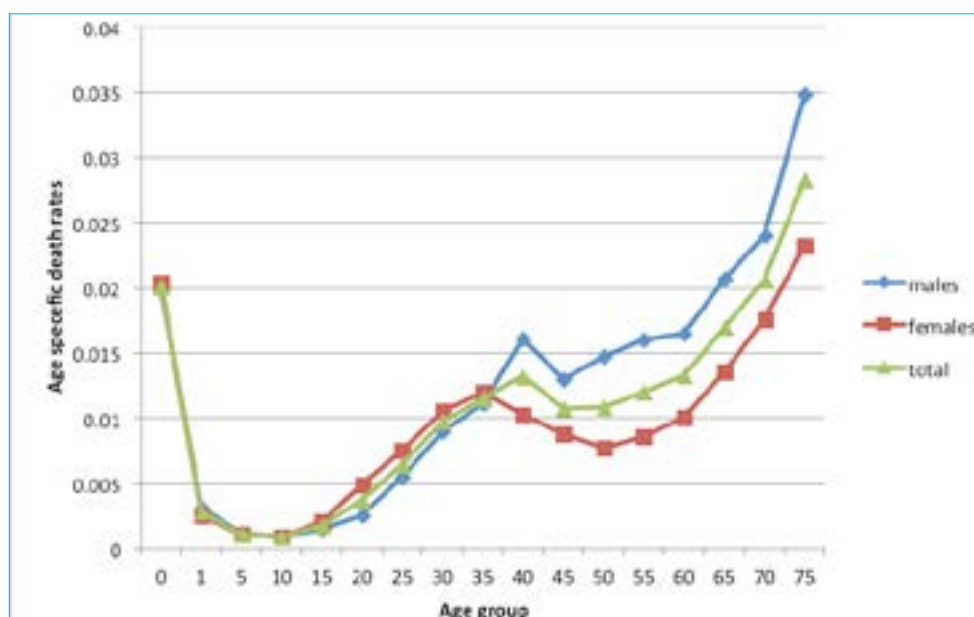
The sex differential in urban villages is slightly different from that of Cities and Towns. (See figure 4 below). There is very little mortality differentials below age 35 and after age 35 males shows high mortality compared to females.

Figure 5. Age Specific Death rates by sex Urban Villages 2011



For the Rural areas (see figure 6 below) there is yet another distinct sex differential of mortality by age. Infant mortality is higher than the national average and is the same for both males and females. From age 15 to age 35 females have slightly higher mortality and from age 35 males consistently have high mortality

Figure 6. Age Specific Death rates by sex Rural 2011



Levels, Trends and Variations in Adulthood Mortality by Districts

The 2010 Revised National Population Policy has the following Demographic targets:

- 1.1.1 Increase life expectancy at birth for both sexes from 50.7 in 2001 to at least 67.5
- 1.1.2 Increase life expectancy at birth for males from 52.5 in 2001 to at least 65.5
- 1.1.3 Increase life expectancy at birth for females from 57.4 in 2001 to at least 70.5

The main objective of this paper is to come up with indicators which will show how far the country is from meeting the aforementioned targets.

The index of mortality which is commonly used is the "expectation of life at birth". This measure is the average number of years that a newly born baby expects to live if the current risks of dying at each age are to remain unchanged. Looked at from a slightly different perspective, life expectancy at birth can be defined as the average age at death in a population or simply the number of years that a person born and living under particular socio-economic and mortality conditions expects to live. It is a useful measure of both mortality and health conditions in a population.

Using information of the number of deaths during the 12 months preceding the 2011 population Censuses, life tables were constructed for at national, cities and towns, urban villages, rural localities and different districts in Botswana.

The estimates from the 2011 Population Census indicate that the targets stipulated in the Revised National Population Policy have been met.

The 2011 census shows that Nationally Life expectancy at birth for both sexes stands at 68 years, for females it is 70 years and 66 years for males showing a gap of 4 years. The sex differentials in life expectancy at birth are more pronounced in Urban areas, females expects to live for 72 years while males expects to live for 67 years, showing a gap of 5 years.

In Cities and towns life expectancy at birth is 74 years, the gap between female life expectancy and male life expectancy is only 2 years, 75 for females and 73 for males.

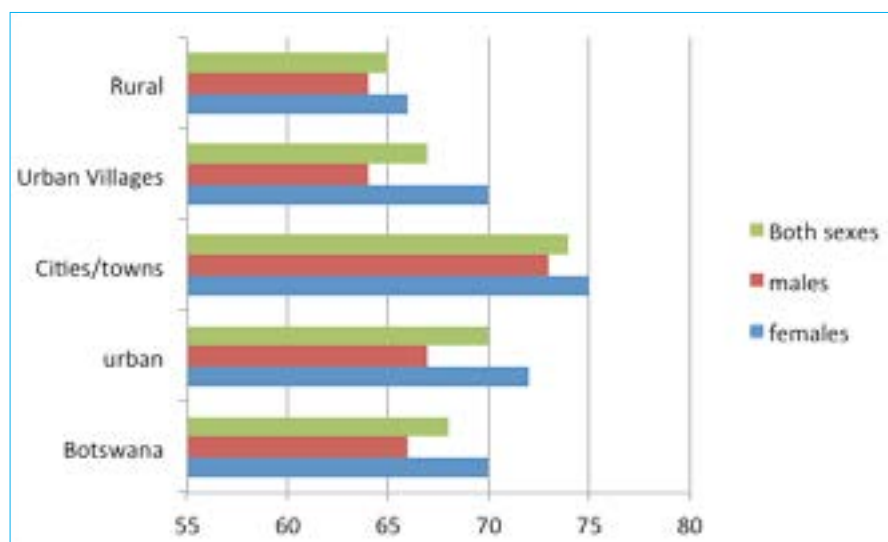
In Urban Villages female's life expectancy is estimated at 67 years, 70 for females and 64 for males, showing a gap of 6 years.

In the Rural areas life expectancy at birth is estimated at 65 years, at birth males expects to live for 64 years while a female expects to live for 66 years showing a gap of 2 years. (See Table1 and Chart1 and tables A1 to A50 in the appendix)

Table 1 Life Expectancy at Birth by sex for National and Type of residence

	females	males	Both sexes
Botswana	70	66	68
Urban	72	67	70
Cities/towns	75	73	74
Urban Villages	70	64	67
Rural	66	64	65

Chart 1. Life Expectancy at Birth by sex for National and Type of residence



Adult Mortality Levels by District

According to the 2001 Census data life expectancy at birth for both sexes combined was 63.9 and 68.9 years in Gaborone and the South East district respectively all other districts in Botswana were experiencing life expectancy at birth below sixty.

According to the 2001 data life expectancy at birth was worse for North East, Central, Ngamiland, and Southern Districts were a newly born baby expected to live for less than 50 years. Estimates of life expectancy at birth were 45, 46, 47, 48 years respectively for the aforementioned districts.

Table 2 below shows some districts and sub-districts ranked by the level of life expectancy at birth. The level life expectancy at birth for both sexes combined is now 70 years for four districts in Botswana. The estimated life expectancy is as high as 76 years in Gaborone followed by the South East with Life expectancy at birth of 74 years, Francistown with 72 years and Kweneng East with 71 years.

All districts and Sub-districts were data permitted recorded estimates of life at birth expectancy at birth of above 60 years; a drastic improvement from 2001 when only two districts(Gaborone and the South East) had life at birth expectancy of more than 60 years.

Only two districts recorded estimated life expectancy at birth of less than 65 years; Central Tutume (64), Central Mahalapye (63) and Ngamiland East (61)

Generally females expect to live longer than their male counterparts in all districts with the exception of Kweneng West, where males expect to live longer than females.

Table 2 Life expectancy at birth by sex and district

District	males (2011)	females (2011)	both sexes
Gaborone	75	77	76
South East	71	76	74
Francistown	71	73	72
Kweneng East	68	73	71
Lobatse	67	70	69
Selebi Phikwe	68	69	69
North East	66	69	68
Ngamiland West	64	70	67
Kgalagadi	66	68	67
Kgatleng	63	70	67
Central Serowe/ Palapye	65	68	67
Kweneng West	70	63	67
Central Boteti	63	68	66
Central Bobonong	61	69	65
Borolong	63	67	65
Ngwaketse	62	67	65
Central Tutume	61	67	64
Central Mahalapye	60	65	63
Ngamiland East	59	62	61

Concluding Remarks

Substantial regional differences in mortality have been shown by the both the 2001 and 2011 census results, with relatively low mortality in Gaborone and the South East district

The differentials in mortality between districts are usually associated with differing levels of social and economic development between districts, differentials in individual living standards and their socio-economic characteristics but it appears that the HIV/AIDS epidemic that distorted everything has now been contained.

The derived parameters of mortality can give great encouragement and aspirations to planners and policy makers for further efforts in the reduction of mortality levels because it is clear that all the mortality indicators targets set in 2010 have been met. These findings are sufficient indicators of the health transition in Botswana which shows that with proper and intervention programmes the HIV/AIDS related mortality can be contained. The question is; how long can AIDS related mortality without a serious reduction on HIV/AIDS incidence and prevalence be contained? The other question which should bother all the stakeholders' is "IS Botswana likely to experience a big BOOM in mortality when ARVs ceased to save lives of those who are on them"?

The other persistent character of mortality patterns in Botswana is the gap in life expectancy between males and females in favour of the later. It is therefore necessary that studies be carried out to determine what should be done to improve the survival of men in order to bring them at par with that of females. The mechanisms that affect the differentials in mortality by sex and districts are not quite clear and they need to be investigated, using both macro and micro level approaches.

Table A1:Botswana 2011 both sexes combined

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.017	1723	98453	6808555	68.1
1	98277	0.011	1085	390392	6710102	68.3
5	97192	0.005	473	484777	6319710	65.0
10	96719	0.004	370	482669	5834933	60.3
15	96349	0.006	579	480432	5352264	55.6
20	95770	0.012	1143	476271	4871833	50.9
25	94626	0.020	1888	468774	4395562	46.5
30	92738	0.031	2869	456917	3926788	42.3
35	89869	0.041	3677	440388	3469871	38.6
40	86192	0.045	3911	421221	3029482	35.1
45	82281	0.047	3858	401774	2608262	31.7
50	78422	0.051	3986	382261	2206487	28.1
55	74436	0.059	4419	361297	1824226	24.5
60	70018	0.068	4756	338537	1462929	20.9
65	65262	0.094	6159	311292	1124393	17.2
70	59103	0.109	6448	279791	813100	13.8
75	52655	0.156	8188	244569	533309	10.1
80	44467	1	44467	288740	288740	6.5

Table A2:Botswana females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.017	1675	98493	7009036	70.1
1	98324.88	0.011	1054	390660	6910543	70.3
5	97270.48	0.005	469	485181	6519883	67.0
10	96801.77	0.004	366	483093	6034702	62.3
15	96435.48	0.006	586	480868	5551609	57.6
20	95849.88	0.013	1294	476350	5070742	52.9
25	94556.21	0.021	2032	468051	4594391	48.6
30	92524.42	0.032	2950	455589	4126340	44.6
35	89574.61	0.040	3544	439061	3670751	41.0
40	86031.04	0.037	3158	422210	3231690	37.6
45	82872.61	0.040	3276	406174	2809481	33.9
50	79596.13	0.040	3174	390056	2403306	30.2
55	76422	0.044	3326	373906	2013250	26.3
60	73096.26	0.051	3717	356505	1639345	22.4
65	69379.73	0.072	4968	334858	1282839	18.5
70	64412.15	0.084	5385	308997	947981	14.7
75	59027.58	0.119	7032	279348	638984	10.8
80	51995.28	1	51995	359636	359636	6.9

Table A3: Botswana males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.018	1768	98397	6585483	65.9
1	98231.64	0.011	1116	390247	6487086	66.0
5	97115.49	0.005	477	484384	6096838	62.8
10	96638	0.004	374	482255	5612455	58.1
15	96263.9	0.006	572	480004	5130200	53.3
20	95691.48	0.010	984	476224	4650196	48.6
25	94707.19	0.018	1735	469574	4173972	44.1
30	92971.71	0.030	2788	458346	3704398	39.8
35	90184.15	0.042	3809	441811	3246051	36.0
40	86375.16	0.054	4689	420318	2804240	32.5
45	81686.47	0.055	4529	397164	2383922	29.2
50	77157.16	0.064	4950	373643	1986758	25.7
55	72207.42	0.078	5655	347088	1613115	22.3
60	66552.72	0.087	5822	318556	1266028	19.0
65	60730.41	0.122	7438	285455	947472	15.6
70	53292.69	0.143	7596	247904	662017	12.4
75	45696.3	0.210	9590	206254	414113	9.1
80	36105.84	1	36106	207859	207859	5.8

Table A4: Rural both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.021	2072	98160	6491339	64.9
1	97927.51	0.012	1141	388845	6393179	65.3
5	96786.1	0.006	575	482493	6004334	62.0
10	96211.05	0.004	428	479985	5521841	57.4
15	95783.05	0.009	833	477077	5041856	52.6
20	94950.19	0.018	1741	470874	4564779	48.1
25	93209.56	0.033	3074	458961	4093905	43.9
30	90135.22	0.049	4429	440046	3634945	40.3
35	85706.33	0.058	4978	416280	3194899	37.3
40	80728.07	0.066	5335	390083	2778619	34.4
45	75393	0.055	4122	366404	2388536	31.7
50	71270.5	0.055	3943	346488	2022132	28.4
55	67327.4	0.061	4085	326485	1675643	24.9
60	63242.69	0.067	4233	305823	1349158	21.3
65	59009.28	0.086	5055	282695	1043335	17.7
70	53954.72	0.103	5560	256198	760640	14.1
75	48394.35	0.138	6671	226762	504442	10.4
80	41723.45	1	41723	277680	277680	6.7

Table A5: Rural females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.021	2073	98159	6612837	66.1
1	97926.9	0.011	1039	389099	6514678	66.5
5	96887.42	0.006	566	483023	6125579	63.2
10	96321.64	0.005	457	480466	5642556	58.6
15	95864.83	0.010	971	477227	5162090	53.8
20	94893.77	0.025	2335	469270	4684863	49.4
25	92558.51	0.039	3614	454297	4215593	45.5
30	88944.64	0.054	4775	433127	3761296	42.3
35	84169.96	0.061	5100	407934	3328170	39.5
40	79069.69	0.052	4116	384732	2920235	36.9
45	74953.6	0.046	3480	365785	2535503	33.8
50	71473.5	0.039	2789	350319	2169719	30.4
55	68684.13	0.044	3044	335943	1819399	26.5
60	65640.36	0.052	3434	319851	1483456	22.6
65	62206.64	0.068	4208	300877	1163605	18.7
70	57999.14	0.089	5179	277452	862728	14.9
75	52819.91	0.116	6135	250167	585276	11.1
80	46684.64	1	46685	335109	335109	7.2

Table A6: Rural males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.020715	2071	98140	6351339	63.5
1	97928.54	0.012675	1241	388723	6253199	63.9
5	96687.27	0.006039	584	481977	5864476	60.7
10	96103.35	0.004168	401	479515	5382499	56.0
15	95702.79	0.007479	716	476888	4902984	51.2
20	94987	0.012653	1202	472252	4426096	46.6
25	93785.11	0.027481	2577	463143	3953844	42.2
30	91207.78	0.045109	4114	446296	3490700	38.3
35	87093.5	0.055937	4872	423766	3044404	35.0
40	82221.75	0.079478	6535	394737	2620638	31.9
45	75686.92	0.063993	4843	366134	2225901	29.4
50	70843.46	0.075161	5325	340985	1859767	26.3
55	65518.77	0.079723	5223	314450	1518783	23.2
60	60295.45	0.081783	4931	289272	1204332	20.0
65	55364.31	0.10522	5825	262458	915060	16.5
70	49538.86	0.118225	5857	233328	652602	13.2
75	43682.13	0.165346	7223	201936	419274	9.6
80	36459.45	1	36459	217338	217338	6.0

Table A7: Urban both sexes combined

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.014875	1488	98653	6947425	69.5
1	98512.47	0.010586	1043	391443	6848771	69.5
5	97469.61	0.004111	401	486346	6457329	66.2
10	97068.9	0.003422	332	484514	5970983	61.5
15	96736.69	0.004771	462	482625	5486469	56.7
20	96275.13	0.009262	892	479351	5003844	52.0
25	95383.4	0.014594	1392	473702	4524493	47.4
30	93991.38	0.023598	2218	464776	4050791	43.1
35	91773.37	0.033374	3063	451429	3586015	39.1
40	88710.53	0.035381	3139	435820	3134585	35.3
45	85571.87	0.042525	3639	418930	2698765	31.5
50	81932.93	0.047899	3924	400038	2279835	27.8
55	78008.45	0.058344	4551	378904	1879796	24.1
60	73457.13	0.068864	5059	355116	1500893	20.4
65	68398.55	0.103374	7071	324794	1145777	16.8
70	61327.95	0.11558	7088	289376	820983	13.4
75	54239.65	0.17432	9455	249555	531607	9.8
80	44784.6	1	44785	282052	282052	6.3

Table A8: Urban females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.014054	1405	98724	7179697	71.8
1	98594.59	0.010805	1065	391716	7080973	71.8
5	97529.27	0.004113	401	486643	6689256	68.6
10	97128.1	0.003174	308	484870	6202613	63.9
15	96819.79	0.004431	429	483122	5717743	59.1
20	96390.82	0.009339	900	479930	5234621	54.3
25	95490.58	0.015	1432	474146	4754691	49.8
30	94058.22	0.023914	2249	464992	4280545	45.5
35	91808.9	0.031187	2863	451980	3815553	41.6
40	88945.65	0.029704	2642	438166	3363573	37.8
45	86303.59	0.03575	3085	423960	2925407	33.9
50	83218.26	0.040432	3365	407752	2501447	30.1
55	79853.57	0.042913	3427	390787	2093695	26.2
60	76426.84	0.049591	3790	373035	1702908	22.3
65	72636.74	0.075236	5465	349881	1329874	18.3
70	67171.87	0.078363	5264	323071	979992	14.6
75	61908.09	0.121907	7547	292784	656922	10.6
80	54361.06	1	54361	364138	364138	6.7

Table A9: Urban males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.015666	1567	98571	6665016	66.7
1	98433.44	0.010374	1021	391289	6566445	66.7
5	97412.28	0.004109	400	486061	6175156	63.4
10	97012.02	0.003672	356	484170	5689095	58.6
15	96655.78	0.005145	497	482130	5204926	53.9
20	96158.53	0.009175	882	478770	4722796	49.1
25	95276.31	0.014138	1347	473269	4244026	44.5
30	93929.31	0.023257	2185	464589	3770757	40.1
35	91744.79	0.035635	3269	450901	3306167	36.0
40	88475.49	0.041428	3665	433422	2855266	32.3
45	84810.1	0.050533	4286	413535	2421844	28.6
50	80524.41	0.05698	4588	391457	2008309	24.9
55	75936.09	0.077191	5862	365460	1616852	21.3
60	70074.54	0.093656	6563	334587	1251393	17.9
65	63511.65	0.143043	9085	295525	916806	14.4
70	54426.78	0.174713	9509	248976	621280	11.4
75	44917.71	0.268234	12048	196141	372304	8.3
80	32869.27	1	32869	176164	176164	5.4

Table A10: Urban villages both sexes total

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.016884	1688	98482	6709248	67.1
1	98311.55	0.010709	1053	390611	6610766	67.2
5	97258.77	0.004164	405	485281	6220156	64.0
10	96853.75	0.003516	341	483417	5734874	59.2
15	96513.2	0.005783	558	481313	5251457	54.4
20	95955.11	0.012074	1159	477164	4770144	49.7
25	94796.57	0.019145	1815	469774	4292980	45.3
30	92981.65	0.029626	2755	458483	3823206	41.1
35	90226.95	0.044816	4044	441367	3364724	37.3
40	86183.32	0.048217	4156	420598	2923356	33.9
45	82027.81	0.053401	4380	399320	2502758	30.5
50	77647.48	0.06174	4794	376399	2103438	27.1
55	72853.5	0.069631	5073	351634	1727039	23.7
60	67780.66	0.074254	5033	326625	1375405	20.3
65	62747.64	0.106562	6686	297372	1048781	16.7
70	56061.15	0.116922	6555	264328	751409	13.4
75	49506.35	0.178475	8836	227228	487081	9.8
80	40670.72	1	40671	259853	259853	6.4

Table A11: Urban village females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.015956	1596	98561	7001195	70.0
1	98404.36	0.011293	1111	390837	6902634	70.1
5	97293.1	0.004176	406	485450	6511797	66.9
10	96886.76	0.003295	319	483636	6026347	62.2
15	96567.5	0.005468	528	481662	5542712	57.4
20	96039.42	0.01239	1190	477545	5061049	52.7
25	94849.48	0.020453	1940	469730	4583505	48.3
30	92909.48	0.029166	2710	458143	4113774	44.3
35	90199.65	0.041325	3728	441809	3655632	40.5
40	86472.13	0.037313	3227	424202	3213823	37.2
45	83245.59	0.038902	3238	408281	2789621	33.5
50	80007.14	0.050056	4005	390113	2381340	29.8
55	76002.3	0.047741	3628	370880	1991227	26.2
60	72373.87	0.05094	3687	352929	1620348	22.4
65	68687.17	0.074987	5151	330831	1267418	18.5
70	63536.5	0.075753	4813	306028	936587	14.7
75	58723.41	0.125465	7368	277239	630559	10.7
80	51355.68	1	51356	353320	353320	6.9

Table A12: Urban village males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.017763	1776	98390	6355611	63.6
1	98223.69	0.010138	996	390504	6257221	63.7
5	97227.9	0.004152	404	485130	5866717	60.3
10	96824.19	0.003737	362	483216	5381587	55.6
15	96462.33	0.006122	591	480975	4898370	50.8
20	95871.75	0.011707	1122	476796	4417396	46.1
25	94749.42	0.017617	1669	469894	3940600	41.6
30	93080.23	0.030146	2806	458953	3470706	37.3
35	90274.26	0.048628	4390	440964	3011753	33.4
40	85884.41	0.060945	5234	416651	2570789	29.9
45	80650.21	0.072576	5853	388736	2154138	26.7
50	74796.91	0.077395	5789	359715	1765402	23.6
55	69008.03	0.099457	6863	328068	1405687	20.4
60	62144.69	0.107038	6652	294431	1077619	17.3
65	55492.86	0.154577	8578	256485	783189	14.1
70	46914.96	0.186112	8731	213165	526703	11.2
75	38183.52	0.275567	10522	165890	313538	8.2
80	27661.41	1	27661	147648	147648	5.3

Table A13: Cities and Towns both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.009913	991	99088	7393438	73.9
1	99008.71	0.010275	1017	393500	7294350	73.7
5	97991.43	0.003974	389	488984	6900851	70.4
10	97602.05	0.003176	310	487235	6411867	65.7
15	97292.05	0.002349	228	485911	5924632	60.9
20	97063.56	0.005081	493	484210	5438721	56.0
25	96570.37	0.007993	772	481094	4954511	51.3
30	95798.52	0.014928	1430	475630	4473417	46.7
35	94368.47	0.016753	1581	467906	3997787	42.4
40	92787.5	0.016193	1503	460283	3529881	38.0
45	91284.96	0.023879	2180	451073	3069598	33.6
50	89105.2	0.02103	1874	440939	2618524	29.4
55	87231.3	0.031921	2785	429697	2177585	25.0
60	84446.78	0.052551	4438	412029	1747888	20.7
65	80009.02	0.090345	7228	382822	1335860	16.7
70	72780.61	0.108212	7876	344666	953037	13.1
75	64904.91	0.146085	9482	303413	608372	9.4
80	55423.25	1	55423	304958	304958	5.5

Table A14: Cities and Towns females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.009484	948	99126	7470031	74.7
1	99051.62	0.009565	947	393846	7370905	74.4
5	98104.16	0.003951	388	489552	6977059	71.1
10	97716.51	0.002859	279	487884	6487508	66.4
15	97437.09	0.001993	194	486720	5999624	61.6
20	97242.89	0.004685	456	485190	5512904	56.7
25	96787.31	0.006721	651	482475	5027714	51.9
30	96136.76	0.015941	1532	477110	4545239	47.3
35	94604.29	0.015448	1461	469378	4068129	43.0
40	93142.83	0.016993	1583	461962	3598751	38.6
45	91560.04	0.029513	2702	451079	3136790	34.3
50	88857.85	0.019152	1702	440021	2685710	30.2
55	87156.01	0.029521	2573	429777	2245690	25.8
60	84583.07	0.044789	3788	414141	1815913	21.5
65	80794.67	0.076433	6175	389331	1401771	17.3
70	74619.26	0.094851	7078	355457	1012440	13.6
75	67541.58	0.096204	6498	323496	656983	9.7
80	61043.81	1	61044	333487	333487	5.5

Table A15: Cities and towns males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.010343	1034	99040	7298205	73.0
1	98965.74	0.010972	1086	393281	7199165	72.7
5	97879.84	0.003996	391	488421	6805884	69.5
10	97488.71	0.003499	341	486591	6317463	64.8
15	97147.6	0.00275	267	485095	5830872	60.0
20	96880.47	0.005516	534	483202	5345777	55.2
25	96346.04	0.009342	900	479651	4862575	50.5
30	95446.01	0.013906	1327	474087	4382924	45.9
35	94118.78	0.017999	1694	466383	3908838	41.5
40	92424.72	0.015449	1428	458551	3442454	37.2
45	90996.82	0.018377	1672	450929	2983903	32.8
50	89324.53	0.022929	2048	441751	2532974	28.4
55	87276.43	0.034195	2984	429489	2091224	24.0
60	84291.99	0.060203	5075	409864	1661735	19.7
65	79217.32	0.104824	8304	376252	1251871	15.8
70	70913.44	0.123959	8790	333593	875619	12.3
75	62123.1	0.223081	13858	279149	542026	8.7
80	48264.63	1	48265	262877	262877	5.4

Table A16:Gaborone males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.006263	626	99412	7471987	74.7
1	99374	0.012704	1262	394508	7372575	74.2
5	98111	0.00449	441	489455	6978067	71.1
10	97671	0.003992	390	487379	6488612	66.4
15	97281	0.003494	340	485554	6001233	61.7
20	96941	0.003992	387	483793	5515679	56.9
25	96554	0.006978	674	481254	5031886	52.1
30	95880	0.013417	1286	476445	4550632	47.5
35	94594	0.018821	1780	468504	4074187	43.1
40	92813	0.013408	1244	460888	3605683	38.8
45	91569	0.014892	1364	454553	3144795	34.3
50	90205	0.020794	1876	446592	2690242	29.8
55	88330	0.029589	2614	435591	2243649	25.4
60	85716	0.052177	4472	417984	1808058	21.1
65	81244	0.06068	4930	394392	1390074	17.1
70	76314	0.094355	7201	365511	995681	13.0
75	69113	0.247036	17073	307077	630170	9.1
80	52040	1	52040	323093	323093	6.2

Table A17: Gaborone females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.006263	626	99417	7725635	77.3
1	99374	0.009938	988	395039	7626218	76.7
5	98386	0.002996	295	491194	7231179	73.5
10	98091	0.002996	294	489722	6739985	68.7
15	97798	0.001	98	488749	6250263	63.9
20	97700	0.003993	390	487661	5761514	59.0
25	97310	0.005486	534	485348	5273852	54.2
30	96776	0.013414	1298	480813	4788505	49.5
35	95478	0.01094	1045	474787	4307691	45.1
40	94433	0.014404	1360	469036	3832904	40.6
45	93073	0.029075	2706	458655	3363868	36.1
50	90367	0.016854	1523	447950	2905212	32.1
55	88844	0.023734	2109	439296	2457262	27.7
60	86735	0.03879	3364	425885	2017966	23.3
65	83371	0.061151	5098	404619	1592081	19.1
70	78272	0.070013	5480	377935	1187462	15.2
75	72792	0.088864	6469	349655	809527	11.1
80	66324	1	66324	459872	459872	6.9

Table A18: Francistown males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.010399	1040	99035	7075386	70.8
1	98960	0.007169	709	394153	6976351	70.5
5	98251	0.003494	343	490395	6582198	67.0
10	97907	0.00449	440	488438	6091803	62.2
15	97468	0.001998	195	486870	5603365	57.5
20	97273	0.00698	679	484941	5116495	52.6
25	96594	0.013907	1343	479755	4631554	47.9
30	95251	0.011931	1136	473525	4151799	43.6
35	94114	0.022749	2141	465438	3678274	39.1
40	91973	0.020289	1866	455141	3212836	34.9
45	90107	0.020295	1829	446039	2757696	30.6
50	88278	0.025693	2268	436172	2311656	26.2
55	86010	0.054626	4698	419500	1875484	21.8
60	81312	0.094352	7672	389440	1455984	17.9
65	73640	0.219585	16170	326672	1066543	14.5
70	57470	0.109788	6310	270794	739871	12.9
75	51160	0.160129	8192	237456	469077	9.2
80	42968	1	42968	231620	231620	5.4

Table A19: Francistown females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.010988	1099	98992	7269464	72.7
1	98901	0.010333	1022	393056	7170471	72.5
5	97879	0.006479	634	487811	6777415	69.2
10	97245	0.00449	437	485134	6289604	64.7
15	96808	0.005982	579	482628	5804471	60.0
20	96229	0.005983	576	479754	5321843	55.3
25	95654	0.008964	857	476353	4842088	50.6
30	94796	0.021781	2065	469273	4365735	46.1
35	92731	0.026641	2470	457498	3896463	42.0
40	90261	0.023712	2140	445898	3438965	38.1
45	88121	0.024696	2176	435248	2993067	34.0
50	85944	0.030056	2583	423463	2557819	29.8
55	83361	0.037759	3148	408782	2134355	25.6
60	80214	0.025676	2060	396069	1725574	21.5
65	78154	0.056072	4382	381067	1329505	17.0
70	73772	0.109205	8056	350271	948438	12.9
75	65716	0.16881	11093	303929	598167	9.1
80	54622	1	54622	294238	294238	5.4

Table A20: Lobatse males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.01742	1742	98419	6717970	67.2
1	98258	0.024825	2439	387179	6619551	67.4
5	95819	0.007472	716	477304	6232372	65.0
10	95103	0.003494	332	474683	5755068	60.5
15	94771	0.003495	331	473133	5280385	55.7
20	94439	0.016876	1594	468754	4807251	50.9
25	92846	0.018334	1702	460066	4338498	46.7
30	91143	0.022739	2073	450549	3878431	42.6
35	89071	0.019797	1763	440841	3427882	38.5
40	87307	0.017853	1559	432980	2987042	34.2
45	85749	0.05733	4916	416606	2554062	29.8
50	80833	0.023227	1877	399465	2137456	26.4
55	78955	0.05937	4688	384228	1737991	22.0
60	74268	0.084327	6263	355838	1353763	18.2
65	68005	0.079077	5378	327905	997926	14.7
70	62627	0.291316	18244	269886	670021	10.7
75	44383	0.259095	11499	191657	400135	9.0
80	32884	1	32884	208478	208478	6.3

TableA20: Lobatse both sexes

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.020036	2004	98217	6870363	68.7
1	97996.37	0.01819	1783	387514	6772146	69.1
5	96213.81	0.003992	384	480109	6384632	66.4
10	95829.72	0.001998	191	478670	5904523	61.6
15	95638.26	0.001499	143	477881	5425853	56.7
20	95494.89	0.00996	951	475562	4947972	51.8
25	94543.77	0.015878	1501	469103	4472411	47.3
30	93042.64	0.015877	1477	461648	4003308	43.0
35	91565.37	0.0247	2262	452330	3541660	38.7
40	89303.71	0.023244	2076	441661	3089330	34.6
45	87227.91	0.054974	4795	424362	2647669	30.4
50	82432.61	0.031985	2637	405638	2223306	27.0
55	79795.97	0.06592	5260	386778	1817669	22.8
60	74535.79	0.084945	6331	357708	1430891	19.2
65	68204.36	0.144627	9864	317176	1073183	15.7
70	58340.2	0.164194	9579	266827	756007	13.0
75	48761.1	0.131243	6400	228556	489180	10.0
80	42361.54	1	42362	260624	260624	6.2

Table A21: Selebi Phikwe males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.024841	2484	97799	6756817	67.6
1	97516	0.010335	1008	387623	6659018	68.3
5	96508	0.001998	193	482058	6271395	65.0
10	96315	0.001998	192	481095	5789336	60.1
15	96123	0.001998	192	480192	5308241	55.2
20	95931	0.00847	812	477936	4828050	50.3
25	95118	0.012922	1229	472743	4350113	45.7
30	93889	0.020775	1951	464425	3877370	41.3
35	91939	0.009455	869	457512	3412945	37.1
40	91069	0.020303	1849	450965	2955433	32.5
45	89220	0.018334	1636	442100	2504468	28.1
50	87585	0.027125	2376	431956	2062369	23.5
55	85209	0.018331	1562	422155	1630413	19.1
60	83647	0.029629	2478	413063	1208257	14.4
65	81168	0.13451	10918	381747	795194	9.8
70	70250	0.153549	10787	330887	413448	5.9
75	59464	1	59464	82561	82561	1.4

Table A22:Selebi Phikwe females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.012652	1265	98846	6909961	69.1
1	98735	0.006375	629	393368	6811115	69.0
5	98105	0.006479	636	488938	6417747	65.4
10	97470	0.001998	195	486862	5928809	60.8
15	97275	0.001998	194	485933	5441947	55.9
20	97081	0.005984	581	484109	4956014	51.1
25	96500	0.007476	721	480927	4471904	46.3
30	95778	0.028115	2693	472414	3990977	41.7
35	93086	0.012419	1156	462428	3518563	37.8
40	91929	0.01834	1686	455663	3056135	33.2
45	90244	0.024664	2226	445145	2600472	28.8
50	88018	0.006479	570	438641	2155327	24.5
55	87448	0.020824	1821	433566	1716686	19.6
60	85627	0.066902	5729	415117	1283120	15.0
65	79898	0.069719	5570	386834	868003	10.9
70	74328	0.218231	16221	340768	481169	6.5
75	58107	1	58107	140401	140401	2.4

Table A23: Ngwaketse males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.018195	1820	98353	6233021	62.3
1	98180	0.009149	898	390564	6134668	62.5
5	97282	0.006479	630	484835	5744104	59.0
10	96652	0.001998	193	482777	5259269	54.4
15	96459	0.00698	673	480924	4776492	49.5
20	95785	0.018845	1805	475021	4295568	44.8
25	93980	0.035885	3372	461985	3820546	40.7
30	90608	0.041653	3774	444009	3358561	37.1
35	86834	0.064458	5597	420836	2914552	33.6
40	81237	0.082017	6663	389638	2493715	30.7
45	74574	0.082003	6115	357619	2104077	28.2
50	68459	0.099311	6799	325298	1746458	25.5
55	61660	0.100017	6167	292276	1421160	23.0
60	55493	0.077374	4294	266690	1128885	20.3
65	51199	0.112157	5742	242292	862195	16.8
70	45457	0.161971	7363	209167	619903	13.6
75	38094	0.185304	7059	173439	410736	10.8
80	31035	1	31035	237296	237296	7.6

Table A24: Ngwaketse females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.016647	1665	98502	6729768	67.3
1	98335	0.018191	1789	388864	6631267	67.4
5	96547	0.007472	721	480929	6242403	64.7
10	95825	0.002996	287	478408	5761473	60.1
15	95538	0.008966	857	475871	5283065	55.3
20	94682	0.018348	1737	469521	4807195	50.8
25	92944	0.032496	3020	457630	4337673	46.7
30	89924	0.040214	3616	440999	3880043	43.1
35	86308	0.060608	5231	418474	3439045	39.8
40	81077	0.045884	3720	395756	3020571	37.3
45	77357	0.043995	3403	378148	2624814	33.9
50	73953	0.042115	3115	362158	2246666	30.4
55	70839	0.062495	4427	343183	1884507	26.6
60	66412	0.050676	3365	323604	1541325	23.2
65	63046	0.06535	4120	305191	1217720	19.3
70	58926	0.07753	4569	283761	912530	15.5
75	54358	0.132962	7227	255388	628769	11.6
80	47130	1	47130	373381	373381	7.9

Table A25: Barolong males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.017614	1761	98403	6320509	63.2
1	98239	0.01859	1826	388571	6222107	63.3
5	96412	0.00449	433	480979	5833535	60.5
10	95979	0.002996	288	479178	5352556	55.8
15	95692	0.006979	668	477025	4873378	50.9
20	95024	0.016379	1556	471625	4396352	46.3
25	93468	0.024227	2264	462128	3924727	42.0
30	91203	0.044088	4021	446774	3462600	38.0
35	87182	0.068233	5949	421897	3015826	34.6
40	81234	0.098269	7983	385640	2593928	31.9
45	73251	0.059587	4365	354862	2208289	30.1
50	68886	0.066785	4601	333375	1853427	26.9
55	64285	0.106496	6846	304272	1520052	23.6
60	57439	0.080563	4627	275444	1215780	21.2
65	52812	0.104526	5520	250920	940336	17.8
70	47292	0.171031	8088	217428	689416	14.6
75	39203	0.278127	10904	168524	471987	12.0
80	28300	1	28300	303463	303463	10.7

Table A26: Barolong females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.023504	2350	97933	6710147	67.1
1	97650	0.009938	970	388159	6612214	67.7
5	96679	0.006479	626	481830	6224055	64.4
10	96053	0.002996	288	479545	5742225	59.8
15	95765	0.001499	144	478525	5262680	55.0
20	95622	0.020834	1992	474317	4784155	50.0
25	93629	0.027154	2542	462252	4309838	46.0
30	91087	0.051675	4707	444047	3847586	42.2
35	86380	0.04402	3802	422497	3403539	39.4
40	82578	0.063806	5269	399162	2981042	36.1
45	77309	0.030503	2358	380347	2581880	33.4
50	74951	0.037323	2797	368075	2201533	29.4
55	72153	0.055978	4039	351219	1833458	25.4
60	68114	0.078812	5368	327329	1482239	21.8
65	62746	0.076482	4799	301821	1154910	18.4
70	57947	0.099901	5789	275666	853089	14.7
75	52158	0.128863	6721	245301	577423	11.1
80	45437	1	45437	332122	332122	7.3

Table A27: South East males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.00981	981	99088	7098538	71.0
1	99019	0.005581	553	394763	6999450	70.7
5	98466	0.005982	589	490859	6604687	67.1
10	97877	0.00449	439	488288	6113828	62.5
15	97438	0.001998	195	486726	5625540	57.7
20	97243	0.007972	775	484509	5138814	52.8
25	96468	0.008466	817	480390	4654305	48.2
30	95651	0.013909	1330	475160	4173915	43.6
35	94321	0.01982	1869	467365	3698755	39.2
40	92451	0.04359	4030	452807	3231390	35.0
45	88421	0.044972	3976	432227	2778583	31.4
50	84445	0.051199	4323	411762	2346356	27.8
55	80121	0.072286	5792	386108	1934595	24.1
60	74330	0.058224	4328	360646	1548486	20.8
65	70002	0.066877	4682	339243	1187840	17.0
70	65320	0.166146	10853	301466	848597	13.0
75	54468	0.214415	11679	244324	547131	10.0
80	42789	1	42789	302807	302807	7.1

Table A27b: South East both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.009123	912	99158	7354485	73.5
1	99087.74	0.008356	828	394289	7255327	73.2
5	98259.74	0.003992	392	490318	6861038	69.8
10	97867.48	0.001998	196	488849	6370720	65.1
15	97671.94	0.003495	341	487604	5881872	60.2
20	97330.62	0.007971	776	484864	5394267	55.4
25	96554.84	0.008962	865	480754	4909403	50.8
30	95689.48	0.017851	1708	474482	4428650	46.3
35	93981.35	0.02177	2046	464991	3954167	42.1
40	91935.39	0.029563	2718	452975	3489177	38.0
45	89217.54	0.02713	2420	440079	3036202	34.0
50	86797.1	0.033946	2946	427014	2596123	29.9
55	83850.71	0.054535	4573	408288	2169109	25.9
60	79277.88	0.061065	4841	384212	1760820	22.2
65	74436.8	0.057395	4272	362060	1376608	18.5
70	70164.49	0.124887	8763	330665	1014548	14.5
75	61401.86	0.183135	11245	280420	683883	11.1
80	50157.03	1	50157	403463	403463	8.0

Table A28: Kweneng East males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.0147	1470	98655	6761565	67.6
1	98530	0.008358	824	392151	6662910	67.6
5	97707	0.00449	439	487436	6270759	64.2
10	97268	0.00449	437	485247	5783323	59.5
15	96831	0.006977	676	482546	5298076	54.7
20	96156	0.00797	766	478970	4815530	50.1
25	95389	0.01391	1327	473894	4336560	45.5
30	94062	0.021288	2002	465681	3862666	41.1
35	92060	0.035395	3258	452559	3396985	36.9
40	88801	0.041163	3655	435155	2944426	33.2
45	85146	0.05544	4721	414082	2509271	29.5
50	80426	0.053566	4308	391644	2095188	26.1
55	76118	0.084011	6395	365413	1703545	22.4
60	69723	0.113887	7941	329482	1338132	19.2
65	61782	0.158235	9776	284189	1008650	16.3
70	52006	0.137741	7163	242007	724461	13.9
75	44843	0.194163	8707	203430	482454	10.8
80	36136	1	36136	279024	279024	7.7

Table A29: Kweneng East females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.014019	1402	98727	7341487	73.4
1	98598	0.011517	1136	391555	7242760	73.5
5	97463	0.003494	341	486462	6851205	70.3
10	97122	0.002996	291	484883	6364744	65.5
15	96831	0.003494	338	483378	5879861	60.7
20	96493	0.007972	769	480777	5396483	55.9
25	95724	0.015392	1473	475286	4915706	51.4
30	94250	0.025682	2421	465489	4440420	47.1
35	91830	0.028582	2625	452533	3974931	43.3
40	89205	0.024693	2203	440554	3522398	39.5
45	87002	0.032483	2826	428198	3081844	35.4
50	84176	0.040193	3383	412598	2653646	31.5
55	80793	0.044976	3634	394967	2241048	27.7
60	77159	0.049274	3802	376427	1846081	23.9
65	73357	0.058765	4311	356267	1469654	20.0
70	69046	0.073332	5063	333113	1113387	16.1
75	63983	0.111537	7136	303679	780274	12.2
80	56846	1	56846	476595	476595	8.4

Table A30: Kweneng west males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.021479	2148	98076	6966832	69.7
1	97852	0.010335	1011	388970	6868756	70.2
5	96841	0.005982	579	482756	6479786	66.9
10	96262	0.001998	192	480827	5997030	62.3
15	96069	0.009461	909	478375	5516204	57.4
20	95160	0.009955	947	473656	5037829	52.9
25	94213	0.029594	2788	464688	4564173	48.4
30	91425	0.029079	2659	450604	4099485	44.8
35	88766	0.039278	3487	435817	3648881	41.1
40	85280	0.080679	6880	409538	3213064	37.7
45	78399	0.058152	4559	379924	2803525	35.8
50	73840	0.045504	3360	361297	2423601	32.8
55	70480	0.124993	8810	329946	2062305	29.3
60	61671	0.046846	2889	300938	1732359	28.1
65	58782	0.101481	5965	280057	1431421	24.4
70	52817	0.130573	6896	247183	1151364	21.8
75	45920	0.163642	7514	210490	904181	19.7
80	38406	1	38406	693691	693691.5	18.1

Table A3b: Kweneng west both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.0236	2360	97925	6795667	68.0
1	97640.01	0.008356	816	388509	6697742	68.6
5	96824.14	0.00449	435	483034	6309233	65.2
10	96389.41	0.001	96	481706	5826199	60.4
15	96293.07	0.010458	1007	479518	5344493	55.5
20	95286.08	0.015392	1467	473104	4864975	51.1
25	93819.45	0.032496	3049	461932	4391870	46.8
30	90770.7	0.033439	3035	446367	3929938	43.3
35	87735.4	0.040693	3570	430148	3483571	39.7
40	84165.17	0.061071	5140	407939	3053422	36.3
45	79025.13	0.044426	3511	385798	2645483	33.5
50	75514.37	0.032	2416	371763	2259685	29.9
55	73097.91	0.074211	5425	352252	1887922	25.8
60	67673.23	0.04925	3333	329990	1535670	22.7
65	64340.33	0.077072	4959	309929	1205680	18.7
70	59381.46	0.103097	6122	282123	895751	15.1
75	53259.4	0.139098	7408	247768	613628	11.5
80	45851.14	1	45851	365860	365860	8.0

Table A31: Kgatleng males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.024362	2436	97838	6281330	62.8
1	97564	0.015061	1469	386699	6183492	63.4
5	96094	0.005485	527	479154	5796793	60.3
10	95567	0.002996	286	477121	5317639	55.6
15	95281	0.00946	901	474423	4840518	50.8
20	94380	0.012921	1219	469032	4366095	46.3
25	93160	0.019823	1847	461667	3897063	41.8
30	91313	0.046495	4246	446912	3435396	37.6
35	87068	0.062995	5485	421913	2988484	34.3
40	81583	0.06714	5477	394062	2566571	31.5
45	76105	0.062968	4792	368630	2172508	28.5
50	71313	0.082498	5883	342046	1803878	25.3
55	65430	0.08609	5633	312936	1461832	22.3
60	59797	0.08813	5270	286409	1148896	19.2
65	54527	0.170788	9313	249668	862486	15.8
70	45215	0.145346	6572	209293	612818	13.6
75	38643	0.18053	6976	176613	403526	10.4
80	31667	1	31667	226913	226913	7.2

Table A32: Kgatleng females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.019457	1946	98265	6958672	69.6
1	98054	0.005978	586	390748	6860407	70.0
5	97468	0.005485	535	486005	6469659	66.4
10	96934	0.003494	339	483821	5983654	61.7
15	96595	0.006482	626	481610	5499833	56.9
20	95969	0.016379	1572	476318	5018223	52.3
25	94397	0.022757	2148	466996	4541905	48.1
30	92249	0.03973	3665	452470	4074909	44.2
35	88584	0.040675	3603	434112	3622439	40.9
40	84981	0.055915	4752	413189	3188327	37.5
45	80229	0.053495	4292	390165	2775138	34.6
50	75937	0.047306	3592	370336	2384973	31.4
55	72345	0.036339	2629	355264	2014637	27.8
60	69716	0.062064	4327	338037	1659373	23.8
65	65389	0.055432	3625	317952	1321336	20.2
70	61764	0.075739	4678	297962	1003384	16.2
75	57086	0.146464	8361	266277	705422	12.4
80	48725	1	48725	439146	439146	9.01267

Table A33: Central Serowe Palapye males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.022249	2225	98012	6523434	65.2
1	97775	0.01073	1049	388568	6425422	65.7
5	96726	0.005485	531	482304	6036854	62.4
10	96195	0.00449	432	479898	5554550	57.7
15	95764	0.00648	621	477361	5074653	53.0
20	95143	0.009459	900	473652	4597292	48.3
25	94243	0.017852	1682	467336	4123639	43.8
30	92561	0.024719	2288	457600	3656303	39.5
35	90273	0.054588	4928	439978	3198703	35.4
40	85345	0.067213	5736	412681	2758725	32.3
45	79609	0.079219	6306	382212	2346044	29.5
50	73302	0.075038	5500	352594	1963832	26.8
55	67802	0.080188	5437	325563	1611238	23.8
60	62365	0.099821	6225	296442	1285674	20.6
65	56139	0.111849	6279	264943	989232	17.6
70	49860	0.120095	5988	234822	724289	14.5
75	43872	0.204494	8972	198049	489467	11.2
80	34901	1	34901	291418	291418	8.3

Table A34: Central Serowe Palapye females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.018586	1859	98338	6838322	68.4
1	98141	0.008356	820	390510	6739984	68.7
5	97321	0.005982	582	485151	6349473	65.2
10	96739	0.006479	627	482129	5864322	60.6
15	96112	0.004491	432	479574	5382193	56.0
20	95681	0.017864	1709	474781	4902619	51.2
25	93972	0.028616	2689	463628	4427838	47.1
30	91283	0.045018	4109	446668	3964210	43.4
35	87173	0.0573	4995	423310	3517541	40.4
40	82178	0.047321	3889	400906	3094231	37.7
45	78289	0.045921	3595	382462	2693325	34.4
50	74694	0.052098	3891	363681	2310863	30.9
55	70803	0.047327	3351	345448	1947182	27.5
60	67452	0.044049	2971	330131	1601734	23.7
65	64481	0.082588	5325	309612	1271603	19.7
70	59155	0.082049	4854	283840	961991	16.3
75	54302	0.117288	6369	256812	678151	12.5
80	47933	1	47933	421339	421339	8.8

Table A35: Central Mahalapye males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.019839	1984	98214	6043206	60.4
1	98016	0.011125	1090	389440	5944993	60.7
5	96926	0.006976	676	482938	5555553	57.3
10	96250	0.003494	336	480407	5072615	52.7
15	95913	0.007972	765	477913	4592208	47.9
20	95149	0.017857	1699	471968	4114295	43.2
25	93450	0.031051	2902	460585	3642327	39.0
30	90548	0.049801	4509	442100	3181742	35.1
35	86038	0.066366	5710	416792	2739643	31.8
40	80328	0.114989	9237	378562	2322851	28.9
45	71091	0.084218	5987	340180	1944289	27.3
50	65104	0.107374	6990	307951	1604109	24.6
55	58114	0.098404	5719	276263	1296158	22.3
60	52395	0.1296	6790	245142	1019895	19.5
65	45605	0.140308	6399	211878	774753	17.0
70	39206	0.154799	6069	181166	562875	14.4
75	33137	0.238007	7887	146323	381709	11.5
80	25250	1	25250	235386	235386	9.3

Table A36: Central Mahalapye females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.021965	2197	98058	6467501	64.7
1	97803	0.012304	1203	388191	6369443	65.1
5	96600	0.003992	386	482036	5981251	61.9
10	96214	0.006479	623	479514	5499215	57.2
15	95591	0.008468	809	476175	5019701	52.5
20	94782	0.027669	2622	468300	4543526	47.9
25	92159	0.049782	4588	449792	4075226	44.2
30	87571	0.049282	4316	427293	3625433	41.4
35	83256	0.070022	5830	402048	3198141	38.4
40	77426	0.07446	5765	371944	2796093	36.1
45	71661	0.043471	3115	350021	2424149	33.8
50	68546	0.038724	2654	335996	2074128	30.3
55	65891	0.039715	2617	323074	1738132	26.4
60	63274	0.056005	3544	308145	1415058	22.4
65	59731	0.101699	6075	283858	1106913	18.5
70	53656	0.092474	4962	255763	823055	15.3
75	48694	0.110554	5383	231046	567292	11.7
80	43311	1	43311	336246	336246	7.8

Table A37: Central Bobonong males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.019936	1994	98205	6119188	61.2
1	98006	0.011914	1168	389215	6020983	61.4
5	96839	0.003494	338	483348	5631768	58.2
10	96500	0.00449	433	481419	5148420	53.4
15	96067	0.003494	336	479562	4667001	48.6
20	95731	0.011444	1096	476317	4187439	43.7
25	94636	0.020321	1923	469040	3711122	39.2
30	92713	0.061749	5725	450783	3242082	35.0
35	86988	0.080654	7016	417615	2791299	32.1
40	79972	0.083436	6673	383478	2373685	29.7
45	73299	0.116814	8562	345259	1990207	27.2
50	64737	0.115079	7450	304076	1644947	25.4
55	57287	0.080398	4606	274152	1340871	23.4
60	52681	0.062996	3319	255287	1066719	20.2
65	49363	0.116503	5751	232829	811432	16.4
70	43612	0.109354	4769	206455	578603	13.3
75	38843	0.195387	7589	176908	372147	9.6
80	31253	1	31253	195239	195239	6.2

Table A38: Central Bobonong females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.020036	2004	98217	6896600	69.0
1	97996	0.008752	858	389834	6798383	69.4
5	97139	0.003494	339	484845	6408549	66.0
10	96799	0.002497	242	483392	5923703	61.2
15	96558	0.007973	770	481143	5440311	56.3
20	95788	0.014409	1380	475936	4959168	51.8
25	94408	0.038332	3619	463957	4483232	47.5
30	90789	0.055021	4995	442059	4019275	44.3
35	85793	0.075009	6435	412519	3577215	41.7
40	79358	0.049177	3903	386399	3164696	39.9
45	75456	0.03872	2922	369828	2778297	36.8
50	72534	0.04208	3052	354907	2408469	33.2
55	69482	0.034381	2389	341262	2053562	29.6
60	67093	0.031983	2146	330130	1712300	25.5
65	64947	0.03919	2545	318158	1382169	21.3
70	62402	0.023229	1450	308416	1064012	17.1
75	60952	0.045615	2780	298958	755596	12.4
80	58172	1	58172	456638	456638	7.8

Table A39: Central Boteti females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.01187	1187	98915	6818466	68.2
1	98813	0.005581	551	393876	6719551	68.0
5	98262	0.002996	294	490572	6325675	64.4
10	97967	0.002996	293	489103	5835103	59.6
15	97674	0.004492	439	487461	5346000	54.7
20	97235	0.023758	2310	481265	4858539	50.0
25	94925	0.028119	2669	468276	4377273	46.1
30	92256	0.044522	4107	451361	3908997	42.4
35	88148	0.045925	4048	430663	3457636	39.2
40	84100	0.05114	4301	409606	3026973	36.0
45	79799	0.04355	3475	390483	2617368	32.8
50	76324	0.070481	5379	368450	2226885	29.2
55	70945	0.063801	4526	342907	1858435	26.2
60	66418	0.047874	3180	324459	1515528	22.8
65	63239	0.111291	7038	299485	1191068	18.8
70	56201	0.107359	6034	265799	891583	15.9
75	50167	0.126016	6322	235890	625784	12.5
80	43845	1	43845	389893	389893	8.9

Table A39: Central Boteti females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.01187	1187	98915	6818466	68.2
1	98813	0.005581	551	393876	6719551	68.0
5	98262	0.002996	294	490572	6325675	64.4
10	97967	0.002996	293	489103	5835103	59.6
15	97674	0.004492	439	487461	5346000	54.7
20	97235	0.023758	2310	481265	4858539	50.0
25	94925	0.028119	2669	468276	4377273	46.1
30	92256	0.044522	4107	451361	3908997	42.4
35	88148	0.045925	4048	430663	3457636	39.2
40	84100	0.05114	4301	409606	3026973	36.0
45	79799	0.04355	3475	390483	2617368	32.8
50	76324	0.070481	5379	368450	2226885	29.2
55	70945	0.063801	4526	342907	1858435	26.2
60	66418	0.047874	3180	324459	1515528	22.8
65	63239	0.111291	7038	299485	1191068	18.8
70	56201	0.107359	6034	265799	891583	15.9
75	50167	0.126016	6322	235890	625784	12.5
80	43845	1	43845	389893	389893	8.9

Table A39b: Central Boteti both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.013824	1382	98744	6573640	65.7
1	98617.58	0.011911	1175	391536	6474896	65.7
5	97442.98	0.006479	631	485637	6083360	62.4
10	96811.65	0.001499	145	483695	5597724	57.8
15	96666.54	0.007975	771	481827	5114028	52.9
20	95895.62	0.020801	1995	474930	4632201	48.3
25	93900.91	0.023736	2229	464340	4157271	44.3
30	91672.08	0.051702	4740	447131	3692931	40.3
35	86932.48	0.048785	4241	424096	3245799	37.3
40	82691.53	0.059133	4890	400802	2821704	34.1
45	77801.74	0.036338	2827	382053	2420901	31.1
50	74974.55	0.076612	5744	361253	2038848	27.2
55	69230.63	0.077392	5358	332789	1677595	24.2
60	63872.72	0.091698	5857	305053	1344806	21.1
65	58015.71	0.120449	6988	272966	1039754	17.9
70	51027.78	0.146689	7485	236126	766788	15.0
75	43542.58	0.135464	5898	203394	530662	12.2
80	37644.14	1	37644	327267	327267	8.7

Table A40: Central Tutume males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.013824	1382	98744	6573640	65.7
1	98617.58	0.011911	1175	391536	6474896	65.7
5	97442.98	0.006479	631	485637	6083360	62.4
10	96811.65	0.001499	145	483695	5597724	57.8
15	96666.54	0.007975	771	481827	5114028	52.9
20	95895.62	0.020801	1995	474930	4632201	48.3
25	93900.91	0.023736	2229	464340	4157271	44.3
30	91672.08	0.051702	4740	447131	3692931	40.3
35	86932.48	0.048785	4241	424096	3245799	37.3
40	82691.53	0.059133	4890	400802	2821704	34.1
45	77801.74	0.036338	2827	382053	2420901	31.1
50	74974.55	0.076612	5744	361253	2038848	27.2
55	69230.63	0.077392	5358	332789	1677595	24.2
60	63872.72	0.091698	5857	305053	1344806	21.1
65	58015.71	0.120449	6988	272966	1039754	17.9
70	51027.78	0.146689	7485	236126	766788	15.0
75	43542.58	0.135464	5898	203394	530662	12.2
80	37644.14	1	37644	327267	327267	8.7

Table A41: Central Tutume females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.020229	2023	98200.97	6684077	66.84077
1	97977	0.011516	1128	389077.4	6585876	67.21855
5	96849	0.003494	338	483397.7	6196798	63.9843
10	96510	0.003992	385	481588.6	5713400	59.19987
15	96125	0.011938	1148	478158.3	5231812	54.42712
20	94978	0.021785	2069	470236	4753654	50.05031
25	92908	0.041189	3827	455570.8	4283418	46.10363
30	89082	0.049301	4392	434829.7	3827847	42.97008
35	84690	0.069444	5881	408415.1	3393017	40.06401
40	78809	0.043492	3428	385114.2	2984602	37.87147
45	75381	0.046414	3499	368289.3	2599488	34.48456
50	71882	0.056792	4082	348917.1	2231198	31.03954
55	67800	0.037271	2527	332499.1	1882281	27.76221
60	65273	0.04357	2844	319543.5	1549782	23.74304
65	62429	0.065331	4079	302116.6	1230239	19.70615
70	58351	0.060187	3512	283219.6	928122.1	15.90595
75	54839	0.102154	5602	261774.9	644902.5	11.75999
80	49237	1	49237	383127.6	383127.6	7.78134

Table A42: North East males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.018582	1858	98320	6591253	65.9
1	98142	0.006375	626	391063	6492933	66.2
5	97516	0.005485	535	486243	6101870	62.6
10	96981	0.007968	773	482974	5615627	57.9
15	96208	0.002995	288	480309	5132653	53.3
20	95920	0.006481	622	478235	4652344	48.5
25	95299	0.012931	1232	473960	4174109	43.8
30	94066	0.055145	5187	459052	3700148	39.3
35	88879	0.067209	5973	429744	3241096	36.5
40	82906	0.078062	6472	397040	2811352	33.9
45	76434	0.030521	2333	376269	2414312	31.6
50	74101	0.072915	5403	357821	2038043	27.5
55	68698	0.072169	4958	330524	1680222	24.5
60	63740	0.049322	3144	311264	1349698	21.2
65	60596	0.147492	8937	281939	1038433	17.1
70	51659	0.130117	6722	240920	756495	14.6
75	44937	0.130816	5878	210698	515575	11.5
80	39059	1	39059	304877	304877	7.8

Table A43: North East females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.009712	971	99106	6907583	69.1
1	99029	0.00796	788	394151	6808477	68.8
5	98240	0.001499	147	490834	6414327	65.3
10	98093	0.003992	392	489487	5923492	60.4
15	97702	0.007476	730	486959	5434005	55.6
20	96971	0.024724	2397	479495	4947047	51.0
25	94574	0.027634	2613	466687	4467551	47.2
30	91960	0.049336	4537	449202	4000864	43.5
35	87423	0.065741	5747	422597	3551662	40.6
40	81676	0.049729	4062	398200	3129065	38.3
45	77614	0.070393	5464	374213	2730865	35.2
50	72151	0.048209	3478	351342	2356652	32.7
55	68673	0.029549	2029	338200	2005310	29.2
60	66643	0.041646	2775	326524	1667110	25.0
65	63868	0.048849	3120	311987	1340586	21.0
70	60748	0.089438	5433	290546	1028598	16.9
75	55315	0.081739	4521	265964	738052	13.3
80	50793	1	50793	472088	472088	9.3

Table A44: Ngamiland East males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.02321	2321	97933	5924032	59.2
1	97679	0.013883	1356	387439	5826100	59.6
5	96323	0.002996	289	480893	5438661	56.5
10	96034	0.012916	1240	477071	4957768	51.6
15	94794	0.005485	520	472673	4480697	47.3
20	94274	0.013423	1265	468676	4008023	42.5
25	93009	0.033005	3070	458170	3539347	38.1
30	89939	0.049292	4433	438942	3081177	34.3
35	85506	0.051703	4421	417066	2642236	30.9
40	81085	0.101359	8219	385853	2225170	27.4
45	72866	0.10955	7982	344072	1839317	25.2
50	64884	0.105911	6872	306782	1495245	23.0
55	58012	0.100166	5811	275394	1188463	20.5
60	52201	0.116487	6081	246184	913069	17.5
65	46120	0.16653	7680	210421	666885	14.5
70	38440	0.092265	3547	183764	456464	11.9
75	34893	0.336757	11750	147991	272700	7.8
80	23143	1	23143	124709	124709	5.4

Table A45: Ngamiland East females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.027145	2714	97642	6164250	61.6
1	97286	0.014663	1427	385547	6066607	62.4
5	95859	0.012422	1191	476318	5681060	59.3
10	94668	0.006479	613	471808	5204742	55.0
15	94055	0.015396	1448	467111	4732934	50.3
20	92607	0.03007	2785	456501	4265823	46.1
25	89822	0.033929	3048	441674	3809322	42.4
30	86775	0.042626	3699	425152	3367648	38.8
35	83076	0.071827	5967	400474	2942496	35.4
40	77109	0.049697	3832	375696	2542022	33.0
45	73277	0.057331	4201	356016	2166326	29.6
50	69076	0.064846	4479	334273	1810310	26.2
55	64596	0.071906	4645	311736	1476037	22.9
60	59952	0.107373	6437	283576	1164302	19.4
65	53514	0.083801	4485	256261	880726	16.5
70	49030	0.114951	5636	231936	624465	12.7
75	43394	0.212179	9207	195483	392529	9.0
80	34187	1	34187	197046	197046	5.8

Table A46: Ngamiland West males

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.030565	3057	97342	6373247	63.7
1	96943	0.017805	1726	383564	6275906	64.7
5	95217	0.006976	664	474427	5892342	61.9
10	94553	0.002497	236	472176	5417915	57.3
15	94317	0.007973	752	469994	4945739	52.4
20	93565	0.015887	1486	464509	4475745	47.8
25	92079	0.029598	2725	454221	4011236	43.6
30	89353	0.051261	4580	436221	3557015	39.8
35	84773	0.082457	6990	406405	3120794	36.8
40	77783	0.061036	4748	376792	2714389	34.9
45	73035	0.072626	5304	351274	2337597	32.0
50	67731	0.040139	2719	331544	1986323	29.3
55	65012	0.045914	2985	317549	1654779	25.5
60	62027	0.040687	2524	304064	1337230	21.6
65	59504	0.077214	4595	287159	1033166	17.4
70	54909	0.147354	8091	256047	746007	13.6
75	46818	0.266447	12475	203833	489960	10.5
80	34344	1	34344	286127	286127	8.3

Table A46: Ngamiland West Females

Age	l(x)	q(x,n)	d(x,n)	L(x,n)	T(x)	e(x)
0	100000	0.02456	2456	97848	6953283	69.5
1	97544.02	0.011122	1085	387447	6855435	70.3
5	96459.17	0.004988	481	481093	6467989	67.1
10	95978.08	0.003992	383	478933	5986896	62.4
15	95594.93	0.008965	857	476116	5507963	57.6
20	94737.92	0.019821	1878	469457	5031847	53.1
25	92860.09	0.030066	2792	457688	4562390	49.1
30	90068.2	0.039227	3533	441640	4104702	45.6
35	86535.08	0.038699	3349	423906	3663062	42.3
40	83186.22	0.024205	2013	410917	3239156	38.9
45	81172.73	0.042573	3456	397218	2828239	34.8
50	77716.93	0.026156	2033	383539	2431021	31.3
55	75684.17	0.048769	3691	369102	2047481	27.1
60	71993.15	0.025681	1849	355546	1678379	23.3
65	70144.31	0.085583	6003	337255	1322834	18.9
70	64141.18	0.10124	6494	304867	985579	15.4
75	57647.51	0.138037	7957	269745	680712	11.8
80	49690.05	1	49690	410967	410967	8.3

Table A47: Kgalagadi males

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.018969	1897	98287	6582352	65.8
1	98103	0.020543	2015	387567	6484065	66.1
5	96088	0.005485	527	479121	6096498	63.4
10	95561	0.002996	286	477088	5617377	58.8
15	95274	0.01045	996	474095	5140289	54.0
20	94279	0.008467	798	469550	4666195	49.5
25	93481	0.026195	2449	462025	4196645	44.9
30	91032	0.037812	3442	447023	3734620	41.0
35	87590	0.053524	4688	426194	3287598	37.5
40	82902	0.040646	3370	405980	2861403	34.5
45	79532	0.050236	3995	387900	2455424	30.9
50	75537	0.058741	4437	366701	2067524	27.4
55	71100	0.063484	4514	344558	1700823	23.9
60	66586	0.094605	6299	316552	1356265	20.4
65	60286	0.048334	2914	294335	1039713	17.2
70	57373	0.139487	8003	267650	745378	13.0
75	49370	0.102463	5059	235284	477728	9.7
80	44311	1	44311	242444	242444	5.5

Table A48: Kgalagadi females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.020808	2081	98153	6837682	68.4
1	97919	0.00796	779	389720	6739529	68.8
5	97140	0.013903	1351	482322	6349809	65.4
10	95789	0.002996	287	478229	5867487	61.3
15	95502	0.003992	381	476580	5389258	56.4
20	95121	0.003993	380	474784	4912678	51.6
25	94741	0.020331	1926	469803	4437893	46.8
30	92815	0.039752	3690	455504	3968090	42.8
35	89125	0.050682	4517	434336	3512586	39.4
40	84608	0.044024	3725	413862	3078251	36.4
45	80884	0.065209	5274	390692	2664388	32.9
50	75609	0.031021	2345	372300	2273697	30.1
55	73264	0.087434	6406	350039	1901396	26.0
60	66858	0.030536	2042	329289	1551358	23.2
65	64816	0.117567	7620	307268	1222069	18.9
70	57196	0.150166	8589	264274	914801	16.0
75	48607	0.140191	6814	226388	650527	13.4
80	41793	1	41793	424139	424139	10.1

Table A49: Ghanzi females

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.015286	1529	98618	6466493	64.7
1	98471.42	0.019363	1907	389117	6367875	64.7
5	96564.75	0.008464	817	480780	5978757	61.9
10	95747.42	0.01094	1047	476118	5497977	57.4
15	94699.96	0.011933	1130	470843	5021858	53.0
20	93569.94	0.022753	2129	462832	4551016	48.6
25	91440.91	0.024703	2259	451770	4088183	44.7
30	89182.06	0.037271	3324	437358	3636413	40.8
35	85858.14	0.018825	1616	425346	3199055	37.3
40	84241.82	0.051263	4318	411283	2773709	32.9
45	79923.35	0.054058	4321	389235	2362427	29.6
50	75602.84	0.08917	6741	360506	1973192	26.1
55	68861.37	0.041144	2833	337291	1612685	23.4
60	66028.13	0.108526	7166	314288	1275394	19.3
65	58862.35	0.189264	11141	265250	961105	16.3
70	47721.84	0.097734	4664	226409	695855	14.6
75	43057.82	0.138477	5963	201437	469446	10.9
80	37095.29	1	37095	268009	268009	7.2

Table A50: Ghanzi both sexes

Age	$l(x)$	$q(x,n)$	$d(x,n)$	$L(x,n)$	$T(x)$	$e(x)$
0	100000	0.015869	1587	98568	6747522	67.5
1	98413.06	0.015057	1482	389945	6648954	67.6
5	96931.26	0.004988	483	483448	6259009	64.6
10	96447.82	0.007472	721	480437	5775561	59.9
15	95727.16	0.005983	573	477310	5295124	55.3
20	95154.39	0.018347	1746	471832	4817814	50.6
25	93408.61	0.019807	1850	462533	4345982	46.5
30	91558.48	0.025679	2351	452134	3883448	42.4
35	89207.38	0.032486	2898	439083	3431314	38.5
40	86309.43	0.044026	3800	422204	2992231	34.7
45	82509.59	0.043082	3555	403944	2570027	31.1
50	78954.88	0.069462	5484	380859	2166082	27.4
55	73470.51	0.041636	3059	359885	1785223	24.3
60	70411.48	0.099329	6994	336246	1425338	20.2
65	63417.57	0.152232	9654	292551	1089092	17.2
70	53763.38	0.111917	6017	253883	796541	14.8
75	47746.36	0.205859	9829	215549	542658	11.4
80	37917.34	1	37917	327109	327109	8.6

Reference

Central Statistics Office (April 1987) *1981 Population and housing census Analytical report* Government Printer.

Central Statistics Office (August 1972) *Report on the population census 1971* Government printer.

Central Statistics Office and UNICEF (November 1994) *Selected demographic and socio-economic indicators; National summary data by districts; 1991 population and housing census*. Volume 1.0 Central Statistics Office (12 May 1993) Stats update.

Coale Ansley J, Demeny Paul and Barbara Vaughan (1983) *Regional model life tables and stable populations*. Second edition. Academic press.

Hill Althea and Hill Kenneth (1988) *Mortality in Africa: Levels, Trends; differentials and prospects* (Chapter 5, p67-84) IUSSP.

Majelantle R. G. and Bainame K (1995) *Regional variations in the levels of Mortality*.

INFANT AND CHILDHOOD MORTALITY LEVELS AND TRENDS IN BOTSWANA

By Rolang G. Majelantle
Department of Population Studies
University of Botswana

Content

This Paper will be based on the, Botswana Demographic Survey (2006) and the 2001 2011 Population Censuses data. The 2011 Population Census allows us to estimate the past and current levels of Infant and childhood mortality.

The paper will explore whether there still exist Mortality differentials between the urban and the rural areas. Infants and children in the urban areas enjoy higher chances of survival than their rural counterparts. The paper will also explore at national and district level whether the girl child enjoys relatively higher chances of survival than the boy child as shown by finding from previous censuses.

Relevance to Policy

One of the Demographic targets set in Botswana National Population Policy was to reduce infant mortality from 0.048 in 1991 to 0.027 in the year 2011. The Revised National Population Policy seeks to reduce Infant Mortality and Under-five mortality to 0.023 and 0.029 by 2020 respectively, the paper will find out whether we are on track. This target was based on the remarkable infant mortality declines recorded during the decade 1981 to 1991 and the reversal of the decline between 1991 and 2001; it is the purposes of this paper to explore how far we are in reaching that target. It may be imperative for the Government to re-draw the targets if there is no improvement during the Decade 2001 to 2011.

Methods

The estimation of childhood mortality in the absence of reliable vital statistics is normally based on information collected from mothers about the number of children ever born and how many of these are still alive. Data on the average number of children ever born alive, by age of mother, and average number of children surviving at the time of the census or survey are employed to estimate the proportion of children died.

The estimation procedure is based on the assumptions that fertility and mortality levels and patterns have remained constant in the recent past and the risk of dying of a child is a function only of the age of the child and not of other factors. The probabilities of dying between birth and certain ages can then be estimated based on the proportion died among children ever born by five year age groups of the mothers. (Note that the assumptions proposed could pose some problems if fertility and mortality levels and patterns have been changing in the recent past as was the case between 2001 and 2010).

Secondly estimates on infant and childhood mortality should be interpreted with caution. This so because estimates on infant and childhood mortality for the recent past (2010-2011) are based on information obtained from women aged 15 – 19 years, and this group happens to experience heavier mortality because of their biological and socio-economic characteristics.

The estimates on infant and childhood mortality rates were obtained using computer software for the estimation of mortality called MORTPAK and Q5.

The technique used here provides us with estimates of infant mortality (IMR), childhood mortality rate 4q1 and the probability of dying before age five (q5).

In this paper we look at the estimates obtained using the 2001 census, 2006 Demographic survey and the 2011 census data

The estimation of Infant and childhood mortality is based on information collected from mothers about the number of children ever born and how many of these are still alive. Data on the average number of children ever born alive, by age of mother, and average number of children dead at the time of the census can be employed to estimate Infant and childhood mortality (under five mortality) at National and District level by gender using Indirect estimation techniques if certain assumption holds. Unfortunately for the 2011 census the estimates are highly biased because the assumption underlying the estimation techniques gives highly biased estimate as a result of recent drastic changes in mortality as a result of the success of the prevention of mother to child transmission programme, the national ARV programme and other government intervention programme aimed at improving the health and nutritional status of infants and children.

We do not have any choice but to rely on direct estimates of infant and childhood mortality from the 2011 census.

Levels and Trends in Infant Mortality

We start by looking at the levels and trends in infant mortality estimated from the 2001 census data and the 2006 Botswana Demographic Health survey estimated using indirect estimation techniques.

Figure 1 below and tables 1, shows the levels and trends in Infant Mortality rates for the national, rural and urban populations from 1986 to 2001 as estimated from the proportion dead among children ever born using the 2001 data. The estimates indicates that Infant Mortality Rates for the national population dropped from 49 deaths per 1000 births in 1987 to 40 births per 1000 births in 1993 and increased to 54 deaths per 1000 births in 2001. The rural and urban populations experienced similar trends with the rural populations showing higher levels of infant mortality compared to the urban populations.

The gains in the chances of survival for infants experienced in the 1990's have been lost between 1991 and 2001 mainly due to the HIV/AIDS epidemic.

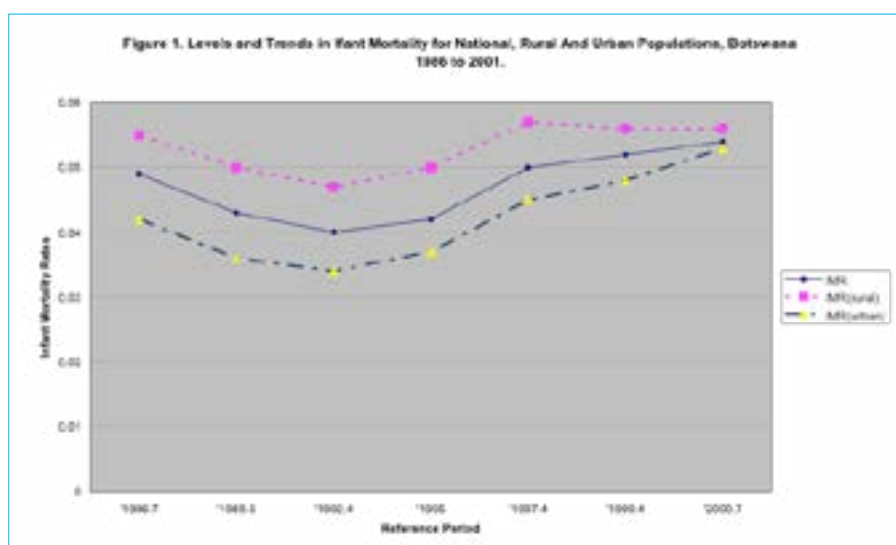
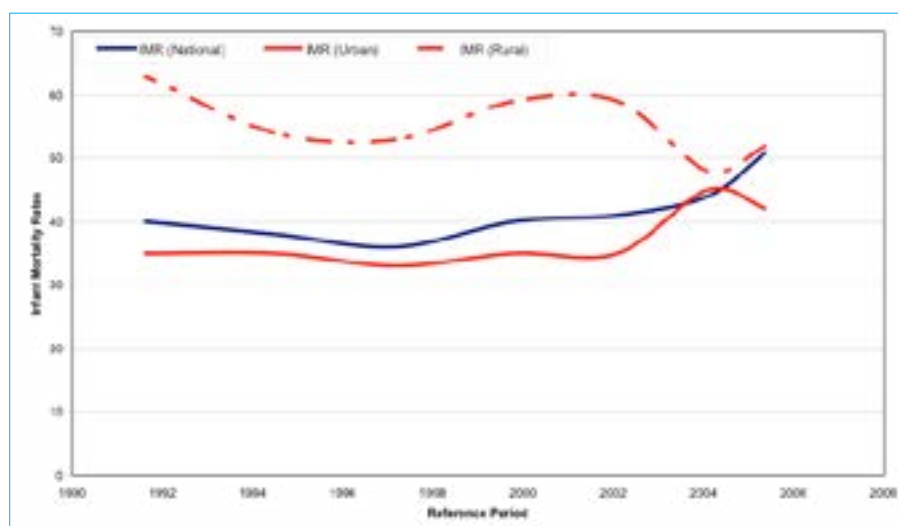


Figure 2 below shows the levels and trends in Infant Mortality rates for the national, rural and urban populations from 1992 to 2005 estimated from proportion dead among children ever borne from the Botswana Demographic Survey, 2006(BDS,2006)

The estimates indicates that Infant Mortality Rates for the national population was estimated at 40 per 1000 in 1992, this figure dropped to 38 and 36 per 1000 in 1994 and 1997 respectively. The year 2000 saw an increase in infant mortality rate by four (4) points from the 1997 estimate of 36 per 1000. The increase is sustained over the period 2000 to 2005, reaching a high of 51 per 1000 in 2005. The rural and urban populations have also experienced similar trends; however, the rural population showed higher levels of infant mortality rates overtime when compared to the urban population.

Figure 2: Levels and Trends in Infant Mortality Rates for National, Urban and Rural Population, Botswana 1992-2005(BDS 2006)



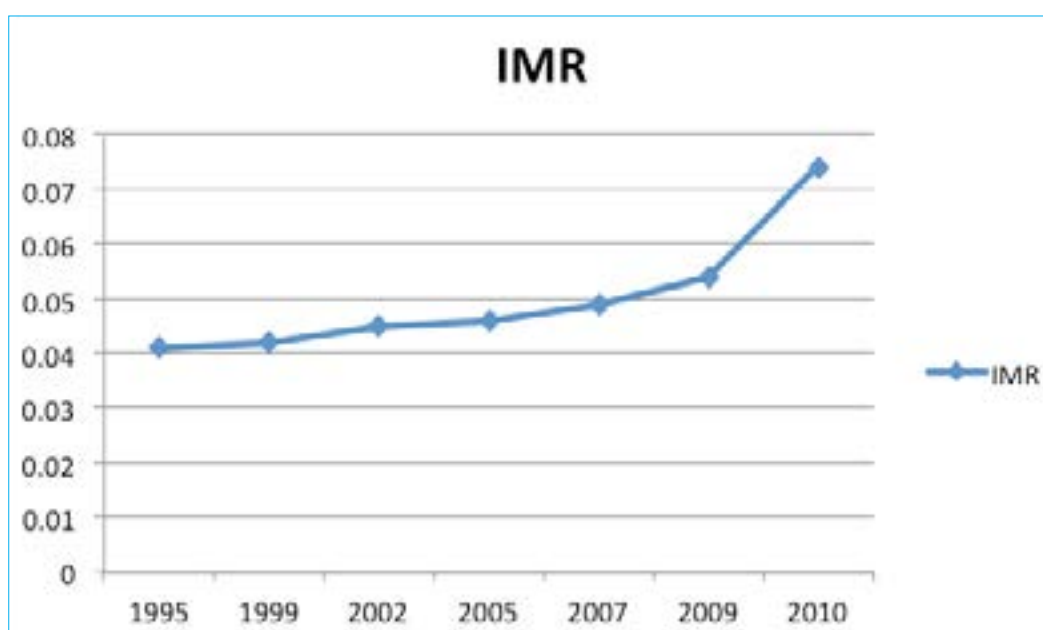
The 2011 census data yield biased estimates of infant and childhood mortality using the same techniques employed using the 2001 census and the BDS, 2006 data sets.

The estimates of infant and childhood mortality are increasing from 1995 up to 2010. The levels and trends of infant and childhood mortality based on indirect techniques using proportion dead among children ever born from the 2011 census should not be used. The reason why they should not be used is that there is evidence based on direct estimates which shows that mortality drastically declined from 2005 to 2010 rendering the use of such techniques questionable because as mentioned before they only work in conditions where there was no change in fertility and mortality in the recent past. (See figure 3.)

Figure 3, Levels and Trends in Infant mortality using the 2011 Census data.

Date	IMR
1995	0.041
1999	0.042
2002	0.045
2005	0.046
2007	0.049
2009	0.054
2010	0.074

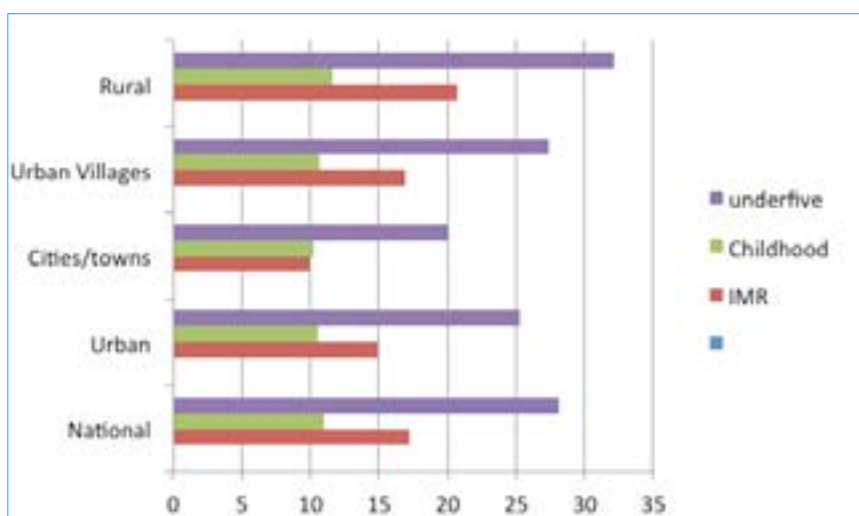
Figure 3. Trends and Levels Infant Mortality Rates Botswana 2011



Direct estimates of infant mortality show that it now stands at 17 deaths per 1000 live births during the year preceding the 2011 population census. Level of IMR is higher in the rural area at 21 compared to the urban areas where it is estimated to be 15. Those in cities/towns are exposed to very low levels of chances of dying during the first year of life compared to rural villages where the estimates of IMR stands at 10 and 17 respectively.(see figure4.).

Figure 4. Estimates of Infant, Childhood and under-five mortality for Botswana and Type of Locality

Locality	IMR	Childhood	under-five
National	17	11	28
Urban	15	11	25
Cities/towns	10	10	20
Urban Villages	17	11	27
Rural	21	12	32



Sex differentials in Infant Mortality

At national level Figure5 below shows that the probability of dying before age one is slightly higher among males compared to females at 18 infants deaths per 1000 live births and 17 respectively.

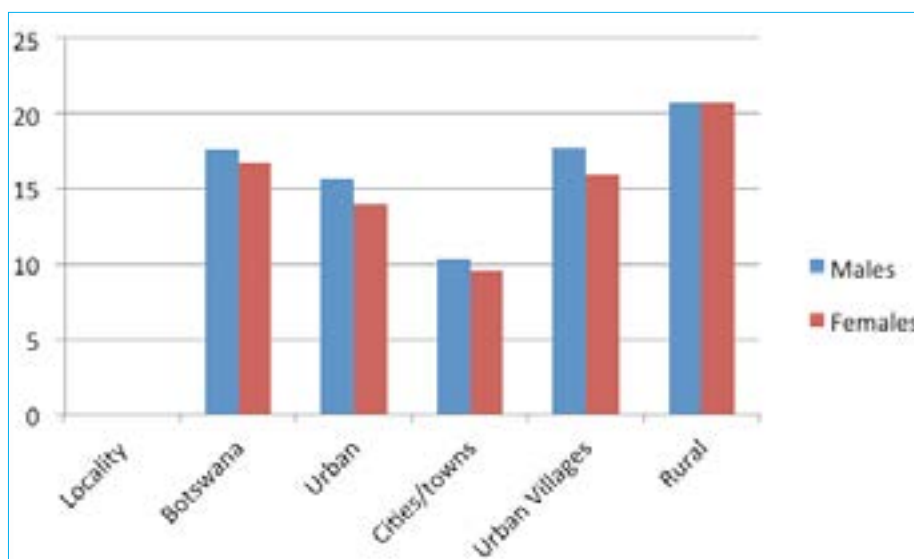
Male infants in the rural areas experienced the same mortality level (21 deaths per 1000 births) as female infants during the year preceding the 2011 census.

In urban area female infants experience lower mortality compared to male infants (with an infant mortality rate of 14 deaths per 1000 births and 16 respectively).

All most the same sex differentials are seen in cities/towns and urban villages with the gap been narrow in cities/towns.

Figure 5: Direct estimates of Infant Mortality (1q0) for Botswana and by type of Locality

	Infant mortality rate	
	Males	Females
Botswana	18	17
Urban	16	14
Cities/towns	10	9
Urban Villages	18	16
Rural	21	21



The 2011 data just like the previous data set shows that infant mortality also vary by districts. In table 3 below, the districts are ranked according to the level of infant mortality for both sexes combine starting with the districts with the lowest level of childhood mortality.

Gaborone, South East district, Francistown reported the lowest level of Infant mortality of 6, 9 and 11 deaths among infants during the 12 months preceding the 2011 census per 1000 live births respectively.

Ngamiland, Kweneng West and Kgatleng have the highest level of Infant mortality of 28, 25 and 23 deaths among infants during the 12 months preceding the 2011 census per 1000 live births respectively.

There exist sex differentials in the level of Infant mortality by districts with females generally experiencing lower childhood mortality in some districts

Table3. Direct estimates of Infant Mortality rates by sex and District

District	Males	Females	(both sexes)
Gaborone	6	6	6
South east	10	9	9
Francistown	10	11	11
Central Boteti	14	12	13
North east	19	10	14
Kweneng east	15	14	14
Ghanzi	16	15	16
Ngwaketse	18	17	17
Central Tutume	17	20	19
Lobatse	17	20	19
Selebi Pikwe	25	13	19
Kgalagadi	19	21	20
Central Bobonong	20	20	20
Central Serowe Palapye	22	19	20
Barolong	18	24	21
Central Mahalapye	20	22	21
Kgatleng	24	19	22
Kweneng west	21	24	23
Ngamiland east	23	27	25
Ngamiland west	31	25	28

Levels and Differentials In Childhood Mortality

Childhood mortality is measured by the probability that a child reaching exact age 1 will die before reaching exact age 5 or the probability that a child reaching his or a first birth day will die before reaching the age 5. Figure 6 below gives us estimates of childhood mortality per 1000 children reaching age 1.

Childhood mortality estimates show almost a similar pattern as infant mortality estimates by sex and type of locality.

Nationally the direct estimate of Infant mortality for both sexes combined now stands 11 children deaths per 1000 infants reaching age 1 will die before reaching age 5.(see figure 4. Above)

Sex differentials in Childhood Mortality

At national level Figure6 below shows that the probability of dying between exact age one and exact age five is the same for males and female children and it stands at 11.

Male children in the rural areas experienced higher mortality level compared to female children(13 deaths per 1000 reaching age 1 dying before reaching age 5 and 11 per 1000 respectively) during the year preceding the 2011 census.

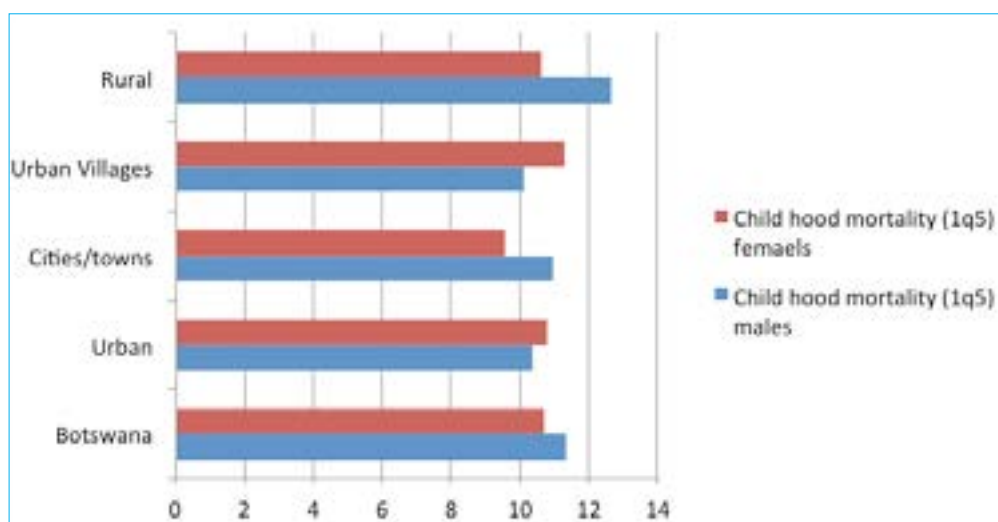
Generally in urban areas female children experienced slightly higher mortality compared to male infants (11 and 10 respectively); the same applies to those who resided in urban villages.

In cities/towns male children experienced slightly higher mortality compared to female children over the same period (11 and 10 respectively). (See figure 6 below)

Figure 6: Direct estimates of Childhood mortality (5q1) for Botswana and by type of Locality

Child hood mortality (1q5)

Locality	males	females
Botswana	11	11
Urban	10	11
Cities/towns	11	10
Urban Villages	10	11
Rural	13	11



Childhood Mortality by Districts

The 2011 data just like the previous data set shows that childhood mortality also vary by districts. In table 4 below, the districts are ranked according to the level of Childhood mortality for both sexes combined starting with the districts with the lowest level of childhood mortality.

The South East district and the North East districts experienced the lowest level of childhood mortality (7) in the 12 months preceding the 2011 census followed by Selebi-Phikwe (8) and Central Boteti, Kweneng West and Francistown with (9) Lobatse reported the highest level of childhood mortality (22) followed by Central Tutume with (17) with level of childhood mortality in all other districts ranging between (10) and (14).

There exist sex differentials in the level of childhood mortality by districts with females generally experiencing lower childhood mortality in some districts.

The following districts: Ghanzi; Ngamiland east; Ngwaketse; Central Mahalapye; Kweneng east; Francistown; South East and North East female children experienced higher mortality compared to male child over the same period.

Table4. Direct estimates of Childhood Mortality rates (5q1) by sex and District

District	Males	Females	Both sexes
South East	6	8	7
North East	6	8	7
Selebi- Pikwe	10	6	8
Central Boteti	12	6	9
Francistown	7	10	9
Kweneng West	10	8	9
Central Serowe Palapye	11	8	10
Kweneng east	8	12	10
Central Bobonong	12	9	10
Kgatleng	15	6	11
Gaborone	13	10	11
Central Mahalapye	11	12	12
Central Tutume	13	12	12
Ngwaketse	9	18	14
Kgalagadi	21	8	14
Barolong	19	10	14
Ngamiland east	14	15	14
Ngamiland west	18	11	14
Ghanzi	15	19	17
Lobatse	25	18	22

Levels and Differentials In Under-five Mortality

Under-five Mortality is measured by the probability that a newly born child will die before reaching exact age five or the probability that a newly born child will die before reaching age 5. Figure 7 below gives us estimates of under-five mortality expressed per 1000 newly born babies.

Nationally the direct estimate of under-five mortality for both sexes combined now stands 28 deaths among infants and children under five years old per 1000 live births (see figure 7 below). Under-five mortality is very high in the rural localities (32) and relatively low in Cities and Towns (20).

Sex differentials in under-five Mortality

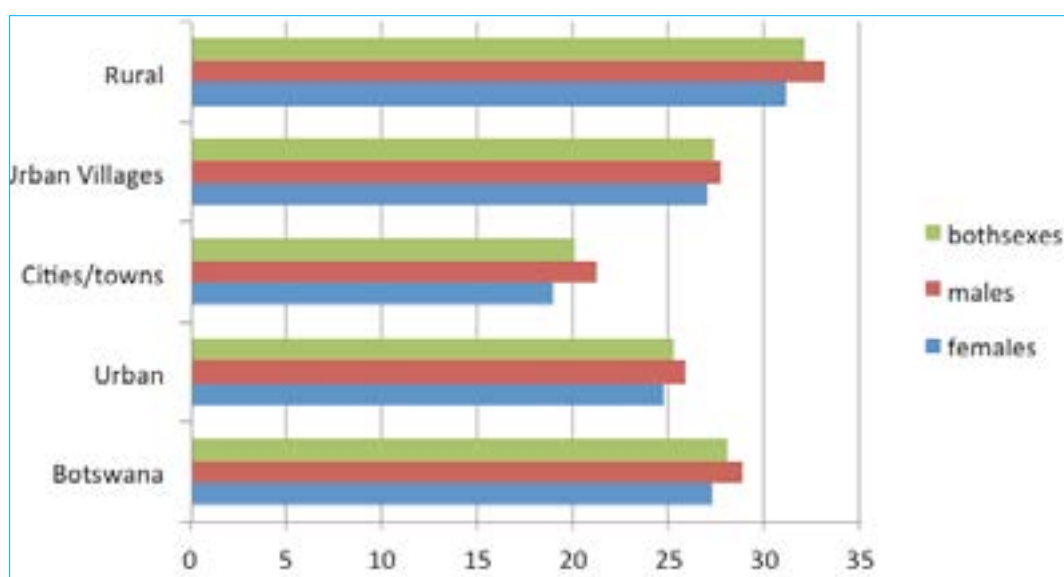
At national level Figure 7 below shows that the probability of dying between exact birth and exact age five is higher for the males (29) compared to the females (27).

Male children in all locality types experienced higher under-five mortality level compared to female children.

Figure 7: Direct estimates of under-five mortality for Botswana and type of Locality

The probabilities of dying between Birth and exact Age five.

	Females	Males	Both sexes
Botswana	27	29	28
Urban	25	26	25
Cities/towns	19	21	20
Urban Villages	27	28	27
Rural	31	33	32



Under-five Mortality by Districts

The 2011 data just like the previous data set shows that under-five mortality also varies by districts. In table 5 below show districts ranked according to the level of under-five for both sexes combine starting with the districts with the lowest level of under-five mortality.

The South East district (16), Gaborone (18) and Francistown (19) experienced under-five mortality level of less than 20.

Ngamiland west and Lobatse reported the highest level of under-five mortality of 42 and 40 respectively followed by Ngamiland east with 39.

There exist sex differentials in the level of under-five mortality by districts some districts with females experiencing lower childhood mortality in some vice versa.

Table 5. Direct estimates of Under-five mortality rates by sex and District

District	both sexes	Females	Males
South east	16	17	15
Gaborone	18	16	19
Francistown	19	21	17
Central Boteti	21	17	26
North east	21	18	25
Kweneng east	24	25	23
Selebi Pikwe	27	19	35
Central Bobonong	30	29	32
Central Serowe Palapye	30	27	33
Central Tutume	31	32	30
Ngwaketse	31	35	27
Central Mahalapye	32	34	31
Kgatleng	32	25	39
Kweneng west	32	32	32
Ghanzi	33	34	31
Kgalagadi	34	29	39
Barolong	35	33	36
Ngamiland east	39	41	37
Lobatse	40	38	42
Ngamiland west	42	35	48

Conclusions

It is clear that Infant and childhood mortality have gone down in Botswana across all districts and types of localities.

Secondly because of the decline in mortality the convention indirect estimation techniques using proportion dead among children ever cannot be used to analyze levels and trends of infant and childhood mortality. The estimates used relied heavily on life tables constructed from the reported distribution of deaths in the 12 months preceding the 2011 census. We could not assess how well these deaths were reported, but there is no doubt that deaths in Botswana have been generally well reported in surveys and censuses.

The rapid decline in infant and childhood mortality between 2001 and 2011 is not surprising. Over the decade 2001 to 2011 improved socioeconomic status (education, employment etc.) of the population have led to increased access and utilization of health services. Government programmes more especially, Prevention of Mother To Child Transmission (PMTCT), national ARV programme and nutrition programmes contributed immensely to the declines in Infant and Childhood mortality.

References

- 1) Bainame K. and Majelantle R. G. (1999) "Levels, Trends and Variations in Mortality in Botswana" in S.K. Gaisie and R.G. Majelantle (eds). Demography of Botswana: Change in Population Size and Structure. Mmegi Publishing House. Gaborone, 1999, pp.89-13
- 2) Rolang G. Majelantle & P. Sadasivan Nair (2005) Levels and Trends in Infant and Childhood Mortality in Botswana. Janasamkhya volume XXI, 2003:75-85.
- 3) R. G. Majelantle "Adult Mortality Levels and Trends in Botswana," Census Analytical Report (2003) Population and Housing Census, CSO, Gaborone.

FERTILITY LEVELS, TRENDS AND DIFFERENTIALS

By Prof. Gobopamang Letamo & Kenabetsho Bainame
Department of Population Studies
University of Botswana

1. INTRODUCTION

The current chapter presents an analysis of the Botswana 2011 Population and Housing Census data to establish fertility levels, differentials and trends in the country. It is hoped that the analysis will facilitate effective planning, implementation and monitoring of projects and programmes that are affected by fertility patterns.

The Chapter is organised into six sections. The second section provides a brief outline of the current trend in the levels and differentials of fertility in Botswana. The third section describes how and why the Census collected fertility data the way it did. The section further examines the quality of the data. The fourth section discusses different methods that could be applied to the data to derive estimates of fertility. This discussion is immediately followed by the results section that presents the estimates of total fertility rate (TFR). The last section discusses how the estimates fit in the existing trend of fertility levels in Botswana.

2. OVERVIEW OF LEVELS, TRENDS AND DIFFERENTIALS OF FERTILITY IN BOTSWANA

Previous studies on the levels and trends of fertility in sub-Saharan Africa (e.g. Kirk & Pilet, 1998; Kalipeni, 1995; Rustein & Blanc, 1994; Thomas & Muvandi, 1994; Cohen, 1993; Freedman & Blanc, 1992; Caldwell et al, 1992; and Cross et al. 1991) heralded three countries (Botswana, Zimbabwe, and Kenya) as the pioneers of the fertility transition that is currently underway in the region. Fertility began to decline in Botswana and Zimbabwe in the 1970s, while in Kenya the decline was first observed in the 1980s (Anderson, 2003). The TFR of Botswana decreased from 6.8 in 1970 to 3.1 in 2007 (Anderson, 2003; Population Reference Bureau 2007).

The 2006 Botswana Demographic Survey showed that the country's TFR fell by more than three points between 1971 and 2001, from 6.5 to 3.3 births per woman. Between 1971 and 1981, it increased slightly from 6.5 to 6.6 births per woman. In 1981 the TFR started a sustained decline, falling from 6.6 to 3.3 births per woman in 2001 and further declined slightly to 3.2 births in 2006 (Central Statistics Office, 2009). It is evident from this discussion that overall, Botswana is a country of a relatively low and declining fertility.

3. FERTILITY DATA

In developing countries, Botswana included, complete reporting of vital events remains a challenge. Therefore demographic parameters such as the TFR are estimated from household surveys or census data. Direct estimation of fertility levels from survey or census data from developing countries is often impossible because data obtained from questions on current fertility (i.e. births in the last 12 months before enumeration date) are usually fraught with problems. Generally, these data tend to yield lower age-specific fertility rates (ASFR), especially among younger women (Feeney, 1998). This consequently leads to lower estimates of TFR than is the case. The problem is addressed by employing indirect estimation techniques that involve applying some multipliers (derived from parity data), to adjust the observed ASFRs to arrive at a more reliable approximation of TFR (United Nations, 1983).

Firstly, the 2011 census collected the two pieces of information required for indirect estimation of fertility. Parity data were gathered by asking women aged 12–49 years at the time of enumeration what are commonly referred to as Brass-type questions (i.e. questions on parity/total number of children (live births) ever born (CEB), and its components, children surviving and children dead. Secondly, the 2011 census asked the women to provide the full date (day, month, and year) of their last birth. This information can be used to derive the number of births that occurred within the last 12 months into the survey and hence facilitate the calculation of ASFRs and the TFR.

In an attempt to address the problems that were encountered with parity data in the past (e.g. women reporting surviving children as total children ever born), the 2011 census asked detailed filtering questions for each of the components that constitute the total number of children ever born. Thus, in addition to responses to the question on the total number of live births that a woman had experienced at the time of enumeration, she was also asked to report on the total number of children that are male and those that are female. In addition, the woman was asked to report, by sex of the child, the total number of children that live with her in the household in which she was enumerated and the number living elsewhere. Finally, she was also required to give the total number of her children that had died and disaggregate the number by sex of the children.

3.1 Assessment of data

The reliability of age specific fertility rates (ASFRs) and consequently TFR estimates obtained from Brass-type questions depends on the quality of reported parities as well as the quality of the data on births in the last 12 months before survey. However, the accuracy of these data also depends on the quality of age reporting among women of reproductive ages (Arriaga, 1994; Retherford&Mirza, 1982). In the next sub-sections, the report examines the quality of age data, parity data and the current fertility data.

3.1.1 Quality of age data

The first step is to examine the edited 2011 census data for age reporting errors. Various methods have been developed to assess deficiencies in age data. These include the Whipple's index, the Myers' blended index, Bachi index and the United Nation's age-sex accuracy index. The Whipple's and Myers' indexes perform analysis of digit preference in reported single year age distributions whilst the UN age-sex accuracy index provides a picture about the accuracy of age data by combining analysis of age ratios and analysis of sex ratios (Shryock et al. 1976; Arriaga, 1994).

Table 1: Summary Indices of Age Misreporting, Botswana 2011 Census

Index	Male	Female	Both Sexes
Whipple's	1.01	1.00	1.01
Myers	2.3	2.3	2.2
Bachi	1.1	1.3	1.2

In order to get a broad picture about the magnitude of age preference, Whipples, Myers and the Bachi indices were computed separately for males and females and for both sexes combined (see Table 1). The respective values are 1.0, 2.2, and 1.2 for both sexes. All three indices support the argument that age reporting was accurate. On the basis of Whipple's Index, the quality of age reporting in the Botswana's 2011 census data is very good, with Whipple's Index of 101 for males, 100 for females and 101 for both sexes. These data show that there was no digit preference for "0" or "5". Myers' index was computed to detect preference for certain terminal digits. Myers indices show that there was no digit preference in the 2011 census data. Myers Indices of 2.3 for males and females separately and 2.2 for both sexes combined were reported for the 2011 census data. The indices show no digit preference.

This report also employed the United Nations' age-sex accuracy index (Shryock et al. 1976; Arriaga, 1994) to evaluate the quality of age data in the 2011 census. The method was selected because it uses age data (in 5-year age groups) for both sexes and consequently provides an overall evaluation of age and sex data in a population. Although our interest is on the quality of age data for women in reproductive ages, it is an added advantage to know the overall quality of the data in the 2011 census. The index uses sex ratios and age ratio scores (for both sexes) to assign a composite score that shows the relative ranking of the quality of a given age-sex population distribution (Shryock et al. 1976; Arriaga, 1994). The UN classifies population age-sex structures into three categories: 1) accurate – if the index score is less than 20; 2) inaccurate – if the score is between 20 and 40; and 3) highly inaccurate – if the score is above 40. The results from the UN age-sex accuracy index indicate that the 2011 population census age data are not of good quality, with an index score of 21.0. However, this figure is slightly above the cut-off point of 20 score reflecting good quality data.

3.1.2 Quality of parity data

The report follows a three-step approach in evaluating the quality of the parity data collected in the 2011 census. In the case of age data, the report firstly examines the quality of the data by examining their internal consistency. This approach involves checking the distribution of women by reported children ever born, looking for implausible figures in the reports. Specifically, the report checks for the reported numbers of CEB that are physiologically not possible or not consistent with what is known about fertility behaviour in Botswana. The second assessment of the CEB data involves an evaluation of the pattern of average parities by age of mother and consistency checks in the reported average parities in 2011 census and other datasets, to determine whether cohorts of women reported consistent numbers of CEB. This type of evaluation is, however, suited for the terminal ages of the reproductive life span because less childbearing occurs in those ages. The final assessment employs the diagnostic properties of the P/F (Parity/Fertility) ratio method (Brass et al. 1968) to evaluate the accuracy of parity data in relation to current fertility data in the 2011 census.

3.1.2.1 Distribution of women by age and parity

Table 1 shows the distribution, by age group and reported CEB, of all women in the childbearing ages. The overall table shows that the 2011 parity data are consistent with the expected trend, which may imply that data are of good quality. For instance, as expected, the proportion of childless women decreases with age. The table also shows evidence of suspicious age-specific reporting of CEB. For instance, some women in the age group 15-19 reported up to 10+ children. Although these parities are possible with multiple births, they are highly unlikely.

Table 2: Distribution of women of reproductive ages by parity and age, Census 2011

Age group	Total Children Ever Born (CEB)											Total	
	0	1	2	3	4	5	6	7	8	9	10+		
	N	N	N	N	N	N	N	N	N	N	N	N	
15 - 19	59724	135	3	1	3	0	0	1	0	0	0	0	59867
20 - 24	96972	7529	1133	204	56	29	2	1	0	0	1	105928	
25 - 29	52474	32728	13081	3615	877	202	69	30	15	8	2	103101	
30 - 34	26028	35501	26392	12038	4531	1490	436	142	72	25	3	106658	
35 - 39	11498	20805	23858	15862	7937	3531	1553	602	231	82	67	86027	
40 - 44	5884	10824	16671	14047	9043	5116	2712	1344	640	284	219	66784	
45 - 49	3245	5720	9966	10396	8198	5354	3341	2017	1150	583	560	50530	
Total	257980	116797	97808	64175	38265	21462	12279	6901	3839	1893	1077	623275	

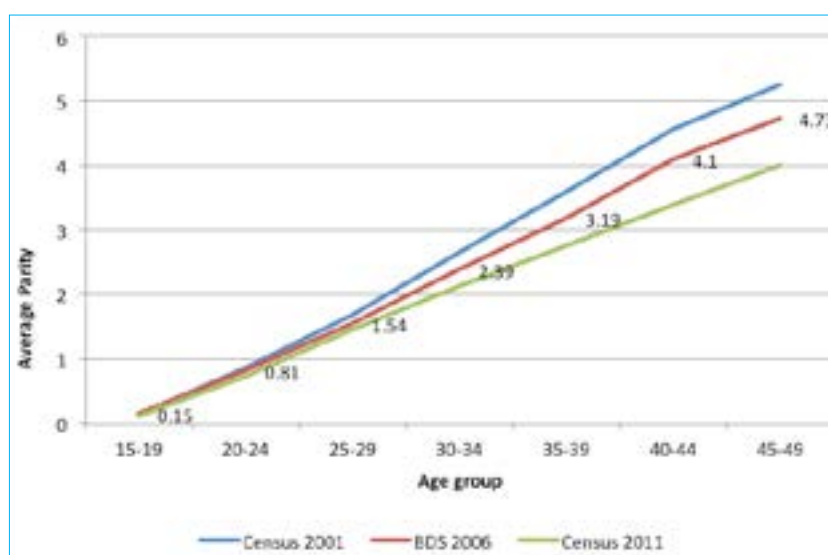
1.2.2 Consistency check of average parities in 2011 census

This part of evaluation involves an assessment of consistency in the reported average parities, to ascertain whether cohorts of women reported consistent numbers of CEB over time. It requires that the census data are compared with data from other sources and, as earlier mentioned, is suited for the terminal ages of the reproductive life span because less child bearing occurs in those ages. Figure 1 compares the average parities by age group of women in reproductive ages in the census with corresponding average parities in the 2006 Botswana Demographic Survey and 2001 population census.

Figure 1 show that the average parities from the 2011 are in the expected direction when evaluated in concert with what was observed in the 2006 BDS and 2001 population census.

As expected when the data are of good quality, all the three data sources show average parities that increase rapidly with age. In addition, the 2011 data are consistent with the 2006 BDS and 2001 population data sources when using parity of cohorts of women over time. The average parities shown in Figure 1 suggest a decline in fertility between 2001 and 2011. This trend is commensurate with what is known about fertility trends in Botswana.

Figure 1: Average parities by age group of women, 2001-2011



3.1.2.3 Patterns of the P/F ratios observed in the 2011

In addition to it being a technique for estimating TFR, the (Brass, 1968) P/F ratio method can also be employed as a diagnostic tool in the evaluation of fertility data obtained in a survey or census (Chahnazarian, 1993; Rutenberg & Diamond, 1993; Hobcraft, Goldman & Chidambaram, 1982; Trussell & Hill, 1980). The method assumes that fertility has been constant in recent years, and errors in the data on current births are not correlated with the age of the mother. In the application of the method, mean parity equivalents (Fis) are estimated and compared with reported mean parities (Pis). The P/F ratios by age serve as indicators of the consistency and accuracy of the two sets of data.

The application of the P/F ratio method in the evaluation of 2011 census data shows that ratios are above unity, ranging from 1.10 to 1.39 (see table 3). This pattern implies three scenarios. The first is that there is an error of underreporting of current fertility relative to lifetime fertility. Secondly, that pattern suggests a declining fertility trend in Botswana in the recent past. Finally the pattern may imply that mean parities were over-reported. The first two scenarios are more probable while the last one is highly unlikely given existing evidence.

Table 3: Trussell P/F Ratio Technique, Botswana 2011

Age	Reported ASFR (f_i)	Average CEB (P_i)	Cumulative fertility Phi (i) ($5 \cdot f_i$)	F(i)	P/F ratio
15-19	0.039	0.102	0.195	0.08	1.279
20-24	0.138	0.728	0.883	0.595	1.223
25-29	0.137	1.448	1.567	1.299	1.115
30-34	0.117	2.12	2.15	1.926	1.1
35-39	0.09	2.751	2.598	2.433	1.131
40-44	0.045	3.384	2.821	2.735	1.237
45-49	0.014	4.002	2.893	2.877	1.391
Total	2.893				

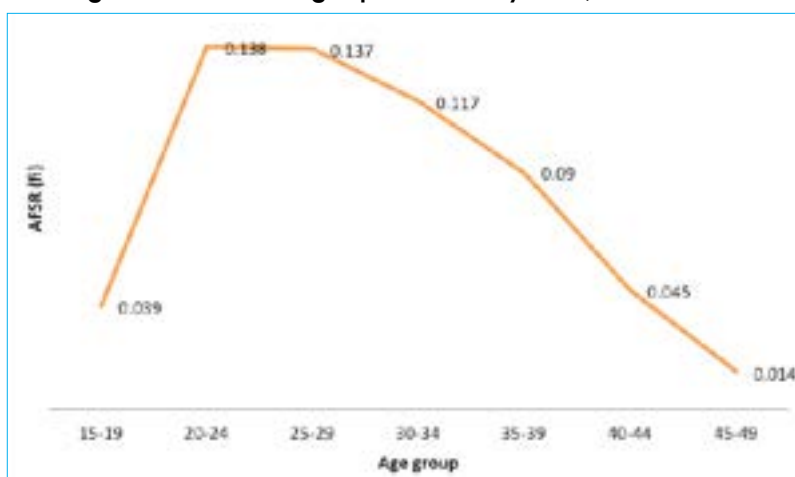
3.1.3 Quality of data on births in the last 12 months before enumeration

Women aged 12-49 years were asked to provide the number of children born alive since Independence Day 2010. This approach sought to address the known problem that women (especially younger ones) tend to underreport births when responding to the question on births during the 12 months prior to a survey/census. This section of the chapter briefly evaluates the 2011 census data, focusing on the observed patterns of ASFRs. It uses the 12-month period encompassed by Independence Day (30 September) 2010 and Independence Day (30 September) 2011 as reference. Accordingly, all births that occurred during the reference period are used to calculate ASFRs and the TFR.

3.1.3.1 The observed ASFRs

Figure 2 shows the pattern of the ASFRs obtained from the data in the last 12 months which looks plausible and suggests that the 2011 population data could be used to derive credible fertility estimates. The graph shows the ASFRs that are consistent with what is known about fertility behaviour of Botswana's population.

Figure 2: Observed age specific fertility rates, Botswana 2011



The calculation of current fertility using a direct estimation method gives a TFR of 2.89. Because the assessment of the quality of data suggests that the census data are of good quality, this estimate can reliably be used as the correct estimate of the average number of children born per woman. In order to satisfy ourselves, we used an indirect estimation technique by Arriaga to estimate TFR and obtained a similar estimate of TFR, 2.78.

3.1.4 Conclusion on the assessment of fertility data

In light of the preceding evaluation of the quality of different aspects of fertility data collected in the 2011 population and housing census, the following conclusions were made:

- The shape of the current fertility schedule obtained in the 2011 census suggest that the data are of good quality;
- The data assessment methods exhibit that the Botswana census data are of good quality and this evidence was obtained from the Whipples, Myers and Bachi indices. However the UN Age-Sex Accuracy Index shows that the quality of age data is not good.

4. Methods used to estimate fertility levels

Several techniques could be employed to indirectly estimate fertility levels from parity and current fertility data as obtained in the 2011 census. The main techniques are discussed below.

4.1 The P/F Ratio Method

The P/F ratio method is based on the following assumptions: (1) fertility has been constant in the recent past; (2) the level of underreporting of births in the year prior to the census/survey does not vary by age; (3) data on CEB for younger women (up to 35 years of age) are more completely reported than births in the previous year (Feeney, 1998; United Nations, 1983); and (4) age misreporting among women of childbearing ages is negligible.

The assumptions do not quite hold in the current Botswana situation. For instance, the crucial assumption of constancy of fertility in the period immediately before a census/survey data collection is not true for the country's population. Several studies (e.g. CSO, 2009; Letamo and Gaisie, 1999; Thomas and Muvandi, 1994; Rutenberga and Diamond, 1993) have shown that fertility has been declining in the country since the 1980s. This trend is corroborated by the average parities shown in Figure 1, which indicate that fertility continued to decline during the period 1996–2006.

Some refinements to the method have been proposed. These include: (1) the Feeney (1998) approach; and (2) the Synthetic cohort P/F ratio method. The calculated P/F ratios indicate that the P/F ratio method cannot be used to adjust ASFRs as the ratios are three times above unity, which could indicate the declining fertility. Some of the indirect techniques require certain assumptions regarding the past course of fertility. For example, the Brass P/F Ratio method requires fertility to have remained unchanged. If this method is applied to data when fertility has been declining, as is currently the case in Botswana, it overestimates current fertility. The estimated TFR from P/F Ratio method was 3.2 based on the adjustment factor of averages of P_3/F_3 and P_4/F_4 which is highly likely to be an overestimate. Therefore, it was decided that because one of the key assumptions of the P/F ratio method has been violated, it cannot be used to provide reliable fertility estimates in the context of Botswana.

4.2 The Gompertz Relational Method

The method fits a Gompertz function to data on average number of children ever born or ASFRs, by age of women. The advantage of the method is that it provides estimates of TFR based on each 5-year age group in childbearing ages, which allows for inferences about trends in the level of fertility (Arriaga, 1994). Another attractive property of the Relational Gompertz method is that it is flexible enough to fit good data well but bad data badly (Udjo 2009). The main limitations of the method include: (1) the results obtained by applying the method are highly sensitive to errors in the reported numbers of children ever born by women; (2) estimates based on data for women aged 15–19 years are not reliable because data for these ages are sensitive to information errors; (3) the method is only well suited for populations with medium to high fertility (Paget & Timæus, 1994; Booth, 1984). Estimates derived from Gompertz relational method are rather high (see table 4). As such this method is not used to estimate fertility for Botswana.

Table 4: Calculation of corrected fertility rates using Gompertz Relational Method, Botswana 2011

		P_2/F_2	P_3/F_3	P_4/F_4	Avg ($P_3/F_3, P_4/F_4$)
Age	ASFR	-1.223	-1.115	-1.1	-1.108
15-19	0.039	0.0591	0.0538	0.0531	0.0535
20-24	0.138	0.1744	0.159	0.1569	0.158
25-29	0.137	0.1659	0.1512	0.1492	0.1502
30-34	0.117	0.1396	0.1272	0.1256	0.1264
35-39	0.090	0.1055	0.0961	0.0949	0.0955
40-44	0.045	0.0496	0.0452	0.0446	0.0449
45-49	0.014	0.0138	0.0126	0.0124	0.0125
TFR	2.8934	3.5391	3.2256	3.1838	3.2047

4.4 Methods used to estimate TFR

4.4.1 The Arriaga Method

Unlike the P/F ratio method, the Arriaga (1983) method does not make the assumption of constancy of fertility in the period preceding a survey/census. Based on a simulation model, Arriaga (1994) shows that under conditions of declining fertility, the number of children ever born by age of mother changes linearly from others under 35 years of age. This observation and the fact that parity reports for women under 35 years of age are usually of good quality, allow for linear interpolation of the data on children ever born per woman by age of mother from two or more censuses/surveys to derive estimates of children ever born for a one year prior (or posterior) to the date of the census/survey (Arriaga, 1994). Thus, having information on the average number of children ever born per woman by age of mother for two consecutive years, the cohort differences between them for each single year of age of the female population represent ASFRs by single year of age.

The method is affected by misreporting of children in older ages. However, as with the P/F ratio method, if an age pattern of fertility is available, such a pattern can be adjusted to the fertility level implied by the fertility rates derived from the information on children ever born. We use this technique to indirectly estimate TFR for 2011, alongside the direct TFR estimate.

5. Results

The fertility estimates presented according to levels, trends and differentials were derived from the Arriaga method. All other fertility estimation methods were considered inadequate especially where the method assumptions were violated.

5.1 Fertility Levels

Table 5 below shows estimates of fertility based on the Arriaga Method, with adjusted ASFRs based on different age groups. According to the estimates of fertility based on the Arriaga Method, total fertility rate for Botswana in 2011 was estimated to range from 2.7 to 3.0 depending on the age group used to adjust the ASFRs data. However the estimated TFR for Botswana is 2.78 derived from the adjusted ASFR and TFR based on women 25-34 because the technique recommends the adjustment factor close to mean age at childbearing which is 29.9 years. If the adjustment factor used to adjust ASFRs is for women aged 25-29 years, then the estimated TFR would be almost the same as the reported TFR, which are 2.898 and 2.893, respectively.

Table 5: Age-Specific Fertility Rates and Total Fertility Rates, by Maternal Age, Botswana 2011

Age group	Reported ASFR	Adjusted ASFRs based on age group			
		20-29	25-29	25-34	30-34
15-19	0.039	0.041	0.039	0.038	0.036
20-24	0.138	0.145	0.138	0.132	0.127
25-29	0.137	0.145	0.137	0.132	0.126
30-34	0.117	0.123	0.117	0.112	0.108
35-39	0.09	0.095	0.090	0.086	0.083
40-44	0.045	0.047	0.045	0.043	0.041
45-49	0.014	0.015	0.014	0.014	0.013
Total Fertility Rate	2.893	3.057	2.898	2.783	2.669
Mean Age	29.85	-	-	-	-

*Using Arriaga fertility estimate with adjusted ASFRs based on age group 25-29 which is 0.963.

The TFR estimate is plausible because it is consistent with fertility trends in the region. For instance South Africa's national TFR was estimated to be 2.8 and for the Black population TFR was 2.9 in 2006 (Statistics South Africa, 2010) and 2.43 in 2011. Namibia's TFR was estimated to be 3.2, Zimbabwe 3.2, Lesotho 3.1 and Botswana 2.7 in 2011 (World Bank, 2013). Therefore Botswana's TFR of 2.8 in 2011 appears to be a plausible estimate.

5.2 Fertility Trends

Data from the previous censuses show that fertility has been declining since the 1980s. Total fertility rate (TFR) was 6.6 children per woman in 1981 and decreased to 4.2 in 1991, 3.3 in 2001 and 2.8 in 2011 (see Table 6 below). Thus fertility decline has been sustained since the 1980s. An analysis of the age-specific fertility rates (ASFRs) show a substantial decrease in the 15-29 year-olds particularly between 2001 and 2011.

Table 6: Reported Age Specific Fertility Rates and Total Fertility Rates: 1971-2011

Age group	1971	1981	1991	2001	2011*
15-19	0.0955	0.1015	0.0536	0.0533	0.0375
20-24	0.2778	0.2599	0.1340	0.1713	0.1323
25-29	0.2760	0.2504	0.1338	0.2021	0.1316
30-34	0.2432	0.2336	0.1191	0.1296	0.1121
35-39	0.1983	0.1902	0.1023	0.0686	0.0863
40-44	0.1383	0.1341	0.0641	0.0258	0.0429
45-49	0.0709	0.0837	0.0358	0.0032	0.0139
TFR	6.5	6.6	4.2	3.3	2.8

*Using Arriaga fertility estimate with adjusted ASFRs based on age group 25-29 which is 0.963.

The completed family size is the number of children ever born by the end of reproductive period of a woman's life. It tends to exhibit much more stability than do age-specific fertility rates from year to year. Usually the average parity of women aged 45-49 is taken to represent the completed family size with the assumption that fertility of older cohorts are equal to the current fertility experience of women in childbearing ages. Evidence from Table 7 buttresses the consistent fertility decline since the 1980s. It is clear from Table 7 that both the completed family size and the TFR show a sustained decline since 1981. The completed family size shows that fertility declined from 6.5 children per woman in 1981 to 4.0 in 2011. TFR shows fertility declined from 6.6 in 1981 to 2.8 births per woman in 2011.

Table 7: Comparison of Completed Family Size and Total Fertility Rates by Age of Women:1971-2011

Year of Census	Age of women							TFR
	Completed family size							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1971	0.16	1.33	2.77	4.12	4.93	5.48	5.55	6.5
1981	0.26	1.46	2.76	4.16	5.24	6.15	6.46	6.6
1991	0.18	1.12	2.27	3.49	4.6	5.56	6.05	4.2
2001	0.13	0.85	1.68	2.65	3.6	4.56	5.25	3.3
2011	0.1	0.73	1.44	2.12	2.75	3.38	4.00	2.8*

*Obtained using Arriaga indirect estimation method

5.2 Fertility Differentials

Fertility differentials could be presented for the place of residence and employment status only because other characteristics had data problems resulting in implausible results. Table 8 shows the TFRs and mean number of children ever born to women aged 45-49 years by place of residence and employment status. As expected the fertility of women living in urban areas were much smaller than that of women residing in rural areas, for both the TFR and mean children ever born. Most of the difference between rural and urban fertility rates was a result of higher ASFRs among rural residents aged 15-24.

Table 8: Total fertility rates and mean number of children ever born by urban-rural residence, women's employment status, and marital status, Botswana 2011

Characteristic	Age specific fertility rates							Total fertility rate	Mean number of children ever born (45-49 years)
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Residence									
Rural	0.0408	0.1519	0.1435	0.1208	0.0936	0.0460	0.0148	3.1	4.2
Urban	0.0248	0.0886	0.1137	0.1017	0.0747	0.0369	0.0110	2.3	3.1
Employment status									
Not working									
Working	0.0347	0.1448	0.1655	0.1461	0.1142	0.0592	0.0178	3.4	4.5
	0.0741	0.1031	0.1113	0.1033	0.0813	0.0384	0.0126	2.6	3.6

From the information in table 8, it is also evident, using both the TFR and mean number of children ever born, that fertility is lower among women who reported that they were employed at the time of the census. This finding is consistent with other studies on this issue.

6. Discussion and Conclusions

Data from the 2011 population census appears good enough to enable direct estimation of fertility. The direct estimate of TFR is 2.9 which are similar to the 2.8 derived from the indirect estimation using the Arriaga method of fertility. The results of this analysis demonstrate that fertility in Botswana continues to decline, from a high of 6.6 children per woman in 1981 to 3.3 in 2001 and to 2.8 children per woman in 2011. Most of the fertility decline between 2001 and 2011 is accounted for by the decrease in the fertility of the 15-29 year-olds. Fertility rates of women residing in urban areas and those employed are consistently lower than those of their counterparts, which is consistent with previous research findings. The estimated TFR of Botswana for 2011 is resonates with those of other Southern African countries such as South Africa, Namibia and Zimbabwe.

Several other studies (e.g. CSO, 2009; Letamo and Gaisie, 1999; Thomas and Muvandi, 1994; Rutenberga and Diamond, 1993) have shown that fertility has been declining in the country since the 1980s. The sustained declines in fertility in Botswana have a huge importance in the change and shape of the population structure. This shift in the age structure contributes to a decrease in the proportions of the population under 15 years and an increase in the proportion of the population 15-64 years. In other words, this phenomena of "falling birth rate makes for a smaller population at young, dependent ages and for relatively more people in the adult age groups—who comprise the productive labour force" (Ross, 2004). The emergence of the new fertility dynamics allows for improvements in the ratio of productive workers to child dependents in the population – called the demographic dividend (Ross, 2004). In essence Ross (2004) argues that this allow for faster economic growth and fewer burdens on families.

Like many other developing countries, the demographic dividend represents an opportunity for Botswana to experience a period of accelerated economic growth as a result of population change. This will come in the form of (1) investments of increased income from a working "youth bulge" with fewer dependents behind it, (2) from prolonged investments in the economy of increased savings from cohorts moving into the older years (ECA and AUC, 2013).

Policy Implications

The economic benefits of the demographic dividend do not accrue automatically. Governments need to develop and implement appropriate policies to take advantage of the demographic dividend. The following is a brief of possible policies that can assist the country to realize the demographic dividend.

Health policies

Botswana needs to ensure sustained availability of voluntary family planning services and products in order to facilitate sustained fertility declines. Evidence from existing studies (e.g. Bongaarts, 1997) is that contraceptive use and fertility are inversely related to each other. For instance, one study found that fertility declines by an average of 1 to 2 children per woman following a rise of 16 percentage points in the contraceptive use rate (ECA, 2013). As such investing in voluntary family planning is critical for fertility declines.

Education policies

Investing in female education and prolonged educational attainment helps countries to reap economic growth benefits. The benefits of promoting female education and increase in enrolment and attainment include increased participation in the workforce, income earnings and economic revenues, status of women and individual efficacy (ECA, 2013). Additionally, better female education improves household health and nutrition and management of sick children and prevention of unintended pregnancies (ECA, 2013).

The education policies should also aim to promote the supply of a large and highly educated labour force which can easily be integrated into economic sectors (Lin, 2012). Skills specific to a country's strongest growing economic sectors need to be identified and training for the acquisition of these skills should be the focus of educational and employment programmes (ECA, 2013).

Labour policies

The creation of new jobs in expanding economic sectors needs to be synchronized with the production of skilled labour. Regulations should create a flexible job market to facilitate the absorption of the youth bulge into the growing sectors of the economy (Bloom, Canning & Sevilla, 2003). Deliberate efforts to promote gender-neutral hiring practices should be designed to target the growing number of females seeking participation in the workforce (Bloom, Canning & Sevilla, 2003). Supporting the development of local or indigenous entrepreneurs with the capacity to work with their foreign counterparts in mutually beneficial business relationships is important.

Fiscal policies

ECA (2013) stated that different types of fiscal policies have been found to favour increased capital accumulation needed to fuel growth. One of the key factors determining the accrual of capital formation is the establishment of free trade which have been observed to create higher rates of return on investment, mainly because of the market flexibility and structural capacity for expansion (Bloom, Canning & Sevilla, 2003). Diversification of trade portfolio away beyond agricultural materials and minerals to reduce vulnerability to commodity price fluctuations is critical (ECA, 2013). This move can solidify long-term growth which will promote additional external investments and allow for increased share in emerging markets.

It is also imperative to create favourable economic conditions for local savings and foreign investments by reducing the costs of doing business in the country (ECA, 2013).

In conclusion the following policy actions are recommended for harnessing the economic benefits of the demographic dividend: investing in higher quality education and larger quantity of education opportunities to match economic opportunities is required; investing in the creation of new jobs in growing economic sectors and the development of an adaptive labour market; and investing in fiscal frameworks to fuel capital accumulation for growth (ECA, 2013).

References

- Anderson B. (2003). Fertility, Poverty and Gender. In *Fertility: The Current South African Issues*. HSRC Department of Social Development. Available at: www.hsrcpublishers.ac.za (accessed 26 August 2013).
- Arriaga E.E. (1994). *Population Analysis with Microcomputers. Volume I. Presentation of Techniques*. New York: Bureau of the Census, UNFPA, USAID.
- Blanc A.K. and Rustein S.O. (1994). The demographic transition in Southern Africa: yet another look at the evidence from Botswana and Zimbabwe. *Demography*, 31(2):209–215.

- Bloom D, Canning D, Sevilla J. (2003). The Demographic Dividend: A New Perspective on the Economic Consequence of Population Change. Population Matters, RAND Corporation. www.rand.org/pubs/monograph_reports/2007MR1274.pdf
- Bongaarts J. (1997). The Role of Family Planning Programmes in Contemporary Fertility Transitions in Jones GW et al. Eds., The continuing Demographic Transition, Oxford: Clarendon Press: 422-444.
- Brass W. (1996). Demographic data analysis in less developed countries. *Population Studies*.50 (3): 451-467.
- Caldwell C.J.Orubuloye I.O. and Caldwell P.(1992). Fertility decline in Africa: a new type of transition. *Population and Development Review*, 18(2): 211-242.
- Central Statistics Office (2009).Botswana Demographic Survey 2006.Republic of Botswana, Gaborone.
- Chahnazarian A.(1993). The recent fertility rise in Haiti: new trends in favour of marital union. *Population: An English Selection*, 5. 43-72.
- Cohen B.(1993). Fertility levels, differentials and trends. In Foote, Hill and Martin (eds), *Demographic Change in sub-Saharan Africa*. Washington D.C.: National Academy Press.
- Cross A.R.Obungu W. and Kizito P.(1991). Evidence of a Transition to Lower Fertility in Kenya. *International Family Planning Perspectives*, 17(1): 4-7.
- Dorrington R., Timæus I.M., Moultrie T. and Nannan N. (2004).Provincial fertility and mortality in South Africa. *Southern African Journal of Demography*, 9(2): 27-57.
- ECA (2013).Creating and Capitalizing on the Demographic Dividend for Africa. Abidjan, Cote d'Ivoire.
- ECA and AU (2012). Unleashing Africa's Potential as a Pole of Global Growth, March. <http://new.uneca.org/era/era2012.aspx>
- Feeney G.(1998). A New Interpretation of Brass' P/F Ratio Method Applicable when Fertility is Declining. Available at: www.gfeeney.com (accessed 30 August 2008).
- Freedman R. and Blanc A.K.(1992). Fertility transition: an update. *International Family Planning Perspectives*, 18(2): 44-72.
- John Ross (2004). Understanding the Demographic Dividend. Available at: http://www.policyproject.com/pubs/generalreport/demo_div.pdf (accessed 09 December 2013).
- Kalipeni E.(1995). The Fertility Transition in Africa. *Geographical Review*,85(3): 286-300.
- Kirk D. and Pillet B.(1998). Fertility levels, trends, and differentials in Sub-Saharan Africa in the 1980s and 1990s. *Studies in Family Planning*, 29(1): 1-22.
- Letamo, G. and Gaisie, S.K. (1999).Fertility Levels, Trends and Differentials. In S.K. Gaisie and R.G. Majelantle (Eds).*Demography of Botswana*. Mmegi Publishing House. Gaborone: 77-88.
- Lin, J.Y. (2012). Youth Bulge: Demographic Dividend or a Demographic Boom in Developing Countries?" *Let's Talk Development*. The World Bank.January.<http://blogs.worldbank.org/developmenttalk/youth-bulge-a-demographic-dividend-or-a-demographic-bomb-in-developing-countries>
- Page J. and Timæus I.M. (1994). A Relational Gompertz Model of Male fertility: Development and Assessment. *Population Studies*, 48(2): 330-340.
- Population Reference Bureau, (2007).2007 World Population Data Sheet. Washington D.C.: Population Reference Bureau.

Retherford R.D. and Mirza G.M. (1982). Evidence of age exaggeration in demographic estimates for Pakistan. *Population Studies*, 36(2): 257–70.

Rutenberg N. and Diamond I. (1993). Fertility in Botswana: the recent decline and future prospects. *Demography*, 30(2): 143–157.

Shryock H Siegel JS and Associates, (1976). *The methods and materials in demography*. San Diego: Academic Press, INC.

Thomas D. and Muvandi I. (1994). The demographic transition in Southern Africa: reviewing the evidence from Botswana and Zimbabwe. *Demography*, 31(2): 217-227.

Trussell TJ and Hill K, 1980. Fertility and mortality estimation from the Panama Retrospective Demographic Survey, 1976. *Population Studies*, 34(3): 551-563.

Udjo E.O. (2009). Trends in the age pattern of fertility, 1995-2005, in the context of the child support grant in South Africa. *Development Southern Africa*, 26(2): 289-299. New York: M.E. Sharpe, Inc.

Udjo E.O. (2005). Fertility levels, differentials, and trends. In Zuberi, Sibanda and Udjo (eds), *The Demography of South Africa*. New York: M.E. Sharpe, Inc.

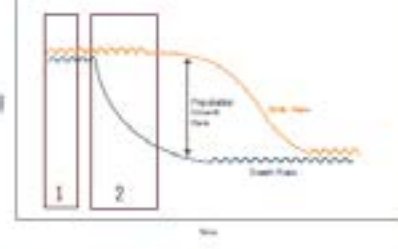
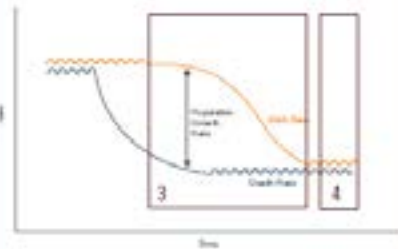
United Nations, (1983). *Manual X: indirect techniques for demographic estimation*. New York: Department of International Economic and Social Affairs, United Nations.

United Nations Economic Commission for Africa (ECA) and the African Union Commission (AUC) (2013). *Creating and Capitalizing on the Demographic Dividend for Africa*. Available at: http://www.jhsph.edu/research/centers-and-institutes/bill-and-melinda-gates-institute-for-population-and-reproductive-health/policy_practice/DD.pdf (accessed 08 January 2014).

World Bank (2013). Fertility rate, total. Accessed at <http://data.worldbank.org/indicator/SP.TFRT.IN> Accessed on 9 September 2013.

Appendix:

POLICY PRIORITIES TO CREATE AND CAPITALIZE ON THE DEMOGRAPHIC DIVIDEND

		Phase 1	Phase 2	Phase 3	Phase 4
Demographic Transition					
Fertility		High	High	Onset of and in decline	Declining to low
Child mortality		High	Rapid decline	Declining	Low
Adult mortality		High	No change	Declining	Rising
% of the population under age 15		-45%	-40%	-35%	-25%
Sector Policy Priorities	Economic	<ul style="list-style-type: none"> - Support subsistence economy, small farm production 	<ul style="list-style-type: none"> - Promote free trade - Stabilize financial markets to attract investors - Fight corruption - Invest in infrastructure 	<ul style="list-style-type: none"> - Promote free trade - Promote household savings - Diversify trade by good and destination - Invest in infrastructure 	<ul style="list-style-type: none"> - Focus on high-value, tech driven economic growth - Promote savings
	Labor	<ul style="list-style-type: none"> - Support agricultural employment - Promote creation of jobs in urban centers 	<ul style="list-style-type: none"> - Create productive jobs - Promote job flexibility - Promote gender-equal hiring practices 	<ul style="list-style-type: none"> - Create productive jobs (more rapidly) - Favor the creation of jobs in high value sectors - Support development of indigenous entrepreneurs 	<ul style="list-style-type: none"> - Lengthen working-age period - Invest in programs to employ older populations
	Health	<ul style="list-style-type: none"> - Invest in child health - Invest in family planning to reduce fertility 	<ul style="list-style-type: none"> - Expand/improve reproductive health and family planning outreach to reduce fertility - Meet contraceptive demand - Promote later marriage - Invest in child health 	<ul style="list-style-type: none"> - Invest savings from fewer dependents in MCH - Meet contraceptive demand 	<ul style="list-style-type: none"> - Sustain health of the workforce - Sustain contraceptive and MCH progresses
	Education	<ul style="list-style-type: none"> - Invest in education 	<ul style="list-style-type: none"> - Promote expansion of school enrolment & attainment - Target female education, including adult female education - Promote vocational training 	<ul style="list-style-type: none"> - Improve quality of education and ensure match between skills taught and skills in demand - Invest savings from fewer dependents in higher education - Focus on high-value, tech driven economic growth - Promote savings 	<ul style="list-style-type: none"> - Invest in adult education and job-retraining - Focus education towards skills needed for technology sector
Type of DD		None	None	DD1	DD2

URBANIZATION PATTERNS AND PROCESSES AND THEIR POLICY IMPLICATIONS IN BOTSWANA

By Prof. Thando D. Gwebu
Department of Environmental Science
University of Botswana

Introduction

The rate or level of urbanization refers to the percentage of the national population that resides in places classified as urban whilst the growth rate means the pace at which urbanization is increasing annually. Globally, the tipping point in the distribution of population between rural and urban settlements was reached in 2007 when over 50 percent of humanity became classified as urban (UN-HABITAT 2007).

Population projections indicate that by 2050, 95 percent of population growth will be concentrated in cities of the developing world (UNESA 2007). Southern Africa has a regional population of approximately 210 million, at least 100 million of whom already live in urban and peri-urban areas. By 2020, this figure is estimated to rise to 150 million and to then exceed 200 million by 2030 (UN-HABITAT 2008). With an annual urbanization rate that exceeds the global average and persistent and growing urban poverty, urban development challenges are set to intensify over the coming decades (AFSUN 10). Unless Botswana takes advantage of available Census data to make informed decisions, that are evidence-based, the country will be confronted with urbanization challenges that undermine sustainability.

This Chapter will examine recent urbanization patterns and processes in Botswana and assess their policy implications. Data for this Chapter were obtained from Statistics Botswana. Documentary information was also sourced from relevant reports and available literature on urbanization trends and processes. Intercensal data were converted to percent changes and annual rates of increase using the derivative of the geometric population change equation. Primacy indices were calculated and the rank size rule was employed to determine the extent to which the urban settlement system conforms to the normal distribution network. Finally, graphs and tables were used to depict and assess the current and emerging trends of urbanization. The Chapter is divided into four main sections. The first examines the spatial distribution of urban settlements in Botswana. The second analyses urbanization change and growth. The third discusses the urbanization trends in relation to the evolving national urban hierarchy. Finally, policy challenges arising from the patterns and trends of urbanization in the country are highlighted.

Distribution of Urban Settlements

Figure 1 shows the distribution of urban settlements in the country. The distribution of urban settlements is a surrogate indicator of regional development imbalances and the potential environmental footprints of population concentrations.

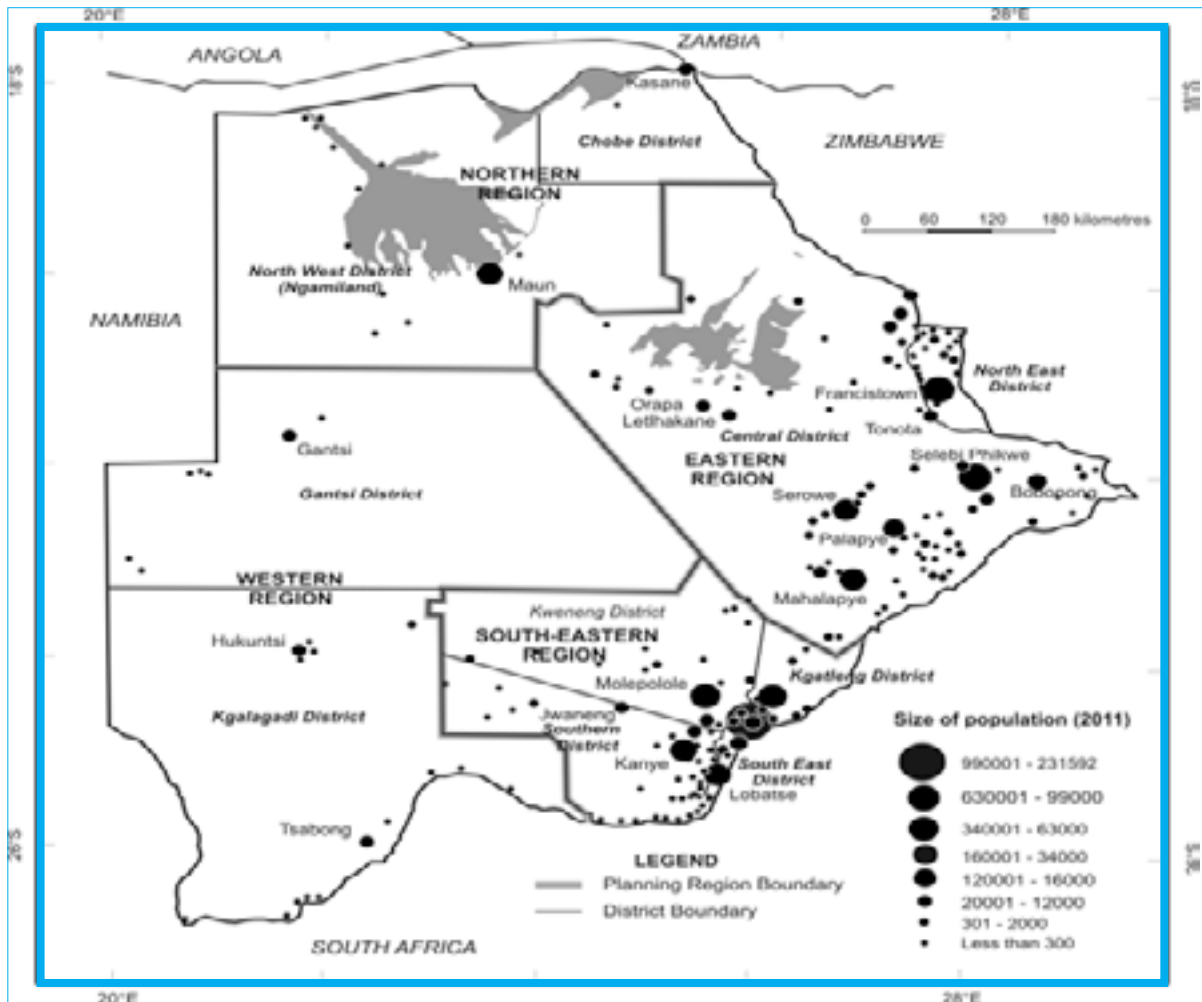


Figure 2: Location of Urban Centers by Planning Region

Source: Population & Housing Census 2011

There are variations in urbanization among the national Planning Regions. About 46 percent of the urban population is found in the South Eastern Planning Region, 40 percent in the Eastern Planning Region, 10 percent in the Western Planning Region and the rest in the Northern Planning Region.

Approximately 90 percent of the national urban settlements are concentrated on the hardveld where the ecological conditions are most favourable for human habitation and where investment in social services, commercial facilities and physical infrastructure is concentrated.

Urbanization Change and Growth

Table 1 shows population change and growth for the recent intercensal period.

Table 1: Urbanization Change and Growth

	1971	1981	1991	2001	2011	Percent Change* 2001-2011	Inter-censal annual growth rate** 2001-2011
Number of Urban Places	5	8	25	34	52	47.1	4.4
Total Urban	54 300	166 400	600 100	909 800	1297287	42.6	3.6
Total Population	596 900	941 000	1 326 800	1 680 900	2024904	20.5	1.9
Urban as a Percentage of Total Population	9.1	17.7	45.2	54.1	64		
Total urban village as percentage of total urban population	0.0	9.8	50.6	56.9	66		

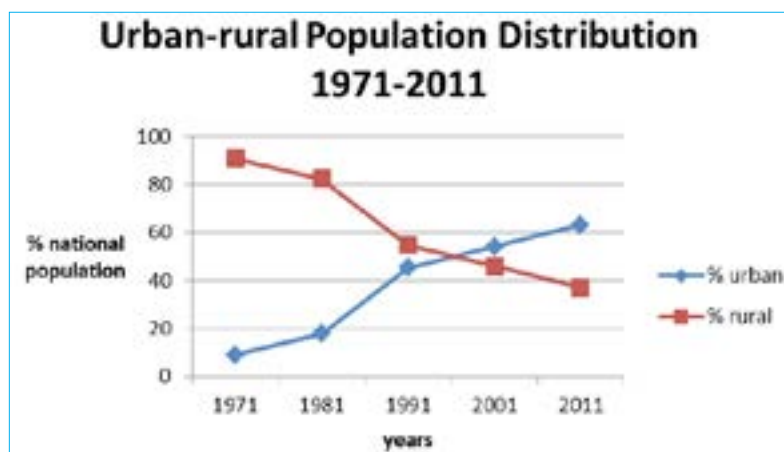
Source: Derived from Population & Housing Census 2011

*% Change = $(Pt - Po) / Po * 100$

**Annual growth rate r is a derivative of the geometric growth rate $Pt = Po(1+r)^n$

The total national inter-censal population change since 2001 was 20.5 percent. This is represented by an annual growth rate of 1.9 percent per annum. Urbanization has been on the increase. Since the 2001 census, the number of places classified has gone up from 34 to 52, a percent change of 47.1 percent. The number of urban places has thus been increasing at a rate of 4.4 percent annually. Overall urbanization has increased from 54 percent in 2001 to 64 percent in 2011. About 64 percent of the urban population resides in urban villages that constitute just above 40 percent of the national population.

From Figure 2, the national urban-rural tipping point came about between 1999 and 2000, when over half of the national population became classified as urban.



Although rural urban migration and natural increase play a role in urban population increase, this positive trend can be attributed, mainly, to the reclassification of the previously rural villages to an urban designation. This is attested to by the fact that the number of urban places increased by 18 and the population classified as residing in urban villages increased by 9.1 percent between 2001 and 2011.

Table 2 provides a closer picture of the growth trends for the respective urban settlements. The settlements can be broadly divided into Towns and Cities and urban villages. There are two Cities, namely Gaborone the national capital and Francistown. Lobatse and the diamond mining centers are Towns. Under Towns and Cities are included the Townships of Kasane, Ghanzi and Sowa. Urban Villages are settlements with populations of at least 5 000 with a minimum 75 percent of employees engaged in non-agricultural activities.

Table2: Annual Growth of Population in Urban Settlements, 1971-2001 ('000)

District	1971 000s	1981 000s	1991 000s	2001 000s	2011	Percent Change 2001-11	Growth percent annum 11/1/2001
Gaborone	17,7	59,7	133,5	186 007	231 592	24.5	2.2
Francistown	18,6	31,1	65,2	83 023	98 961	19.2	1.8
Lobatse	11,9	19,0	26,0	29 689	29 007	-2.3	-0.2
Selebi-Phikwe	4,9	29,5	39,8	49 849	49 411	-0.9	-0.1
Orapa	1,2	5,2	8,8	9 151	9 531	4.2	0.4
Jwaneng		5,6	11,2	15 179	18 008	18.6	1.7
Palapye		9,6	17,3	26 293	37 256	41.7	3.6
Tlokweng		6,7	12,5	21 133	36 323	71.9	5.6
Mogoditshane			14,2	32 843	58 079	76.8	5.9
Serowe			30,3	42 444	50 820	19.7	1.8
Mahalapye			28,1	39 719	43 289	9.0	0.9
Maun			26,8	43 776	60 263	37.7	3.3
Letlhakane			8,6	14 962	22 911	53.1	4.4
Kasane			4,3	7 638	9 008	17.9	1.7
Ghanzi			5,5	9 934	14 809	49.1	4.1
Sowa			2,2	2 879	3 598	25.0	2.3
Kanye			31,4	40 628	47 007	15.7	1.5
Moshupa			11,4	16 922	20 016	18.3	1.7
Ramotswa			18,7	20 680	28 952	40.0	3.4
Molepolole			36,9	54 561	66 466	21.8	2.0
Thamaga			13,0	18 117	21 471	18.5	1.7
Mochudi			25,5	36 962	44 815	21.2	2.0
Bobonong			7,7	14 622	19 389	32.6	2.9
Tonota			11,1	15 617	21 031	34.7	3.1
Tutume			10,1	13 735	17 528	27.6	2.5
Gabane				10 399	15 237	46.5	3.9
Kopong				5 571	9 312	67.2	5.3
Letlhakeng				6 032	7 229	19.8	1.8
Lerala				5 747	6 871	19.6	1.8
Shoshong				7 490	9 678	29.2	2.6
Mmadinare				10 918	12 086	10.7	1.0
Maitengwe				5 302	5 890	11.1	1.1
Gumare				6 067	8 532	40.6	3.5
Tsabong				6 591	8 939	35.6	3.1
Bokaa				3 812	5 680	49.0	4.1
Borolong				3 003	5 184	72.6	5.6
Good Hope				2 934	6 362	116.8	8.0
Kumakwane				3 139	5 545	76.6	5.9
Masunga				3 110	5 666	82.2	6.2
Metsimotlhabe				4 056	8 884	119.0	8.2
Mmopane				3 512	15 450	339.9	16.0
Nata				4 150	6 714	61.8	4.9
Oodi				3 440	5 687	65.3	5.2
Otse				5 192	7 661	47.6	4.0
Sefophe				3 821	6 062	58.6	4.7
Shakawe				4 389	6 693	52.5	4.3
Tati Siding				4 375	8 112	85.4	6.4
Mmathethe				4 415	5 078	15.0	1.4
Molapowabojang				4 869	7 520	54.4	4.5
Mmankgodi				4 997	6 802	36.1	3.1
Kang				3 744	5 985	59.9	4.8
Mathangwane				3 962	5 075	28.1	2.5

Source: Statistics Botswana 2011

Both cities experienced an urban population percentage change below the national urbanization figure of 42.6 percent. Similarly, their annual intercensal growth rates were below the national rate of 3.6 percent. Notably their rates show that they are now growing at a decreasing rate. The 1991-2001 annual growth rates for Francistown were 2.4 percent whereas that for 2001-2011 was barely 1.0 percent. Comparable figures for Gaborone were 3.4 percent and 2.2 percent, respectively. This could reflect the effects of urbanization diseconomies and the movement of the population within the Planning Areas of the Cities into the adjacent peri-urban localities.

Excluding Townships, the growth of Towns and Cities has not been that spectacular either. Although some of the Towns did experience a positive intercensal change, this was below the change experienced in the total urban population. The same can be said about their intercensal annual growth rates. Outmigration into the peri-urban settlements for cheaper land and less expensive accommodation might have accounted for these trends.

The performance of the two mining towns of Orapa and Jwaneng was equally lackluster due to the global economic downturn facing the diamond industry. Orapa is moreover a closed town with limited access to those who are not formally employed in it.

Selebi-Phikwe and Lobatse actually experienced negative growth. Phikwe has experienced the same problems as the diamond mining sector and, in spite of Government efforts to resuscitate its ailing economy, investor confidence has never been regained. The result has been that few risk-takers have come into its commercial and industrial sectors while some have relocated. Although the industrial base of Lobatse has broadened a little, it has remained over-dependent on the Botswana Meat Commission (BMC). Over the 2001 and 2011 period, BMC has experienced problems related to drought, FMD, restricted exports imposed by the EU and a wide range of internal management problems. Lobatse's relative location to Gaborone and South Africa have also made it relatively easier for its residents to relocate to alternative destinations in search of more secure and better economic and socio-economic opportunities.

Only the Townships recorded notable growth over the review period. Ghanzi Township had an impressive growth at 4.1 percent per annum. The settlement is the primary centre and headquarters of Ghanzi District, providing the highest order goods and services. Apart from employment offered by government and the service sector, population growth could also be related to the Trans-Kalahari highway and public transport, relocation of the Basarwa from CKGR, in-migration from adjacent districts and a slight decline in mortality and an increase in fertility.

Among the Townships, the growth of Kasane was second to Ghanzi. Major sources of employment are tourism and the public sector. People migrate to Kasane seeking for employment. Expatriate entrepreneurs have migrated into the area. There has been an expansion of tourism facilities, tourism operations and operators with Botswana getting financial assistance through CEDA. Rural push factors have worked against subsistence farming in the form of destruction of crops by wildlife-human conflicts, floods and endemic diseases such as malaria, bilharzia, foot and mouth preventing the sale of livestock to BMC.

The population change and annual growth of Sowa was the least among the Townships. The economic development of this area has been constrained by a small population and its remoteness. There, however, has been an increase of district development projects since 2008. Most workers are employed by BOTASH. The rest of the employees work for government and parastatals such as the Botswana Power Corporation, Water Utilities Corporation and Botswana Housing Corporation, etc. Many job seekers have been attracted by employment in local government infrastructure maintenance, expansion of staff accommodation and government offices, gravel road construction and servicing of the SHHA area. Self-employment has also attracted the development of illegal self-allocation of land by those engaged in informal employment. Table 2 also portrays the growth of the rest of the settlements that are designated as urban villages. The national inter-censal urban population change is close to 40 percent whereas the annual inter-censal growth was 3.6 percent. The percent change for the urban villages' ranges from 9.0 percent for Mahalapye to 339.9 percent for Mmopane. The inter-censal annual growth rate ranges from 0.9 percent for Mahalapye to 16 percent for Mmopane. In general, it seems as if the settlements experiencing the least growth were losing their population to the more rapidly developing centers.

About 50 percent of the urban villages' recorded change and growth rates either at or above the national benchmarks. About a third of these were satellites of Gaborone with Mmopane topping the list at 339.9 percent for inter-censal change rate and 16 percent for annual intercensal growth rate, followed by Metsimotlhabe at 119.0 percent and 8.2 percent. The annual growth rate of Tlokweng increased stood at 5.6 percent and almost matches that for Kumakwane at 5.9 percent, Oodi at 5.2 percent and Kopong at 5.3 percent. The annual growth rates of Gabane, Ramotswa and Mogoditshane were 3.9, 3.4 and 5.9 percent, respectively.

Settlements that have experienced the least growth rates include Moshupa and Thamaga with 1.7 percent whilst Mochudi and Molepolole recorded a decline of 2.0 percent. The spatial variation patterns in the annual intercensal growths could reflect differences in the accessibility and availability of land and proximity to Gaborone. A similar pattern to the adjacent villages to Gaborone is apparent for Tati Siding and Borolong outside Francistown which experienced annual growth rates of 6.4 and 5.6 percent, respectively.

Generally, District and sub-district capitals appear to have grown rapidly over the review period. This is understandable since both public and private investment targets these centres. They therefore enjoy the monopoly for goods, employment, commercial and social services and employment. This is true for example for settlements such as Masunga, Mogoditshane, Good Hope and Letlhakane. All of these recorded annual growth rates by at least matching the national annual urbanization rate of 3.6 percent. Mogoditshane also benefited from being an overspill area of Gaborone.

There are however other District and sub-District headquarters that ranked below this benchmark including Serowe, Mahalapye, Kanye, Molepolole and Tonota. This could be due to comparative locational advantages and intervening opportunities that exist around these centres. For example Palapye enjoys a comparative advantage over Serowe and Mahalapye both in terms of accessibility and recently upcoming employment opportunities, associated with the growth of commercial, construction and administrative functions. Kanye and Molepolole both lie in the shadow of Mmopane and Metsimotlhabe whilst Tati-Siding is an intervening opportunity for Tonota.

Tables 3a and 3b group the urban settlements on the basis of the magnitude of their intercensal change and growth rates.

Table 3a: Intercensal Percent Change 2001-2011

Status	%	Settlement name
Negative	<0.0	Lobatse, Selebi-Phikwe
Low	May-25	Gaborone, Lobatse, Orapa, Jwaneng, Serowe, Mahalapye, Kasane, Sowa, Kanye, Moshupa, Molepolole, Thamaga, Mochudi, Letlhakeng, Lerala, Mmadinare, Maitengwe, Mmathethe
Medium	26-40	Maun, Bobonong, Tonota, Tutume, Shoshong, Mmankgodi, otlhabe whilst Tati pane and Moa ICT Survey surveyed as a conduit of information or any official communication.d the WSIS targetTsabong Mathangwane
High	41-45	Palapye, Gumare
Very High	>45	Tlokweng, Mogoditshane, Letlhakane, Ghanzi, Gabane, Kopong, Bokaa, Borolong, Kang, Goodhope, Kumakwane, Masunga, Metsimotlhabe, Mmopane, Nata, Oodi, Otse, Sefophe, Shakawe, Tati Siding

Table 3b Intercensal Percent Annual Growth Rate

Status	%	Settlement name
Negative	<0.0	Lobatse, Selebi-Phikwe
Low	0.0-2.5	Gaborone, Francistown, Orapa, Jwaneng, Serowe, Mahalapye, Kasane, Sowa, Kanye, Moshupa, Molepolole, Thamaga, Mochudi, Tutume, Letlhakeng, Lerala, Mmadinare, Maitengwe, Mmathethe, Mathangwane
Medium	2.6-3.3	Maun, Bobonong, Tonota, Shoshong, Tsabong, Mmankgodi
High	3.4-4.0	Palapye, Ramotswa, Gabane, Gumare, Otse
Very High	>4.0	Tlokweng, Mogoditshane, Letlhakane, Ghanzi, Kopong, Bokaa, Borolong, Good Hope, Kumakwane, Masunga, Metsimotlhabe, Mmopane, Nata, Oodi, Sefophe, Shakawe, Tati Siding, Molapowabojang, Kang

Source: Statistics Botswana 2011

Lobatse and Selibe-Phikwe are economic downward transitional areas whose dominant economic bases are in a state of dilapidation and decline. Low growth settlements include cities of Gaborone and Francistown that are losing population to their satellites due to urbanization diseconomies. Francistown has also lost employment in the retail sector because of diminishing custom from the North. The mining towns have been vulnerable to the global recession. Some of the major urban villages have lost out in competition to city satellite communities or to more strategically located settlements. Medium growth centres are either upcoming tourist/administration centres, satellite communities of cities or settlements that have been earmarked for district administration. High growth areas combine strategic location and administrative significance. Very high growth centers are either part of the Gaborone urban system or those settlements that have been targeted to play important administrative and service functions.

Urbanization and the Evolving National Urban Hierarchy

Urbanization and the evolving national urban hierarchy can be analyzed in term of the absence of polycentrism, based on Jefferson's notion of primacy. He defined a primate city as being "at least twice as large as the next largest city and that more than twice as significant " (Jefferson 1939). In this case, shown in Table 4, Gaborone would be considered to be significantly primate being at least 2.3 the size of Francistown.

Table 4: The National Primacy Index Trends 1981-2011

Index	1981	1991	2001	2011
2 city	1.9	2.38	2.24	2.3

Source: Statistics Botswana 2011

Over the past censal period the index has increased from 2.24 to 2.30 due to the comparatively phenomenal growth of employment in the construction, commercial and industrial sectors in the capital. Moreover, its population is 1.3 times that of the combined populations of its three subsequent urban rivals.

In comparison to the urban hierarchy for Mauritius, for example, Port Louis the Mauritian capital has a population that is 1.5 that of the second largest center and its population is 0.5 times that of the combined populations of its next three competitors. This pattern therefore reflects a relatively more balanced urban network development than that for Botswana.

Another way of looking at the absence of a normal urban settlement distribution network would be in terms of the expected sizes of the rest of the urban centers relative to the largest one. In terms of the rank size distribution, the expected population of each center, relative to the population of the largest center provides a good estimate of the expected population of that center, provided the hierarchy of centers is normal. From Table 5, the large discrepancy between the observed and expected population of the four largest urban centres reflects the extent of dominance of the capital city, Gaborone, and the extent of an unbalanced urban network in Botswana.

Table 5: Four largest urban places

Urban Place	Actual Population	Expected Population
Gaborone	231 592	
Francistown	98 961	115 796
Selebi Phikwe	49 411	77 197
Lobatse	29 007	57 898

Source: Statistics Botswana 2011

Gaborone therefore exhibits the megacity syndrome by dominating the national urban settlement distribution. The capital dominates the space economy in the provision of public services, financial institutions, human and intellectual resources and public infrastructure investment, creating a "hub effect". This dominance or macrocephaly implies an excessive concentration of opportunities and public services in just one center of the urban settlement system, to the disadvantage of the other centres.

Some of the factors that have created this primacy include rural-to-urban migration due to wage differentials between rural and urban areas, economies of scale in production, which lead to greater labor productivity and increased wages, which in turn attract an inflow of labor from rural areas. The resulting increase in population intensifies existing economies of scale, through multiplier effects, and creates a self-reinforcing cycle of agglomeration otherwise known as cumulative causation.

Firms located in the capital also benefit from strong backward and forward linkages from their superior access to consumers and a convenient market for their products, and from better access to suppliers of the inputs of production and intermediate goods. Urban firms also benefit from convenient access to financing, better access to government production permits, licensing for international trade and proximity to a large and diverse labour pool.

The major disadvantages associated with this pattern of urban development include agglomeration diseconomies such as the daily transport congestion, shortage of land, shortage of accommodation and the deteriorating of antisocial behaviour. Gaborone, however, continues to enjoy underpriced externality for traffic congestion, absence of parking fees, air and water pollution. This works against urbanization diseconomies. At the national level, there exists regional economic polarization, regional income disparities and a highly centralized administration.

The Gaborone system of settlements includes the capital and its satellite communities, as shown in Table 6.

Table 6: Population Growth Trends of Gaborone and its Satellites

Area	1981	1991	2001	2011	1981	1991	2001	2011
	Population	Population	Population	Population	Percent	Percent	Percent	Percent
Gaborone	59 700	133 500	186 000	231 592	42.5	48.6	42.9	41.0
Gaborone Satellites	80 889	141 297	247 100	333 319	57.5	51.6	57.1	59.0
Total	140 589	274 797	433 100	564 911	100	100	100	100

Source: Statistics Botswana 2011

The share of Gaborone's population in the system, as shown in the Table, increased from 42.5 percent in 1981, peaked at 48.6 percent in 1991 before declining thereafter. Population increase in the satellite communities reflects the relocation of the population from the main city and direct movements into the satellite communities from elsewhere. Table 2 clearly illustrated the outcome from these combined factors in these population growth trends, with Mmopane recording a 119 percent intercensal change and a 16 percent annual growth rate. Over the same period, Metsimotlhabe recorded 119 percent and 8.1 percent, respectively. These processes characterize the coalescence of the various spatial components the Greater Gaborone Area to form a conurbation, that will incorporate the proposed New Gaborone City Greenfield and, eventually, most likely, overspill into Kopong. See Figure 3.

Figure 4: The Greater Gaborone Area including the Proposed Gaborone City Greenfield



Figure 3: The Greater Gaborone Area including the Proposed Gaborone City Greenfield
Source: Department of Town and Regional Planning (2012)

The New Gaborone Greenfield is larger than all the present Phases 1,2,4 and Blocks 3,5,6,7,8,9 and 10 combined (DTRP 2012). The area is anticipated to yield over 60 000 plots, an approximate equivalent of 12 Neighbourhoods of about 5 000 plots (DTRP 2012).

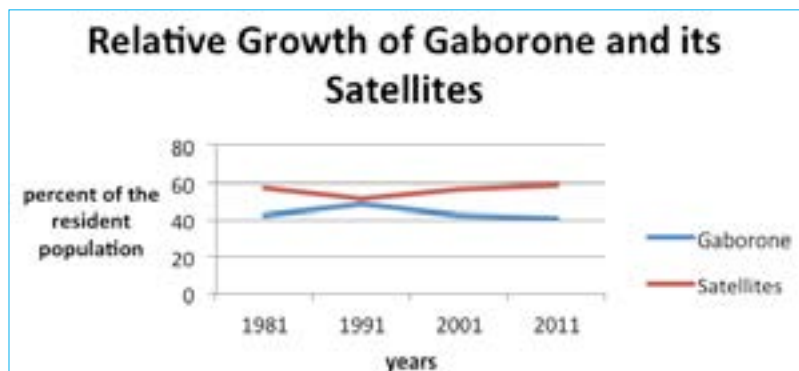


Figure 4: The Growth of Gaborone Relative to its Satellites

Source: Statistics Botswana 2011

Figure 4 show that whereas Gaborone seems to have grown at the expense of its satellites in the 1980s, the reverse appears to have been taken place since the 1990s. Urbanization economies therefore appear to have been subsequently superseded by agglomeration diseconomies over time. This trend of events has been in the form of differential urbanization in Botswana (Gwebu,2006).

Table 6: Gaborone and Satellites Percentage of National Population 1981-2011

Table 6 shows the share of the Gaborone and its satellites to the national population over last four censuses.

Year	1981	1991	2001	2011
Percent of national Population	14.9	20.7	25.8	27.9

Source: Statistics Botswana 2011

If the population of Associated Villages and other Villages is included, the implication is that close to a third of the national population lives within the less than 50 kilometer orbit of the national capital. While this situation has its economic and socio-economic advantages, it poses serious planning challenges in terms of providing sustainable livelihoods and a livable environment both of which are necessary preconditions for creating a prosperous and productive nation.

Policy Challenges from the Results

The preceding discussion shows the complexity of patterns, processes and outcomes of urbanization in Botswana. The following paragraphs will highlight specific challenges and, where possible, suggest how they could be addressed in order to achieve the development of a sustainable human settlement system.

Rapid Urbanization

The urbanization process has an immense potential for development. For example, when properly regulated, urbanization encourages compact settlements and leads to the full utilization of services. Also agglomeration encourages economies of scale and concentration of people in towns, cities and urban villages who, with better incomes, provide a good market for goods and services through effective demand.

Urbanization in Botswana is a product of three factors, namely; reclassification of previously rural settlements, migration and natural increase. The number of urban places has changed by 47 percent between 2001 and 2011 at a growth rate of 4.4 percent. The major driver of urbanization in Botswana is the reclassification of its villages to an urban status, once they exceed a certain threshold population size and attain a minimal functional characteristic. This is a positive development because the new urban villages will now be entitled to the allocation of better infrastructure and social services commensurate with their populations, functions and status in the settlement hierarchy. From available data, it is feasible to determine, apriori, the probable future candidates for inclusion into the existing urban hierarchy. Proactive policies and mechanism therefore need to be put in place to plan for a smooth urban transitioning of such settlements from their rural to urban designations.

The transition of rural villages to an urban status implies several challenges for the newly designated Planning Areas, if conventional Urban Standards and Building Codes are to be applied. Larger financial outlays for

higher standard housing infrastructure, social services, their management and maintenance will now be required.

The Revised National Settlement Policy refers to:

Upgrading of old neighbourhoods to bring them in line with current development standards and make them safe and pleasant living environments for their inhabitants [21].

This is indeed a noble response to the National Policy on Housing (2000) in terms of providing adequate housing to low and middle income groups in the urban and rural areas and also using housing as an instrument for economic empowerment and poverty alleviation.

Urban standards will, however, require more formal housing solutions involving securing planning and building permits. Building Plans, building materials and construction costs are however often unaffordable to most of the affected rural residents. The adoption and improvement of traditional building materials and techniques would be a step in the right direction. However, these would require innovative efforts and sufficient resources before being made available to provide a healthy and structurally-stable and culturally-amenable environment. The purchasing of serviced land and construction of houses will require large financial resources, which could be beyond the reach of a sizeable proportion of some of the affected urban village residents. The other point raised in the NSP is that:

Upgrading of existing parts of Village Primary Centers shall include surveying to cadastral level roads, water, electricity and telephone reticulation provision [22].

This would involve destruction of some of the existing housing stock, displacement of neighbours and a general disorientation of settlement cohesion. Mechanisms need to be set in place to provide adequate compensation and to minimize the potentially disruptive socio-cultural effects of these renovative activities. This is the essence of a compassionate, just and caring nation.

Planners are usually obsessed with the superficial structural aesthetics of place, defined according to their mundane perceptions. They are frequently oblivious of topophilia or personal and subjective attachment to place (Tuan, 1974). The phenomenological underpinnings of what place means to residents are as a consequence lost on the drawing boards of technical urban design. More challenging and novel approaches to settlement and building design that blend what is deemed modern while retaining cultural essentials need to be considered. This will assist in integrating indigenous building practices and architecture with modern forms of design.

Over-urbanization

The rapid growth of urbanization has resulted in high demand for employment, infrastructure and services, outpacing the rate at which they are provided in towns and cities. There has been a high demand for serviced land and housing units. Evidence of this has been the backlog in the provision of serviced urban land and housing units, leading to a strain on infrastructure and services and overcrowding in existing housing areas.

There is evidence of pollution of groundwater by nitrates and bacteria from pit latrines in the SHHA residential areas. For instance, scientific tests on water samples from the Gaborone Dam and the Notwane river have confirmed this. Similarly, tests of groundwater samples on the Ramotswa Dolomite Aquifer indicate that is highly vulnerable and is currently in a state of deterioration caused by multi-source pollution. Contamination of rivers and streams by sewage outflows and waste disposal threatens environmental sustainability. The ecosystem has moreover become seriously fouled and impaired such as has happened along the Segoditshane river in which solid and liquid waste have been dumped and building sand has been extracted.

Peri urbanization

Whereas cities in the country seem to be experiencing declines in their annual rates of growth, most of the peri-urban and satellite communities have experienced robust growth. This implies increased demand for infrastructure and services. Settlement sprawl is costly in terms of service and infrastructure delivery. Densification, re-zoning and space-intensive architectural designs need to be adopted.

As more and more people are moving closer to the cities and towns, peri-urban virgin land is becoming rapidly depleted, derelict and land use conflicts have become inevitable. Peri-urbanization has led to the encroachment of freehold farms/tribal lands which are close to major towns and cities. The spatial expansion of cities has also caused the loss of valuable commercial and tribal farmland and threatens food security

both nationally and for the peri-urban residents. This calls for an intensification of urban development and innovative architectural designs to minimize the spatial spread of towns and cities.

Cases in point include Bonnington, Broadhurst, Phakalane, Forest Hill Farms and the recent development of Kgale Hill Farm 9-KO for industrial and commercial activities and the incorporation of Lobatse Farms into Lobatse Township. Approximately 5 270 hectares of the Kweneng District was recently ceded to Gaborone City, in the Ledudumane area at Dumadumane, north of Mmopane.

The case of Kgosi Gobopaone Diutlileng and some 600 residents of Ledudumane, who were given six months to vacate their village so that their land could be provided to Gaborone City for future expansion, have been narrated, graphically, by the media. Although the Land Board did set aside 249 hectares to accommodate the displaced villages, no provisions were made for their livestock, the main source of their livelihoods.

Land conflicts had earlier characterized the urban frontier as it encroached on land at its periphery. In Mogoditshane, there was a total collapse of the legal procedures for allocating land, a proliferation of illegal land transactions and uncontrolled house-building. There were at least eight hundred illegally created plots, unauthorized subdivisions, unauthorized change of use and development. The chaotic scenario that led to the institution of the Presidential Commission on Land Problems in Mogoditshane in the 1990s serves as a reminder of how the unscrupulous, predatory and criminal elements can dispossess the unsuspecting rightful owners of their land resources (GOB 2001).

The environment has also come under increasing pressure as cities and towns continue to spread outwards. Demand for construction aggregates is escalating as river sand is being mined from rivers and building sand is being dug from the surroundings. With increasing fuel costs, wood is being harvested as a source of domestic energy by the lower income groups and deforestation has become a serious environmental threat. Destruction of vegetation and natural river courses threatens biodiversity and the integrity of the ecosystem.

Environmental dereliction is a direct outcome of uncontrolled littering of construction rubble, solid domestic and commercial waste. This threatens environmental aesthetics and health. Air pollution is a health hazard because of increasing traffic, firewood and litter burning, and dust. Demand for water is increasing whilst supply is declining due to more frequent droughts drying up of reservoirs and falling water tables.

The above activities require serious policy attention in the form of adherence to and compliance with the Millennium Development Goal 7 that stresses the importance of ensuring environmental sustainability. Vision 2016 Pillar 2 also alludes to the creation of a prosperous, productive, and innovative nation. This implies promoting sustainable economic growth and diversification, job creation and access to shelter and a sustainable environment.

Proactive measures are also required to ensure the proper development of settlements. For example, Strategic Environment Assessment principles that, pro-actively, anticipates the probable effects of development activities should influence decision-making by informing policy and plan-making and facilitate the achievement of sustainable human settlement development.

Several strategies need to be implemented to achieve the above ideals. The NSP advocates for the identification of all fertile arable land in order to protect it from indiscriminate encroachment by settlements. The National Land Policy (2003), coupled with the Integrated Land-use Plans, could assist by guiding the allocation and management of land in a systematic and sustainable manner. Enforcement of the Tribal Land Act (Cap.32.02) 1993 would address issues on land competition, land-use pressure and conflict whereas the Town and Country Planning Act (Cap.32:09) 1977 would ensure the proper growth and development of primary centres and an orderly development of land in towns and districts and preserve and improve amenities therein.

The National Conservation Strategy Authority maintains that all aspects of the Town and Country Planning Act will be enforced to ensure the improved provision, design and management of human settlements, including public open spaces and recreational facilities and the conservation of natural resources within the Planning Areas of all settlements. The National Population Policy aims to stimulate development in the rural areas by expanding and improving physical and socioeconomic infrastructure, the creation of alternative growth points to achieve a more even population distribution, and the generation of employment opportunities in the rural areas.

Migration

There are two major patterns of migration that influence the growth of urbanization. First, the population is being forced to relocate from the main urban centers to the neighbouring peripheral areas in search of cheaper accommodation and land. Such intra-subregional moves, within the orbits of major centers, need to be regulated along the same lines as what has been suggested under peri-urbanization.

Secondly, population from the rural areas and elsewhere is settling in the peripheral satellite communities where prospects of finding accommodation are better and where they are within the access of potential employment opportunities, in the main urban centers. Some migrants nonetheless still move to the main centers where they either target low income residential areas or establish squatter settlements. The impacts of net migration into urban areas have included overcrowding in destination areas such as Old Naledi, squatting in Senthumule near Jwaneng, in Ghanzi Township and within the 50 kilometer radius of Gaborone in Kweneng District. Squatters destroy the environment. They also lack adequate and proper sanitation and safe drinking water facilities.

In the past, agriculture has been the pivotal mainstay of the rural economy. Today agriculture is characterized by productivity that has been in a state of decline over the years. The major challenges have included persistent shortage of water, poor grazing conditions mainly due to recurring droughts, poor management practices, low technology use, pests and diseases, poor access to finance, poor marketing facilities, unremunerated prices and lack of business skills among farmers.

There continues to be urban attraction for real and imagined cash employment, better social and physical infrastructure. The youth also view rural-urban migration as an escape route from restrictive and traditional lifestyles.

The National Settlement Policy has made suggestions on how to minimize rural-urban migration such as:

- Planning for the provision of similar level of infrastructure and services to villages on the same hierarchical level with towns,
- Provision of incentives for the location of job creating activities in rural areas and villages,
- Provision of financial and other incentives to investors locating in village primary centres,
- Promotional Programmes to publicize opportunities in village primary centres,
- Improvement access to loans and financial resources to rural areas and villages

In the past, the low standard of infrastructure and services and the low purchasing power of rural inhabitants have rendered villages and rural areas unattractive to private investors and financial institutions. Moreover, with the current economic downturn, the scale and range of projects and those activities that had been targeted to make lower order centers attractive to their potential migrants have been scaled down significantly.

Furthermore, migration remains an issue of how the actors perceive the economic and socio-economic differences between the origins and destinations. Currently, society and the educational curriculum put a premium on academic education that is employer-tied. However, after three years of secondary education, it should be possible, through various types of aptitude tests, to streamline students and start preparing those with vocational aptitudes for self-employment within their home areas.

The importance of developing the agricultural sector is however acknowledged. The multi-pronged approach involving the National Action Plan on the Convention on Combating Desertification; the National Policy on Agricultural Development aimed at improving Agricultural production (1991); the Integrated Support programme for Arable Agricultural Development, designed to improve income levels and the food security situation in rural areas through subsidized inputs and improved extension outreach and the National Master Plan for Arable Agriculture and Dairy Development to assist with transitioning from subsistence to commercial farming, provide critical inputs to a strategy towards making agriculture a viable alternative to urban-based employment; is appreciated.

With imminent climate change, however, rain-fed subsistence agriculture will no longer be sustainable, from the medium and long term perspectives. Technology-intensive agriculture, based on knowledge and skills transfer from the African Magreb sub-region, the Middle East, Australia and certain developed countries needs to be considered for adoption. An active involvement by Government and the private sector is

therefore inevitable in the envisioned National Food Security Agenda. Sustaining rural livelihoods will also require a serious revisit to local, regional and continental traditional knowledge systems and technologies for the mitigation of and adaptation to climate change by rural communities.

However, all these efforts need to be complemented with other non-agricultural micro-enterprises such as eco-tourism, manufacture of veld products, small scale mining, welding and small scale construction. The Rural Industries Promotion Company (RIPCO) would provide the technology, Local Entrepreneurship Authority (LEA) the training, and CEDA the finance.

The Emerging Urban Hierarchy

The emerging urban hierarchy shows that Gaborone has undesirable megacity tendencies and continues to dominate the urban hierarchy. Coupled with this is the rapid growth of its peripheral settlements. Although these growth patterns towards a conurbation present ideal opportunities for urbanization economies, they pose serious challenges in terms of providing adequate social services, employment, physical infrastructure and a sustainable environment. These are the issues that relate to the MDG Goals of eradicating poverty and hunger and sustaining the environment. They are at the very heart of Vision 2016 that anticipates the creation of a prosperous and productive nation.

The dominance of Gaborone, as shown by the rank size and primacy indicators, implies regional disparities, polarization and imbalances in regional economic development. Gaborone is eccentrically-located, as the national capital city. Moreover, its role in creating and reinforcing regional disparities among the Planning Regions requires serious planning attention. Furthermore, its location relative to availability of water implies that there needs to be a shift and relocation of the capital to the northern and more accessible and relatively central part of the country such as in the Palapye-Serowe axis where there is adequate land for expansion, non-existence of physical obstructions to city growth, proximity of water resources and better access to national and international centers (Gwebu, 2004a, b).

Decentralization aimed at polycentrism, through the National Settlement Policy, thus makes political sense in the form of promoting social justice but also economic sense in promoting income distribution. Contemporary examples of relocation of capital cities to more central national sites include Brasilia in Brazil, Abuja in Nigeria, Yamoussoukro in Cote D'Ivoire, Lilongwe in Malawi and Dodoma in Tanzania. Learning from these precedents could be instructive.

References

- Crush, J. (ed.) (2010) *The State of Urban Food Security in Southern Africa*, AFSUN, Unity Press, Cape Town.
- Jefferson, M (1939) *The Law of the Primate City*. *Geographical Review*, 29,226-232
- Government of Botswana (2001) *Report of the second Presidential Commission on the Local Government Structure in Botswana*. Government Printer, Gaborone.
- Gwebu, T. D. (2004a) *Urbanization in Botswana. Analytical Report, 2001 Population and Housing Census*. Central Statistics Office, Government Printer, Gaborone.
- Gwebu, T.D. (2004b) *Patterns and Trends of Urbanization in Botswana: Policy Implications for Botswana*. City Futures Conference on Global Urbanization 8th-10th July 2004. Inter-continental Hotel. Chicago, USA.
- Gwebu, T.D. (2006) *Towards a Theoretical Exploration of the Differential Urbanization Model in Sub-Saharan Africa: The Botswana Case*. *Journal of Economic and Social Geography*, 97,418-433.
- Republic of Botswana (1998) *The National Settlement Policy*. DTRP, Gaborone.
- Republic of Botswana (2004) *The Revised National Settlement Policy*. Government Printer, Gaborone.
- Republic of Botswana (2009) *National Development Plan 10, vol.1*. Ministry of Finance and Development Planning, Gaborone.
- Republic of Botswana (2004) *Analytical Report 2001 Population and Housing Census*. Department of Printing and Publishing Service, Gaborone.
- Republic of Botswana (2011) *2011 Population and Housing Census*. Census Office, Gaborone.

Tuan Yi-Fu (1974) *Topophilia: A Study of Environmental Perception, Attitudes and Values*. Prentice-Hall, Upper Saddle, New Jersey.

UNESA (2008) *World Population Prospects: The 2006 Revision and World Urbanization Prospect: The 2007 Revision*. Population Division of Department of Economic and Social Affairs, UN, New York.

UN-HABITAT (2008) *The State of African Cities, 2008: A Framework for Addressing Urban Challenges in Africa*. UN, Nairobi.

UN-HABITAT (2007) *State of the World Report*. UN, Nairobi.

PATTERNS AND DIFFERENTIALS OF MIGRATION IN BOTSWANA: EVIDENCE FROM 2011 CENSUS

By Prof. K. Navaneetham and Dr. V. K. Dwivedi,
University of Botswana

Dr. Ravendra Singh, UNDP AND Statistics Botswana

Abstract: Migration is an important component of population growth and it has significant social and economic implications of a country. In this paper, we analyze the patterns and differentials of internal migration in Botswana using the 2011 census data. Both lifetime migrations and short-term migration have been analyzed. The study noted that the number of migrations has been increasing over the years. During the recent year, that is 2010-11, there were about 165 thousands in-migrations and 149 thousands out-migrations including international migrations. Among the international migrations, it was observed that, an emigration of 1203 persons and immigration of 17375 persons during 2010-11. The major destinations for immigration are Gaborone and Kweneng East. Among the immigrations, more than 50% of them were from Zimbabwe. As regards the migrations differentials, the propensity to migrate is almost same for both males and females. This is in contrast to most developing countries. The propensity to migrate is greater among adults (15-34 age), never married or living together, Christians, employed or unemployed and among students. To conclude, the flow of movements among the populations is likely to increase in the future; an appropriate policy needs to be developed to meet the demand from these migrations such as housing, water, sanitation and other infrastructural facilities.

1.0 Introduction

The study on migration gaining importance globally due to its nature, causes and consequences and diverging demographic trends and patterns among developed and developing countries. More than a billion people rely on migration to escape poverty and conflict, adopt environmental and economic shocks and to improve the income, health and education of their families. Migration is an important component of population growth and it has significant social and economic implications of a country. In recent years, migration both internal and international has become a concern for policy makers. The research on migration is attracting the policy makers since it has various social, economic implications. The movement of people from rural to urban increases the urbanization and creates demand for various services in the urban areas. Similarly, remittances from international migrations will benefit the country for social and economic development.

2.0 Objective

The main objective of this paper is to estimate the patterns, volume and differentials of internal migration in Botswana using the 2011 Census data.

3.0 Data used

The UN multilingual demographic dictionary defines "Migration" as a form of spatial mobility between one geographical unit and another, involving a permanent change of residence. For the purpose of this paper, geographic unit for internal migration is all cities, towns and districts and sub-districts as per the geographic boundary given in the census. The census questions used for estimating migrations are

(i) Place of usual residence on the census date

(ii) Place of birth (iii) Place of usual residence 5 years ago (iv) Place of usual residence 1 year ago.

4.0 Results and Discussions

4.1 Lifetime migrations

The Table 1 gives the estimate of the lifetime migration in Botswana by district. This has been estimated using the place of current residence and place of birth. A person whose place of residence at the census date differs from his place of birth is a life time migrant and the number of such persons referred to as "lifetime migration". The limitation of this method is that it gives gross underestimates as it excludes movements that occurred between places of birth and place of current residence and as well those migrations that moved away from and subsequently returned to their place of birth. Also they were the persons who were survivors on the census date and therefore exclude those migrants who died before the census date. However, this estimate has been frequently used to understand the movement of persons from birth place to another residence.

According to 2011 Census data, the lifetime migration is estimated at about 697,479 persons. The same was about 520, 957 persons using the estimates from the 2001 census data. This shows that the number of lifetime migration that occurred during the census interval, 2001-11 is about 176, 522 persons.

As regards the district-wise lifetime migrations, it is observed from the table that the volume of lifetime net in-migration is significant in Gaborone, Kweneng East, South East and Francistown. The largest share of in-migration to Gaborone is from Kweneng East (14%); Ngwaketse (11%) and Central Serowe/Palapye (11%). In the case of Francistown, the largest share of in-migration is from Central Tutume (23%) and from Ngamiland East (20%). In the following districts/sub-districts, the net outmigration is significant: Central Serowe/Palapye, Ngwaketse, Central Mahalapye; Ngamiland East and Central Tutume. Though the patterns remain the same as that of 2001 Census, there are some exceptional in 2011 Census. The Central, North East and Ngamiland continue to send migrants whereas Gaborone and Francistown continue to receive the migrants. Interestingly, Lobatse and Selebi-Phikwe, till 2001, they were the receiving towns, but now in 2011 these towns have become sending towns. Unlike in 2001 estimates, Kweneng East has received large scale life time in-migration, mostly from Gaborone (20%) followed by Ngwaketse (12%) whereas Ngwaketse has sent significant outmigration during the period 2001-11, mostly to Gaborone (28%) and Kweneng East (17%).

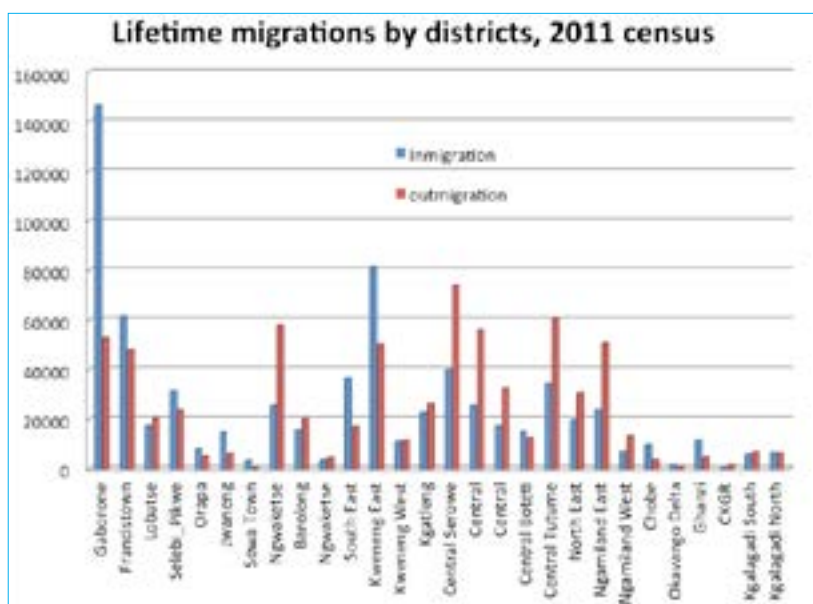


Figure 1: Lifetime migration by district: 2011 Census

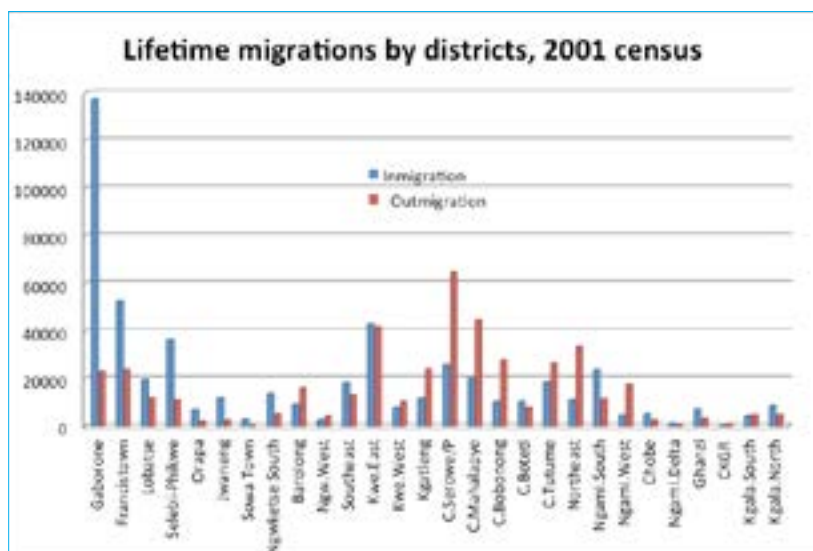


Figure 2: Lifetime migration by district: 2001 Census

4.2 Migration during 2006-11

Due to the limitation of the lifetime migration and also to estimate the recent patterns of migration between districts/towns, an attempt has been made to analyze pattern of migration that occurred during the period 2006-11. This has been estimated using the information on place of residence on the census date and place of residence 5 years ago. If a person's place of current usual residence is different from the place of usual residence 5 years ago, he is a migrant and that move occurred during the interval of 5 years. However, this method too has the limitation as that of life time migrations. This is estimate of survivors of the migrants on the census date and does not take into account of those who made move and died during the interval. Similarly, if a migrant has made more than one move before the census date, this does not take into account.

The total migrations that occurred during the period 2006-11 was estimated as 205, 989 including the international migration. During the period 2006-11, there were 1,359 emigrations from Botswana and 20,268 immigration to Botswana from other country. Among the total migrations, 155,314 are above age 5 and the remaining 50675 are migrations of those who were born during the interval 2006-11. The districts/towns which are net-outmigration during 2006-11 are: Gaborone, Francistown, Lobatse, Selebi Phikwe, Orapa, Jwaneng, Central Mahalapye and Ngamiland East. All others are net in-migration districts/sub-districts (Table 2).

4.3 Migration during 2010-11

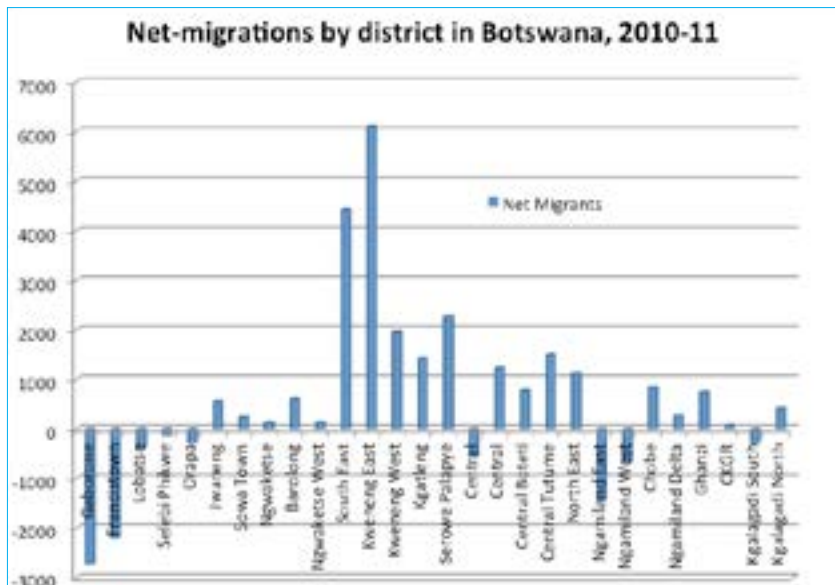
Table 3 below gives the estimates of district-wise migrations during 2010-11. This has been estimated using the information on place of current usual residence and place of usual residence 1 year ago. It was estimated that there were about 165,397 in-migrations and 149,225 out-migrations during 2010-11 including international migrations. As regards the international migration, the study noted that an emigration of 1203 persons and immigration of 17375 persons during the same period.

The table also indicates that following towns/districts are net out-migration districts during 2010-11: Gaborone, Francistown, Lobatse, Selebi-Phikwe, Orapa, Central Mahalapye, Ngamiland East, Ngamiland West and Kgalegadi South. The remaining is net in-migration districts/sub-districts. There were about 30 thousands out migrations from Gaborone district during the period 2010-11. Among them, majority of them out-migrated to Kweneng East (24%) followed by South East (10%). Gaborone is also received large scale in-migration of about 27 thousands. Among the in-migration to the district, large share of them were from the Kweneng East (20%) as well as from other countries (18%).

The Francistown recorded about 11 thousands in-migrations and about 13 thousand out-migrations. From Francistown, majority of them migrated to Central Tutume (23%) and North East (12%); and also 13% of them to other country. Among the in-migration to Francistown, around 21 percent of them were from Central Tutume and about 16% of them from Gaborone. The other notable district is Kweneng East, where it has received 19 thousands in-migrants and sent 13 thousands out-migrants during 2010-11. Among the in-migrations, majority of them were from Gaborone (37%). Among those out-migrated, majority of them (40%) had gone to Gaborone. The other notable district for significant flow of migration is Central Serowe/Palapye where it has

recorded 13 thousands in-migrations and about 11 thousands out-migrations. Among the in-migrations to the district, majority of them are from Gaborone (19%) followed by Central Mahalapye (16%). Again, among the out-migrations, majority of them have gone to Gaborone (16%) and Central Mahalapye (14%).

During the period 2010-11, there were 17375 persons immigration to Botswana and 1203 persons were emigrated from Botswana, resulting net immigration of 16172 persons. Among immigration to Botswana, major destinations are the districts of Gaborone (28%) followed by Kweneng East (13%). Among the immigration to Botswana, more than 50% of them are from Zimbabwe and around 18 percent from South Africa and remaining are from other countries.

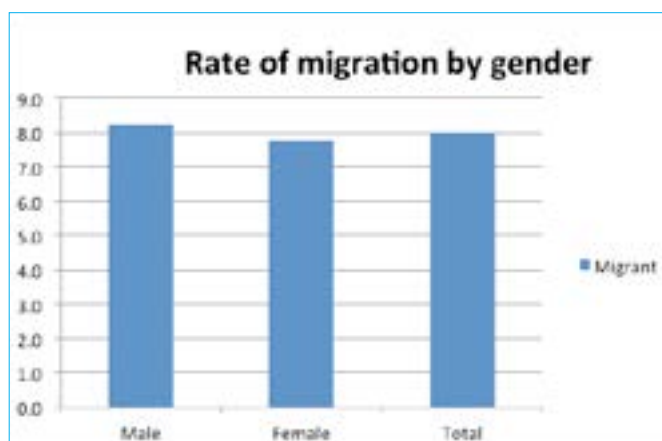


4.4 Migration Differentials

In this section, we will discuss the migration differentials in Botswana during the period 2010-11. This differential will provide clue to understand the causes and consequences of migration. The total number of migrations during 2010-11 is estimated at 147,482 persons as per the classifications of migrant and non-migrants given in the Census 2011 Table 4). The international migration has been excluded due to non-availability of data. The differentials have been analyzed with the available characteristics. The educational differentials, an important determinates of migrations, could not be analyzed as the desired educational category was not available from the data.

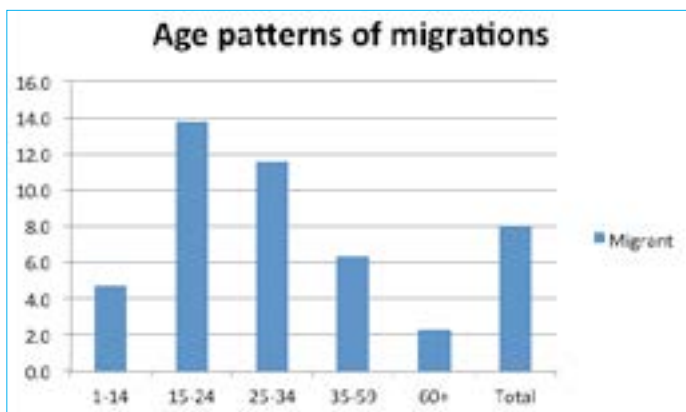
4.4.1 Gender Differentials

The census 2011 data indicates that the propensity of migration is marginally higher for males compared to females, but not very significant. In developing countries, males usually outnumber females in the migration streams. However, in Botswana, males and females migrations are in equal number implying that there is no sex selective migration stream in Botswana. Though overall sex ratio of the population is favourable to females, the sex ratio of migration does not show similar trend.



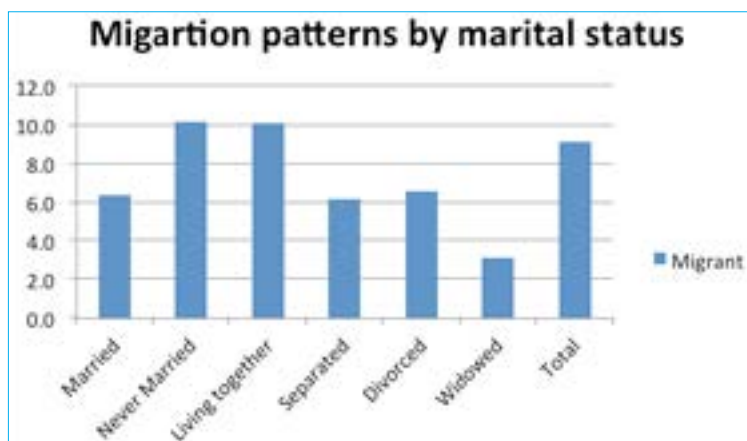
4.4.2 Age Differentials

There is a clear age patterns of migration observed in Botswana in the 2011 census. The age pattern of migration follows the inverted U shaped as in many developing countries. In general, migration in Botswana is selective to young age groups (15-34). The propensity to migrate is greater in the age group 15-24 (13.7%) followed by 25-34 (11.5%). After that age group, the rate of migration is declining. Among the migrants, majority of them belongs to the age group 15-24 (35%) followed 25-34 (27.2%), see Table 5.



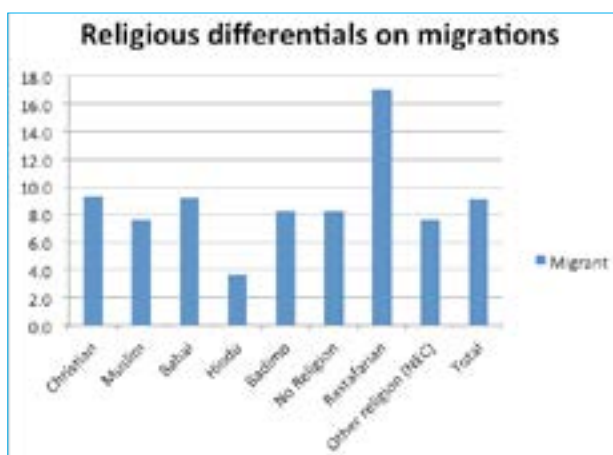
4.4.3 Marital Status Differentials

The 2011 Census data also indicates that migration differ with respect to marital characteristics. Among the migrants, majority of them are never married (62%) followed by Living together (23%). The propensity of migration is also greater among never married and living together, about 10% each. The propensity of migration is lowest among married, separated and divorced (Table 6).



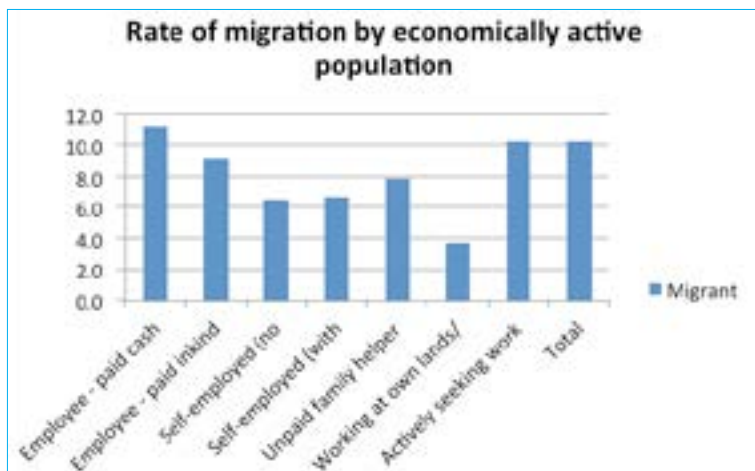
4.4.4 Religious Differentials

Among the migrants, around 81 percent of them are Christians; who share around 80 percent of the total population. The no religion population constitutes about 14 percent of the total migrations. The religion Rastafarian (17%) has the greater propensity to migrate followed by Christians and Bahai (9%). In other words, for every 100 individuals, seventeen (17) of them are migrants among Rastafarian religion (Table 7).



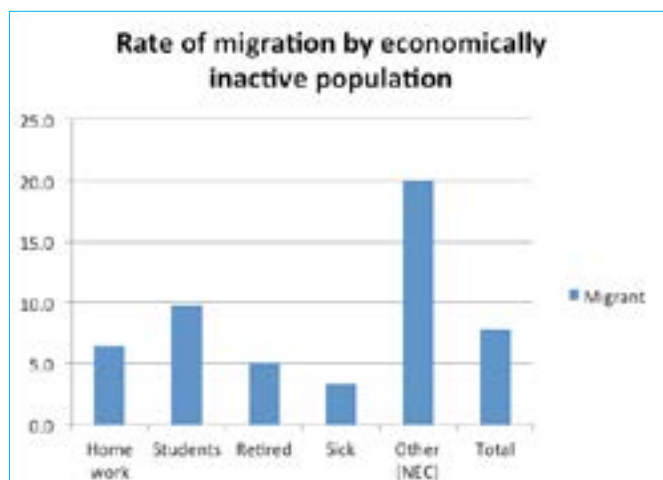
4.4.5 Migration Differentials by Economically Active Population

With respect to economic activity, the characteristics of migrants are likely to be different from non-migrants. Among the migrants, 72 percent of them are working as employee-paid cash after migrations. Among the non-migrants, this percentage is only 64. The rate of migration is highest among employee-paid cash followed by jobseekers. For every 100 job seekers, 10 of them are migrants. The propensity to migrate is lowest among working at own land and self-employed (Table 8).



4.4.6 Migration differentials by Economically Inactive Population

The estimated migration during 2010-11 is about 50,000 persons. Among them, more than 50 percent of them are students and at around 36 percent of them are home worker. The propensity to migrate is also highest among the students.



5.0 Main Findings

The main objective of this paper is to study the patterns and differentials of internal migration in Botswana using the 2011 Census data. The main findings of the study are as follows:

- Patterns of migration is changing in Botswana
- The cities or towns which were net in-migration become net-out migrations town in 2011. (Gaborone, Francistown).
- The districts which were net-outmigration's have become net-inmigrations districts (Kweneng East, South east).
- The lifetime migration as on 2011 is estimated at about 697,479 persons in Botswana. The life time migration during the period 2001-11 was about 176,522.
- The lifetime in-migration is substantial in Gaborone, Kweneng East, South East and Francistown and out-migration is significant in Central Serowe/Palapye, Ngwaketse, Central Mahalapye; Ngamiland East and Central Tutume.
- Lobatse and Selebi-Phikwe, till 2001, they were the receiving towns, but now in 2011 these towns have become sending towns.
- The total migrations that occurred during the period 2006-11 was estimated as 205, 989 persons including the international migration. Out of the total migrations, about 33% of them are those who were born during the period 2006-11.
- During the period 2006-11, there were 1359 emigration and 20268 immigration and majority of immigrants were from Zimbabwe.
- The districts/towns which are net-outmigration during 2006-11 are: Gaborone, Francistown, Lobatse, Selebi-Phikwe, Orapa, Jwaneng, Central Mahalapye and Ngamiland East. All others are net-inmigration districts/sub-districts.
- During the period 2010-11, there were about 165,397 in-migrations and 149,225 out-migrations including international migrations.
- During the period 2010-11, an emigration of 1203 persons and immigration of 17375 persons were noted. The major destinations for immigration are to Gaborone (28%) and Kweneng East (13%). Among the immigrations, more than 50% of them were from Zimbabwe.
- During the period 2010-11, the towns/districts which are net out-migrations: Gaborone, Francistown, Lobatse, Selebi-Phikwe, Orapa, Central Mahalapye, Ngamiland East, Ngamiland West and Kgalegadi South. All others are net in-migration districts/sub-districts.
- As regards the migrations differentials, the propensity to migrate is almost same for both males and females. This is in contrast to most developing countries.
- The propensity to migrate is greater among adults (15-34 age), never married or living together, Christians, employed or unemployed and among students.
- Understanding migration patterns and differentials are relevant for regional development.

6.0 Policy Implications

The flow of movements among the populations is likely to increase in the future; an appropriate policy needs to be designed. To be specific:

- Reason for internal migration should be recorded.
- Net out migration from Urban districts could be due to migration of people who came for studies or for short term employment or family return migration. There is a need to create education facilities or employment opportunities in the areas from where net out migration is quite high.
- Due to increase in the urbanization due to migrations, appropriate policy needs to be developed to meet the demand from these migrations such as housing, water, sanitation, educational opportunities and other infrastructural facilities.

6.1 Limitations

Due to non-availability of data, international migrations patterns and differentials were not analyzed

Appendix: Statistical Tables

Table 1: Lifetime migration by district: 2011 Census

District	In-migration	Out-migration	Net migration
Gaborone	146468	52755	93713
Francistown	61655	47859	13796
Lobatse	17419	20303	-2884
Selebi_Pikwe	31336	23729	7607
Orapa	7919	5150	2769
Jwaneng	14915	6017	8898
Sowa Town	3263	448	2815
Ngwaketse	25491	57740	-32249
Barolong	15491	20159	-4668
Ngwaketse West	3463	4695	-1232
South East	36679	17144	19535
Kweneng East	81528	50134	31394
Kweneng West	10925	11618	-693
Kgatleng	22694	26119	-3425
Central Serowe Palapye	39926	73996	-34070
Central Mahalapye	25494	55850	-30356
Central Bobonong	17366	32448	-15082
Central Boteti	15018	12528	2490
Central Tutume	34428	60405	-25977
North East	19749	30557	-10808
Ngamiland East	23757	50640	-26883
Ngamiland West	7132	13234	-6102
Chobe	9875	3673	6202
Okavango Delta	1492	967	525
Ghanzi	11467	4841	6626
CKGR	216	1435	-1219
Kgalagadi South	5797	6933	-1136
Kgalagadi North	6516	6102	414
Total	697479	697479	

Table 2: District-wise migration during the last five year (2006-11) from the date of Census 2011

District	Population	Immigration	Outmigration	Net Migrants	Annual rate of immigration	Annual rate of outmigration	Annual rate of netmigration
Gaborone	231592	31564	38720	-7156	2.73	3.34	-0.62
Francistown	98961	13108	16855	-3747	2.65	3.41	-0.76
Lobatse	29007	4114	5090	-976	2.84	3.51	-0.67
Selebi-Phikwe	49411	6274	7001	-727	2.54	2.83	-0.29
Orapa	9531	1834	2398	-564	3.85	5.03	-1.18
Jwaneng	18008	4035	3615	420	4.48	4.01	0.47
Sowa Town	3598	1028	684	344	5.71	3.80	1.91
Ngwaketse	129247	10730	9965	765	1.66	1.54	0.12
Barolong	54831	5202	4010	1192	1.90	1.46	0.43
Ngwaketse West	13689	1255	1050	205	1.83	1.53	0.30
South East	85014	12275	7266	5009	2.89	1.71	1.18
Kweneng East	256752	25786	15041	10745	2.01	1.17	0.84
Kweneng West	47797	2918	653	2265	1.22	0.27	0.95
Kgatleng	91660	7849	6092	1757	1.71	1.33	0.38
Serowe/Palapye	180500	16151	13295	2856	1.79	1.47	0.32
Central Mahalapye	118875	8600	9408	-808	1.45	1.58	-0.14
Central Bobonong	71936	7145	5195	1950	1.99	1.44	0.54
Central Boteti	57376	4923	3553	1370	1.72	1.24	0.48
Central Tutume	147377	13640	11363	2277	1.85	1.54	0.31
North East	60264	6923	4801	2122	2.30	1.59	0.70
Ngamiland East	90334	6131	8573	-2442	1.36	1.90	-0.54
Ngamiland West	59421	2339	2999	-660	0.79	1.01	-0.22
Chobe	23347	3239	2131	1108	2.77	1.83	0.95
Ngamiland Delta	2529	415	141	274	3.28	1.12	2.17
Ghanzi	43095	3177	2239	938	1.47	1.04	0.44
Central Kgalagadi Game Reserve	260	135	104	31	10.38	8.00	2.38
Kgalagadi South	30016	1822	1955	-133	1.21	1.30	-0.09
Kgalagadi North	20476	2018	1524	494	1.97	1.49	0.48
International migration		20268	1359	18909	0.01	0.20	0.19
Total	2024904	205989	187080	18909			

Table 3: District-wise migration during the last one year from the date of Census 2011(age 1+)

District	Population	Immigration	Outmigration	Net Migrants	Annual rate of immigration	Annual rate of outmigration	Annual rate of netmigration
Gaborone	231592	27076	29797	-2721	11.69	12.87	-1.17
Francistown	98961	10797	13001	-2204	10.91	13.14	-2.23
Lobatse	29007	3411	3798	-387	11.76	13.09	-1.33
Selebi-Phikwe	49411	5136	5281	-145	10.39	10.69	-0.29
Orapa	9531	1525	1807	-282	16	18.96	-2.96
Jwaneng	18008	3544	2981	563	19.68	16.55	3.13
Sowa Town	3598	897	658	239	24.93	18.29	6.64
Ngwaketse	129247	8368	8242	126	6.47	6.38	0.1
Barolong	54831	3961	3348	613	7.22	6.11	1.12
Ngwaketse West	13689	1016	889	127	7.42	6.49	0.93
South East	85014	10174	5757	4417	11.97	6.77	5.2
Kweneng East	256752	19407	13311	6096	7.56	5.18	2.37
Kweneng West	47797	2132	174	1958	4.46	0.36	4.1
Kgatleng	91660	6544	5115	1429	7.14	5.58	1.56
Serowe/Palapye	180500	13196	10931	2265	7.31	6.06	1.25
Central Mahalapye	118875	6847	7404	-557	5.76	6.23	-0.47
Central Bobonong	71936	5530	4304	1226	7.69	5.98	1.7
Central Boteti	57376	3824	3043	781	6.66	5.3	1.36
Central Tutume	147377	10959	9460	1499	7.44	6.42	1.02
North East	60264	5191	4065	1126	8.61	6.75	1.87
Ngamiland East	90334	4824	6246	-1422	5.34	6.91	-1.57
Ngamiland West	59421	1850	2516	-666	3.11	4.23	-1.12
Chobe	23347	2798	1951	847	11.98	8.36	3.63
Ngamiland Delta	2529	376	106	270	14.87	4.19	10.68
Ghanzi	43095	2711	1961	750	6.29	4.55	1.74
CKGR	260	128	56	72	49.23	21.54	27.69
Kgalagadi South	30016	1445	1723	-278	4.81	5.74	-0.93
Kgalagadi North	20476	1730	1300	430	8.45	6.35	2.1
International migration		17375	1203	16172	0.86	0.06	0.8
Total	2024904	165397	149225	16172			

Table 4: Migration Status by gender-2011 Census

Sex	Non_Migrant	Migrant	Total
Male	819059	73786	892845
Female	873033	73696	946729
Total	1692092	147482	1839574
Sex	Non_Migrant	Migrant	Total
Male	48.4	50	48.5
Female	51.6	50	51.5
Total	100.00	100.00	100.00
Sex	Non_Migrant	Migrant	Total
Male	91.7	8.3	100.00
Female	92.2	7.8	100.00
Total	92	8	100.00

Table 5: Migration Status by age group-2011 Census

Age group	Non_Migrant	Migrant	Total
1-14	551058	26945	578003
15-24	324421	51575	375996
25-34	307883	40052	347935
35-59	382283	25759	408042
60+	122772	2792	125564
Total	1688417	147123	1835540
Age group	Non_Migrant	Migrant	Total
1-14	32.6	18.3	31.5
15-24	19.2	35.1	20.5
25-34	18.2	27.2	19
35-59	22.6	17.5	22.2
60+	7.3	1.9	6.8
Total	100.00	100.00	100.00
Age group	Non_Migrant	Migrant	Total
1-14	95.3	4.7	100.00
15-24	86.3	13.7	100.00
25-34	88.5	11.5	100.00
35-59	93.7	6.3	100.00
60+	97.8	2.2	100.00
Total	92	8	100.00

Table 6: Migration Status by marital status-2011 Census

Marital Status		Migrant	Total
Married	235401	16046	251447
Never Married	690365	77808	768173
Living together	254472	28432	282904
Separated	5747	376	6123
Divorced	12384	867	13251
Widowed	51941	1644	53585
Total	1250310	125173	1375483
Marital Status	Non_Migrant	Migrant	Total
Married	18.8	12.8	18.3
Never Married	55.2	62.2	55.8
Living together	20.4	22.7	20.6
Separated	0.5	0.3	0.4
Divorced	1.0	0.7	1.0
Widowed	4.2	1.3	3.9
Total	100.0	100.0	100.0
Marital Status	Non_Migrant	Migrant	Total
Married	93.6	6.4	100.0
Never Married	89.9	10.1	100.0
Living together	89.9	10.1	100.0
Separated	93.9	6.1	100.0
Divorced	93.5	6.5	100.0
Widowed	96.9	3.1	100.0
Total	90.9	9.1	100.0

Table 7: Migration Status by religion-2011 Census

Religion		Migrant	Total
Christian	989168	101715	1090883
Muslim	9376	772	10148
Bahai	1716	175	1891
Hindu	3230	123	3353
Badimo	50244	4523	54767
No Religion	191288	17194	208482
Rastafarian	1512	312	1824
Other religion (NEC)	1226	101	1327
Total	1247760	124915	1372675
Religion	Non_Migrant	Migrant	Total
Christian	79.3	81.4	79.5
Muslim	0.8	0.6	0.7
Bahai	0.1	0.1	0.1
Hindu	0.3	0.1	0.2
Badimo	4.0	3.6	4.0
No Religion	15.3	13.8	15.2
Rastafarian	0.1	0.2	0.1
Other religion (NEC)	0.1	0.1	0.1
Total	100.0	100.0	100.0
Religion	Non_Migrant	Migrant	Total
Christian	90.7	9.3	100.0
Muslim	92.4	7.6	100.0
Bahai	90.7	9.3	100.0
Hindu	96.3	3.7	100.0
Badimo	91.7	8.3	100.0
No Religion	91.8	8.2	100.0
Rastafarian	82.9	17.1	100.0
Other religion (NEC)	92.4	7.6	100.0
Total	90.9	9.1	100.0

Table 8: Migration Status by economically active population-2011 Census

Economically active	Non_Migrant	Migrant	Total
Employee - paid cash	425659	54095	479754
Employee - paid in kind	2664	267	2931
Self-employed (no employees)	44461	3087	47548
Self-employed (with employees)	18091	1284	19375
Unpaid family helper	3512	301	3813
Working at own lands/cattle posts	37709	1440	39149
Actively seeking work (Job seekers)	133922	15183	149105
Total	666018	75657	741675
Economically active	Non_Migrant	Migrant	Total
Employee - paid cash	63.9	71.5	64.7
Employee - paid in kind	0.4	0.4	0.4
Self-employed (no employees)	6.7	4.1	6.4
Self-employed (with employees)	2.7	1.7	2.6
Unpaid family helper	0.5	0.4	0.5
Working at own lands/cattle posts	5.7	1.9	5.3
Actively seeking work (Job seekers)	20.1	20.1	20.1
Total	100.0	100.0	100.0
Economically active	Non_Migrant	Migrant	Total
Employee - paid cash	88.7	11.3	100.0
Employee - paid in kind	90.9	9.1	100.0
Self-employed (no employees)	93.5	6.5	100.0
Self-employed (with employees)	93.4	6.6	100.0
Unpaid family helper	92.1	7.9	100.0
Working at own lands/cattle posts	96.3	3.7	100.0
Actively seeking work (Job seekers)	89.8	10.2	100.0
Total	89.8	10.2	100.0

Table 9: Migration Status by economically inactive population-2011 Census

Economically Inactive	Non_Migrant	Migrant	Total
Home work	258425	17620	276045
Students	264524	28521	293045
Retired	16555	873	17428
Sick	39950	1378	41328
Other (NEC)	4599	1153	5752
Total	584053	49545	633598
Economically Inactive	Non_Migrant	Migrant	Total
Home work	44.2	35.6	43.6
Students	45.3	57.6	46.3
Retired	2.8	1.8	2.8
Sick	6.8	2.8	6.5
Other (NEC)	0.8	2.3	0.9
Total	100.0	100.0	100.0
Economically Inactive	Non_Migrant	Migrant	Total
Home work	93.6	6.4	100.0
Students	90.3	9.7	100.0
Retired	95.0	5.0	100.0
Sick	96.7	3.3	100.0
Other (NEC)	80.0	20.0	100.0
Total	92.2	7.8	100.0

Table 10: Distribution of District wise flow of Lifetime In-Migrations (%), 2011 Census

Place of current residence	Place of birth																	Number of in-migrations									
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe Palapye	Central Mahalapye	Central Bobonong		Central Boteti	Central Tutume	North East	Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	Central Kgatleng Game Reserve (CKGR)
Gaborone	6.3	2.9	2.5	0.5	0.6	0	11.2	10.3	3.7	0.8	7.6	4	4.7	0.4	0.3	0	0.5	0	0.8	0.6	146468						
Francistown	4.7	0.9	3.2	0.7	0.2	0.1	10.3	6.3	5.5	1.7	23.1	13.5	20	0.6	0.8	0	0.2	0	0.2	0.2	61655						
Lobatse	5.7	2.9	1.3	0.2	0.9	0	27.8	20.2	1.2	4.4	7.7	0.6	3.5	5.6	4.6	1.6	0.5	0	1.2	1.6	17419						
Selebi_Pikwe	3.4	6.1	0.8	0.3	0.3	0.1	2.3	0.9	0.1	1	3.2	0.3	1.8	24.1	12.3	23.1	1.1	11.1	4.8	1.6	31336						
Orapa	4.4	6.4	1.4	3.7	1.1	0.1	3.1	0.9	0.2	1.4	3	0.1	2.3	18.9	7.4	5	17.8	8.3	3	10	7919						
Jwaneng	4.6	3.4	3.2	1.6	0.8	0	32	3.9	3.2	2.1	6.5	3.2	2.8	6	3.8	2.5	1.2	3	1.5	10	14915						
Sowa Town	3.5	11.9	0.6	2.6	0.6	0.2	2.3	1.1	0	1	1.9	0.2	1.5	8.8	4.4	3.5	4.2	35.8	7.3	7.3	3263						
Ngwaketse	15.9	2.6	18	1.4	0.4	7	0	9.8	1.8	4.6	11.7	1.9	2.8	4.4	3.4	1.5	0.8	2.2	1	4.4	25491						
Barolong	12	1.5	15.9	0.8	0.3	2.2	0	37	0.9	3.2	6.7	0.8	2.1	3.3	2.5	0.9	0.4	1.2	0.6	4.5	15491						
Ngwaketse West	3.7	1.6	3.9	0.5	0.1	9.4	0	27.6	3.4	1.7	4.5	10.2	1.4	2.1	1.2	1.1	0.5	1.1	0.6	1.6	3463						
South East	14.8	4.4	4.8	2.1	0.3	1	0	10.7	4	0.4	11.7	1.2	7.4	9	9	3.3	0.6	4.4	2.2	5.5	36679						
Kweneng East	20	4.8	2.6	2	0.3	0.7	0	11.9	3.3	0.3	4	5.7	4.8	8.7	8.9	3.7	0.8	7	3.4	4.1	81528						
Kweneng West	6.4	2.2	1.1	0.8	0.1	1.7	0	8.5	1.6	2	2.5	43.6	2.8	4.6	4.2	1.9	0.5	2.6	1.7	1.9	10925						
Kgatleng	20.6	4.4	3.1	2.5	0.4	0.5	0.1	6.3	2.1	0.2	4.4	14.2	2.3	8.7	10.6	2.8	0.7	3.9	2.3	7.9	22694						
Central Serowe Palapye	8.8	8.4	1.6	9.8	1.2	0.4	0.2	3.1	0.9	0.1	1.7	4.3	0.4	2.8	24.2	9.4	3.8	9.5	3	4.2	39926						
Central Mahalapye	11.1	5.6	1.5	5.1	0.7	0.4	0	3	0.9	0.1	2.2	6	0.6	4.3	39.3	4.4	1.7	4.8	2.2	4.5	25494						
Central Bobonong	5.7	8.4	0.7	29.2	0.6	0.4	0.1	1.9	0.5	0.1	1	2.9	0.2	2	20.5	6.7	1.2	7.5	3.2	6	17366						
Central Boteti	2.2	6.7	0.5	2.5	11.1	0.3	0.1	2	0.7	0.1	0.6	2.7	0.2	1.4	23.1	7.1	4.1	16.5	2.5	11.2	15018						
Central Tutume	6.8	29.5	1	4.5	0.7	0.4	0.2	1.9	0.5	0.1	0.8	2.2	0.3	1.5	11.2	4.3	4.3	3.9	13.4	9.3	34428						
North East	6.3	31.8	1	3.3	0.5	0.2	0.1	1.9	0.7	0	0.9	2.5	0.2	1.5	7.5	4	5.4	1.4	25	4.2	19749						
Ngamiland East	3.2	7	0.8	1.7	0.9	0.3	0.2	2.1	0.5	0.1	1.1	3.3	0.4	1.5	5.7	3.3	2.5	9.4	10.8	3.2	23757						
Ngamiland West	1.6	3.5	0.4	0.8	0.2	0	0.2	1.9	0.6	0.1	0.7	2.3	0.4	1	3.7	2.9	1.8	3.2	4.9	2.6	7132						
Chobe	3.4	9.7	0.8	1.7	0.5	0.2	0.1	2.8	0.7	0.2	1.3	4.1	0.6	2	6.8	4.6	4.6	2.1	22.8	6.5	9875						
Okavango Delta	0.4	1.6	0	0.7	0.3	0	0	0.7	0.1	0	0.3	0.9	0.1	0.2	1.8	0.9	0.7	2.4	2.4	1.5	1492						
Ghanzi	3.3	2.5	1.2	0.9	0.1	0.5	0.1	5.2	1.7	2.9	1.6	4.2	2.1	1.9	3.4	2.6	1.4	1.7	2.8	0.9	11467						
CKGR	1.4	2.3	2.3	0.5	0.5	0	0	1.4	0.9	0.5	0.9	25.5	7.9	1.9	5.1	5.6	1.9	2.3	2.8	0.9	216						
Kgalagadi South	7.7	2.7	4.3	0.8	0.1	2.3	0	18.9	6.5	13.6	2.4	6.2	2.1	3.5	3.6	2.9	1.6	0.5	2.6	1.2	5797						
Kgalagadi North	4.5	1.9	3.4	0.9	0.1	2.3	0	8.6	1.9	13	1.6	6.6	14.3	1.7	2.6	2.2	1.1	0.4	1.6	0.7	6516						

Table 11: Distribution of District-wise flow of Lifetime out-Migrations (%), 2011 Census

Place of current residence	Place of birth																											
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe Palapye	Central Mahalapye	Central Bobonong	Central Boteti	Central Tlume	North East	Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	Central Kgaleadi Game Reserve (CKGR)	Kgalagadi South	Kgalagadi North
Gaborone	19.3	21.2	15.3	14.9	15.3	7.8	28.4	29.1	9.1	34.6	40.7	19.9	39.9	22.2	27	16.9	9.1	18.3	19.2	13.7	3.9	12.4	0.2	16	0.9	17	14.8	
Francistown	5.4	2.7	8.2	7.9	2.1	10.7	2.1	1.8	1.3	3.7	3.1	0.8	4.1	8.6	6.9	10.4	8.6	23.5	27.3	24.3	2.9	13.1	0.2	2.4	0.1	1.6	2	
Lobatse	1.9	1	1	0.8	2.5	0.2	8.4	17.5	4.6	4.5	2.7	0.9	2.4	1.3	1.4	0.8	0.6	0.9	0.9	1	0.3	1	0.1	1.9	0.1	2.9	4.6	
Selebi_Pikwe	2	4	1.2	2.1	1.4	3.8	1.2	1.4	0.4	1.9	2	0.7	2.2	10.2	6.9	22.4	2.9	5.7	4.9	1	1	2.6	0	1	0	1.1	1.2	
Orapa	0.7	1.1	0.5	1.2	1.4	1.6	0.4	0.4	0.3	0.6	0.5	0.1	0.7	2	1	1.2	11.3	1.1	0.8	1.6	0.3	0.9	0.2	0.5	0	0.2	0.2	
Jwaneng	1.3	1.1	2.3	1	2.3	0.7	8.3	2.9	10.1	1.8	1.9	4.1	1.6	1.2	1	1.2	1.4	0.8	0.7	3	0.3	0.7	0	1.7	0	5.9	2.4	
Sowa Town	0.2	0.8	0.1	0.4	0.1		0.1	0.2	0	0.2	0.1	0.1	0.2	0.4	0.3	0.4	1.1	1.9	0.8	0.5	0.1	0.6	0	0.1	0	0.1	0.1	
Ngwaketse	7.7	1.4	22.7	1.5	1.8	29.8	1.1	12.4	10	6.8	5.9	4.3	2.8	1.5	1.5	1.2	1.6	0.9	0.9	2.2	0.4	1.7	0	4.1	0.1	6.2	5.1	
Barolong	3.5	0.5	12.1	0.5	0.8	5.7	0.4	9.9	2.8	2.9	2.1	1	1.3	0.7	0.7	0.4	0.5	0.3	0.3	1.4	0.2	0.4	0	2.2	0	3.9	1.8	
Ngwaketse West	0.2	0.1	0.7	0.1	0.1	5.4	0	1.7	0.6	0.3	0.3	3	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0	0.1	0	1.9	0.1	5.7	5.3	
South East	10.3	3.4	8.6	3.2	2.4	5.9	2.9	6.8	7.3	3.3	8.5	3.6	10.4	4.5	5.9	3.7	1.8	2.7	2.7	4	1.6	3.3	0.1	4.2	0	6	4	
Kweneng East	30.9	8.2	10.6	7	4.8	9	5.8	16.8	13.3	6	18.9	39.7	15	9.5	13	9.3	5.2	9.5	9.2	6.6	2	7.6	0.2	9.2	0.5	11.8	9.8	
Kweneng West	1.3	0.5	0.6	0.4	0.3	3	0	1.6	0.9	4.6	1.6	9.5	1.2	0.7	0.8	0.7	0.4	0.5	0.6	0.4	0.2	0.5	0	1.6	29.8	2.6	4.3	
Kgatleng	8.9	2.1	3.5	2.4	2	1.8	3.1	2.5	2.4	0.9	5.8	4.4	2.7	2.7	4.3	2	1.3	1.5	1.7	3.5	0.4	2	0.1	2.6	0.6	1.9	1.5	
Central Serowe Palapye	6.7	7	3.2	16.5	9.5	2.8	14.3	2.1	1.8	1.2	3.9	3.4	4.3	17.3	11.5	12.2	6.3	3.9	3.3	3.3	1.4	5	0.3	4.4	0.1	1.6	1.8	
Central Mahalapye	5.4	3	1.8	5.5	3.2	1.8	2	1.3	1.1	0.6	3.2	3.1	4.2	13.5	3.4	3.5	2	1.8	2.2	0.6	2.8	0	1.6	0.2	1.3	1.1		
Central Bobonong	1.9	3.1	0.6	21.3	2.1	1.2	2	0.6	0.4	0.5	1	0.4	1.4	4.8	2.1	1.7	2.2	1.8	2.2	1.8	2	0.3	1.4	0	0.7	0	0.4	0.8
Central Boteti	0.6	2.1	0.4	1.6	32.2	0.8	3.1	0.5	0.3	0.5	0.8	0.3	0.8	4.7	1.9	1.9	4.1	1.2	3.3	2.4	2.5	0.4	2	5.1	0.9	0.7		
Central Tlume	4.4	21.2	1.7	6.6	4.4	2	1.9	1.1	0.9	0.6	1.7	1.5	2	5.2	2.6	4.6	10.8	15.1	6.3	2.2	14.1	0.2	2.2	1	1.1	1.4		
North East	2.3	13.1	1	2.8	2	0.7	6	0.6	0.7	0.1	1	0.3	1.1	2	1.4	3.3	2.2	8.2	1.6	0.6	3.9	0	0.9	0.1	0.5	0.4		
Ngamiland East	1.5	3.5	0.9	1.7	4	1.1	8.9	0.9	0.6	0.7	1.6	1.6	1.4	1.8	1.4	1.8	17.7	4.2	2.5	58.7	17.2	51.4	16.3	0.6	2.2	2.4		
Ngamiland West	0.2	0.5	0.1	0.3	0.3	0	3.3	0.2	0.1	0.3	0.3	0.3	0.3	0.4	0.4	0.4	1.8	0.6	0.6	7.9	2.9	42.6	3	0.1	1.3	0.7		
Chobe	0.6	2	0.4	0.7	1	0.3	1.3	0.5	0.3	0.5	0.8	0.5	0.8	0.9	0.8	1.4	1.7	3.7	2.1	3.1	5.1	2.3	1.2	0	0.6	0.6		
Okavango Delta	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.1	0.1	1.3	4.2	0.8	0.1	0	0	0		
Ghanzi	0.7	0.6	0.7	0.4	0.3	0.9	1.6	1	7	1.1	1	2	0.8	0.5	0.5	0.5	1.6	0.5	0.4	4.7	10.5	2	1.6	60.6	7.9	24.1		
Central Kgaleadi Game Reserve (CKGR)	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0.2	0	0		
Kgalagadi South	0.8	0.3	1.2	0.2	0.1	2.3	0.2	1.9	1.9	16.8	0.8	0.7	1	0.8	0.3	0.3	0.2	0.2	0.2	0.5	0.1	0.3	0.1	2.6	0	8.9		
Kgalagadi North	0.6	0.3	1.1	0.2	0.1	2.5	0	1	0.6	18.1	0.6	0.9	8	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.4	0	15.1	0.3	15.5		
Number of out-migrations	52755	47859	20303	23729	5150	6017	448	57740	20159	4695	17144	50134	11618	26119	73996	55850	32448	12528	60405	30557	50640	13234	3673	967	4841	1435	6933	6102

Table 12: Distribution of District wise flow of In-Migrations during 2010-11 (%)

District	Place of residence 1 year ago																				No. of in-migrations								
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe Palapye	Central Mahalapye	Central Bobonong	Central Boteti	Central Tutume	North East		Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	CKGR	Kgalagadi South	Kgalagadi North
Gaborone	6.4	2.5	2.3	0.7	1.2	0.2	0.2	6.7	2.9	0.2	8.5	19.5	0.1	5.8	6.4	5.2	1.9	0.8	4.1	1.8	2.1	0.4	0.5	0	0.8	0	0.8	0.5	27076
Francistown	16		3.9	1.3	0.9	0.7	1.6	0.4	0.1	1.2	2.7	0	1.3	7.6	4.1	2.9	2.5	20.6	9.9	3.8	1.1	2.6	0	0.4	0	0.4	0	0.3	10797
Lobatse	18.7	3.3	0.9	0.4	1.8	0.2	18.8	16.7	2	4.6	7	0	2.1	3.4	2.9	0.7	0.6	1.8	0.9	1.1	0.4	0.3	0	1.1	0	1.1	0	1.2	3411
Selebi_Pikwe	16	9	0.8	0.9	1.3	0.3	1.2	0.7	0.1	1.5	3.2	0	1.5	17.7	6.8	17.4	1.7	7.4	2.1	1.7	0.5	1.1	0	0.3	0	0.3	0	0.2	5136
Orapa	13.2	11.9	1	3.6	4.3	1.2	1.7	0.7	0.1	1.2	2.2	0	1.1	10.4	3.9	2.4	21.2	5.8	2.2	3.3	0.4	0.5	0	0.5	0	0.1	0	0.1	1525
Jwaneng	19.1	6.5	1.9	2	4.5	0.3	21.7	2.6	3	2.6	6.8	0.1	2.1	2.7	2.1	1.1	2.1	1.9	0.9	1.4	0.2	0.3	0	1.4	0.1	2.3	1	3544	
Sowa Town	7.2	10.7	0.3	3.9	1.7	0.2	1.6	0.2	0	1.2	2.1	0	0.8	5.6	2	1.1	1.8	48.5	2.9	2.7	0.1	2.2	0	0.2	0	0.1	0	0.1	897
Ngwaketse	27.6	3	9.4	1.1	0.7	0.2		7.3	1.8	3.7	13.1	0.1	2.3	2.7	1.7	1.1	0.7	1.4	0.7	1.2	0.2	0.5	0	1.3	0	1.6	1.4	8368	
Barolong	21.8	2	13.9	1	0.3	5.7	0.1	25	0.8	3.2	8.8	0	2.1	2.5	1.8	0.5	0.4	1	0.6	0.4	0.2	0.4	0	0.9	0	1.4	1.4	3961	
Ngwaketse West	10.2	1.9	3.7	0.7	0	9	0.1	28	4.6	1.9	4.9	0	1.2	1.2	0.8	0.3	0.5	0.2	0.3	0.5	0.2	0.7	0	3.6	0	9.4	13.1	1016	
South East	29.6	3.6	3.2	1.7	0.5	2.2	0.1	6.2	2.7	0.3	14.5	0	7.3	5.2	3.4	1.5	0.5	2	0.8	1.7	0.4	0.5	0	0.9	0	0.9	0	0.5	10174
Kweneng East	37.3	4.6	1.9	1.7	0.5	1.4	0.2	6.6	2	0.3	6.1	0.6	4.2	4.8	4.3	1.5	0.8	3	1.2	1.7	0.4	0.5	0	0.9	0	0.7	0.6	19407	
Kweneng West	19.2	2.3	1.1	0.7	0.1	1.7	0	4.3	1.5	1.6	2.9	40.3		2.6	2.8	2.2	0.4	0.5	1.7	0.9	2.4	0.2	0.1	0	2	0.1	2.2	3.5	2132
Kgatleng	33.2	4.1	1.9	1.5	0.5	1	0.2	3.4	1.4	0.3	5.6	13.8	0	4.9	5	1.4	0.6	2.1	1.1	1.6	0.6	0.6	0	0.7	0	0.7	0	0.7	6544
Serowe Palapye	19.1	8.9	1.1	7.8	2.1	0.8	0.3	1.8	0.6	0.1	1.6	4	0	2.3		6.2	4.3	6	1.9	2.1	0.4	1	0	0.6	0	0.3	0.3	13196	
Central Mahalapye	24.2	7.7	1.5	5.3	1	0.7	0.4	2.2	0.7	0.1	2.4	6.6	0.1	4	23.1	3.4	1.8	3.4	1.2	1.7	0.4	0.9	0	0.7	0	0.4	0.2	6847	
Central Bobonong	13.8	9.1	0.7	19.5	0.8	0.5	1.1	1.1	0.3	0.1	1	2.4	0	1.5	20.1	4.3	1.9	7.4	3.7	2.1	0.3	0.9	0	0.3	0	0.3	0.1	5530	
Central Boteti	8.8	9.3	0.7	2.6	9.7	1.8	0.3	1.1	0.6	0	0.9	2	0	1.2	13.6	3.9	2.5	12.4	2.1	16.9	1.8	1.1	0	1.3	0	0.4	0.3	3824	
Central Tutume	12.1	26.8	0.6	3.4	0.9	0.9	1.6	1.1	0.4	0.1	0.8	2	0	1	6.6	2.4	2.5	2.9	8	8.1	0.7	4.4	0	0.5	0	0.3	0.1	10959	
North East	13.2	29.7	1.1	2.8	1.3	1.4	0.5	1.1	0.3	0.1	0.8	2.2	0	1.7	5.6	2.3	2.7	2	16.8	3.1	0.5	1.5	0	0.3	0	0.3	0.1	5191	
Ngamiland East	13.5	8.8	1	1.5	0.9	0.8	0.8	1.7	0.4	0.1	1.2	3.1	0	1.4	4.4	2	1.7	6.9	8	1.7	19.6	3.7	1.2	6.2	0.1	1	0.4	4824	
Ngamiland West	7	5.5	0.3	1.2	0.5	0.4	0.1	0.6	0.4	0	1.1	2.1	0	0.6	3.1	1.2	1.5	2.2	4.1	0.8	50.6	3.6	0.8	6.4	0.1	0.6	0.7	1850	
Chobe	13.1	12.6	1.2	1.8	0.5	0.4	0.5	1.8	0.8	0.1	1.4	2.7	0	1.9	4.6	2.5	2.3	1.6	19	4.6	11.2	4.2	0.6	1.3	0.1	0.4	0.3	2798	
Ngamiland Delta	1.9	2.1	0	0.3	0.3	0	0	0	0	0	0.3	0.3	0	0	0.8	0.5	0	0.8	0.8	54.3	21.5	6.4	2.1	0.8	0	0	0	376	
Ghanzi	11.4	3.4	1.3	0.6	0.2	1	0.3	3.2	1.3	2	1.5	4.8	0.1	1.5	2.5	1.2	1.1	1.4	2.2	0.8	17.2	22.1	1.3	0.1	1.1	3.3	5.7	2711	
CKGR	10.2	3.9	0.8	2.3	1.6	7.8	0	0.8	0	0	3.1	32.8	1.6	3.9	3.1	5.5	0	1.6	1.6	0.8	9.4	0.8	1.6	3.1	3.9	0	0	128	
Kgalagadi South	19.8	3.5	3.4	0.6	0.3	4	0.3	13.2	2.4	5.1	3.3	7.2	0.1	3.7	3.3	1.6	1.7	0.4	2.6	0.5	1.9	0.3	0.3	0.1	4.8	0	11.5	1445	
Kgalagadi North	12.1	2.9	3	0.9	0.2	2.4	0.1	6.2	1.4	8.7	2	5.5	0.2	2	1.8	1.6	0.7	1.2	1	0.6	2	0.8	0.7	0	11.8	0	25.7	1730	

Table 13: Distribution of District-wise flow of Out-Migrations during 2010-11 (%)

District	Place of residence 1 year ago																												
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe	Central Palapye	Central Bobonong	Central Boteti	Central Tutume	North East	Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	Central Kgagadi Game Reserve (CKGR)	Kgagadi South	Kgagadi North	
Gaborone	13.4	17.6	11.7	10.1	10.5	6.4	22	23.1	6.6	39.8	39.7	12.6	30.9	16	19	11.7	6.7	11.7	12.1	9.1	4.5	6.7	2.8	11.7	0	11.8	10.7		
Francistown	5.8	2.8	7.9	7.8	3.1	11.2	2	1.3	0.9	2.3	2.2	2.9	2.8	7.5	6.1	7.2	8.8	23.6	26.4	6.5	4.6	14.2	0.9	2.2	0	1.7	1.5		
Lobatse	2.1	0.9	0.5	0.7	2	1.1	7.8	17.1	7.6	2.7	1.8	0	1.4	1.1	1.4	0.6	0.7	0.7	0.7	0.6	0.5	0.6	0	1.9	1.8	2.3	3		
Selebi_Pikwe	2.8	3.5	1.1	2.6	2.2	2.4	0.8	1	0.6	1.4	1.2	0	1.5	8.3	4.7	20.7	2.8	4	2.6	1.4	1.1	2.9	0	0.7	1.8	0.7	1.7		
Orapa	0.7	1.4	0.4	1	2.2	2.7	0.3	0.3	0.1	0.3	0.3	0	0.3	1.5	0.8	0.9	10.6	0.9	0.8	0.8	0.2	0.4	0	0.4	0	0.1	0		
Jwaneng	2.3	1.8	1.8	1.3	8.7	1.4	9.3	2.7	11.9	1.6	1.8	1.1	1.5	0.9	1	0.9	2.4	0.7	0.8	0.8	0.2	0.5	0	2.5	3.6	4.6	2.6		
Sowa Town	0.2	0.7	0.1	0.7	0.8	0.1	0.2	0.1	0	0.2	0.1	0	0.1	0.5	0.2	0.2	0.5	4.6	0.6	0.4	0	1	0	0.1	0	0.1	0		
Ngwaketse	7.7	1.9	20.7	1.7	3.4	28.4	2.3	18.3	16.6	5.4	8.2	6.3	3.8	2	1.9	2	1.8	1.2	1.4	1.6	0.7	1.9	0	5.5	1.8	7.8	9.1		
Barolong	2.9	0.6	14.5	0.7	0.6	7.5	0.3	12	3.6	2.2	2.6	0.6	1.7	0.9	0.9	0.5	0.5	0.4	0.6	0.3	0.4	0.8	0	1.9	0	3.3	4.2		
Ngwaketse West	0.3	0.1	1	0.1	0	3.1	0.2	3.4	1.4	0.3	0.4	0	0.2	0.1	0.1	0.1	0.2	0	0.1	0.1	0.1	0.4	0	1.9	0	5.5	10.2		
South East	10.1	2.8	8.6	3.3	2.9	7.4	2.3	7.6	8.3	3	11.1	0	14.6	4.9	4.7	3.6	1.7	2.1	2.1	2.7	1.8	2.7	0.9	4.8	0	5.3	3.8		
Kweneng East	24.3	6.8	9.6	6.3	4.9	9.1	4.6	15.5	5.7	20.5	6.5	61.5	16.1	8.6	11.3	7	4.9	6.2	5.8	5.3	3.3	5.3	1.9	9.4	1.8	7.8	8.9		
Kweneng West	1.4	0.4	0.6	0.3	0.1	1.2	0	1.1	1	3.9	1.1	6.5	1.1	0.5	0.6	0.2	0.4	0.4	0.5	0.8	0.2	0.1	0	2.2	5.4	2.7	5.7		
Kgatleng	7.3	2.1	3.3	1.9	1.7	2.1	1.5	2.7	2.7	6.4	6.8	1.1	2.9	4.4	2.1	1.3	1.3	1.5	1.7	1.7	1.4	1.8	0.9	2.5	0	2.8	3.4		
Serowe Palapye	8.5	9.1	3.9	19.4	15.1	3.8	7	2.9	2.4	3.7	3.9	0.6	6	28	19	18.9	8.4	6	4.5	2.3	6.6	0.9	4	3.6	2.3	3.5			
Central Mahala-pye	5.6	4.1	2.7	6.8	3.8	1.6	3.6	1.8	1.5	2.9	3.4	2.9	5.4	14.5	5.4	4.1	2.4	2	1.9	1	3.3	0	2.4	0	1.4	1.2			
Central Bobonong	2.6	3.9	1.1	20.5	2.6	1	9.6	0.8	0.5	0.3	1	0	1.6	10.2	3.2	3.4	4.3	5.1	1.8	0.7	2.5	0	0.9	0	0.8	0.6			
Central Boteti	1.1	2.7	0.7	1.9	20.6	2.3	1.7	0.5	0.7	0.1	0.6	0	0.9	4.8	2	2.2	5	1.9	10.3	2.7	2.1	2.1	0.9	2.6	1.8	0.9	0.9		
Central Tutume	4.5	22.6	1.7	7	5.3	3.2	26.9	1.5	1.2	1.6	1.5	1.7	2.1	6.6	3.5	6.3	10.4	21.5	14.3	3.1	24.7	0	3.1	1.8	2	0.8			
North East	2.3	11.8	1.6	2.7	3.7	2.4	4.3	0.7	0.4	0.7	0.9	0	1.7	2.7	1.6	3.3	3.5	9.2	2.6	1	4	0	0.9	1.8	1	0.5			
Ngamiland East	2.2	3.3	1.2	1.4	2.5	1.3	6.2	1	0.6	0.4	1.1	0.6	1.3	1.9	1.3	1.9	11	4.1	2	37.6	9.2	53.8	15.3	5.4	2.8	1.5			
Ngamiland West	0.4	0.8	0.1	0.4	0.5	0.3	0.2	0.1	0.2	0	0.4	0.3	0	0.5	0.3	0.6	1.3	0.8	0.4	15	3.4	14.2	6	1.8	0.6	1			
Chobe	1.2	2.7	0.9	0.9	0.7	0.3	2.1	0.6	0.4	0.7	0.6	0	1	1.2	1	1.5	1.5	5.6	3.2	5	4.7	16	1.8	7.1	0.6	0.5			
Ngamiland Delta	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.1	3.3	3.2	1.2	0.4	5.4	0	0			
Ghanzi	1	0.7	0.9	0.3	0.3	0.9	1.4	1.1	1	6.2	0.7	1	1.1	0.8	0.4	0.7	1.2	0.6	0.5	7.4	23.8	1.7	1.9	55.4	5.2	11.8			
Central Kgagadi Game Reserve	0	0	0	0.1	0.1	0.3	0	0	0	0.1	0.3	1.1	0.1	0	0.1	0	0.1	0	0	0.2	0	0.1	3.8	0.3	0	0			
Kgagadi South	1	0.4	1.3	0.2	0.3	1.9	0.6	2.3	1	8.2	0.8	1.1	1.1	0.4	0.3	0.6	0.2	0.4	0.2	0.4	0.2	0.2	0.9	3.5	0	12.8			
Kgagadi North	0.7	0.4	1.4	0.3	0.2	1.4	0.2	1.3	0.7	16.9	0.6	0.7	2.3	0.7	0.3	0.4	0.3	0.7	0.2	0.3	0.6	0.6	0	10.4	0	25.8			
No. of out-migrations	29797	13001	3798	5281	1807	2981	658	8242	3348	889	13311	174	5115	10931	7404	4304	3043	9460	4065	6246	2516	1951	106	1961	56	1723	1300		

Table 14: Distribution of District wise flow of In-Migrations during 2006-11 (%) (all Ages)

Place of current residence-District	Place of residence 5 years ago																			No. of In-migrations									
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe Palapye	Central Mahalapye	Central Bobonong	Central Boteti	Central Tlume		North East	Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	CKGR	Kgalagadi South	Kgalagadi North
Gaborone	6.2	2.8	2.3	2.2	0.7	1.1	0.1	6.7	2.8	0.2	8.7	17.9	0.3	5.9	6.6	5.6	1.8	0.7	4.2	1.9	2.6	0.4	0.4	0	0.8	0	0.7	0.5	31564
Francistown	15.9		1	3.9	1.4	0.7	0.6	1.5	0.5	0.1	1.4	2.8	0.1	1.4	7.9	4.5	3.2	2.3	19.8	9.3	7.4	1	2.2	0	0.4	0	0.3	0.2	13108
Lobatse	18.7	3.3		0.8	0.4	1.8	0.2	18.1	16.7	1.7	5.3	7	0.2	2.1	3.9	3.2	0.7	0.5	1.9	0.9	1.1	0.3	0.3	0	1	0	1	1.2	4114
Selebi_Pikwe	15.6	9.5	0.8		1	1.2	0.3	1.3	0.8	0.1	1.5	2.9	0	1.4	17.8	7.4	16.8	1.6	7.7	2.3	1.8	0.5	0.9	0	0.3	0	0.2	0.4	6274
Orapa	13.5	11.1	1.1	3.9		4	1.1	2.1	0.6	0.1	1.3	2.2	0	1.3	11.1	4.6	2.5	20.7	5.9	2	4	0.4	0.3	0	0.5	0	0.1	0	1834
Jwaneng	19.2	6.3	2.1	1.8	4.2	0.2	0.2	21.8	2.5	3.1	2.8	6.5	0.7	2.2	3.1	2	1.1	2	1.8	0.9	2.6	0.2	0.3	0	1.2	0	2.2	1	4035
Sowa Town	7.9	13.4	0.3	3.2	1.6	0.3	0.1	1.6	0.3	0	1.5	1.8	0	1	5.9	2.2	1.3	2.2	44.7	3.1	2.5	0.2	2	0	0.4	0	0.1	0.1	1028
Ngwaketse	29.2	2.8	11.6	1.1	0.6	10.4	0.1	6.7	1.5	0.7	3.9	11.6	0.3	2.2	2.6	1.6	0.9	0.7	1.3	0.6	1.2	0.2	0.4	0	1	0	1.5	1.2	10730
Barolong	24	1.9	16.2	0.9	0.2	5.1	0	23.7		0.7	3.3	7.4	0.1	2.1	2.5	1.9	0.6	0.4	0.8	0.4	1	0.2	0.3	0	1	0	1.2	1	5202
Ngwaketse West	10.6	1.9	3.7	0.6	0	11.4	0.1	25.3	4.3		2	4.5	2	1	0.9	0.9	0.5	0.5	0.4	0.3	0.5	0.2	0.6	0	4	0	9.2	11.6	1255
South East	31.7	3.4	3.6	1.6	0.5	2	0.1	6	2.8	0.3		13.1	0.1	6.7	5	3.7	1.6	0.5	1.9	0.8	1.9	0.4	0.4	0	0.8	0	0.8	0.5	12275
Kweneng East	39.7	4.1	1.8	1.5	0.4	1.2	0.1	6.3	1.9	0.2	6.1		1.2	4	4.5	4.2	1.6	0.7	3.1	1.2	1.9	0.3	0.5	0	0.7	0	0.6	0.6	25786
Kweneng West	18.6	2.2	1.1	0.5	0.1	2	0	5.5	1.3	1.7	2.7	43.1		2.3	2.4	2.1	0.4	0.4	1.7	1	1.9	0.2	0.1	0	1.6	0.3	1.8	3.1	2918
Kgatleng	33.6	4.1	1.9	1.6	0.6	0.9	0.1	3.5	1.4	0.2	5.6	12.9	0.2		5.2	5.5	1.3	0.6	2.1	1	2.1	0.5	0.5	0	0.7	0	0.6	0.6	7849
Serowe Palapye	19.9	9.4	1.2	8.7	2	0.8	0.3	1.8	0.6	0.1	1.8	3.8	0.1	2.2		16	5.8	4	5.8	1.8	2.2	0.4	0.9	0	0.6	0	0.2	0.3	16151
Central Mahalapye	25.5	7.8	1.5	5.3	1.1	0.7	0.3	2.1	0.7	0.1	2.7	6.3	0.2	4	22.7		3.2	1.9	3.1	1.2	1.7	0.3	0.9	0	0.7	0	0.3	0.3	8600
Central Bobonong	13.8	9.6	0.6	25.2	0.9	0.6	0.9	1.1	0.3	0.1	1	2.1	0	1.4	17.7	4		1.6	6.6	3.1	2.2	0.2	0.7	0	0.3	0	0.3	0.2	7145
Central Boteti	8	9.4	0.6	2.3	13.4	1.5	0.3	1.1	0.5	0	0.9	2	0.1	1.3	14	3.8	2.3		11.6	2	16.2	1.7	1.1	0	1.2	0.1	0.4	0.3	4923
Central Tlume	12.4	30.2	0.7	3.5	0.9	0.7	1.4	1.1	0.4	0.1	0.8	1.8	0.1	1	6.4	2.4	2.3	2.7		7.4	7.4	0.7	3.8	0	0.4	0	0.3	0.1	13640
North East	12.6	34.2	1	2.7	1.1	1	0.4	1.2	0.3	0.1	0.7	2	0	1.7	4.9	2.2	2.7	1.8	16		3	0.4	1.2	0	0.3	0	0.3	0.1	6923
Ngamiland East	12.1	8.6	0.9	1.5	1	0.7	0.7	1.7	0.3	0.1	1.5	3.1	0.1	1.4	4.2	2.2	1.7	6.8	8.4	2		20.6	3.3	1.2	6.1	0	0.9	0.4	6131
Ngamiland West	6.5	4.8	0.5	1.2	0.4	0.3	0.1	0.7	0.3	0	0.9	1.8	0	0.7	2.9	1.4	1.4	2.4	3.8	1	53.4		3.2	1.2	5.6	0	0.6	0.6	2339
Chobe	12.1	13.2	1.1	1.8	0.6	0.3	0.4	1.7	0.7	0.1	1.4	2.7	0.1	1.7	4.6	2.6	2.5	1.7	20	4.6	11.5	4.1		0.6	1.1	0.1	0.4	0.2	3239
Ngamiland Delta	1.7	1.9	0	0.2	0.2	0	0	0	0	0	0.2	0.2	0	0	0.7	0.5	0	1	0.7	0.7	54.9	22.9	5.8		1.9	0.7	0	0	415
Ghanzi	11.5	3.5	1.4	0.7	0.2	1.1	0.3	3.5	1.2	2	1.6	4.6	0.6	1.5	2.5	1.4	1	1.4	2	0.7	17	19.9	1.1	0.1	2.3	3.7	0	6	3177
CKGR	9.6	3.7	0.7	2.2	1.5	7.4	0	0.7	0	0	3	31.1	6.7	3.7	3	5.2	0	1.5	1.5	0.7	8.9	0.7	1.5	3	3.7	0	0	0	135
Kgalagadi South	19.8	3.2	3.7	0.5	0.3	4.2	0.2	13.8	3.7	6.3	3	6.4	0.4	3.3	3.2	1.6	1.3	0.4	2.2	0.3	2.3	0.4	0.3	0.1	4	0	10.8	1822	
Kgalagadi North	11.8	3	3.1	0.8	0.1	2.8	0	5.9	1.4	8.9	1.9	5.7	0.8	1.9	2	1.9	0.6	1	1	0.5	1.9	0.8	0.5	0	12.7	0	24.6	2018	

Table 15: Distribution of District wise flow of Out-Migrations during 2006-11 (%) (all Ages)

Place of current residence	Place of residence 5 years ago																											
	Gaborone	Francistown	Lobatse	Selebi_Pikwe	Orapa	Jwaneng	Sowa Town	Ngwaketse	Barolong	Ngwaketse West	South East	Kweneng East	Kweneng West	Kgatleng	Central Serowe	Central Mahalapye	Central Bobonong	Central Boteti	Central Tutume	North East	Ngamiland East	Ngamiland West	Chobe	Okavango Delta	Ghanzi	CKGR	Kgalagadi South	Kgalagadi North
Gaborone	11.7	14.5	9.7	9.1	9.9	6.4	21.3	21.7	6.2	37.6	37.6	15.3	30.5	15.6	18.8	11.2	6.3	11.5	12.4	9.6	4.1	6.6	2.1	11.3	0	11.5	10.4	
Francistown	5.4	2.5	7.3	7.6	2.7	10.7	2	1.5	0.9	2.5	2.4	1.7	3.1	7.8	6.3	8.1	8.3	22.8	25.4	11.3	4.4	13.6	0.7	2.3	0	1.7	1.4	
Lobatse	2	0.8	0.5	0.7	2.1	1	7.5	17.2	6.7	3	1.9	1.2	1.4	1.2	1.4	0.6	0.6	0.7	0.8	0.5	0.4	0.6	0	1.8	1	2.1	3.3	
Selebi Phikwe	2.5	3.5	1	2.5	2.1	2.3	0.8	1.2	0.6	1.3	1.2	0.3	1.4	8.4	5	20.2	2.8	4.2	3	1.3	1.1	2.8	0	0.8	1	0.7	1.4	
Orapa	0.6	1.2	0.4	1	2	3.1	0.4	0.3	0.2	0.3	0.3	0	0.4	1.5	0.9	0.9	10.7	1	0.7	0.9	0.2	0.3	0	0.4	0	0.1	0	
Jwaneng	2	1.5	1.7	1	7	1.5	8.8	2.5	11.9	1.6	1.7	4.6	1.5	0.9	0.8	0.9	2.2	0.6	0.7	1.2	0.2	0.5	0	2.1	1.9	4.6	2.8	
Sowa Town	0.2	0.8	0.1	0.5	0.1	0.1	0.2	0.1	0	0.2	0.1	0	0.2	0.5	0.2	0.3	0.6	4	0.7	0.3	0.1	1	0	0.2	0	0.1	0.1	
Ngwaketse	8.1	1.8	24.5	1.7	2.8	31	2	17.9	15.3	5.8	8.3	5.2	3.9	2.1	1.8	1.9	2	1.2	1.3	1.5	0.8	2	0	5	1	8	8.4	
Barolong	3.2	0.6	16.6	0.6	0.5	7.3	0.3	12.4	3.5	2.3	2.6	1.1	1.8	1	1	0.6	0.6	0.4	0.4	0.6	0.3	0.8	0	2.2	0	3.2	3.3	
Ngwaketse West	0.3	0.1	0.9	0.1	0	4	0.1	3.2	1.3	0.3	0.4	3.8	0.2	0.1	0.1	0.1	0.2	0	0.1	0.1	0.1	0.4	0	2.2	0	5.9	9.5	
South East	10.1	2.5	8.6	2.9	2.7	6.7	2.3	7.4	8.6	3	10.7	2	13.4	4.6	4.8	3.7	1.6	2.1	2.1	2.7	1.7	2.5	0.7	4.5	0	4.8	4.3	
Kweneng East	26.4	6.3	8.9	5.5	4.5	8.9	4.5	16.3	12.2	5.7	21.5	46.1	16.8	8.7	11.6	7.9	4.7	7	6.6	5.7	3	5.5	0.7	8.4	1	8.3	9.4	
Kweneng West	1.4	0.4	0.6	0.2	0.1	1.6	0	1.6	0.9	4.9	1.1	8.4	1.1	0.5	0.6	0.3	0.3	0.4	0.6	0.6	0.2	0.1	0	2.1	7.7	2.7	5.9	
Kgatleng	6.8	1.9	3	1.8	2	1.5	2.7	2.7	1.5	6.1	6.8	2.3	3.1	4.6	2	1.4	2	1.4	1.5	1.7	1.9	1.2	2	0.7	2.4	0	2.6	3.1
Serowe Palapye	8.3	9	3.7	20.1	13.5	3.5	7.7	3	2.5	1.9	4	4.1	1.8	5.7	27.4	18.1	18.3	8.2	6	4.2	2	6.8	0.7	4.1	1.9	2	3.3	
Central Mahalapye	5.7	4	2.5	6.5	3.8	1.6	3.2	1.8	1.6	0.8	3.2	3.6	2	5.7	14.7	5.3	4.7	2.4	2.2	1.7	0.9	3.5	0	2.5	0	1.3	1.5	
Central Bobonong	2.5	4.1	0.9	25.7	2.5	1.2	9.5	0.8	0.5	0.4	1	0	1.7	9.5	3	3.3	3.3	4.1	4.7	1.8	0.6	2.4	0	0.9	0	0.9	0.7	
Central Boteti	1	2.7	0.6	1.6	27.4	2	1.9	0.5	0.7	0.2	0.6	0.7	0.5	1	5.2	2	2.2	5	2	9.3	2.8	2.6	0.7	2.6	2.9	1	0.9	
Central Tutume	4.4	24.4	1.8	6.9	4.9	2.6	27.2	1.6	1.3	1.4	1.6	1.5	2.2	6.6	3.5	6.2	10.4	21.1	11.8	3	24.6	0	2.7	1	1.8	1.3		
North East	2.3	14.1	1.4	2.7	3.3	1.9	4.2	0.8	0.5	0.4	0.7	0.9	0.5	1.9	2.6	1.6	3.7	3.5	9.8	2.4	1	3.9	0	1	1	1	0.4	
Ngamiland East	1.9	3.1	1.1	1.3	2.6	1.2	6.1	1.1	0.5	0.4	1.3	1.2	1.4	2	1.4	2	11.7	4.5	2.5	42.1	9.6	53.9	16.8	2.9	2.7	1.6		
Ngamiland West	0.4	0.7	0.2	0.4	0.4	0.2	0.3	0.2	0	0.3	0.3	0	0.3	0.5	0.3	0.6	1.6	0.8	0.5	14.6	3.5	19.9	5.8	1	0.7	1		
Chobe	1	2.5	0.7	0.8	0.8	0.3	1.8	0.5	0.4	0.6	0.6	0.6	0.9	1.1	0.9	1.6	1.5	5.7	3.1	4.3	4.5	13.5	1.7	3.8	0.6	0.5		
Ngamiland Delta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0.1	2.7	3.2	1.1	0.4	2.9	0	0		
Ghanzi	0.9	0.7	0.9	0.3	0.3	1	1.5	1.1	1	6	0.7	1	2.8	0.8	0.6	0.5	0.6	1.3	0.6	6.3	21.1	1.7	2.8	69.2	6	12.6		
Central Kgalagadi Game Reserve	0	0	0	0	0.1	0.3	0	0	0	0.1	0.3	1.4	0.1	0	0.1	0	0.1	0	0	0.1	0	0.1	2.8	0.2	0	0		
Kgalagadi South	0.9	0.3	1.3	0.1	0.2	2.1	0.6	2.5	1.7	10.9	0.8	1.1	1	0.4	0.3	0.4	0.2	0.4	0.1	0.5	0.2	0.2	0.7	3.2	0	12.9		
Kgalagadi North	0.6	0.4	1.2	0.2	0.1	1.6	0.1	1.2	0.7	17	0.5	0.8	2.5	0.6	0.3	0.4	0.3	0.6	0.2	0.4	0.5	0.5	0	11.5	0	25.4		

ANALYSIS ON DISABILITY: 2011 POPULATION AND HOUSING CENSUS

By **Dr. Tlameo O. Mmatli**, Department of Social Work
Kago Kebotsamang, Department of Statistics
Dr. Gwen.N. Lesetedi, Department of Sociology
 University of Botswana

Introduction

Historically, people with disability have been discriminated against and marginalized within their communities. Thus, many countries of the world have, until recently, not included people with disabilities in their population censuses. In the process they were excluded from many aspects of socio-economic life and their needs were often neglected or ignored, or inadequately addressed. Prior to the 1991 Population and Housing Census, in Botswana as in many countries worldwide, the number of people with disability had always been estimated by using the WHO criteria of 10% of the country's population. People with disabilities were enumerated for the first time in Botswana during the 1991 Population and Housing Census, which revealed that 2.2% of the Botswana's population had some form of disability (CSO, 1994). The 2001 Housing and Population Census estimated that people with disabilities constituted 2.99% of the population. The two censuses also invariably revealed that people with disabilities were underrepresented in the education system, generally not engaged in meaningful economic activities, and were disproportionately affected by poverty and conditions of squalor (CSO, 1994, 2001).

It should be acknowledged that the two censuses in 1991 and 2001 generated information that was crucial for the inclusion of people with disabilities in different aspects of societal life such as education, employment, and social safety nets. For instance, government's response has included the following: Revision of the National Education Policy (1994); establishment of the Office of People with Disabilities within the Office of the President (2010) to plan for and coordinated disability activities; revision of the National Policy on Disability (awaiting approval); adoption of Affirmative Action on disability (2013), and sensitization of the nation on disability issues through workshops, the media, Disability Pitso, and other activities and strategies aimed at changing society's attitudes towards people with disabilities and reducing the incidence of disability. The effectiveness of government's strategies in response to information from the previous censuses will be revealed in the data from the 2011 Population and Housing Census.

Objectives of this Paper

The major objective of this report is to convey the results of the analysis of the 2011 Population and Housing Census data focusing on the disability category. The outcome of the analysis has the potential to influence the shape and direction of disability policy, as well as other pertinent policies and programs in Botswana. The key demographic characteristics considered for this analysis include disability types, distribution by districts, age structure, gender, marital status, family size, and any other variable that the 2011 census has included. Educational levels and economic activities, which are important indicators of equalisation of opportunities for people with disabilities will also be analysed. However, some of the variables will be covered generally and broadly as a prelude to in-depth analysis by other analysts.

Definition of Disability

Definitions of disability vary from one country to another as they are influenced by regional, group and personal orientations, and the specific purpose for the definition is designed. Consequently, there are many different definitions of disability. These range from the very narrow to the very broad, from the medical to the social, from the cultural to the local, from the one intending to integrate people with disabilities in society to the one intending to exclude them, from one that describes their looks, appearance, behaviour, or capacity to learn to one that describes their functional limitations and incapacities. By far, the definition that has influenced how disability is predominantly defined throughout the world is the WHO's definition which defined disability as restrictions in the use, or loss of body limbs, sight, intellect, speech, etc. (WHO, 1980). This definition has come under attack from numerous disability activists, researchers and scholars accusing it of being narrowly focused on the body of the individual and ignoring other social and environmental factors that contribute to people's inability to perform certain tasks. Therefore, for the purpose of this report, disability is defined as:

"... long term impairment, be it physical, mental intellectual, or sensory, whether congenital or acquired which, when combined with environmental and societal barriers limits the person's ability to function in society on an equal basis with others who have no impairment. The limitations include inability to carry out activities of daily living independently" (Adapted from the National Disability Policy, 2011).

Impairment is defined as: Any loss or abnormality of psychological, physiological, or anatomical structure or function" Oliver & Barnes, 1998

In this analysis, impairment and disability are used interchangeably and are taken to mean one and the same thing.

Within the specific context of Botswana, disability is understood in two ways. First, the word 'disability' (bogole) is used to refer to the individual's impairment, which is acknowledged as part of their identity. In that context the person is referred to as 'a person with disability' or, in vernacular, 'mona le bogole'. The use of the term 'disability' or 'bogole' in this context is acceptable (Mmatli, 2005). The second meaning of the term 'disability' (bogole) is very negative and demeaning to the individual so addressed. In that context, bogole is understood to denote incapability, worthlessness, sickness, shame, dependency, sadness and misery. Then, the person is referred to as 'segole', a label which many people with disabilities in Botswana are rejecting as extremely vilifying and highly unacceptable (Mmatli, 2005). The phrase "mona le bogole" is preferred when referring to a person with disability.

Data Processing, Analysis, and Limitations

Data was collected and processed by Statistics Botswana using quantitative methods that were appropriate for the census exercise. This analysis has been carried out using descriptive statistical methods and the outcomes have been presented in the form of Tables, and Charts, and the data are interpreted accordingly. This analysis has exposed a number of methodological limitations inherent in the 2011 Population and Housing Census data. For example, some people may have more than one disability or what is usually referred to as multiple disabilities. In such a situation an individual with more than one disability may be counted in each category of disability. Another limitation is that disability is understood differently by different people. That is, what may be considered a disability by one respondent may not be seen as such by another. Therefore, there may be underreporting as some respondents may report only what they consider to be a major disability. Another source of underreporting is the fact that there is stigma attached to disability; and there are myths and cultural beliefs surrounding disability such as the view of disability as a curse or punishment for family misconduct. These factors may result in respondents not being able to freely reveal the disability status of members of their households.

The other limitation is that in the questionnaire, information on disability does not form a continuous record on the individual. Part A of the questionnaire provides detailed information on the persons who had spent the previous night in the household while part B solicits information on Botswana citizen members of households who are outside the country. Information on disability is found in part C of the questionnaire. This requires the transferring relevant information from parts A and B to part C in order to consolidate the information on the individual. For example, the names and serial numbers are transferred from "A" and "B" to "C". It is therefore, easy to introduce mistakes when transferring the information from one part of the questionnaire to the other, such as recording a wrong serial number, which could result in a wrong person being classified as disabled. However, it is hoped that the possibility of this happening was minimised during the editing process.

Disability Prevalence Rates

The results from the 2011 Population and Housing Census show that, of the total Botswana population of about 2 million people, 59,103 (2.92 %) were reported to be disabled. This is almost equal to the 2001 prevalence rate of 2.99 %.

Table 1 presents the disability prevalence rates and sex ratio by district and gender. The sex ratio represents the total number of disabled males compared to every 100 disabled females. The national disability sex ratio was 99.7 disabled males compared to 100 disabled females – almost one is to one ratio. However, the national disability prevalence rate for males was 3.0% compared to 2.9 % for females. That is, even though the number of females with disabilities slightly edged those of their male counterparts, the disability prevalence rate within each gender group is almost the same. The highest proportion of disabled persons was found in Ghanzi (4.4 %), followed by Southern (3.7 %), Kgalegadi (3.7%) and North-West district with 3.6%.

Apart from these four leading districts, only the Central (3.5%) and North East (3.0%) districts had prevalence rates higher than the national prevalence rate. All other districts had disability prevalence rates less than that of the national level which was 2.9%.

Table 1: Disability prevalence rates and sex ratio by district and gender for the 2011 Population and Household Census

DISTRICT	MALE			FEMALE			TOTAL			SEX RATIO
	Disabled	Total	Rate (%)	Disabled	Total	Rate (%)	Disabled	Total	Rate (%)	
National Total	29 511	989 128	3	29 592	1 035 776	2.9	59 103	2 024 904	2.9	99.7
Gaborone	1 665	113 580	1.5	1 741	118 012	1.5	3 406	231 592	1.5	95.6
Francistown	701	48 124	1.5	648	50 837	1.3	1 349	98 961	1.4	108.2
Lobatse	392	14 145	2.8	306	14 862	2.1	698	29 007	2.4	128.1
Selebi-Phikwe	423	24 749	1.7	394	24 662	1.6	817	49 411	1.7	107.4
Orapa	107	4 736	2.3	99	4 795	2.1	206	9 531	2.2	108.1
Jwaneng	155	9 831	1.6	115	8 177	1.4	270	18 008	1.5	134.8
Sowa Town	20	1 961	1	26	1 637	1.6	46	3 598	1.3	76.9
Southern	3 645	95 834	3.8	3 599	101 933	3.5	7 244	197 767	3.7	101.3
South East	1 121	40 695	2.8	1 270	44 319	2.9	2 391	85 014	2.8	88.3
Kweneng	4 209	149 598	2.8	3 966	154 951	2.6	8 175	304 549	2.7	106.1
Kgatleng	1 199	44 580	2.7	1 133	47 080	2.4	2 332	91 660	2.5	105.8
Central	9 842	279 160	3.5	10 325	296 904	3.5	20 167	576 064	3.5	95.3
North East	882	28 588	3.1	926	31 676	2.9	1 808	60 264	3	95.2
North West	3 134	85 616	3.7	3 252	90 015	3.6	6 386	175 631	3.6	96.4
Ghanzi	1 029	22 462	4.6	889	20 893	4.3	1 918	43 355	4.4	115.7
Kgalagadi	987	25 469	3.9	903	25 023	3.6	1 890	50 492	3.7	109.3

Still from Table 1, Gaborone, Sowa Town, Central, South-East, North-East and North-West districts had sex ratios of less than 100 implying that there were more disabled females as compared to males. The lowest sex ratio was recorded at Sowa Town which had about 77 disabled males, and the highest at Ghanzi with about 116 disabled males compared to 100 disabled females.

Table 1 also shows (see Figure 1 below for illustration) that the disability prevalence rates for females were higher than those of males for all districts except in Gaborone, Sowa Town and Central districts. The prevalence rates for both sexes were equal in Gaborone (1.5% each) and Central district (3.5% each) while in Sowa Town male disability prevalence rate was 1.0% compared to 1.6% for females. The highest proportion of disabled male persons was found in Ghanzi (4.6%), followed by Kgalagadi (3.9%), Southern (3.8%), North-West (3.7%), Central (3.5 %) and North-East (3.1%). Other districts recorded proportions of less than 3.0 % with the lowest proportion of 1.0 % found in Sowa Town. The proportions of disabled females also followed a similar pattern to that of males. The highest proportions were found in Ghanzi district (4.4%) followed by Kgalagadi and North West districts both with 3.6 % and Southern and Central districts with 3.5%. The lowest proportions of disabled female persons were found in Francistown (1.3%), Jwaneng (1.4 %) and Gaborone (1.5 %).

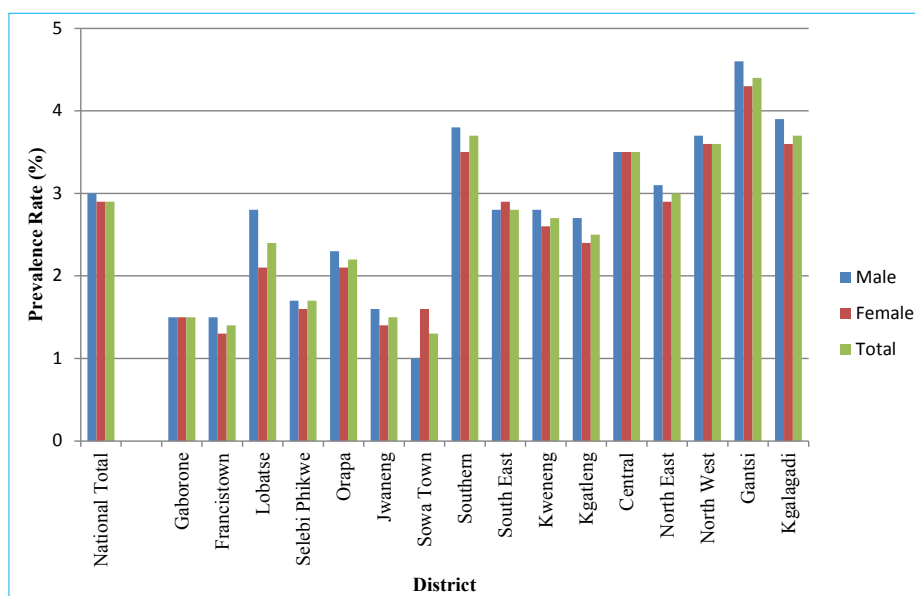


Table 2: Disability Prevalence rates by district for the 2001 and 2011 Population and Household Census

District	Prevalence Rate		
	2001	2011	Change
Gaborone	1.9	1.5	-0.4
Francistown	1.2	1.4	0.2
Lobatse	3.1	2.4	-0.7
Selibe Phikwe	1.9	1.7	-0.2
Orapa	1.5	2.2	0.7
Jwaneng	1.5	1.5	-
Sowa	1.3	1.3	-
Southern	4.3	3.7	-0.6
South East	2.8	2.8	-
Kweneng	3.4	2.7	-0.7
Kgatleng	3.7	2.5	-1.2
Central	4	3.5	-0.5
North East	3.8	3	-0.8
North West	4.5	3.6	-0.9
Ghanzi	4.1	4.4	0.3
Kgalagadi	5.4	3.7	-1.7
National	3	2.9	-0.1

Table 2 above and Figure 2 below present the disability prevalence rates for the 2001 and 2011 Population and Household censuses and the rate change from 2001 to 2011 for each district. Figure 2 shows that only Francistown (0.2%), Orapa (0.7%) and Ghanzi (0.3%) experienced a percentage increase in disability cases. Jwaneng, Sowa Town and South-East district had the same disability prevalence as in 2001 and all other districts' prevalence rates declined with Kgalagadi having the highest decline of 1.7%, followed by Kgatleng with a decline of 1.2%. Figure 2 also shows that except for Kgalagadi (-1.7%) and Kgatleng (-1.2%), all other districts had prevalence rate percentage change between -1.0% and -1.0%. This implies that there have not been significant changes in disability prevalence rates across most districts in Botswana.

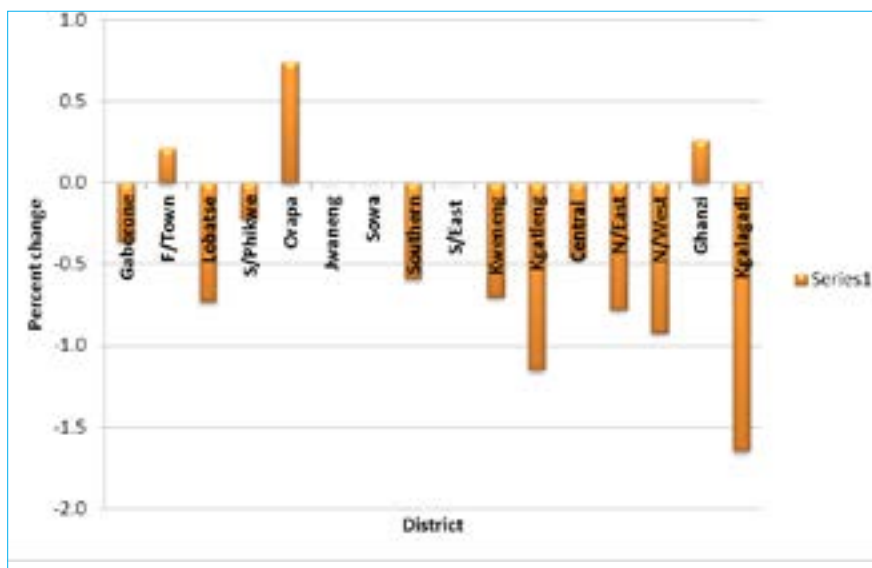


Figure 2: Percentage change in disability prevalence rate by district from the 2001 – 2011 Population and Household Census.

Disability Prevalence Rate by Age and Gender

Figure 3 below shows a line graph of disability prevalence rates by different age groups for different sexes. The graph shows a rough exponential increase of disability prevalence with age and not much difference between both sexes' curves until at very old age. The graph pattern may be indicative that disability for younger children may not be immediately obvious at younger ages and people become aware of these disabilities when the affected children fail to perform activities regarded as normal for their age. The other possible reason may be that the severity of the disability worsens with age (Mukamaambo, Shaibu & Lesetedi, 2003).

Although there is not much difference between the male curve and the female one, male disability prevalence rate is higher than that of females in most of the age groups. Precisely, Table 3 below shows that male prevalence rate is only less than that of females only for the '85 and over' age group - 18.9% and 36.7% respectively. Table 3 also presents sex ratios for different age-groups of people with disability. The highest sex ratio was about 143 males with disability compared to 100 females with disability for the 5 – 9 years age group, and the lowest was about 50 males with disability compared to 100 females with disability for the '85 and over' age group. There were more males with disability compared to females for all age groups before the age 65 except for only two age groups; 45 - 49 and 55 - 59 age groups, and still for these age groups the sex ratio was very close to 1:1 ratio.

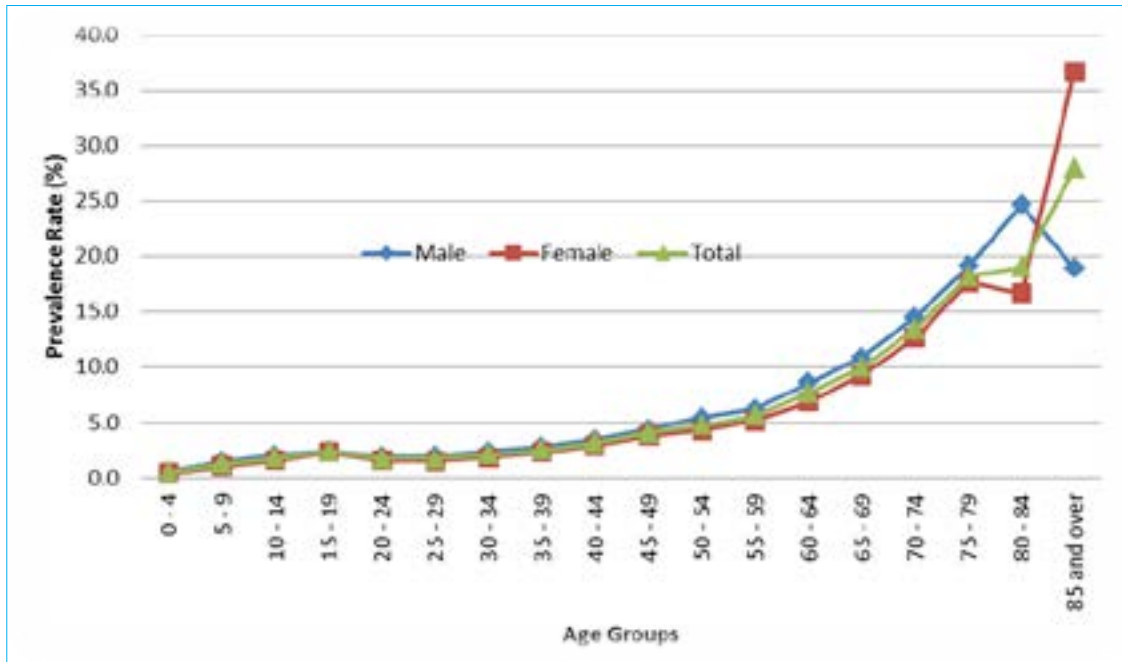


Figure 3: Disability prevalence rates by age groups and gender for the 2011 Population and Household Census

Table 3: Disability prevalence rate and sex ratio for different age groups for the 2011 Population and Household Census

AGE GROUP	Male			Female			Total			SEX RATIO
	Disable	Total	Rate	Disable	Total	Rate	Disable	Total	Rate	
0-4	667	120 046	0.6	495	117 341	0.4	1 162	237 387	0.5	134.7
5-9	1 607	108 561	1.5	1 121	106 622	1.1	2 728	215 183	1.3	143.4
10-14	2 126	104 468	2	1 608	102 976	1.6	3 734	207 444	1.8	132.2
15-19	2 525	104 847	2.4	2 429	105 956	2.3	4 954	210 803	2.4	104
20-24	1 913	97 270	2	1 598	103 045	1.6	3 511	200 315	1.8	119.7
25-29	2 009	101 193	2	1 609	106 576	1.5	3 618	207 769	1.7	124.9
30-34	2 021	84 507	2.4	1 597	85 989	1.9	3 618	170 496	2.1	126.5
35-39	1 920	68 438	2.8	1 531	66 765	2.3	3 451	135 203	2.6	125.4
40-44	1 674	48 757	3.4	1 457	50 494	2.9	3 131	99 251	3.2	114.9
45-49	1 663	37 879	4.4	1 683	44 358	3.8	3 346	82 237	4.1	98.8
50-54	1 615	29 737	5.4	1 560	36 616	4.3	3 175	66 353	4.8	103.5
55-59	1 513	24 363	6.2	1 529	29 685	5.2	3 042	54 048	5.6	99
60-64	1 493	17 343	8.6	1 396	20 235	6.9	2 889	37 578	7.7	106.9
65-69	1 332	12 237	10.9	1 439	15 504	9.3	2 771	27 741	10	92.6
70-74	1 369	9 461	14.5	1 613	12 788	12.6	2 982	22 249	13.4	84.9
75-79	1 329	6 963	19.1	1 928	10 915	17.7	3 257	17 878	18.2	68.9
80-84	1 199	4 868	24.6	1 936	11 624	16.7	3 135	16 492	19	61.9
85 and over	1 536	8 133	18.9	3 063	8 344	36.7	4 599	16 477	27.9	50.1

From the age of 65 onwards, there were fewer males with disabilities compared to their female counterparts. The sex ratios (number of males compared to 100 females) for these age groups are all less than 100. Arber & Cooper (1999) concurred that more females are likely to experience disabilities relative to their male counterparts as they grow older. Figure 4 below shows that in general, disability sex ratio seems to decrease with age. That is, as the age increases, it is expected that the number of females with disabilities would outnumber that of their male counterparts.

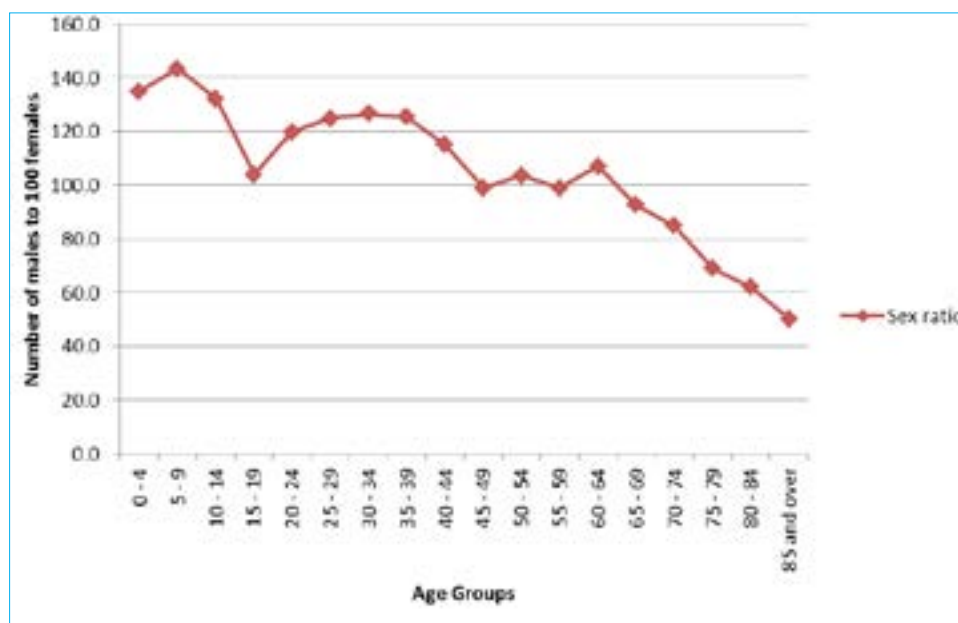


Figure 4: Disability sex ratio by age for the 2011 Population and Household Census

CHARACTERISTICS OF PERSONS WITH DISABILITY

Types of Disabilities

Types of disability included in the census were sight/visual impairment; hearing impairment; speech impairment; impairment of the legs; impairment of the arms; inability to use the whole body; intellectual impairment; mental health disorder; missing legs and missing arms. The most common type of disability reported was visual impairment. Of those who were reported to be disabled (59 103), 48.6% had problems with their eyes, followed by the 20.3% who had problems with their hearing, whilst 13.9% had impairment of legs. Speech impairment and inability to use arms were reported at 11.8% and 7.6% respectively. Out of all the disabled persons, 3.0% reported that they were unable to use their whole body. About 1.0% said that they were missing a leg or legs and only 0.2% reported that they were missing an arm or arms. It was further reported that 9.3% of people with disabilities had mental disorder, and 3.9% had intellectual impairment. Table 4 and Figure 5 below present a summary of the distribution of the type of disabilities.

Table 4: Distribution of types of disabilities

DISABILITY	Count	Proportion
Sight/visual impairment	28721	48.6
Hearing Impairment	11981	20.3
Speech Impairment	6982	11.8
Impairment of Leg(s)	8242	13.9
Impairment of Arm(s)	4468	7.6
Inability to use the whole body	1759	3
Intellectual impairment	2321	3.9
Mental health disorder	5512	9.3
Missing leg(s)	469	0.8
Missing arm(s)	172	0.3

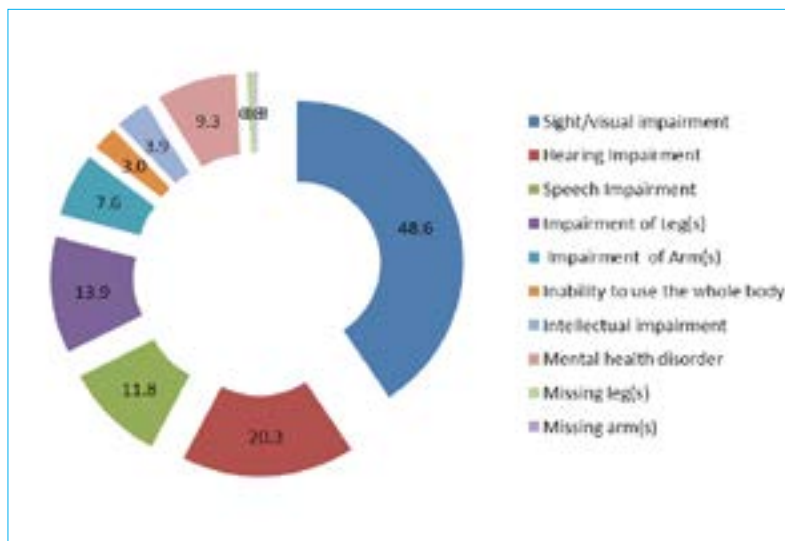


Figure 5: Distribution of types of disabilities

These results imply that the main types of disabilities common among people in Botswana are visual, hearing, inability to use leg(s), speech, mental health disorder and inability to use arm(s). Other types of disabilities such as intellectual impairment, inability to use the whole body and missing limbs (arms and legs) accounted for less than 8.0% combined together.

In the subsequent analysis, impairment of legs and missing legs has been merged to form one form of disability named leg(s) disability. Impairment of arms and missing arms have also been merged together to form arm(s) disability. This is because both missing legs and arms accounted for less than 1.0% each of disability cases and therefore the numbers are just too small to carry out any meaningful analysis.

Disability by Gender

Table 5 presents the distribution of the population with disability by type of disability and gender. It was found out that about 18% of the males with disabilities and 21% of their female counterparts had more than one disability. Further analysis indicates that there were gender differentials in the distribution patterns of population with disabilities by type of disability. The majority of those with visual impairment were females with sex ratio of 77 males to 100 females. This pattern also prevails with reference to hearing impairment (86 males to 100 females) and inability to use the whole body (90 males to 100 females). All other types of disabilities such as speech impairment; legs and arms disability; intellectual impairment and mental health disorder affected more males compared to females. All these disabilities had sex ratios greater than 100.

Table 5: Distribution of population with disability by type of disability and sex for the 2011 Population and Household Census

DISABILITY	SEX						
	Male		Female		Total		Sex Ratio
	Count	Proportion	Count	Proportion	Count	Proportion	
Visual impairment	12 528	42.5	16 193	54.7	28 721	48.6	77.4
Hearing Impairment	5 533	18.7	6 448	21.8	11 981	20.3	85.8
Speech Impairment	4 315	14.6	2 667	9	6 982	11.8	161.8
Leg(s) disability	4 492	15.2	4 219	14.3	8 242	13.9	106.5
Arms(s) disability	2 510	8.5	2 130	7.2	4 468	7.6	117.8
Inability to use the whole body	835	2.8	924	3.1	1 759	3	90.4
Intellectual impairment	1 289	4.4	1 032	3.5	2 321	3.9	124.9
Mental health disorder	3 293	11.2	2 219	7.5	5 512	9.3	148.4
Total	29 511	117.9	29 592	121.1	59 103	118.4	99.7

As with the general population, visual impairment was still the main disability for both males (42.5%) and females (54.7%). Other disabilities accounted for less than 20% of disability cases for both males and females except for hearing impairment which accounted for about 20% of females with disabilities.

It should also be noted that type of disability is a multiple response variable. That is, it is possible for one person to experience multiple types of disabilities. Therefore from Table 5, a total of 117.9% for males implies that 17.9% of males with disabilities have multiple types of disabilities. Similarly, 21.1% of females with disabilities experienced multiple types of disabilities.

Disability by Age

Although we found out that disability prevalence increased with age, Table 6 below shows that the majority of people with disabilities are from the 15 - 19 years age group (8.4%), followed by the 85+ age group (7.8%), 10 - 14 age group (6.3%) and the 25-29 and 30-34 age groups both accounting for 6.1% of all disability cases each. The minority disability age groups are the 0-4 years and 5-9 years age groups accounting for 2.0% and 4.6% of disability cases respectively. The other age groups account for between 5.0 - 6.0% of people with disability.

Table 6: Distribution of a population with disability by age and sex for the 2011 Population and Household Census

AGE GROUP	DISABLED						SEXRATIO
	Male		Female		Total		
	Count	Percent	Count	Percent	Count	Percent	
0 - 4	667	2.3	495	1.7	1162	2	134.7
5 - 9	1 607	5.4	1 121	3.8	2728	4.6	143.4
10 - 14	2 126	7.2	1 608	5.4	3734	6.3	132.2
Children	4 400	14.9	3 224	10.9	7624	12.9	136.5
15 - 19	2 525	8.6	2 429	8.2	4954	8.4	104
20 - 24	1 913	6.5	1 598	5.4	3511	5.9	119.7
25 - 29	2 009	6.8	1 609	5.4	3618	6.1	124.9
30 - 34	2 021	6.8	1 597	5.4	3618	6.1	126.5
35 - 39	1 920	6.5	1 531	5.2	3451	5.8	125.4
Youth	10 388	35.2	8 764	29.6	19152	32.4	118.5
40 - 44	1 674	5.7	1 457	4.9	3131	5.3	114.9
45 - 49	1 663	5.6	1 683	5.7	3346	5.7	98.8
50 - 54	1 615	5.5	1 560	5.3	3175	5.4	103.5
55 - 59	1 513	5.1	1 529	5.2	3042	5.1	99
60 - 64	1 493	5.1	1 396	4.7	2889	4.9	106.9
Adults	7 958	27	7 625	25.8	15583	26.4	104.4
65 - 69	1 332	4.5	1 439	4.9	2771	4.7	92.6
70 - 74	1 369	4.6	1 613	5.5	2982	5	84.9
75 - 79	1 329	4.5	1 928	6.5	3257	5.5	68.9
80 - 84	1 199	4.1	1 936	6.5	3135	5.3	61.9
85 and over	1 536	5.2	3 063	10.4	4599	7.8	50.1
Elderly	6 765	22.9	9 979	33.7	16744	28.3	67.8
Total	29 511	100	29 592	100	59103	100	99.7

Figure 6 below shows the distribution of disability by main broad age groups – children (0-14yrs); youth (15-39yrs); adults (40-64yrs) and the elderly (65+yrs). From Figure 6, the youth made up about a third (33%) of all people with disability, followed by the elderly which accounted for about 28% of disabled people. About 13% of people with disabilities were children and they were the minority group. Only the elderly group had more females than men, it had about 68 males with disabilities compared to 100 females. Other groups had more males with disabilities compared to females (see Table 5 above)

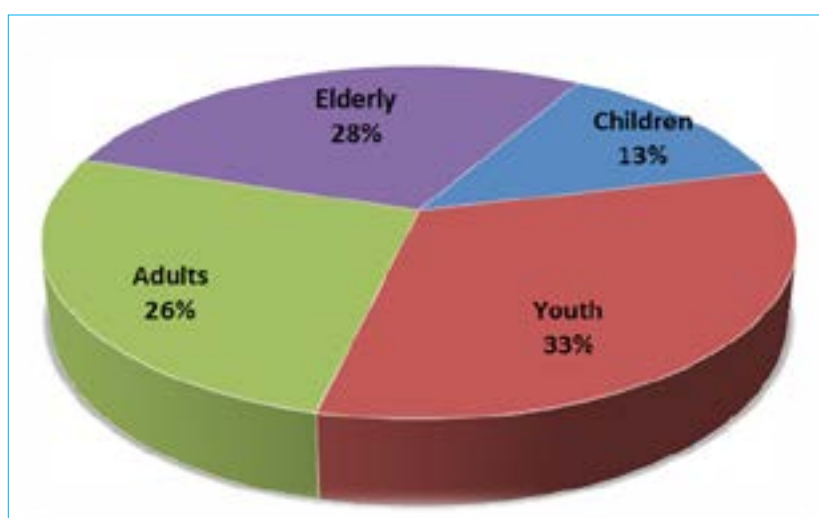


Table 7 presents the distribution of population with disabilities by their main broad age groups and types of disability. The majority of visual impaired people were the elderly who accounted for more than 40% of all cases, followed by adults (27.1%), youth (25.8%) and the least were children (6.2%).

Table 7: Distribution of population with disabilities by main broad age groups within each type of disability for the 2011 Population and Household Census

AGE GROUPS	Type of Disability							
	Sight	Hearing	Speech Impairment	Leg(s) disability	Arm(s) disability	Inability to use the whole body	Intellectual Impairment	Mental Health Disorder
Children (0-14 yrs)	6.2	14.4	33.4	11.5	14.6	21.0	28.5	26.7
Youth (15 -39 yrs)	25.8	27.6	46.3	23.6	32.5	27.4	51.7	47.1
Adults (40-64 yrs)	27.1	20.9	14.0	33.4	30.3	21.5	13.5	18.2
Elderly (65 + yrs)	40.9	37.2	6.3	31.4	22.6	30.1	6.2	7.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Although there was a sharp peak at the 15-19 years age group, Figure 7 generally shows that visual impairment increases with age. In contrast, Figure 8 shows that speech impairment proportion initially increases with age until the 15 – 19 age group then starts decreasing as one get old. From table 7, majority of people with speech impairments were the youth (46.3%) followed by children with 33.4%. The adults and elderly age groups accounted for about 20% of speech impairment cases combined together. The intellectual impairment has a very similar graph to that of speech impairment. That is, intellectual impairment seemed to increase with up until the 15-19 years age-groups then followed a downward spiral (see Figure 10 in the appendix). There were no age related trends for other types of disabilities. Table 14 in the appendix provides a detailed analysis of type of disabilities by age-specifics.

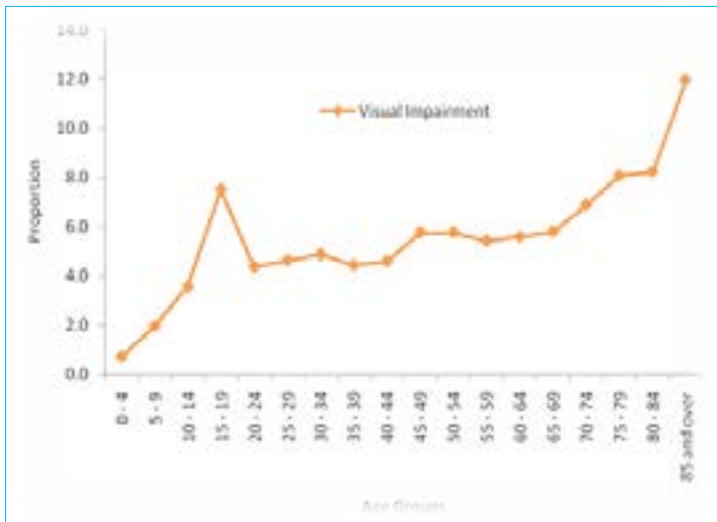


Figure 7: Distribution of population with visual impairment by age groups for the 2011 Population and Household Census

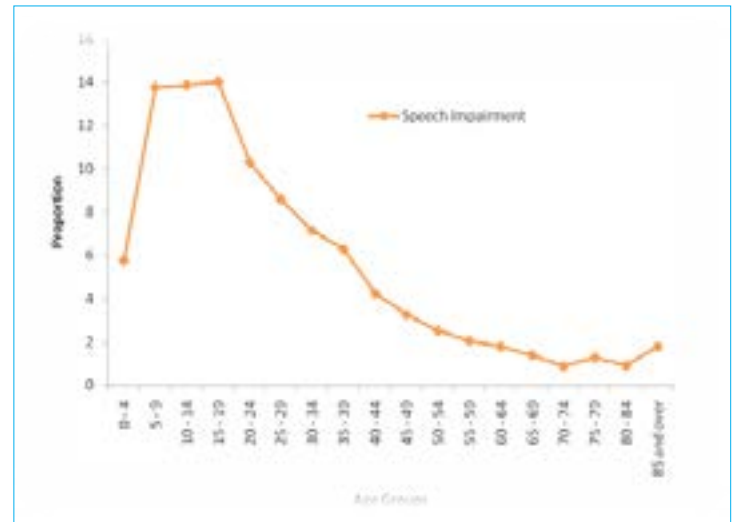


Figure 8: Distribution of population with speech impairment by age groups for the 2011 Population and Household Census

It should be noted from Table 14 that the 15-19 years age group is consistently among the top age-groups affected by a certain type of disability. In some instances it accounted for proportions way greater than that of broad age-groups. For example, 15.9% of intellectual impaired people were from this group only compared to 13.5% and 6.2% accounted for by adults and the elderly respectively.

Disability by Education

Table 8 presents the distribution of 2011 population with disabilities across school attendance and sex. Majority of the population with disabilities were reported to have left school (46%), followed by 37% who never attended school and only a handful of them (17%) were reported to be still at school. Majority of those who were still at school and those who never attended school were males with sex ratios of about 111 males to 100 females and 103 males to 100 females respectively. Females were in majority (93 males: 100 females) for those who had left school.

Table 8: Distribution of population with disabilities by school attendance and sex for the 2011 Household and Population Census

	SEX						SEX RATIO
	Male		Female		Total		
SCHOOL ATTENDANCE	Count	Percent	Count	Percent	Count	Percent	
Still at school	5198	17.7	4690	15.9	9888	16.8	110.8
Left school	13017	44.4	13958	47.3	26975	45.9	93.3
Never attended	11122	37.9	10831	36.7	21953	37.3	102.7
Total	29337	100.0	29479	100.0	58816	100.0	99.5

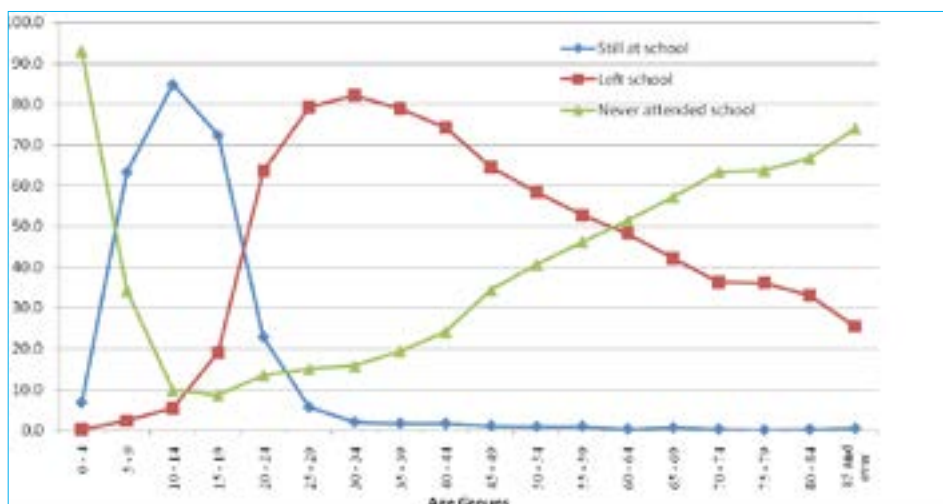


Figure 9: Distribution of population with disabilities by school attendance within each age-group for the 2011 Population and Household Census

Figure 9 above shows a distribution of population with disabilities by school attendance for each age-group. The highest proportion of people with disabilities still at school was 84.9% for the 10-14 years age-group, followed by the 15-19 years age-group and 5-9 years age-group with 72.4% and 63.4% respectively. About a quarter (23%) of those who belonged to the 20-24 years age-group were reported to be still at school. Other age-groups recorded proportions less than 10% of people who were still at school (refer to Table 15 in the Appendices). Figure 9 shows that the 'still at school' proportion curve have higher proportions for 5-9, 10-14 and 15-19 years age-groups to be still at school compared to other age groups. From Figure 9 above, the proportions of those who never attended school increased with age from the 15-19 years age-group onwards. Their highest proportion was 74% for the 85+ age group compared to their lowest of 9% for the 15-19 years age-group. This shows great advancements Botswana have made in making education universal though there is a lot of ground to cover.

Table 9 below presents the distribution of the population disabilities by school attendance highest level of education attained by one. About half (51.3%) of the people living with disabilities have attained primary education as their highest level of education, followed by the secondary education with 32.9%. This implies that about 85% of people living with disabilities attained secondary education or less as their highest level of education. This trend was common for both of those who were still at school and those who had already left school.

Table 9: Distribution of population with disabilities by school attendance and highest level of education attained for the 2011 Household and Population Census

LEVEL OF EDUCATION	SCHOOL ATTENDANCE					
	Still at school		Left school		Total	
	Count	Percent	Count	Percent	Count	Percent
Pre-school	184	1.9	42	0.2	226	0.6
Primary	4752	48.9	13703	52.2	18455	51.3
Secondary	3698	38.1	8140	31	11838	32.9
Non-formal	91	0.9	566	2.2	657	1.8
Vocational / Technical	281	2.9	1281	4.9	1562	4.3
College**	113	1.2	792	3	905	2.5
University	590	6.1	1723	6.6	2313	6.4
Total	9709	100	26247	100	35956	100

**Includes colleges of education and institutes of health sciences.

Type of Disability by School Attendance for the 5-17 Year Old Population

The population 5-17 years old is considered as the school going population and covers those who are in primary and secondary schools. Primary school education is very crucial in the learning process of children. It is during their primary school education that they acquire the learning skill such as reading and writing. While in secondary school they are able to use the skills that they have acquired at primary school and prepare for tertiary education and the labour market. It goes without saying that these are very crucial years for the children and for them to acquire these skills it is important they do not suffer from any disabilities as these would hinder them from acquiring these skills.

Table 7 illustrates type of disability by school attendance amongst the school going population aged between 5 and 17 years old. Amongst those who reported that they had a sight disability 89.5 % were still at school, 4.1 % had left school and 6.4 % had never attended school. Of those with a hearing disability, 84.6 % were still at school while 6.2 % had left school and 9.2 % had never attended school. Just like with sight and hearing disabilities the majority of those with speech impairment i.e. 65 % were still at school, whereas 5.5 % has left and 29.5 % had never attended school. Amongst those the inability to

Table 10: Distribution of type of disability by school attendance for the 5-17 year old population

DISABILITY	SCHOOL ATTENDANCE							
	Still at school		Left school		Never attended		Total	
	Count	%	Count	%	Count	%	Count	%
Sight	2605	89.5	120	4.1	186	6.4	2911	100.0
Hearing	1878	84.6	138	6.2	205	9.2	2221	100.0
Speech Impairment	1642	65.0	139	5.5	744	29.5	2525	100.0
Leg(s) disability	605	65.0	68	7.3	258	27.7	931	100.0
Arm(s) disability	481	68.7	50	7.1	169	24.1	700	100.0
Inability to use the whole body	84	25.1	24	7.2	226	67.7	334	100.0
Intellectual impairment	524	63.8	92	11.2	205	25.0	821	100.0
Mental health disorder	445	52.2	116	13.6	292	34.2	853	100.0

use either one leg or both legs, 65 % were still at school. 7.3 % had left school and 27.7 % reported that they had never attended school. While amongst those with arm disability i.e. the inability to use one or both arms, 68.7 % were still at school, whereas 7.1% had left and 24.1% had never attended school. With reference to inability to use the whole body 25.1 % were still at school, only 7.2% had left school and 67.7% had never attended school. Over 60% of those with intellectual impairment i.e. 63.8 % reported that they were still at school, while 11.2% had left school and 25.0% had never attended school. Amongst those with mental health disorder, 52.2% were still at school, while 13.6% had left school and 34.2% had never attended school.

Based on the data presented in Table 7, the majority of those with disability in the 5-17 age groups were still at school with the exception of those with the inability of use the whole body. Amongst those with the inability to use the whole body, the majority i.e. 67.7% had never attended school, only 25.1% were still at school and 7.2% had left school.

Types of Disability and District

The Central District has the largest proportion of disabled people. In the category of physical disabilities, 5298 people are unable to one leg, comprising 2855 males and 2443 females). Central District has highest proportion within this category (36.1%) followed by Kweneng (16%) and Southern (12.5%). The district with the least number of people with physical disability is Ghanzi with 2.3% followed by Kgalagadi (2.6) and South East (3.2) in that order. Inability to use both legs affects 2944 people comprising of 1328 males and 1616 females. Central District has the highest percentage of people who are unable to use both legs (36.8%). The next highest percentage of the population affected by inability to use both legs is in North West and Kweneng 13% and 12.8% respectively. The district with the least percentage of people within this category of disability is Ghanzi with 2.3% followed by Kgalagadi with 2.6% and South East with 3.2%.

Inability to use arms is another category of disability captured in the census data. A total of 3765 were reported to be unable to use one arm, comprising of 2055 males and 1706 females. The Central District has the highest percentage of people with inability to use one arm (35.1) followed by Kweneng with 15.2% and North West

District with 11.6%. The lowest proportion of people who are unable to use one arm is found in the North East District, accounting for 3%, followed by Ghanzi and Kgalagadi with 3.1% each, and the South East district with 3.5%. Inability to use both arms affects 703 people, made up of 327 males and 376 females. The Central district has the highest proportion of the population with inability to use both arms (37.4%), whilst the North West District has the next highest proportion of people with inability to use both arms (14.2%), followed by Southern District with 12.8%. South East and Central Districts have the lowest proportion of 2.8 each followed by Kgalagadi with 3% of those with inability to use both arms.

Considering inability to use the body, 32.7% people who have this type of disability were found in the Central District compared to 16.3% in Kweneng and 0.6% in Ghanzi. The same pattern prevails with respect to missing legs and arms. The Central district has the highest number of people with missing limbs. The census data revealed that 37.5% of people missing one leg and 36.5% missing both legs resided in the Central District. With respect to intellectual impairment and mental health disorders the Central District has maintained the same pattern having recoded 33.8%. On the whole Ghanzi District has the lowest proportions of people with disabilities.

With regard to gender differentials by type of disability across districts, males seem to be more affected than females with the exception of the category inability to use the whole body. In this category 52.5% were females compared to 47.5% males. In the remaining categories over 50% of the population affected by such disabilities were male. For instance the categories; missing one arm, missing both legs registered 72.8 % and 66.2 % of males respectively. See Appendix 1

Analysis of Disability by Marital Status

Table 11 shows that the majority of people who were said to have visual impairment were categorized as having never been married. Out of a total of 27613 people who were said to have visual impairment, 9948 (36%) were never married; 7184 (26%) were married, and 4159 were in a relationship categorized as 'living together'. Of all the people who have visual impairment, 301 (1.1%) were reported to have separated from their partners, whilst 641 (2.3%) were divorced and 5380 (19.5%) were widowed. Out of the 10799 people with hearing impairment, the majority (468 or 43.3%) were never married, whilst 2174 (20.1%) were married and 1556 (14.4%) were living together. About 99 people (0.9%) of the people with hearing impairment were separated from their marital partners, 198 (1.8%) were divorced and 2091 (19.4%) were widowed.

Table 11: Distribution of population with disabilities by marital status for the 2011 Population and Housing Census

DISABILITY	MARITAL STATUS												Total	
	Married		Never Married		Living together		Separated		Divorced		Widowed			
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Sight	7184	26.0	9948	36.0	4159	15.1	301	1.1	641	2.3	5380	19.5	27613	100.0
Hearing	2174	20.1	4681	43.3	1556	14.4	99	0.9	198	1.8	2091	19.4	10799	100.0
Speech Impairment	436	8.4	3887	74.5	637	12.2	28	0.5	38	0.7	192	3.7	5218	100.0
Leg(s) disability	1761	22.3	3498	44.4	1126	14.3	94	1.2	189	2.4	1216	15.4	7884	100.0
Arm(s) disability	776	18.8	2048	49.7	712	17.3	36	0.9	85	2.1	466	11.3	4123	100.0
Inability to use the whole body	264	18.0	782	53.3	158	10.8	13	0.9	18	1.2	232	15.8	1467	100.0
Intellectual impairment	79	4.2	1605	85.6	109	5.8	9	0.5	9	0.5	65	3.5	1876	100.0
Mental health disorder	266	5.2	4090	80.6	380	7.5	50	1.0	57	1.1	234	4.6	5077	100.0

Among those with speech impairment, the majority (3887 or 74.5%) have never been married compared to 436 (8.4) who were married, 28 (0.5%) who were separated, 38 (0.7%) who were divorced and 192 (3.7%) who were widowed. A significant number of people with speech impairment (1556 or 14.4%) were living together. Regarding people with impairment in the legs, the majority (3498 or 74.5%) were never married. The next largest proportion in this category is that of those who are married, accounting for 1761 (22.3%), about 94 (1.2%) people with impairment in the legs are in separation. This is the smallest proportion of people in this category of disability.

Disability in the arm(s) was reported to affect 4123 people. Of these, the majority (2048 or 49.7%) have never been married. The next biggest proportion is that of people who are currently married, accounting for 779 (22.3%) of the people who were reported to have disability in the arms.

In this category of disability, those who are separated account for the lowest proportion, which is 36 (0.9%), whilst those who are divorced are only 85 (2.1%). Those who are 'living together', and those who are widowed are 712 (17.3%) and 466 (11.3%) respectively. Inability to use the whole body is reported to be affecting 1467 people with a disability categorized in the census data as 'inability to use whole body'. The majority of these, 782 (53.3%) have never been married, whilst 264(18%) are currently married, and 232 (15.8%) are widowed. About 158 (10.8%) are living together, 18 (1.2%) are divorced, and 13 (0.9%) are separated. The census results indicate that 1876 had Intellectual disabilities. An overwhelming majority of people with intellectual disabilities (1605 or 85.6%) are reported to have never been married. Only 79 (4.2%) were married at the time of the enumeration, and 65 (3.5%) were divorced. 109 (5.8%) were living together, and 9 (0.5%) were separated. People with an impairment categorized as 'Mental health disorder' were reported to be 5077. The majority of these (4090 or 80.6%) were reported to have never been married, whilst 380 (7.5%) were married and 266 (5.2%) were living together. A sizeable number of people in this category of disability (234 or 4.6%) were widowed and, lastly 57 (1.1%) were divorced and 50 (1.0%) were separated. The data presented shows that people with disability are more likely to have never been married. This is true for all forms of disabilities. However, people with intellectual impairment are more likely to have never been married than people with other forms of disabilities with 85.6%, followed by those with mental health disorder at 80.6%. People with Intellectual disability are less likely to be married as only 4.2% of them are reported to be married. The people with a slightly better chance of being married are those with visual impairment and those with disabilities in the legs. However, their chances of getting married are still very slim at only 26% and 22.6% respectively. The information on marital status is presented in Table 10.

Women with Disability and Number of Children Ever Born

Table 11 displays a distribution of females with disabilities aged 12 years and over by type of disability and number of children ever born. A total of 15,739 women were reported to have visual impairment. Of these women, 18.7% were reported to have ever had only one child, whilst 15.8% have had two children each. Those who were reported to have ever had between three and seven children ranged between 12.9% and 2.9%.The majority (30.6%) of women with visual impairment were reported to have had no child ever.

Table 12: Distribution of women with disability aged 12 years and over by type of disability and number of children ever born

DISABILITY	CHILDREN EVER BORN								Total (%)	Total
	No children	One child	Two children	Three children	Four children	Five children	Six children	Seven or more children		
Visual impairment	30.6	18.7	15.8	12.9	9.6	5.9	3.5	2.9	100.0	15,739
Hearing impairment	31.2	19.1	15.4	12.7	9.5	5.8	3.6	2.7	100.0	5,915
Speech Impairment	61.6	16.5	9.3	5.6	3.7	1.6	1.1	0.5	100.0	2,032
Leg(s) disability	29.5	20.4	16.6	13.1	8.6	5.8	3.4	2.5	100.0	3,845
Arm(s) disability	33.7	19.3	16	12.5	8.3	5	2.7	2.4	100.0	1,903
Inability to use the whole body	40.8	16.8	14.2	9.3	8.7	5	2.5	2.6	100.0	796
Intellectual impairment	70.8	13.1	6.4	4.4	1.7	1.9	1.3	0.5	100.0	846
Mental health disorder	52.6	19.2	10.2	7.4	4.8	3.1	1.6	1.1	100.0	2,041

Out of the total number of women with disabilities 5,915 were reported as having hearing impairment. Of these 31.2% were reported to have had no children, 19.1 % had one child, 15.8% had two children and 12.7% had three children. Among those with more than three children, 9.5% had four children, 5.8% had five children, and 3.6% had six children, whilst 2.7% had 7 or more children.

Of 2032 women having speech impairment, 61.6% indicated that they had never had children while 16.5% said that they had had one child and 9.3% had two children. Quite a good number of women with speech impairment were reported to have more than two children. Of these, 5.6% had had three children, 3.7% had four children, whilst 1.6 % had had five children, 1.1 % had six children and at least 0.5% had had seven or more children.

A total of 3,845 women were reported to have inability to use one or both legs. Amongst these women, 29.5% reported that they had never had children, 20.4% had one child, and 16.6% had two children whilst 8.6% had four children. A further 5.8% of women in this category of disability had had five children, 3.4% had had 6 children and 2, 5% indicated that they had had seven or more children.

Of the 1903 women who were reported to have inability to use one or both arms, 33.7% said that they had no children, whilst 19.3% indicated that they had had one child and 16.0% had had two children. The rest of the women reported had had more than two children each. Those who were reported to have ever had between three and seven (or more) children, ranged between 12.5% and 2.4%.

A total of 796 women were reported to be unable to use their whole body. Of these, 40.85 were reported to have had no child; whilst 16.8% indicated to have had one child and 14.2% reported that they had had two children. Between 9.3% and 2.6% of women with inability to use the whole body were reported to have had between three to seven children.

Amongst the 846 women who were reported to have intellectual impairment, 70.8% were said to have had no children, 13.1% had one child each and 6.4% had two children each. Between 4.4% and 0.5% were reported to have had between three and seven or more children.

Of the 2 041 women who were reported as having a mental disorder, 52 % had had no children, 19.2% had one child born to them, 10.2% had two children and 7.4% had three children. Between 4.8 % and 1.1 % of respondents were reported to have had four or more children. Furthermore, the data showed no significant difference between the number of children ever born to women with hearing impairment and the number ever born to those with visual impairment. Women with intellectual impairment are more likely (70.8 %) to have no child ever born to them, followed by those with mental disorder (52 %). This means that women with visual impairment are more likely to have children, but are less likely to have more than three children ever born to them. The data indicate generally, that women with disabilities tend to have very few children (small family size).

Type of Disability by Current Economic Activity

The respondents aged 12 years and over were asked whether they were involved in any current economic activity. Current economic activity refers to any economic activity that they were engaged in seven days prior to enumeration. The activities included being an employee, self-employed, unpaid family helper, working at own lands or actively looking for work. They also covered activities such as homework, students, retired or whether the respondent was sick during that period. The data is presented in Table 12. Most of those who had sight disability reported that they were employees who were paid in cash (22.2 %) and 20.7 % reported that were sick. In the same category, 18.9 % worked in the home, 11.3 % were students, 20.7 % said they were sick, whilst 7.3 % worked at own lands or cattle post and 4.0 % reported that they were retired. A few (2.8 %) reported that they were self-employed (and had with employees) and 0.9 % were self-employed but had no employees.

Amongst those with hearing impairment (be it partial hearing or total deafness), 21.8 % were involved in homework, 19.9 % reported that they were sick, 17.6 % were in paid cash employment, 12.6 % were students and 7.9 % worked at own lands or cattle post. Of those remaining 3.5 % were actively seeking work, another 3.5 % reported that they were retired, 2.4 were self-employed with no employees and 0.3 was employed but were paid in kind.

Of those who with speech impairment 22.4 % indicated they were students, while 20.6 % were in cash employment, 20.4 % reported that they were sick and 18.4 % were engaged in home work. Some of those with speech impairment (5.3%) reported that they were actively seeking work; 3.1 % were working at own lands or cattle post, and 0.6 % were self-employed with employees.

With reference to those with leg disabilities, 33.1 % reported that they were sick, while 19.1 % were engaged in homework, 15.3 % were in paid cash employment, 5.7 % were students, 5.6 % were working at own lands or cattle post, 3.9 % were actively seeking work, 3.6 % indicated that they were retired and 3.2 % were self-employed with no employees.

Most of those with disability involving the use of one arm or both arms, 27.7 % reported that they were sick, 19.9 worked in the home, while 17.2 % were in cash employment, 8.1 % were students , 6.0 % worked at own lands or cattle post and 5.1 % were seeking work. The rest included 3.2 %self-employed but with no employees, 2.3 % retired, 0.6 %self-employed with employees, 0.5 % were unpaid family helper and 0.4 % were employed but were paid in kind.

Amongst those who reported an inability to use the whole body, 63.0 % reported that they were sick, 12.7 % were engaged in homework, 6.4 % were % were in paid cash employment, 4.1 % were students, 2.9 % worked at own lands or cattle post and 2.1 % were retired. While the rest, 0.9 % was self-employed with no employees, 0.2 % was in unpaid employment, 0.1 % was self-employed with employees and 0.1 % was unpaid family helpers.

Of those who with intellectual impairment, 26.9 % reported that they were sick, 24.5 % indicated that they were students, while 23.5 % were engaged in homework and 10.0 % were in cash employment. While 4.1 were actively seeking work, 2.0 % were working at own lands or cattle post, 1.5 % were self-employed but with no employees, 1.5 % were self-employed with employees and 1.1 % were retired.

Table 13: Distribution of type of disability by current economic activity for population aged 12 years and over for the 2011 Population and Household Census

DISABILITY	CURRENT ECONOMIC ACTIVITY													Total (%)	Total
	Employee		Self - Employed		Unpaid Family Helper	Working at Own Lands/ Cattle Post	Actively Seeking Work	Home Work Students	Retired	Sick	Other	Unknown			
	Paid Cash	Paid In kind	No Employees	With Employees											
Sight	22.2	0.3	2.8	0.9	0.3	7.3	2.7	18.9	11.3	4	20.7	0.3	8.3	100.0	26,589
Hearing	17.6	0.3	2.4	0.6	0.4	7.9	3.5	21.8	12.6	3.5	19.9	0.3	9.1	100.0	10,377
Speech Impairment	20.6	0.2	1.5	0.6	0.4	3.1	5.3	18.4	22.2	0.9	20.4	0.1	6.2	100.0	5,021
Leg(s) disability	15.3	0.4	3.2	0.7	0.3	5.6	3.9	19.1	5.7	3.6	33.1	0.3	8.8	100.0	7,494
Arm(s) disability	17.2	0.4	3.2	0.6	0.5	6	5.1	19.9	8.1	2.3	27.5	0.4	8.9	100.0	3,919
Inability to use the whole body	6.4	0.2	0.9	0.1	0.1	2.9	2.4	12.7	4.1	2.1	63	0.1	4.9	100.0	1,404
Intellectual impairment	10	0.3	1.5	0.2	0.2	2	4.1	23.5	24.5	1.1	26.9	0.1	5.7	100.0	1,785
Mental health disorder	8.6	0.1	0.7	0.1	0.5	1.7	5.1	20.7	7.4	0.9	47.5	0.4	6.2	100.0	4,765

With reference to mental health disorder, 47.5 % reported that they were sick, with 20.7 % indicating that they were engaged in homework, 8.6 % in paid cash employment, 7.4 % were students, 5.1 % were actively seeking work and 1.7 % were working at own lands or cattle post. The rest, 0.9 % indicated that they had retired, 0.7 % was self-employed with no employees and 0.5 % was unpaid family helpers.

Looking at the data in table 5 most of the respondents who reported as to having a disability were involved in some economic activity in the period seven days before the census enumeration. Most common economic activity that the respondents were engaged in across all types of disability was cash paid employment followed by homework and working at own lands and cattle post. However quite a good number of the respondents reported that they were sick. For instance amongst those who were unable to use their whole body, 63 % reported that they were sick. The same applies to those who had a mental disorder, 47.5 % were not engaged in any economic activity in the week prior to the census because they were sick.

Conclusions

Based on the analysis of the 2011 Population and Housing Census data, the following conclusions can be reached:

- There has not been significant change in the national prevalence rate of disability between 2001 and 2011 census, as the prevalence is still around 3.0% for both males and females.
- The most common type of disability reported was visual impairment (49%) followed by hearing impairment (20%).
- Disability is more prevalent in rural areas than in urban areas – consistent with previous censuses and world trends (CSO, 1995; SINTEF, 2010)
- The highest proportion of disabled persons was found in Gantsi (4.4%) followed by Southern, Kgalagadi and North-West districts
- Sowa Town had the least proportion of disabled persons (1.3%).
- Among the 5-17 year olds, those who were reported to have sight or hearing impairments had school enrolment rates matching that of the national primary enrolment rate of about 90%.
- Other types of disabilities were much lower in school attendance
- The data showed that people with disability were more likely to have never been married
- They are more likely to have very few children ever born
- The most common current economic activity reported across all disabilities was cash paid employment followed by homework and working at own lands and cattle post.

Policy Implications

The 2011 census data have indicated a slight decrease of 0.08% in disability prevalence rate from 2001. This is a positive development. The World Health Organisations and many progressive organisations and countries are aimed at reducing the incidence of disability. Therefore, a reduction of whatever magnitude in disability prevalence should be commended. Thus, Botswana needs to identify the factors that led to this decline with a view to capitalizing on what the country did right. The country also needs to identify what could be done better in order to further reduce its disability prevalence.

This has implications for the allocation of resources, both financial and human resources. Botswana is renowned for its Primary Health system that focuses on prevention, cure and management of health conditions and disability (WHO and Ministry of Health, 2000). To attain a further reduction on disability prevalence, more resources may be needed to strengthen the Primary Health system, and empower families on issues of prevention and management of disabilities, especially in rural and remote areas where disability prevalence is high. Both human and financial resources may be required to strengthen the existing community strategies, such as the Community Based Rehabilitation Strategy that may contribute towards further bringing the disability prevalence down.

Government and community effort in educating children with visual impairment and those with hearing impairment is commendable. However, this has numerous policy implications. Firstly, the nature and quality of education or training provided to children with disabilities needs to be investigated in order to improve on access to higher and tertiary education, as well as skills training. Research has consistently shown that they generally receive lower levels of education than the non-disabled (CSO, 1995; 2001, Dinokopila & Mmatli, 2013). In Botswana many of those who have ever attended school drop out early into their primary years, and never go back to school. Those who persevere in school receive poor quality education or training.

Policy related questions must be asked and answered such as; what is happening to the 64% who are not in school? What is happening to those who are at home with severe physical disabilities (classified in the data set as 'not able to use whole body')?

- How are they cared for?
- Who cares for them?
- How is their parents' or caregivers ability to engage in economic activities affected?
- How is their family's economic status affected by their presence in the family?
- What assistance do they and their families need, and what assistance do they get?

The data show that a good proportion of the disabled are engaged in cash paid employment and self-employment. This is commendable and needs to be encouraged and planned for. However, the following policy questions arise:

- Are their wages adequate to care for themselves and their families?
- Are there systems in place to ensure that they are not employed as a favor with no right to decent salary?
- Does Botswana have employment equity laws, policies, or programmes to ensure access to decent jobs and decent salaries?

An evaluation of laws, policies and programmes done by Office of the President and UNFPA in 2011 revealed that the Botswana's Employment Act does not offer sufficient protection to people with disabilities. A Disability Audit of Legislation and Policies Relating to the Education, Vocational Training and Employment of Persons with Disabilities in Botswana commissioned by ILO in 2013 also revealed a lack of adequate production for people with disabilities within the Botswana's employment system (Dinokopila & Mmatli, 2013). Thus, in many instances, people with disabilities are generally discriminated against and denied employment. Those who find employment encounter negative attitudes of work mates and supervisors, and have to contend with inaccessible work environment and discrimination, and receive lower wages as compared to their nondisabled counterparts (Mmatli, 2007). These observations bring about serious questions and challenges that need to be addressed through policy and programmatic interventions.

References

1. Arber, S. & Cooper, H. (1999), Gender differences in health in later life. *Social Science and Medicine*, 48 (1), 61-76.
2. Central Statistics Office (1994) 1991 Population and Housing Census: Stats Briefs Gaborone, Government Printers
3. Central Statistics Office (1995) 1991 Population and Housing Census: Disability in Botswana Gaborone, Government Printers
4. Central Statistics Office (2001) Statistical Bulletin June and September 2001 Vol. 26 No. 2 and 3 Gaborone, Government Printers
5. Ghai, A. (2001a) "Marginalization and disability: experiences from the Third World" in Priestley, M. (ed) *Disability and the Life Course: Global Perspectives* Cambridge, The University Press
6. Dinokopila, B. R. and Mmatli T. O. (2013) *Disability Audit of Legislation and Policies Relating to the Education, Vocational Training and Employment of Persons with Disabilities in Botswana. A study conducted for International Labour Organisation*
7. Mmatli, T. (2007) "An Analysis of the Exclusion of People with Disabilities from Employment in Botswana: A Case Study of People with Physical Impairments" in *Pula Journal of African Studies* vol. 21, No 2, 2009, p278 – 293
8. Mmatli, T. O. (2005) "The Lived Experiences of People with Disabilities in Botswana: An assessment of the veracity of the social model of disability" A PhD Thesis Submitted to and Passed by the University of Queensland, Brisbane, Australia
9. Mmatli, TO. (2007) An Analysis of the Exclusion of People with Disabilities from Employment in Botswana in *Pula: Botswana Journal of African Studies*, 21:2,278 – 293
10. Mukamaambo, EP, Shaibu S., & Lesetedi GN. (2003). Analysis on disability. In Central Statistics Office, 2001 Population and Housing Census Dissemination Seminar (pp. 214–226). Gaborone: Central Statistics Office
11. WHO & Ministry of Health (2000) *Evaluation Report on Community-Based Rehabilitation Programme for People with Disabilities in Botswana* Gaborone, Ministry of Health
12. WHO (1980) *International Classification of Impairments, Disabilities, and Handicaps: A Manual of Classification Relating to the Consequences of Disease* Geneva, Author
13. WHO (1983) *United Nations Decade of Disabled Persons, 1983-1992: World Programme of Actions Concerning Disabled Persons*. New York, UN

Appendix

Table 14: Distribution of population with disability by different age groups within each type of disability for the 2011 Population and Household Census

Age Group	Type of Disability															
	Sight		Hearing		Speech Impairment		Leg(s) disability		Arm(s) disability		Inability to use the whole body		Intellectual Impairment		Mental Health Disorder	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
0 – 4	202	0.7	123	1.0	403	5.8	299	3.4	146	3.1	119	6.8	73	3.1	62	0.9
5 – 9	561	2.0	616	5.1	960	13.7	338	3.9	251	5.4	128	7.3	223	9.6	247	3.8
10 – 14	1021	3.6	983	8.2	967	13.8	362	4.2	280	6.0	122	6.9	366	15.8	309	4.7
Children	1784	6.2	1722	14.4	2330	33.4	999	11.5	677	14.6	369	21.0	662	28.5	618	9.4
15 – 19	2154	7.5	966	8.1	977	14.0	379	4.4	275	5.9	125	7.1	370	15.9	457	7.0
20 – 24	1254	4.4	567	4.7	719	10.3	340	3.9	276	6.0	94	5.3	284	12.2	523	8.0
25 – 29	1329	4.6	599	5.0	601	8.6	385	4.4	305	6.6	97	5.5	215	9.3	980	15
30 – 34	1396	4.9	595	5.0	499	7.1	447	5.1	313	6.8	81	4.6	194	8.4	576	8.8
35 – 39	1272	4.4	577	4.8	439	6.3	502	5.8	340	7.3	85	4.8	137	5.9	576	8.8
Youth	7405	25.8	3304	27.6	3235	46.3	2053	23.6	1509	32.5	482	27.4	1200	51.7	3112	47.5
40 – 44	1317	4.6	500	4.2	298	4.3	515	5.9	291	6.3	80	4.5	100	4.3	440	6.7
45 – 49	1652	5.8	489	4.1	229	3.3	582	6.7	312	6.7	91	5.2	58	2.5	379	5.8
50 – 54	1655	5.8	461	3.8	177	2.5	609	7.0	299	6.4	60	3.4	64	2.8	819	12.5
55 – 59	1557	5.4	505	4.2	145	2.1	637	7.3	256	5.5	77	4.4	54	2.3	257	3.9
60 – 64	1606	5.6	544	4.5	126	1.8	560	6.4	247	5.3	70	4.0	38	1.6	188	2.9
Adults	7787	27.1	2499	20.9	975	14.0	2903	33.4	1405	30.3	378	21.5	314	13.5	2083	31.8
65 – 69	1663	5.8	590	4.9	98	1.4	490	5.6	242	5.2	66	3.8	24	1.0	144	2.2
70 – 74	1971	6.9	643	5.4	63	0.9	518	6.0	233	5.0	75	4.3	21	0.9	128	2.0
75 – 79	2315	8.1	772	6.4	90	1.3	498	5.7	197	4.2	109	6.2	26	1.1	272	4.2
80 – 84	2364	8.2	896	7.5	65	0.9	474	5.5	154	3.3	100	5.7	28	1.2	73	1.1
85 and over	3432	11.9	1555	13.0	126	1.8	749	8.6	220	4.7	180	10.2	46	2.0	121	1.8
Elderly	11745	40.9	4456	37.2	442	6.3	2729	31.4	1046	22.6	530	30.1	145	6.2	738	11.3
Total	28721	100.0	11981	100.0	6982	100.0	8684	100	4637	100	1759	100.0	2321	100.0	6551	100.0

Figure 10: Distribution of people with intellectual impairments by age-groups for the 2011 Population and Household Census

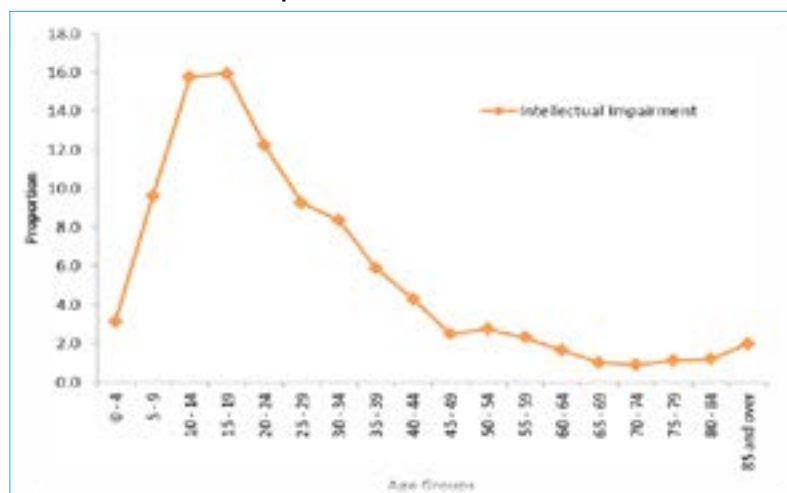


Table 15: Distribution of population with disabilities by age and school attendance for the 2011 Household and Population Census

AGE GROUPS	SCHOOL ATTENDANCE							
	Still at school		Left school		Never attended		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
0 - 4	62	6.8	1	0.1	844	93.1	907	100.0
5-09	1725	63.4	63	2.3	934	34.3	2722	100.0
10-14	3167	84.9	201	5.4	364	9.8	3732	100.0
15 - 19	3585	72.4	944	19.1	425	8.6	4954	100.0
20 - 24	803	22.9	2234	63.6	473	13.5	3510	100.0
25 - 29	204	5.6	2869	79.3	543	15.0	3616	100.0
30 - 34	73	2.0	2974	82.2	571	15.8	3618	100.0
35 - 39	59	1.7	2720	78.9	668	19.4	3447	100.0
40 - 44	51	1.6	2324	74.2	755	24.1	3130	100.0
45 - 49	36	1.1	2158	64.5	1150	34.4	3344	100.0
50 - 54	28	0.9	1854	58.4	1291	40.7	3173	100.0
55 - 59	29	1.0	1606	52.8	1406	46.2	3041	100.0
60 - 64	9	0.3	1394	48.3	1484	51.4	2887	100.0
65 - 69	17	0.6	1169	42.2	1585	57.2	2771	100.0
70 - 74	9	0.3	1081	36.3	1890	63.4	2980	100.0
75 - 79	3	0.1	1178	36.2	2076	63.7	3257	100.0
80 - 84	8	0.3	1035	33.0	2090	66.7	3133	100.0
85 and over	20	0.4	1170	25.5	3404	74.1	4594	100.0

NUPTIALITY PATTERNS AND TRENDS IN BOTSWANA

By Rebecca Kubanji
Population Studies, University of Botswana

Abstract: This paper derives from data obtained from census and other secondary sources of data on marriage patterns and trends in Botswana over the past 4 decades. The 2011 census marital data was specifically examined in relation to gender, education, residence, household headship, children ever born and economic activity. The marital status of the population of Botswana has changed considerably over the past 4 decades, reflecting a significant change in social relations and family structure. Data from the previous censuses indicate that the institution of marriage is declining in Botswana between 1971 and 2001. However a slight increase in the proportion of married men was noted between 2001 and 2011 while for females it remained stable. Since 1971, the proportion of the population never married increased while a decline in the proportions 'married' was experienced. Furthermore, the proportion of the population cohabiting has increased since 1991, when this marital status was first introduced into the census. Cohabitation seems to be more appealing to males than females with increasing age.

Based on the analysis and other secondary sources, conclusions and recommendations for the establishment of a family policy might be a relevant intervention if the vision pillar of 'A united and proud nation' is to be realized. Programmes aimed at supporting family life and strengthening of families may be relevant under such a policy. Policy instruments relating to the legal age of marriage with and without consent may need to be revisited or revised. In order to maximize on quality statistics, the definition of marital status may need to be revisited to incorporate both the legal and socio-cultural frameworks.

1.0 Introduction

In Botswana, there are two types of marriages; customary marriage and marriage under the Act (or under the "common law"). Customary marriages are performed at a customary court ("kgotla") and require the approval of the local chief. Marriages under the Act are officiated by civil authorities and require registration with the National Registration (Oman) office. Although some people still choose to have a customary marriage ceremony, most people marrying in Botswana will register a marriage under the Act (a "common law" marriage) to ensure that they receive the full legal benefits of marriage. (www.usembassy.com)

The importance of nuptiality and its relationship to the formation and dissolution of families cannot be over emphasized (Newell, 1998). It also ideally prescribes the age at which sexual relations begin. Marriage in most societies represents stable unions in which reproduction is socially acceptable. The stability of such unions is paramount to the formation of societal values.

Marital status in Botswana has been categorized into four (never married, married, separated, divorced and widowed) from 1971 to 1981. However since 1991, the category 'living together' has been introduced as a marital status (Mukamaambo; 1995). A change in marital status is the prelude to the formation or dissolution of a family or subfamily. The frequencies observed in the marital status categories depend not only upon demographic factors such as age- sex structure and mortality, but also upon legal and cultural factors. The definition of marriage also varies across countries, depending on the law governing the civil contract or the tribal and customary rules governing the union (Siegel; 1976).

1.0 Literature Review

Data from past censuses show that 17.1% of males and 19.9% of females were reported married in 2001 as compared to 44.4% and 41.5% respectively, in 1981. As the institution of marriage is increasing, an increase in the proportion of people cohabiting has been noted. Statistics show that cohabitation increased from 12.2% to 16.8% among males and 12% to 17.1% among females from 1991 to 2001. There has also been a steady increase in the proportion of the never married population over the years (Mukamaambo; 1995, Mookodi, 2004). On the one hand, an increase in divorce cases has been noted in recent years.

Gaisie (1995) attributes the gradual transformations from the traditional Tswana nuptiality patterns and universal marriage into different types of sexual unions and relationships to the political, social and economic changes that have taken place in the country. Among factors that have shaped the prevailing nuptiality patterns are abandonment of polygyny, labour migration, formal schooling and certain legal structures relating to rights to property, the author argues.

Corroborating with Gaisie, Dintwa (2010) also argues that the socio-economic and demographic factors experience by Botswana has fuelled the changing family structure. Furthermore, the author argues that the labour migration has brought about single parent families that characterize contemporary Botswana. One of the demographic factors that have brought about the disruption of the family structure is HIV and AIDS since it has had the negative impact of high mortality, poverty, lack of investment in the child and increase in the dependency burden (ibid).

Polygamous marriages are rare in contemporary Botswana; instead they seem to have been replaced by serial monogamy and concubinage (www.everyculture.com). Since 1991 the proportions in the category 'living together/cohabiting' increased. Cohabitation has grown in recognition or significance in Botswana over the years.

Childbearing is however embedded within the African culture. The value of childbearing, which has now spilled from the confines of marriage to out of wedlock in Botswana, can be traced back to its value within the context of marriage. Ellece (2012) accounts for the importance of motherhood in marriage in Botswana. From her accounts of Tswana marriage ceremonies (especially in Patlo or marriage negotiations) premise that in Botswana, motherhood is constructed as a compulsory and indispensable aspect of feminine identity, crucial for success in marriage. The payment of Bogadi or the bride price is formal request for conjugal rights by the groom and also a symbol of female fertility. The Bride price is in the form of a mokwele (the special bride price animal, usually a sheep), whose significance is that it 'opens' and 'cleanses' the birth passage to facilitate the birth of children. The author further argues that the symbolism of sheep to a woman's fertility is engendered as only the female anatomy is referenced. Ellece concludes that the compulsion to procreate does not necessarily suite anyone and to many it denies them the freedom to choose not to have children without the fear of stigmatization.

Mookodi(2004) observes that anthropological accounts on customs and traditional practices in Bechuanaland during the early part of the early twentieth century, ascribed marriage as a rite of passage from childhood to adulthood, a basis for the formation of alliances between families and communities, and an integral part of the moral fabric of societies. Citing Schapera and Comaroff 1991, the author further notes the importance of bride wealth, which was used as a tool to unite families and consolidate assets within the extended family system.

The author further illuminates the changes brought about by male migration where young men could afford to pay for the bride price, and no longer relied for such on their families. However she argues this increased the age at marriage for mensaw the establishment of extra-marital pregnancies which became the basis of female headed households.

However contrary to popular opinion that high cohabitation levels exhibited in Botswana are due to factors like male labour migration to South Africa, decline in polygamy and Batswana women's access to education and enhance legal status of unmarried women, Mokomane (2006) attributes these high levels as partly due to socio-demographic factors like constant population mobility, population's response to the marriage squeeze and high prevalence of pre-marital childbearing. A recommendation by the author is for further study involving comparative analysis to explain the factors that make Botswana's cohabiting levels to be so closely resembling of those in Latin America and the Caribbean than other Sub-Saharan countries. The study found Botswana to be having high cohabitation levels when compared with other Sub-Saharan countries.

Mokomane (2005) asserts that cohabitation in Botswana is a prelude and not an alternative to marriage since cohabiting relationships do not provided the socio-economic and legal security that marriage provides. Participants in the study intend to get married in future; hence the author premises that there is little chance that cohabitation will pose a widespread challenge to marriage as an institution in the foreseeable future. Findings from the study however resonates with others (Mookodi;2004;Mukammambo; 1995;Gaisie and Majelantle;1999) which confirm that cohabitation tends to delay marriage and has an influence on the marriage patterns as evidenced by higher ages at first marriage. The author further recommends the impact of cohabitation on children's psychological, emotional, behavioural and cognitive outcomes.

Baker (2003) also notes a decline in marriage prevalence among the Tswana in the Gaborone and Kgatleng districts of Botswana. Furthermore, the author argues that marriage is a doubtful proximate determinant of fertility since first births commonly occur out of wedlock. An interesting finding is that unlike in the past women with higher than secondary levels marry at higher levels, this suggesting that marriage is increasingly becoming a privilege of the educated.

In a study of pre-marital childbearing in Thamaga (Botswana), Pitso (2003) resonates with Baker on the fact that out of wedlock childbearing is common in Botswana. Findings from the study reveal that among older women, childbearing is often strategic and goal directed, providing a sense of self-worth, labour and old age security. It was also noted that societal attitudes to pre-marital motherhood became less condemning after about age 25, as a woman is considered to have waited long enough for marriage. Further to this, the author attributes premarital childbearing to spontaneous sexual activity generated by the undermining of societal controls and inauspicious economic circumstances.

In recent years there has been concern over the high divorce rates experienced in the country. Kgalemang (2010) reported that Francistown alone registered 288 and 349 divorces cases in 2009 and 2010. The author concluded that such is an indication that the value and importance of marriage is reducing with time. Seitshiro (2010) asserted that adultery and desertion of partners were major factors in the increase in divorce cases in Botswana in 2010. The author further quotes a legal practitioner;

"There is no stigmatization of adultery and therefore there is no retribution. The society is so permissive and adultery charges are also affordable to a lot of people"

Social and cultural barriers are also attributed as other major factors. He further quotes lawyers who indicated that three out of five women experience violence in their lifetime. Against this background, the author raises sentiments regarding the country's experience in the decline in marriage rates.

Shabani (2013) concurs with other authors as he quoted the Chief Justice's concern at the opening of the legal year on 5 February 2013. The Chief Justice raised concern over increasing registered divorce cases which stood at 971 and 1, 172 in 2009 and 2010 respectively, while in 2011 and 2012 there were 1, 118 and 971 respectively. The Chief Justice further cautioned that Botswana should be worried about the quality of the next generation families as well as the place of the social unit called 'family' in the future. He further reiterated the need to bring together all the main stakeholders to seriously introspect on the causes of high divorce rates, dysfunctional families and how to arrest the situation so that the national vision of 'A united and proud nation' could be realized.

3.0 Methodological Issues

The difficulties in defining marital status cannot be underestimated. Mokomane (2006) argues that there is a possibility of an underestimate of the cohabiting population. The author quotes the explanation of the 'Living Together', according to the 2001 census;

A man or woman may 'live together' like husband and wife (even if they do not stay in the same locality) without having gone through any formal marriage ceremony.

The same definition was used for the 2011 census. The basis of the author's argument is that non-consensual sexual relationships/visiting unions could be classified as living together. Furthermore, she cites Pitso, 1997 who also raised the same sentiment. Citing (Carmichael, 1996) the author further posits that the phrase 'like husband and wife' could also result in underestimation of cohabitants since it implies that the union must be perceived as marriage-like to be relevant. For the enumerators to be required to tick the respondent's current marital status is another form of possible underestimation of cohabitants. An example is given where current cohabiting partners have formally been married/divorced, they could report that they are divorced (their legal status), rather than regard themselves as 'living together', which will in turn underestimate the number of cohabitants. The author therefore advocates for a more standard operational definition of cohabitation, given that variations in the definition of concepts can impede comparability of results at national level and make comparisons over time and space hazardous. A further recommendation is to have two separate questions, asking first the legal marital status and second whether or not the respondent cohabits with someone he or she is not married to. Another recommendation is for consensus and surveys to have separate relationship codes for spouses (to be used to classify married people only) and partners (to be used for classification of cohabitants only).

4.0 Policies Relating to Nuptiality in Botswana

The Revised National Population Policy has identified the considerable change in the marital status of the population as indicative of significant changes in the social relations and family structures in the country (Ministry of Finance and Development Planning, 2010). The decline in the value of marriage in Botswana has also been noted as a worrisome development over the years. In order to achieve its goal of 'improved quality of life and standard of living of all people in Botswana', one of the objectives is to promote the institution of

marriage and strengthen the role of the family in providing protection and social security. On the one hand NDP 10 states that the family as a primary social unit is threatened by the pace of change, urbanization, the high degree of migrant labour and unfriendly family policy (e.g. Government transfer policy which separates spouses and restriction on maternity leave to women), Ministry of Finance and Development Planning, 2009. Against this background, Botswana envisions to be a 'United and proud nation' (Vision 2016.). This vision pillar puts emphasis on a strong family unit that is reinforced in the response to the rapid social changes experienced within the country, the region and the world. The vision further encourages strong emphasis on a strong family unit, which will in turn encourage responsible parenting and the institution of marriage. A strong family unit will also provide a foundation for the eradication of problems such as high incidence of teenage pregnancy, adultery, prostitution, street children and the spread of HIV.

5.0 Analysis of Results

5.1 Marriage Trends over the Past Five Censuses by Gender

Table 1: Percentage Distribution of Population of Marital Status by Sex

Marital Status	1971		1981		1991		2001		2011	
	M	F	M	F	M	F	M	F	M	F
Never Married	44	37	51.7	44.5	54.8	49.5	51.7	46.5	58.1	53.4
Married	47.1	42.9	44.4	41.5	29	27.2	17.1	17.9	18.8	17.9
Living Together	n/a	n/a	n/a	n/a	12.2	12	16.8	17.1	20.6	20.8
Separated/Divorced	5	6.6	2.1	3.3	1.7	2	1.2	1.8	1.1	1.7
Widowed	2.1	11.9	1.8	11	1.5	8.5	1.3	6.5	1.3	6.2

Source: CSO, 2004 (Mookodi; 172)

5.1.2 Never Married

Evidence has shown that the proportions of the population classified as 'never married' increased substantially over the past five censuses. While proportional increases were slightly higher among males (7.7%) than females (7.5%) between 1971 and 1981, the trend was reversed between 1981 and 1991 (in favour of females; 5.0% vs 3.1%). Between 1991 and 2001 there was a decrease in the proportions of both males and females who never married, still with higher proportions among males (same pattern as for 1971 to 1981). However between 2001 and 2011 higher increases were noted among females (6.9%) as compared to their male (6.4%) counterparts (Table 1).

5.1.3 Married

The proportions of married males have been declining from 1971 to 2001 (47.1%, 44.4%, 29.0% and 17.1% respectively), and a slight increase of 1.7% was noted between 2001 and 2011 (17.1% to 18.8%). Conversely for women the proportion of those married decline between 1971 and 2001 (42.9% to 17.9%), while between 2001 and 2011 there has been no change.

5.1.4 Living Together

Ever since the introduction of the category 'living together' in 1991, there has been a proportional increase in the people reporting to be cohabiting among both males and females. This implies that the people belonging to this category have been either classified as married or never married prior to 1991 (Mookodi, 2001)

5.1.5 Separated/Divorced/Widowed.

The proportions separated, divorced or widowed have been declining for both males and females between 1971 and 2001. However for the census period 2001 to 2011 there was no change in the proportions of widowed males, while for females the decline was maintained like for the other periods.

Regarding widowhood, women have been disproportionately affected when compared to their male counterparts (Mookodi, 2001). This resonates with the fact that females have higher life expectancies than males. For instance in 1991 the life expectancy for males was 63.3 years for males and 67.1 for females. In 2001 when life expectancies fell drastically for both males and females due to HIV and AIDs, males still experienced a lower life expectancy (52.0 years) when compared to their female counterparts (57.4 years).

Table 2: Singulate Mean Age at Marriage in Years by Sex: 1971, 1981, 1991, 2001, 2011

Sex	Census Years				
	1971	1981	1991	2001	2011
Males	29.4	30.8	30.8	30.9	36.1
Females	24.8	26.4	26.7	26.5	32.0

Source: CSO, 1995(Mukamaambo;59); 2001 figure from www.chartsbin.com

5.2 Marital Status by Age and Sex

The singulate mean age at marriage (an estimate of the mean number of years lived by single persons who ultimately marry) has been increasing over the years, with higher mean years of singleness experienced among men than women (Table 2).

5.2.1 Never Married

According to the 1981 census, the proportion of never married males has been higher than for females up to age 39 years. However from age 40 onwards, the trend was reversed, females dominated the marital status. The same trend was experienced in 1991. However for 2011, higher rates of 'never marrying' males than females was experienced up to age 34. From age 39 onwards, the proportion of never married females was consistently higher than for men.

5.2.2 Married

In 1981 the proportions married have been higher among females than males up to the age of 34 years, thereafter the trend reversed in favour of males. The same trend was experienced for 1991. However for 2011, the proportion married was higher among females than males up to the age of 39 years.

From the age of 40 and above, higher proportions of the married was experienced among males and females. (Table 3, 4&5)

5.2.3 Living Together

When the status 'Living Together' was first documented in the 1991 census, more females than males were classified as cohabiting up to the age of 29 years. From the age of 30 years onwards, more males than females were cohabiting. The same trend was experienced for 2011. Thus higher proportions of men than women were cohabiting with increases in age. (Table 3 & 4)

5.2.4 Separated and Divorced

For the separated and divorced, although the proportions have been consistently below 7.5 % in 1981, 1991 and 2011 censuses, higher rates experienced among women than men. There has been a rise in proportions with age up to age 60 – 64 in 1981; a decline was experienced at 65+, however with females still dominating. In 1991, the rise in proportions separated/divorced was up to ages 55-59 years for men while for women it was up to 60 -64 years. There was no change for men for the ages 55-59 and 60 -64 years. For the 2011 data, there is evidence of a rise in proportions separated /divorced up to 55-59 years; thereafter a decline is experienced, however still in favour of women. For all the 3 censuses, a decline in the proportions of this marital status is experienced between the ages 60-64 and 65+ (Table 3, 4 & 5).

5.2.5 Widowed

Increases with age in the proportions widowed have been experienced for 1981, 1991 and 2011 censuses, in favour of women. Higher proportional increases were noted over the years in the ages 60-64 and 65+. For example in 1981 the proportions widowed increased from 34.9% to 58.8 % (23.9% increase) among females from age 60 -64 to 65+. Comparatively for males it was from 4.7% to 10.2 % (5.5% increase). In 1991 for the same advanced ages, for females the increase was from 30% to 50.7 % (20.7% increase) while for males it was from 4.7% to 10 % (6% increase). In 2011 for the ages under review, the proportion of females widowed increased from 23.6% to 43.8 % (20.2% increase); while for males it was from 5.5% to 11.4 % (5.9% increase).

5.3 Marital Status and Residence

Equal proportions of never married males and females resided in cities and towns, while for the rest of the settlements males dominated.

Amongst the married, males were predominantly found in cities, urban and rural villages, while for the rest of the settlements women dominated. More males than females who declared to be living cohabiting were found in cities and towns; however the difference between the sexes was minimal (0.8%). For the rest of the settlements, the proportion of cohabitants was higher among females than males.

The stata separated/divorced and widowed had lower rates than the rest of the marital stata. For the separated/divorced, women dominated in residence across the different settlement, except for mixture of lands and cattle posts where there were more separated/divorced men than women.

Among the widowed, women dominated their male counterparts across the different settlements.

Overall, the never married males dominated urban settlements while women were more in rural areas. For the married, higher proportions of males were found in both rural and urban settlement when compared with females.

For the living together, more males than females were urban residents while for rural is was vice versa. Among the separated, divorced and widowed, women dominated in both urban and rural settlements.

5.4 Education, Marital Status and Sex

5.4.1 Never Married

Higher proportions of never married females had secondary education (70.5%) when compared to their male counterparts (63.5%). These were followed by those with Brigade (59.9% males and 58.1% females) and primary education (59.5% males and 49.6% females); with male dominating (Table 8). About 46.3% of male tertiary education holders were never married, when compared to 47.9% among females. The lowest proportion (both sexes) of the never married was found among those pre-school and non-formal education (26.7 % males and 29.9% females).

5.4.2 Married

However the pattern changed for the married. Higher proportions of married males were recorded among those with formal education (37.9%) while their female counterparts recorded 27.8%. A higher proportion of married males were also found among those with tertiary education (34.4%), while females of the same status recorded 31.1%. Still more males than females had Technical/Vocational(29.3% males and 24.4% females) and Apprentice(29.2% males and 25.5% females) levels of education .The lowest proportions of those married were registered among those with secondary education(9.7% males and 11.3% females)

5.4.3 Living Together

Among the living together, higher proportions of cohabitants were found among those with apprentice (29.0% males and 26.1% females), non-formal (28.7% and 18.6% females), pre-school(27.3% males and 15.9% females) and brigade (25.4% males and 26.2% females). In all the cases males were dominant with the exception for brigade level of education. The educational level that recorded the least cohabitants was tertiary (17.0% males and 16.3% females).

5.4.4 Separated and Divorced

For the separated/divorced, males with non-formal education recorded the highest rates, with females surpassed their male counterparts. These were followed by those with tertiary (1.9% males and 2.5% females). Separated/divorce females with technical/vocational and apprentice surpassed their male counterparts. The least rates for this marital status were found among those with secondary education (0.5% males and 0.9% females).

Table 11 : Percentage Distribution by Marital Status, Household Headship and Sex

Marital Status	Headship	
	Male	Female
Never Married	24.2	28.7
Married	78.7	34.5
Living Together	56.8	36.8
Separated/Divorced	71.0	71.7
Widowed	77.6	78.1

5.7 Marital Status by Household Headship and Sex

About 29% of female heads of households were never married, when compared to about 24% male heads of households. Among the married, a higher proportion of households were male headed than female headed. For the living together there were more male headed households than females ones. More female household heads reported to be separated than their male counterparts, albeit with a small margin (0.7%), the same applies for the widowed.

5.8 Marital Status by Current Economic Activity and Sex

5.8.1 Never Married

Among the never married, males actively seeking work formed the majority. These were followed by those who declared to be in the category 'unpaid family helper', and males dominated. The third most prominent group was those categorized as employee 'paid in kind, male dominance was still experienced. Male students formed the larger part of the never married economically inactive group. Those classified as 'other' were the second dominant group, with females in the majority. Male homemakers formed the third largest group.

5.8.2 Married

For the married, those self-employed 'with employees' formed the majority of the economically active group, and females dominated the group. Those working at their own lands and cattle posts were the next largest group, however with males in the majority. The third largest group was those self-employed 'with no employees', and males were dominating.

Among the economically inactive group, male retirees were in the majority. The next group was the sick, and males still dominating. Homemakers were the third largest group, and females were in the majority.

5.8.3 Living Together

Cohabiting males formed the highest proportion of those self-employed 'with no employees'. Employees 'paid in cash and in kind followed respectively, males dominated for those 'paid in cash', while females dominated for those 'paid in kind'. For the economically inactive, a higher proportion of cohabitants were those classified as 'unknown', and females were in the majority. Homemakers were the second in majority and females were still more than their male counterparts. Those classified as 'others' were third in majority, and male dominance was experienced with this group.

5.8.4 Separated and Divorced

Among the separated and divorced, female employees 'paid in kind' were the dominant group for the economically active. The second and third dominant were the 'self-employed' with employees 'and those working at their own lands and cattle posts respectively. For both groups there were more females than males. Regarding the economically inactive, female retirees were in the majority; these were followed by the sick, however with males dominating. The third largest group was those classified as 'unknown', and females dominated.

5.8.5 Widowed

For the widowed, the predominant group for the economically active was females working at their own lands and cattle posts. These were followed by those classified as employee 'paid in kind'. The third in majority were those classified as self-employed 'with employees', and females were still in the majority. Among the

economically inactive, the majority were the sick males. The second group with the highest proportion was retired females. Female homemakers formed the third group in majority. (Table 13)

5.9 Occupational Status, Marital Status and Sex

Among the never married, higher proportions were found among those implicated as having other occupations other than the ones enumerated. While higher proportions of never married males indicated to be holding elementary occupations, females dominated the service work. Clerical work was the second popular type of work among males, while for females it was Craft and related works. Lower proportions of the never married were found among legislators. (Table 12)

Among the married, legislators dominated all occupations, with males in the lead. The second most reported type of occupation among the married was professionals, with males still dominating.

For the living together, the most dominant form of occupation was plant and machine operators and assembly, with males in the lead. The second most dominant occupation among the cohabiting males was elementary. Nonetheless elementary dominated among females, followed by service work.

With the separated and divorced, the most dominant type of occupation was among male legislators, followed by service work. For females, the highest proportions of cohabitants were among legislators, followed by those with technical and associate professionals.

The highest proportions of widowed males was from the skilled agricultural, followed by legislators and those who declared other occupations. Among females, the highest proportions of widowed females were found among those with skilled agricultural works, followed by those who declared other occupations.

5.10 Marital Status and Household Size

Smaller households (1-2 members) were more associated with never married males than females (48.1% vs. 47.4%). These were followed by households with 3-4 members however in favour of males; the difference between the sexes was small. Among the married, more females than males has smaller households (1 -2 members) – Table 13. The pattern however reversed for households with 3-4 members, where more married females than males had 3-4 members in their households. Among the cohabiting, higher proportions of females than males had 1-2 members (68.8% vs. 56.1%). However more males than females reported to be have having 3-4 members in their households. For those separated /divorced, all interviewed reported to be having 1-2 members in their households. However for 3-4 members and 5 -6, the trend was in favour of women. Thus more separated/divorced males than females had a higher burden of household size (3+ members). Households with 7+ members were not found among the separated/divorced. For the widowed, more females than males had smaller households, and none reported to be having 3-4 members in their households. But more widowed males than females reported to be having 5-6 members. Like for the separated/divorced, households with 7+ members were not found in this marital status.

6.0 Discussion, Conclusion and Recommendations

The marriage institution in Botswana is not thriving due to demographic, socio-economic and globalization effects. Marriage is no longer as attractive as 30 – 40 years back, as evidenced by the higher proportions never married paralleled with increasing cohabitation rates.

There is gender disparity in marital patterns. While the proportion of married males is declining, divorce seem to affect more females than males. Although the proportion separated/divorced has been going down over the years, a record of more than 900 annual divorces between 2009 and 2011 (Shabani, 2013) has been a worrisome development. More men are therefore opting for cohabitation. The years spent single has also been increasing over the years. This calls for stakeholders to engage in dialogue, including the traditional leadership over the preservation of this important unit so that Vision 2016 could be realized. These developments threaten the existence of the family unit, which is the core of any society.

While the minimum legal age for marriage without consent in Botswana is 21 years, and the 18 is the age at which individuals can marry with parental consent (UN, 2007), evidence from the 2011 census indicates that marriages are occurring even below the age of 15 years. There is therefore need to reconcile or revise relevant policy instruments so as to have a realistic age at marriage with and without parental consent.

Since there seems to be marital stability at ages above 65, a mentorship programme could be designed whereby young couples are mentored continuously by senior citizen couples, not just the short lived counseling done during wedding ceremonies.

Different stakeholders, including traditional leadership need to engage in continuous dialogue over the preservation of this important unit so that Vision 2016 could be realized.

A family policy is recommended to be part of numerous policies promoting social cohesion. The Ministry of Labour and Home affairs could be the focal point of programmes aimed at supporting family life and strengthening of families in the country. Programmes that create a healthy balance between work and family are thus recommended, given that the population of the economically active population has grown between the two censuses.

In order to maximize on quality statistics, the definition of marital status may need to be revisited to incorporate both the legal and socio-cultural frameworks.

7.0 Limitations

Although censuses provide diverse source of information on key demographic and socio-economic issues, it is not without limitations. However the strength of censuses as sources of current and future statistics outweighs its weaknesses. Because of large errors that are inherent in census data, comparisons between areas, population groups and points in time make it to be interpreted with caution. Crude rates from census data therefore need to be used in conjunction with other sources.

Table 3: Percentage Distribution of Population by Age, Marital Status and Sex ,2011

Age	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
<15	98.4	98.8	0.6	0.5	1.0	0.8	0.0	0.0	0.0	0.0
15-19	96.8	92.9	0.8	0.9	2.3	6.1	0.2	0.0	0.0	0.0
20-24	84.9	67.1	1.8	3.9	13.0	28.5	0.2	0.4	0.1	0.1
25-29	64.7	50.2	5.9	11.8	29.0	37.2	0.3	0.5	0.1	0.2
30-34	47.7	42	15	21.8	36.3	34.1	0.6	1.2	0.3	0.8
35-39	36.9	37.2	26.5	29.6	35.1	29.0	1.1	2.0	0.4	2.1
40-44	29.2	34.3	37	34.3	30.9	24.0	1.9	3.1	1.1	4.2
45-49	24.2	32.3	42.9	36.4	28.5	20.1	2.6	4.0	1.8	7.1
50-54	19.7	31	49.3	37.4	24.6	15.0	3.5	5.1	2.9	11.4
55-59	15.9	28.9	54.2	37.5	21.6	12.1	4.3	5.2	4.1	16.3
60-64	14.1	26.1	56.3	36.4	20.0	9.1	4.1	4.7	5.5	23.6
65+	14.5	21.6	55.8	26.1	14.7	5.4	3.6	3.1	11.4	43.8

Table 4: Percentage Distribution of Population by Age, Marital Status and Sex ,1991

Age	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
15-19	96.8	89.1	1.3	1.8	0.9	3.3	0.1	0.1	0.1	0.2
20-24	90.4	78.3	3.1	10.7	5.7	15.6	0.1	0.4	0.1	0.4
25-29	70.5	51.9	11.0	26.1	17.4	19.7	0.3	1.2	0.1	0.8
30-34	46.1	38.3	29.2	39.0	22.6	18.2	1.3	2.4	0.2	1.8
35-39	29.0	31	46.1	45.6	21.5	16.2	2.4	3.7	0.5	3.2
40-44	19.9	25.2	55.1	49.9	19.9	13.9	3.5	4.7	0.9	4.6
45-49	14.8	22.4	61.1	50.1	17.8	12.7	4.2	5.2	1.6	9.3
50-54	10.7	19.9	56.5	49.7	13.8	10.0	3.8	5.6	2.0	14.4
55-59	9.6	17.5	68.5	47.5	13.4	7.8	4.7	5.7	3.5	21.0
60-64	8.4	15.5	69.5	42.0	11.9	6.1	4.7	5.9	4.7	30.0
65+	10.1	11.7	64.1	28.0	10.3	4.5	4.2	4.3	10.7	50.7

Source:CSO, 1995(Mukamaambo;59)

Table 5: Percentage Distribution of Population by Age, Marital Status and Sex ,1981

Age	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
15-19	99.1	92.7	0.8	7.0			0.0	0.2	0.0	0.1
20-24	93.4	86.8	6.4	29.8			0.1	1.0	0.0	0.3
25-29	69.4	46.9	29.9	49.7			0.6	2.4	0.2	1.0
30-34	42.4	32.4	55.3	61.4			1.9	3.9	0.4	2.4
35-39	27.2	25.2	69.0	65.2			3.2	5.0	0.6	4.7
40-44	19.3	21.0	76.0	65.7			3.6	5.8	1.1	7.5
45-49	14.2	17.4	80.5	64.0			4.1	6.4	1.8	12.1
50-54	11.4	14.6	81.2	59.8			4.5	7.2	2.9	18.4
55-59	10.0	12.1	81.8	55.5			4.3	6.7	4.0	25.7
60-64	8.4	10.5	82.1	47.7			4.7	6.9	4.7	34.9
65+	7.0	7.8	78.3	28.7			4.5	4.7	10.2	58.8

Source:CSO, 1995(Mukamaambo;58)

Table 6 :Percentage Distribution of Population by Locality Type and Marital Status

Locality Type	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
City/Town	53.8	53.8	23	20.9	21.5	20.7	1.0	1.7	0.7	2.8
Urban Village	62.5	57.3	17.9	17.3	17.4	17.6	1.0	1.5	1.2	6.2
Rural Village	60.4	51.9	16	15.3	20.6	22.2	1.2	1.9	1.8	8.7
Lands area	49.0	34.3	21.2	21.5	26	32.7	1.6	1.8	2.2	9.9
Cattle Post	51.4	27.4	14.5	19	30.3	44.0	1.8	1.5	2.0	8.1
Freehold Farm	42.0	31.0	18.7	19.3	37	44.5	1.2	1.5	1.1	3.6
Mixture of lands and Cattle Post	47.6	28.9	17.6	19	30.6	42.1	1.6	1.5	2.4	8.6
Camp or Other Locality Type n.e.s	51.4	51.2	21	22.2	25.6	23.4	1.2	1.6	0.7	1.7

Table 7 :Percentage Distribution of Population by Locality Type and Marital Status

Locality Type	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Urban	59.3	56.1	19.8	18.6	18.9	18.7	1.0	1.6	1.0	5.0
Rural	56.1	47.9	17.1	16.5	23.6	25.3	1.4	1.9	1.8	8.5

Table 8: Percentage Distribution of Population by Education, Marital Status and Sex, 2011

Highest Education	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Pre-School	43.1	35.9	25.5	21.0	27.3	15.9	0.5	3.6	3.7	22.6
Primary	59.5	49.6	18.5	20.0	19.1	17.3	1.2	2.1	1.7	10.6
Secondary	70.5	63.5	9.7	11.3	18.9	23.2	0.5	0.9	0.3	1.2
Non Formal	26.7	29.9	37.9	27.8	28.7	18.6	2.8	3.6	4.0	20.1
Apprentice	39.6	44.6	29.2	25.5	29.0	26.1	1.3	2.6	0.8	1.2
Brigade	59.9	58.1	13.4	13.5	25.4	26.2	0.8	1.2	0.5	1.1
Technical/Vocational	45.3	48.9	29.3	24.4	23.2	22.9	1.5	2.1	0.7	1.8
Tertiary	46.3	47.9	34.4	31.1	17.0	16.3	1.9	2.5	0.6	2.2
Level Unknown	49.3	46.0	26.3	29.0	22.5	17.4	1.1	2.9	0.9	4.7

Table 9 : Percentage Distribution of Population by Religion, Marital Status and Sex

Religion	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Christian	57.8	53.9	20.4	18.5	19.5	19.8	1.0	7.3	1.2	6.1
Muslim	43.6	33.9	38.8	46.7	13.4	11.1	2.5	7.4	1.6	4.4
Bahai	22.9	24	46.3	46.7	20.9	21.1	3.9	7.8	5.9	6.1
Hindu	24.4	15.6	71.5	77.6	1.4	1.9	1.3	1.3	1.3	3.7
Badimo	48.4	39.3	16.8	16.2	30.3	31.2	1.7	1.9	2.7	11.4
No Religion	63.6	56.1	11.4	10.0	22.8	27.3	0.9	1.0	1.2	5.5
Rastafarian	60.2	41.5	13.2	41.9	22.3	8.8	3.2	4.9	1.1	2.9
Other Religion	30.7	20.6	57.7	65.4	7.7	4.4	2.4	4.8	1.5	4.7

Table 10 : Percentage Distribution of Population by Citizenship, Marital Status and Sex

	Never Married		Married		Living Together		Separated Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Botswana	60.1	54.6	16.4	16.2	21.1	21.2	1.1	1.6	1.4	6.3
Other SADC	33.8	32.6	47.2	46.3	16.7	14.0	1.5	2.9	0.8	4.2
E.Africa	35.7	38.0	52.9	52.2	8.9	4.2	1.4	2.9	1.0	2.8
N.Africa	43.3	55.0	37.8	24.2	15.7	14.2	2.4	0.8	0.8	5.8
C.Africa	43.5	56.4	30.4	17.9	24.6	17.9	1.0	0.0	0.0	7.7
W.Africa	34.4	37.3	52.9	53.5	10.3	5.0	1.7	1.6	0.8	2.6
Africa Islands	64.2	64.4	20.8	9.6	15.1	20.5	0.0	1.4	0.0	4.1
Asia	32.0	17.2	61.8	79.9	5.2	1.2	0.6	0.4	0.4	2.2
Europe	22.9	20.5	59.9	61.8	9.7	7.8	5.5	4.9	2.0	5.1
Oceania	27.0	34.5	56.3	48.2	3.2	12.7	3.2	2.7	0.8	1.8
Unknown	60.0	68.8	25.0	15.8	0.0	10.5	5.0	0.0	10.0	5.3

Table 12 : Percentage Distribution of Population by Occupation, Marital Status and Sex

Occupation	Never Married		Married		Living Together		Separated/ Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Legislators, Administrators, Managers	20.1	15.2	59.5	48.0	16.6	15.2	2.4	4.9	1.5	3.9
Professionals	31.9	16.6	46.4	40.9	19.4	16.6	1.7	2.9	0.6	1.6
Technicians and Associate Professionals	38.0	18.7	34.7	36.3	25.0	18.7	1.5	3.2	0.8	3.1
Clerks	47.3	25.8	22.5	21.3	28.2	25.8	1.2	2.0	0.7	1.9
Service Workers and Shop & Market Sales Workers	45.3	29.7	21.5	18.3	31.6	29.7	1.1	2.1	0.9	3.1
Skilled Agricultural and Related Workers	34.0	26.8	33.2	29.0	28.5	26.8	2.2	3.1	2.2	9.7
Craft and Related Trade Workers	41.0	29.4	24.8	21.5	32.3	29.4	1.1	2.2	0.9	5.5
Plant and Machine Operators and Assemblers	32.2	27.5	33.0	24.6	33.4	27.5	1.3	2.5	1.0	4.3
Elementary Occupants	51.4	30.1	13.0	16.5	32.9	30.1	1.3	1.3	1.2	4.7
Occupation not Classified	40.6	26.8	28.9	22.5	28.4	26.8	1.5	0.0	0.6	0.0
BDF	40.6	26.8	28.9	22.5	28.4	26.8	1.5	0.0	0.6	0.0
Occupation Unknown	76.2	59.4	10.0	14.5	11.5	17.7	0.8	1.2	1.5	7.2

Table13 : Percentage Distribution of Marital Status by Economic Activity and Sex

	Never Married		Married		Living Together		Separated/ Divorced		Widowed	
	M	F	M	F	M	F	M	F	M	F
Economically Activity										
Employee(Paid in Cash)	42.5	46.0	25.1	21.9	30.2	26.6	1.3	2.4	0.9	3.2
Employee(Paid in Kind)	50.4	41.7	19.2	18.7	26.3	28.0	2.2	3.6	1.8	8.0
Self Employed(with no employees)	35.5	33.3	29.6	29.1	32.0	27.7	1.5	3.1	1.3	6.9
Self Employed(with employees)	24.3	20.7	50.1	52.8	21.9	17.4	2.3	3.6	1.3	5.5
Unpaid Family Helper	68.1	42.5	9.6	19.9	20.6	29.1	0.7	1.7	1.0	6.8
Working at Own Lands/Cattlepost	32.0	22.2	38.4	35.4	23.8	22.9	2.3	2.8	3.4	16.8
Actively Seeking Work	75.6	61.6	5.0	8.2	18.4	28.5	0.6	0.9	0.4	0.8
Economically Inactivity										
Homemaker	60.4	36.1	17.3	26.7	18.2	24.8	1.4	1.7	2.8	10.7
Students	97.0	94.9	0.9	1.4	2.1	3.6	0.0	0.0	0.0	0.0
Retired	8.4	22.9	68.0	33.9	9.6	3.9	4.2	5.8	9.9	33.6
Sick	45.0	34.0	28.2	16.0	13.4	8.5	3.6	2.8	9.8	38.7
Other	73.1	83.0	5.3	5.7	19.6	2.3	0.6	1.1	1.4	8.0
Unknown	47.4	37.3	22.6	22.1	26.2	27.3	1.6	2.6	2.2	10.8

Table 14:Percentage Distribution of Population by Marital Status and Household Size

Marital Status	Household Size											
	1_2		3_4		5_6		7_8		9_10		10+	
	M	F	M	F	M	F	M	F	M	F	M	F
Never Married	48.1	47.4	22.9	22.8	14.7	15.8	6.9	7.3	4.3	3.8	3.1	2.8
Married	49.2	53.5	26.2	27.9	14.8	0.0	6.6	4.7	3.3	0.0	0.0	0.0
Living Together	56.1	68.8	22.7	15.6	10.6	6.3	6.1	6.3	3.0	3.1	1.5	0.0
Separated/Divorced	100.0	0.0	0.0	66.7	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0
Widowed	66.7	100.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

References

Baker, K.R (2003), For Better for Worse: An examination of the decline in marital prevalence in sub-Saharan Africa (January 1, 2003), Dissertations available from ProQuest, Paper AAL3095855.

<http://repository.upenn.edu/dissertations/AA>, accessed 20/08/2013

Dintwa (2010), Changing Family Structure in Botswana, *Journal of Comparative Family Studies*, Vol. 41, Issue 3, pp.281 -297.

Ellece, S.E (2012), The 'placenta' of the nation: Motherhood discourses in Tswana marriage ceremonies, *Gender and Language*, Vol. 6.1, pp.80 - 103

Gaisie,S.K (1995) Socio-Economic and Cultural Determinants of Fertility in Botswana in Botswana, in Government of Botswana 1991 Population and Housing Census Dissemination Seminar 1-4 May,1995:The Government Printer,pp.95-110

Gaisie, S.K and Majelantle, R. G (1999), *Demography of Botswana*, Mmegi Publishing House, Gaborone, Botswana,pp.72-75

Kgalemang, T. (2010), Why the marriage institution is dying, *The Monitor*, Vol.11, No.47, 13 December 2010. [http://www.mmegi.bw/index.php?sid=6&aid=7300&dir=2010/December/Monday 13](http://www.mmegi.bw/index.php?sid=6&aid=7300&dir=2010/December/Monday%2013), accessed 23/08/2013

Ministry of Finance and Development Planning (1997&2011)), *National Population Policy*, Government Printer, Gaborone, pp.18-32

Ministry of Finance and Development Planning (2009), *National Development Plan 10*, Government Printer, Gaborone, pp.344

Mokomane (2005), Cohabitation in Botswana: An Alternative or a Prelude to Marriage, *African Population Studies*, Vol.20, No.1, 2005, pp.19-37.

Mokomane (2005), The Collection of Marital Status Data in Botswana: A Review of the Living Together Category, *Journal of Population Research*, Vol.23, No.1, pp.83 – 90.

Mokomane (2005), Cohabiting Unions in Sub-Saharan Africa: Explaining Botswana's Exceptionality, *Journal of Comparative Family Studies*, Vol.37, No.1, pp. 25 – 42.

Mookodi, G(2004) ' Marriage and Nuptiality', Analytical Report 2001 Population and Housing Census, Printing and Publishing Services, Gaborone, pp.169 – 187

Mukamambo,E.P (1995) Demographic and Socio-Economic Situation in Botswana, in Government of Botswana 1991 Population and Housing Census Dissemination Seminar 1-4 May,1995:The Government Printer,pp.51-61
Newell, C. (1988). *Methods and Models in Demography*, Guilford Press, New York, pp.91-101

Pitso,M.N and Carmichael,G.A(2003), Premarital Childbearing in Thamaga Village, Botswana, *Journal of Population Research*, Vol.20,Issue 2, pp.187-202

Tswana Marriage and Culture (2014)

<http://www.everyculture.com/Africa-Middle-East/Tswana-Marriage-and-Family.html#ixzz2dfWc2r8Y>, accessed 27/08/2013

Seitshiro (2010),Botswana Hit by High Divorce Rate in 2010, in *Sunday Standard*, 23 August 2013 <http://www.sundaystandard.info/article.php?NewsID=9219>, accessed 23/08/2013

Shabani (2013), Chief Justice Bemoans High Divorce Rates, in *Daily News*, 05 February 2013 <http://www.dailynews.gov.bw/news-details.php?nid=827>, accessed 23/08/2013

Shyrock H.S & Siegel J.S (1976), *The Methods and Materials of Demography*, Academic Press, New York, pp.161-175; 333-347.

UN Gender Info (2007), *Minimum Legal Age for Marriage without Consent*, UN data

<http://data.un.org/Data.aspx?d=GenderStat&f=inID:19>, accessed 16/01/2014

US Embassy (2013), *Marriage*.

<http://botswana.usembassy.gov/marriage.html>, accessed 20/09/2013

EDUCATION AND EDUCATIONAL ATTAINMENT IN BOTSWANA

By **Dr. S.D. Rakgoasi**
Department of Population Studies
University of Botswana

Abstract: Education tends to leverage many variables related economic development and demographic change, access to education is an important ingredient in the social and economic growth and development process of any country. As such, investments in human capital through increased access to education are a key ingredient of the economic development of many countries.

The results show that Botswana enjoys very high access to both primary and secondary education. While the gender gap in access to formal education is very small, at levels beyond secondary education it tends to marginally favour girls over boys. However there is evidence of discernible differences in access to education and educational attainment that disadvantages the most rural population as well as linguistic minorities. The gender gap in access to education tends to be large the more disadvantaged the groups.

For Botswana, increased and sustained investment in improved access to basic formal education beyond primary level, and addressing socio, cultural and other factors that might perpetuate gender inequality in access to formal education remains key development imperatives.

Introduction

There is little doubt that human development, through education, is a key to sustaining social and economic development. The UN's millennium declaration of 2000 shows that education is not only a fundamental constitutional right, but is also a key priority essential for social and economic progress, human development and advancement in all countries. Two of the UN's MDGs focus on achieving universal access to primary education, the other promulgates the promotion and attainment of gender equality and elimination of the gender disparity at all levels of education by 2015.

Research generally points to an association between education and various aspects of development. Since education tends to leverage many variables related economic development and demographic change, access to education is an important ingredient in the social and economic growth and development process of any country. Investments in human capital through increased access to secondary education were found to be a key driver of economic development in many countries, especially Asian countries (IIASA, 2008; IIASA, 2011).

One of the pillars of Botswana Vision's 2016 is the transformation of Botswana into an 'informed and educated' nation through improved access to education. In fact, the expansion of education is a key element of the strategy for realizing enhancement of national productivity, innovation and competitiveness and thus supporting the attainment of other pillars of Vision 2016, such as "Prosperity for all Batswana", "A Compassionate, Just and Caring Nation" and building a "Prosperous, Productive and Innovative Nation". Siphambe (2000) found that while there were significant increases in earnings as the level of education rises in Botswana, and that while females on average were earning less than their male counterparts for all education levels, the inequality between genders became progressively less as education rises. The study also found that males with post-secondary education were earning six times more than those with no formal education, while females with post-secondary education were earning 13 times more than those with no formal education. While Botswana enjoys high access to basic education, and free education up to university level, there are concerns regarding the quality of education, specifically its relevance and suitability for the country's development needs.

Access to education in Africa

Achieving the Millennium Development Goals (MDGs) in sub-Saharan Africa requires investment in and development of human resources through improved access both primary and secondary education, as well as relevant skills development and training. Consequently, strategies aimed at expanded access to a basic education form the policy focus of many sub-Saharan governments. Consequently, access to education and educational attainment has increased significantly in Africa and the developing world, and returns to formal education have also increased substantially over time. For example, between 1950 and 1985, many developing countries experienced increases in educational attainment and a narrowing of the gender gap

in education (Schultz, 1993). The number of years of formal education in the developing world has also increased from 2.1 to 7.1 between 1950 and 2010 (Barro & Lee, 2010).

According to Barro and Lee (2010), while the rates of return for an additional year of schooling range from 5 to 12 percent globally, for sub-Saharan Africa, this rate stands at is 6.6 percent. While available evidence suggests that there has been improved access to education in sub-Saharan Africa, sometimes entrenched social and cultural norms and beliefs can facilitate unequal access to education that undermine the attainment of gender equality in education (UNESCO 2010).

Access to Education in Botswana

Since independence, Botswana has given priority to the development and improvement of education. In 1994, Government of Botswana adopted the Revised National Policy on Education (RNPE), which, among other things, seeks to increase access and equity in education and training through both formal and non-formal means; effectively prepare students for life, citizenship and the world of work; develop a responsive and relevant training geared to the needs of the economy and improve and maintain the quality of the education system. The policy was reinforced by the Botswana Vision 2016 which calls for transformation of Botswana into an 'informed and educated' nation.

Pre-School Education

The RNPE calls provision of pre-school education by the Ministry of Education and Skills Development, and tasks the Ministry of Education with provision of an enabling environment for pre-school education through provision of policy direction curriculum development and support materials, teacher training and support, through grants to NGOs and CBOs demonstrating commitment to provision of pre-school education. This resulted in the development of the Early Childhood Care and Education Policy of 2001, which was followed by the development of an Integrated Early Childhood Care Development (IECD) Program that targets children from diverse backgrounds, including children with intellectual disabilities, hearing and visual impairment.

Basic Education

Botswana has a highly accessible basic education system, which comprises seven years of primary and three years of junior secondary. The Gross Enrolment Rates has been more than 100% since 1994 due to increase in primary schools from 770 in 2003 to 790 in 2008. Net enrolment rates for primary school is very high ranging between 88 and 90 percent of all 6-12 years olds between 2000 and 2011 (CSO, 2012). While net enrolment rates are generally high, they nevertheless suggest that close to 10 percent of the country's primary going age population are not attending school. This is an especially worrying development as enrolment figures shows that net enrolment rates have taken a slight decline during recent years. While the magnitude of the decline might be small, it is likely to hide significant variations with certain population groups.

Vocational Education and Training

The Revised National Policy on Education emphasizes expansion and upgrading of facilities, provision of government sponsorship to cover private institutions and the implementation of equal opportunity and liberal admission policies has addressed access to Vocational Education and Training (VET). In addition the Botswana Technical Education Program (BTEP) has facilitated improved access technical and vocational education. The BTEP aims to improve access to, and quality of vocational education and training for learners including people with disabilities through specially designed programs; produce graduates who are trainable, employable or have the ability and initiative to start their own businesses and provide a flexible system which offers an open career route to further and higher education and training

Tertiary Education

The Tertiary Education Council (TEC) was created in order to drive tertiary education and skills development and facilitate the expansion of tertiary education. It is responsible for the promotion, coordination, determination and maintenance of standards of teaching, examinations and research in tertiary education, has made tertiary education available to many students. The number of institutions that offer tertiary education has not only increased, but government sponsorship now covers these institutions. In addition to that, the recent establishment and opening of the Botswana International University of Science and Technology (BIUST) is set increase access to tertiary education and improve the human capital development, especially in science and technology.

Quality of Education

While Botswana enjoys high access to basic education, and free education up to university level, there are concerns regarding the quality of education, specifically its relevance and suitability for the country's development needs. Statistics show that in 2001, a fifth (19.9%) of secondary school graduates was unemployed. This percentage increased to almost a third (28.6%) in 2003, and increased further to 35% in 2006, while unemployment among graduates of vocational education also increased from 13% in 2001 to 18.4 and 17.1 percent in 2003 and 2006, respectively. The percentage of unemployed university graduates, while smaller by comparison, nevertheless suggests that many of them fail to find employment. This percentage was 3.2% in 2001, before increasing significantly to 17.5 percent in 2003 and declined to 8.6 percent in 2006.

Data and Methods

Data used in this chapter are drawn from the 2011 Botswana Population and Housing Census. The 2011 Population and Housing Census is the fifth of post-independence censuses. Previous censuses were held in 1971, 1981, 1991 and 2001. Uni-variate and bi-variate distributions are used to examine the levels and patterns of access to education and educational attainment, using net enrolment rates.

Definition of Terms

Access to education

Access to education is measured using Net Enrolment Ratios (NERs), calculated as the proportion of school going age population that is enrolled in each of the three levels of formal education, namely primary; secondary and tertiary levels. The NERs are used to measure the access to formal education in the respective countries, and selected background variables are also used to determine their influence on access to formal education.

Educational attainment

Educational attainment is measured as the percentage of each country's adult population that has attained a given level of formal education, namely primary, secondary and tertiary education. Educational attainment Gender Parity Indexes (GPIs) for primary, secondary and tertiary are calculated. GPIs for primary, secondary and tertiary education are computed as the quotient of the value of indicator for females divided by the value of indicator for males at each level of formal education, multiplied by a constant, in this case 100. Thus GPIs over 100 indicates a predominance of females while an index less than 100

Findings

Table 1 shows the characteristics of the population on which this analysis is based. Just over half of the population of the population included in this analysis was male (50.2). Close to fifth (18%) of the population resided in cities and towns, while 43 and 38 percent resided in urban villages and rural areas, respectively. Close to two thirds (65%) of the population below 24 years were currently enrolled in formal education, 14 percent had left school and just over a fifth (21%) had never attended school [a large portion of which is made up by those who are too young to be enrolled in formal education]. The results further show that 56 percent of the population had primary education or less, while over four out of every ten (39%) had secondary or tertiary education.

Over a quarter (27%) of the studied population was married, while an almost equal proportion (25%) was cohabiting, and almost four out of every ten (37%) were never married. A majority of the population were Christian (81%) while the rest belong to other non-Christian religions and those who did not identify with any religion. Slightly over half (53%) of households were female headed and six out of every ten households (59%) had three members or fewer.

Preschool education

Just over a third (36.7%) of children between the ages of 4 and 6 years were enrolled in formal education. The percentage of this age cohort that is enrolled is 20 percent among children who are 4 years old and increased to 28 and 63 percent among those who are 5 and 6 years old, respectively. Enrolment rates among this cohort are highest in cities and towns (62%), followed by urban villages (42%) and rural areas (23%), suggesting that access to pre-school education is more likely in urban compared to rural areas. This could be due to unavailability of pre-school education facilities in rural districts, and their relatively higher availability in urban villages and cities and towns. While government has adopted pre-school education as part of the

country's education structure, the development of facilities and availability of suitably trained staff necessary to implement preschool education throughout the country are not yet in place. The most rural districts such as Central Kgalagadi; Kweneng West; Ngwaketse West; Ngamiland West and Okavango Delta have the lowest percentage of enrolment of pre-school age children. It could also mean that parents have not yet appreciated and therefore adopted the practice of sending children to preschool education.

Enrolment rates were almost equal among children who had lost one (32%), both (35%) or none (37%) of their parents, or according to sex of head of household (52% for both males and female headed households) or by household size (53 and 53 percent among households with three or less and those with four or more members, respectively). This suggests orphan hood or loss of one or both parents; household headship or household size does not negatively influence the likelihood of enrolment at this age.

Primary Education

This section presents formal; education enrolment rates for population between ages of 7 and 14 years. This age range is used to generally define the primary school going age population. Table 2 shows enrolment rates among the primary school age population. The results show that enrolment rates among this group are high, ranging between 91 and 97 percent. This percentage does not differ significantly between cities and towns (97%), urban villages (97%), and by comparison, is slightly lower in rural areas (93%). Enrolment in primary education is widespread, such that even in the most rural districts, at least eight (8) out of every ten children of primary school age were enrolled. Primary education enrolment does not vary according to parental survival, religion, household headship or household size.

Secondary Education

Secondary school enrolment rates are relatively lower than those observed at primary level, and they tend to significantly taper off with increasing age. For example, while 9 out of every ten people between ages of 13 and 16 were enrolled in formal education, this proportion declines to 78 percent among those who are 17 years of age. Enrolment rates decline precipitously beyond teenage years, suggesting that there are limited opportunities for further formal education beyond secondary. Secondary school enrolment rates are 94 percent in cities and town and urban villages, while the corresponding rate for rural areas is 85 percent. These rates however do not show a discernible difference by household headship or size of household.

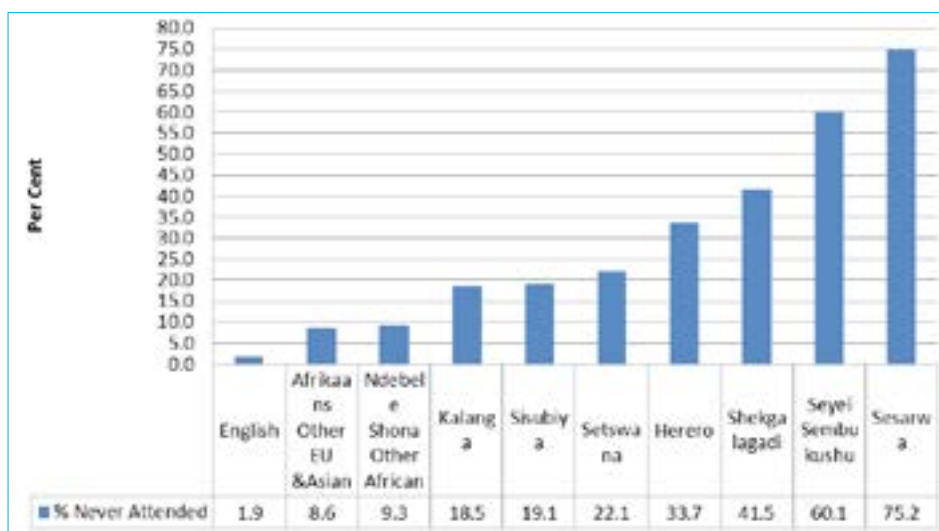
Tertiary & University Education

Tertiary and University education enrolment rates are relatively lower compared to secondary education enrolment rates. As can be expected, tertiary and university enrolment rates also show precipitous decline with increasing age, from 60% among those who are 18 years of age, to a quarter among those who are 21 years and less than 10 percent among those who are 24 years or over. Tertiary and University enrolment rates are higher in cities and towns (23%), followed by urban villages (19.8%) and lowest in rural areas (7.9%). The difference in tertiary enrolment rates by place of residence is likely more a reflection of the fact that tertiary education institutions are disproportionately located in cities and towns and urban villages compared to rural areas. These enrolment rates are also higher among never married respondents (22%), and are between 5 and 6 percent for respondents who are married; living together or divorced, widowed or separated. The results show that tertiary and university enrolment rates are slightly higher among respondents who have both parents (11%) compared to those who have lost both parents (7%) or lost one of the parents (8%). However, tertiary and university enrolment rates don't differ markedly according to household headship or size of household.

Level of Educational attainment

This section presents results on the level of educational attainment among the adult population in Botswana in 2011. Overall, just over a fifth (22.7%) of the adult population over 30 years of age had never attended school. This percentage displays remarkable variation according to language spoken at home. It ranges from less than 9 percent among those who speak English; other European and Asian languages, as well as those who speak Ndebele, Shona and other African languages, to over a fifth among those who speak Setswana. The percentage of who have never attended school is discernibly higher among those who speak Herero (33.7%); SheKgalagadi (41.2%); Seyeyi (60%) and three quarters among those who speak Sesarwa (75%) (Figure 1)

Figure 1: Percentage of Population 30 years and over who have never attended school

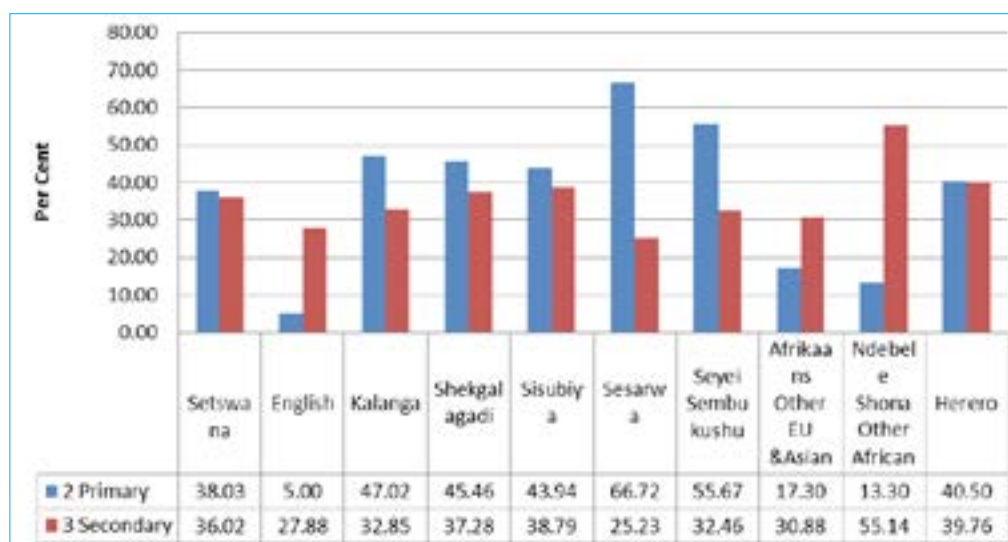


Primary & Secondary Educational Attainment

The results show that 32 percent of males and 40 percent of females who are over 30 years of age have primary education. For both males and females, the percentage with primary education increases considerably with increasing age from between 12 and 14 percent among those in the 30-34 age range, to well over 7 out of every ten among men over 70 years and women over 60 years of age. The results show that education attainment among men and women over the age of 30 years is 36 percent. Secondary educational attainment rates however, display an inverse relationship with age, quite unlike and opposite to primary school enrolment rates. For example, the percentage of population over 30 years of age who have secondary education is highest among the youngest population, and decreases significantly as age increases. For example between 31 and 61 percent of men and women below 44 years of age have secondary education. This percentage declines to below 20 percent among both men and women who are 59 years or more, and are even lower among those who are over 70 years of age. This pattern is indicative of the significant improvement in access to basic education over time, which resulted in better access to primary and secondary education for latter cohorts than was the case with earlier ones.

Figure 2 shows primary and secondary educational attainment by language spoken at home. The figure shows that primary and secondary education attainment varies across languages, such that those who speak English, Afrikaans and Ndebele /Shona being more likely to have attained secondary education while those who speak most of Botswana's minority languages were more likely to have attained primary than secondary education. Those who speak Setswana were almost equally likely to have attained primary or secondary education.

Figure 2: Primary and Secondary Education Attainment by Language Spoken at home (30+ Years)



Tertiary and University Educational Attainment

The results show that 16 percent of men and 12 percent of women had Vocational and Technical education. The percentage of men with University education (15%) was significantly higher than that of women with university (10%). For both men and women, the percentage with technical and vocation education, as well as university education is higher among those residing in cities and towns; followed by urban villages; and is least in rural areas.

Discussion

Formal education leverages social and economic development through its impact on health, mortality and productivity (Schultz, 1993, 2004), earnings (Barro, 2010) and fertility (Ainsworth, 1996; Lloyd et al., 2000). As such, access to formal education and improved educational attainment are important social and economic development priorities for any country. Access to education and has increased significantly in Africa and the developing world, with the number of years of formal education in the developing world having increased from 2.1 to 7.1 between 1950 and 2010 (Barro & Lee, 2010). In Africa and much of the developing world however, entrenched socio and cultural norms and beliefs have historically differentiated access to education, limiting access to education for certain population groups, such as women and girls, rural dwellers and the poor. This makes the monitoring of access to formal education critical to efforts to attain and sustain not only improved access to formal education, but also equality and justice in access to formal education and returns to education.

The results of this analysis shows that in Botswana there is high access to formal education and that unlike in other parts of the developing world, in Botswana women are equally as likely to have secondary or tertiary education as men. While the older population is likely to have low educational attainment, successively younger cohorts have higher educational attainment, suggesting that access to formal education has been improving over time. Thus, as younger cohorts enter adulthood and beyond, an increasing proportion of the population will have attained secondary education. The increase in population with secondary education is an important development because while primary education continues to exhibit the highest social profitability in the world regions (Psacharopoulos, 1994), improved access to formal education beyond basic primary education could prove a necessary ingredient for Botswana to attain the goals of Vision 2016 and its envisaged social and development transformation.

While Botswana's education landscape displays a generally balanced gender distribution, with males and female being almost equally likely to be enrolled and to attain higher levels of education, there is evidence of considerable variation in access to education and educational attainment by geography and membership of certain linguistic groups. Access to education and educational attainment was lower among population residing in remote areas, as well as linguistic minorities, more so that they are likely to reside in remote areas. In order to stall any devise tendencies inherent in ethnic identity, Botswana has made a deliberate decision not to collect data on ethnicity. As a result, the language spoken at home was used as a proxy for membership of linguistic and by extension, ethnic groupings.

These results suggest that language and membership of minority linguistic groups has an influence on access to education and educational attainment. Thus in addition to providing the physical facilities and infrastructure for education among the rural and linguistic minorities, it is also necessary to revisit the language policy in Botswana's education with a view to make it accommodative of differences in linguistic backgrounds and how these may influence learning outcomes, especially at young ages. Thus, having a highly accessible basic formal education system, there is need for vigilance, not only to ensure that the benefits of improved access are maintained, but to also ensure justice and fairness in access to formal education is entrenched. This can only be achieved through removal of barriers in access to formal education for all Batswana, regardless of socio economic status, membership of cultural, linguistic and other minority groups and residence.

Limitations

Censuses are limited in the sense that despite their enormous cost, very few questions can be included in the census questionnaire, thus limiting in-depth analysis of many issues. There are other limitation inherent in using census data, the most obvious being the long inter-censal interval, which is ten years for most countries. This means that it takes a long time for new census statistics to become available. A third limitation is the quality of census data, especially the age sex data. Many censuses contain errors related age reporting which requires smoothing.

Acknowledgments:

Special thanks to Statistics Botswana, and Government of Botswana for making the census data available and facilitating this work. My sincerest gratitude goes to the University of Botswana for granting the time, space and resources that made this work possible. Special thanks to colleagues who reviewed and gave feedback on the draft manuscript.

Table 1 Population Characteristics 24 years and below

	Number	Per cent
Sex		
Male	477 739	50.2
Female	474 398	49.8
Age		
0-4	237 365	24.9
5-9	215 146	22.6
Oct-14	207 314	21.8
15-19	210 728	22.1
20-24	81 584	8.6
Place of Residence		
Cities & Towns	174 694	18.3
Urban Villages	41 6368	43.7
Rural Are	36 1070	37.9
Ever Attended School	549 974	64.8
Still Enrolled		
Left School	121 171	14.3
Never attended	177 955	21.0
Highest Level of Education		
Primary & less	376 422	56.2
Secondary	263 777	39.4
Technical & Vocational	12 573	1.9
University	16 917	2.5
Marital Status		
Married	62 949	27.2
Never Married	84 961	36.7
Living Together	58 082	25.1
Div / Wid/ Sep	25 323	10.9
Religion		
Christian	330 766	80.5
Non-Christian	14 599	3.6
No Religion	65 421	15.9
Sex of Head of Household		
Male	289 342	52.5
Female	261 577	47.5
Household Size		
Three or less	137 493	59.4
Four or more	93 877	40.6

Access to Primary Education

Table 2: Pre-School Education Gross Enrolment Rates and Gender Parity Index (Population 4-6yrs) in Botswana, 2011

Year	Enrolment Rates		Gender Parity Index
	Male	Female	All
Age			
4	20.0	20.9	20.4
5	28.0	28.9	28.5
6	61.5	64.5	63.0
Place of Residence			
Cities & Towns	61.9	62.0	61.9
Urban Villages	41.0	42.8	41.9
Rural Are	21.7	23.5	22.6
Parental Survival			
Both dead	33.2	37.7	35.4
One dead	31.0	33.5	32.2
Both Alive	36.6	38.3	37.4
Sex of Head of Household			
Male	52.3	53.2	52.8
Female	51.0	52.9	52.0
Household size			
Three or less	51.9	52.5	52.2
Four or more	51.4	53.9	52.6

Table 3: Primary Education Gross Enrolment Rates and Gender Parity Index (Population 7-13yrs) in Botswana, 1991- 2011

Year	Enrolment Rates		Gender Parity Index
	Male	Female	All
Age			
7	90.7	91.8	91.2
8	94.1	94.7	94.4
9	95.1	96.1	95.6
10	95.0	96.0	95.5
11	95.0	96.4	95.7
12	96.5	98.1	97.3
13	96.0	97.9	96.9
14	94.8	97.3	96.1
Place of Residence			
Cities & Towns	97.2	97.3	97.3
Urban Villages	96.4	96.9	96.6
Rural Are	91.6	94.4	93.0
Parental Survival			
Both dead	93.0	95.1	94.0
One Dead	94.2	96.0	95.1
Both Alive	94.8	96.0	95.4
Religion			
Christian	96.9	98.2	97.5
Non-Christian	88.2	93.7	90.7
No Religion	92.5	96.0	93.9
Sex of Head of Household			
Male	96.6	97.3	97.0
Female	96.6	97.1	96.8
Size of Household			
Three or less	96.7	97.3	97.0

Access to Secondary Education

Table 4: Secondary Education Gross Enrolment Rates and Gender Parity Index (Population 14-19yrs) in Botswana, 1991- 2011

Year	Enrolment Rates		Gender Parity Index
	Male	Female	All
Age			
14			
15	92.5	94.4	93.7
16	88.0	89.9	89.0
17	78.2	78.6	78.4
18	60.8	59.6	60.2
19	41.4	39.1	40.3
20	30.7	30.7	30.7
Place of Residence			
Cities & Towns	72.8	69.3	71.0
Urban Villages	73.2	70.3	71.7
Rural Are	52.2	54.6	53.3
Religion			
Christian	70.0	67.8	68.8
Non-Christian	50.1	52.7	51.1
No Religion	54.9	52.8	54.1
Marital Status			
Married	53.2	38.7	45.0
Never Married	67.1	70.3	68.7
Living Together	35.3	19.9	23.9
Div / Wid/ Sep	16.0	14.4	12.7
Sex of Head of Household			
Male	69.3	66.3	67.7
Female	69.2	66.5	67.8
Household Size			
Three or less	68.7	66.2	67.4
Four or more	70.0	66.7	68.3

Access to Tertiary education

Table 5: Tertiary Education Gross Enrolment Rates and Gender Parity Index (Population 20-24 yrs) in Botswana, 1991- 2011

Year	Enrolment Rates		Gender Parity Index
	Male	Female	All
Age			
21	24.2	24.7	24.5
22	19.3	18.5	18.9
23	13.6	12.1	12.8
24	10.0	9.7	9.9
25	7.4	7.5	7.5
26	5.6	6.1	5.8
27	4.4	4.8	4.6
28	3.8	4.4	4.1
29	3.0	3.6	3.3
30	2.1	3.2	2.7
Place of Residence			
Cities & Towns	14.0	14.3	14.1
Urban Villages	10.1	9.8	10.0
Rural Are	3.8	3.5	3.7
Marital Status			
Married	3.6	5.5	4.8
Never Married	11.3	12.6	11.9
Living Together	4.4	5.5	5.1
Div / Wid/ Sep	4.6	3.8	4.1
Parental Survival			
Both Dead	7.1	6.8	7.0
One Dead	10.5	8.4	8.3
Both Alive	10.5	10.8	10.6
Sex of Household Head			
Male	11.9	11.8	11.9
Female	11.3	11.9	11.6
Size of Household			
Three or less	11.7	11.9	11.8
Four or more	11.4	11.8	11.6

Educational attainment

Table 6: Primary and Secondary Educational Attainment and Gender Parity Index (Population 25+yrs) in Botswana, 2011

Year	Primary			Secondary		
	Male	Female	GPI	Male	Female	GPI
Age						
30-34	14.2	11.5	123.5	52.7	61.3	86.0
35-39	21.5	21.7	99.1	43.7	52.2	83.7
40-44	32.8	40.4	81.2	31.3	35.5	88.2
45-49	41.9	50.9	82.3	24.3	24.7	98.4
50-54	48.3	57.0	84.7	21.1	19.2	109.9
55-59	53.0	66.4	79.8	19.0	13.5	140.7
60-64	61.4	75.8	81.0	15.3	9.7	157.7
65-69	64.4	80.1	80.4	13.5	7.5	180.0
70-74	71.2	83.2	85.6	11.8	6.5	181.5
75-79	76.3	86.3	88.4	9.2	5.4	170.4
80-84	78.0	85.8	90.9	9.7	5.4	179.6
85+	78.4	86.1	91.1	9.6	5.4	177.8
Place of Residence						
Cities & Towns	18.0	22.0	81.8	36.0	40.7	88.5
Urban Villages	30.8	39.9	77.2	38.1	38.1	100.0
Rural Are	47.8	56.3	84.9	31.7	29.8	106.4
Marital Status						
Married	30.1	37.0	81.4	26.4	30.3	87.1
Never Married	31.4	36.2	86.7	42.6	42.5	100.2
Living Together	33.9	37.5	90.4	42.1	46.8	90.0
Div / Wid/ Sep	46.3	63.4	73.0	22.87	17.8	128.1
Religion						
Christian	30.0	39.4	76.1	35.0	36.2	96.7
Non-Christian	36.7	45.9	80.0	32.0	30.8	103.9
No Religion	39.6	46.7	84.8	39.4	40.6	97.0

Table 7: Technical /vocational and University Educational Attainment and Gender Parity Index (Population 25+yrs) in Botswana, 2011

Year	TECHNICAL & VOCATIONAL		UNIVERSITY		
	Male	Female		Male	Female
Age					
30-34	18.4	14.8	124.3	14.4	12.1 119.0
35-39	19.8	14.1	140.4	14.6	11.5 127.0
40-44	18.3	13.2	138.6	16.8	12.0 140.0
45-49	15.3	11.7	130.8	17.2	10.7 160.7
50-54	13.0	11.2	116.1	15.6	9.5 164.2
55-59	11.3	9.3	121.5	14.5	6.8 213.2
60-64	8.3	6.4	129.7	12.1	4.2 288.1
65-69	7.5	4.9	153.1	10.8	2.5 432.0
70-74	5.7	3.8	150.0	6.2	1.4 442.9
75-79	5.2	3.0	173.3	4.9	0.9 544.4
80-84	4.2	2.7	155.6	3.7	0.9 411.1
85+	3.6	2.3	156.5	3.0	1.0 300.0
Place of Residence					
Cities & Towns	19.9	16.5	120.6	25.7	20.2 127.2
Urban Villages	16.7	12.3	135.8	13.4	8.3 161.4
Rural Are	12.7	7.5	169.3	5.8	3.4 170.6
Marital Status					
Married	19.0	15.3	124.2	23.4	15.8 148.1
Never Married	15.2	11.7	129.9	10.1	8.3 121.7
Living Together	14.7	9.1	161.5	8.1	5.2 155.8
Div / Wid/ Sep	14.1	8.8	160.2	14.7	6.4 229.7
Religion					
Christian	17.9	12.6	142.1	16.0	10.2 156.9
Non-Christian	12.6	7.3	172.6	17.3	13.9 124.5
No Religion	11.8	6.3	187.3	8.2	4.5 182.2

References

- Ainsworth, Beegle, Nyamete, 1996. Impact of Women's Schooling on Fertility and Contraceptive Use: A Study of Fourteen Sub-Saharan Countries. World Bank.
- Barro, R., Lee J-W. 2010 A New Data Set of Educational Attainment in the World, 1950-2010. NBER Working Paper 15902.
- Cameron, L., Dowling M. & Worswick C. 2001 Education and Labor Market Participation of Women in Asia: Evidence from Five Countries. *Economic Development and Cultural Change*, 459-477.
- International Institute for Applied Systems Analysis [IIASA], 2008. Data Sheet: Asian Demographic and Human Capital. IIASA.
- International Institute for Applied Systems Analysis [IIASA], 2011. "Education will be at the heart of 21st Century Demography." *Vienna Yearbook of Population Research*.
- Lloyd C., Kaufman C.E., & Hewlett. 2000 The Spread of Primary Schooling in sub-Saharan Africa: Implications for Fertility Change." *Development Review*
- Schultz T., 2004 Evidence of Returns to Schooling in Africa from Household Surveys: Monitoring and Restructuring the Market for Education. *Journal of African Economies*, 2004: 95-148.
- Schultz, T. 1993 Investments in the Schooling and Health of Women and Men: Quantities and Returns. *Journal of Human Resources*, 694-734.
- UNESCO. 2010. Gender Equality in Education. Education.
- Psacharopoulos, G, 1994 Returns to investment in education: a global update
World Development, 22 (9) (1994), pp. 1325–1343
- Siphambe H.K., 2000, Rates of return to education in Botswana, *Economics of Education Review*, Volume 19, Issue 3, June 2000, Pages 291–300
- Central Statistics Office, (2012) *Stats Brief - Vision 2016 & Millennium Development Goals Indicators Report*, Botswana Government

THE IMPACT OF SELECTED EDUCATIONAL POLICIES ON SCHOOL TRANSITION AND ATTAINMENT IN BOTSWANA

Prof. Ntonghanwah Forcheh
Department of Statistics, University of Botswana

By Dr. Ron Brown
Academic Affairs & Research,
Faculty of Business & Leisure, Botswana Accountancy College

Abstract: Education policies have shown to influence educational attainment in countries across the world. In this paper, we analyse the effects of changes in education policies – over the period from Botswana's independence in 1966 to the last Census in 2011 – on educational attainment in the country. Using the points at which selected education reform policies were introduced as reference, we evaluate the average educational attainment of the population and whether various deciles of the education distribution have been differentially affected by the different policy reforms. The analysis showed that transition from primary to junior secondary grew rapidly from 17 percent of those eligible at independence to a high of 92 percent by 2011. Transition from junior secondary to senior secondary grew less rapidly from 15 percent to 56 percent by 2011. However, transition from secondary to professional, technical and university has more or less stagnated since the 1970s. Forty five (45%) of junior secondary school children are not transiting to senior secondary. The low transition rate weights negatively on educational attainment at the secondary and the tertiary levels, respectively. Only 2.4% of the population completed university level Certificate or Diploma, and an even less number (1.9%) attained technical qualification. Thus, although a relatively high proportion (79.5%) of the population has attained primary education, the proportion that supplies the required skilled workforce is quite low. The study argues that until this proportion increases substantially, efforts to diversify the economy to reduce unemployment and increase productivity will be futile.

Policy milestones in Botswana

At the time of independence from Britain in 1966, the structure of the education system in Botswana was referred to as "7+3+2": 7 years of primary, 3 years of junior secondary and 2 years of senior secondary school. The first National Commission on Education (NCE) which convened in 1977 recommended altering the structure of the education system from its pre-independence 7+3+2 format to 6+3+3. Following vigorous debate about the 6+3+3 structure, a 7+2+3 structure was implemented for the cohort entering school in 1986.

A second NCE that met in 1992/1993 brought up many problems associated with the temporary 7+2+3 structure. In particular, the Commission's report mentions a widespread perception that those 2 years of junior secondary education was insufficient to prepare students for work or further training and also did not offer sufficient time for them to adjust from primary to secondary school. Completing the change in structure to 6+3+3 was no longer viewed as desirable. Instead, a switch back to the original 7+3+2 structure was recommended. Implementation of the change in structure was for the cohort entering school in 1996 – exactly a decade after the cohort experiencing the initial reform.

Other significant changes in education policy occurred in Botswana over the same period 1966 to 1996. The first NPE, which developed out of the work of the NCE completed in 1977, was implemented 1978. Prior to this policy, education provision in the country was guided by what Borkum (2009) called 'pre-independence' policies. The second NCE resulted in the revision of the first NPE in 1993/94. Botswana's Revised National Policy on Education (RNPE) of 1994 represents the country's response to globalisation – not just in labour market terms but also in terms of international comparisons in education, and international conventions (e.g., MDG, EFA). The RNPE of 1994 seeks to, inter alia, increase access and equity in education and training through both formal and non-formal means; effectively prepare students for life, citizenship and the world of work; develop a responsive and relevant training geared to the needs of the economy; improve and maintain the quality of the education system; and improve and enhance the status of the teaching profession. The RNPE of 1994 purports to, produce a self programmable learner, for an economy undergoing rapid transformation. The thrust of the RNPE is indeed consistent with the United Nations declarations on not just education access, citizenship and participation but also on social justice and education as a right of all children in Botswana. Parallel to the implementation of the RNPE, Botswana developed, in 1997, its long Term Vision, 30 years after independence. The Vision sets out the kind of society Botswana would like to be by the year 2016, and the role education and training should play. The national vision was a further response to globalisation and the rapid changes

in global social attitudes and values, and the need to adapt while retaining the positive aspects of national cultural values that distinguish the country from other nations. The Vision calls for transformation of Botswana into a nation which is 'educated and informed', 'prosperous, productive, and innovative', 'compassionate, just and caring', 'safe and secure', 'open, democratic and accountable', 'moral and tolerant', and 'united and proud'. In other words, Vision is further expression of commitment to the kind of education sets out in the RNPE.

Alongside the policy reforms, and the quest to sustain international comparisons, Botswana became signatory to several international conventions. The two most notable conventions, of relevance to education and policy develop in Botswana, are the Millennium Development Goals (MDGs) and the Education For All (EFA) declarations. Botswana became signatory to the Education for All declarations in 1990, as part of Article 26 of the Universal Declaration of Human Rights. The country signed the MDGs Declaration in 2000, ten years after the EFA declarations.

For Botswana, signatory to the EFA meant expansion of the view of basic education to include early childhood development education and the adoption of a rights-based approach to the provision of education in the country. The EFA calls for expansion of early childhood care and developmental; universal access to, and completion of, primary education or whatever level of education is considered basic by the year 2000; improvement in learning achievement such that an agreed percentage of an appropriate age cohort attains or surpasses a defined level of necessary learning achievement; reduction of adult illiteracy rate with sufficient emphasis on female literacy to significantly reduce the current disparity between male and female illiteracy rates; expansion of provision for basic education and training in other essential skills required by youth and adults; and increased acquisition by individuals and families of the knowledge, skills and values required for better living and sound sustainable development made available through education channels. The EFA contributed to the revision of the NPE in 1994 for greater alignment.

Since the adoption of the United Nations Millennium Declaration Goals in 2000, Botswana has been working to achieve its Millennium Development Goals (MDGs) by the set deadline of 2015. The goals overlap with goals set out in the EFA, but broadly include the quest to achieve universal primary education; promote gender equality and empower women; combat HIV/AIDS, malaria and other diseases; ensure environmental sustainability; develop a global partnership for development; improve maternal health; reduce child mortality; and eradicate extreme poverty and hunger.

Educational attainment

Educational attainment is a commonly used proxy for the stock of human capital – that is, the skills available in the population and the labour force (OECD, 2012). Some scholars put it differently, relating the concept to the highest level of education an individual has successfully completed. Another term typically used in the literature is (highest) 'educational qualification'. Educational attainment distinguishes individuals on a vertical scale, i.e. educational attainment categories can largely (although often not entirely) be ordered hierarchically.

Jenkins and Sabates point out that educational attainment refers to an important direct outcome of education (Jenkins & Sabates, 2007), as opposed to the input (e.g. cognitive ability; effort), process (e.g. educational pathway taken, full time or part time study) or indirect outcomes of education (e.g. income). There are other direct outcomes of education, most notably skills and competences and levels of performance in a specific exam or qualification.

Studies of educational attainment usually employ at least one measure of educational attainment as defined above. But measures of educational achievement or skills and competences require are quite complex to collect data on. Educational qualifications often serve as a proxy for skills and competences. Educational qualifications constitute important social signals in the labour and marriage markets and are highly predictive of related outcomes: e.g., indirect effects (e.g. income); various other outcomes at later stages in life (e.g. health); individuals' attitudes; individual's knowledge and horizon of experiences; direct exposure to norms and values.

Educational attainment is best denoted by the highest level of education achieved. The highest level of education successfully completed is either indicated by the highest educational qualification (vocational or academic) achieved, or by the number of years of education or schooling completed (in which case each year is regarded as a kind of level). Educational qualifications are official documents that certify that

an individual has reached a certain level of competence in one field of education. 'Years of education' do not have the same meaning: they merely assume that the longer the individual stayed in education, the higher the level of attainment. Although correlated with qualifications achieved, this measure neither takes the element of validation of skills and competencies through examination, nor the official character of a qualification as a social signal into account. Analysts often avoid the highest educational qualification as a measure of attainment because it is more cumbersome to deal with, i.e. more difficult to code into an analytical variable

Influences of education policies on educational attainment

Education policies in various countries have been shown to influence educational attainment. Several studies have focused on policies that improve enrolment, which may eventually translate into increased attainment. For instance, Borkum (2009) and other scholars (see Barrera-Osorio, Linden and Urquiola, 2007) found that policies related to fee reductions and conditional cash transfers (see Schultz, 2004) affects educational attainment in Europe and Asia.

Likewise, policy related to an expansion of access to education by simply building more schools contributes to gains in educational attainment. Duflo (2001) investigates a large primary school construction project in Indonesia, and finds substantial increases in educational attainment and wages for cohorts affected by the expansion. The issue of access is highly relevant here since it is one of the main reasons that many students in Botswana do not proceed to upper secondary education. Policies which influence the structure of education system, as evidence in the first National Policy on Education which called for extending the duration of lower secondary education by a year during the 1980s can therefore be viewed as an increase in access to the additional year, as is policies specifically linked to building new schools.

Perhaps the most common policy to boost educational attainment that has been considered to date in the literature is that of compulsory schooling laws. Angrist and Krueger (1991) were the first to use features of compulsory schooling laws in the U.S. to investigate returns to education, by noting that these laws would force students born later in the year to stay in school longer. Subsequent studies have taken advantage of mandated changes in compulsory schooling laws across a range of developed countries. Most of these studies agree that compulsory schooling laws are effective in increasing educational attainment, although there is some variability in the extent to which this affects later outcomes for those affected by these laws. Changes in compulsory schooling laws reflect aspect of the focus of this paper in that they point to a national policy that can induce changes in educational attainment.

Focus of the paper

This study contributes to the broader literature on government policies that can influence educational attainment and hence future labour market outcomes such as participation and income levels, as well as future social outcomes such as civic responsibility and quality of life. Measuring educational attainment for different generations, for instance, not only provide a measure of the output of the education system, but also provide context for current educational policies, thereby helping to shape policies on, for example, lifelong learning.

Specifically, the critical questions of the paper are:

- What are the patterns in school transition across the policy period?
- How large is the gap in educational attainment between the populations that entered different school grades during the different policy milestone phases?
- What socio-demographic factors - such as gender, mother tongue, district located, and citizenship - have significant influences within and between each policy phase?
- Does the gap in education attainment (if any) during the different phases depend on gender or any other demographic factors?
- What are the policy implications of the above evidence for the labour market skills development;

Methodology

Data on the population and on educational attainment was taken from the 2011 population census of Botswana. The relevant cohort was determined based on their ages during the specific policy period as shown in Table 1. Four policy phases were analysed (see Table 1). We assume that children start primary school between 6 and 7 years of age. The year of birth of the population in 2011 Census who qualified to start each level of education during the indicated policy period is shown in Table 2.

Attainment indicators were based on the percentage of the relevant cohort that had completed a specified level of education as their highest qualification. Transition from one level of education to another was based on the percentage of the relevant cohort that reached the next level, irrespective of their highest level of education attained. Both educational attainment and school transition were treated as dependent variables in this paper. Transition across the different phases of the education system (i.e., from the pre-primary to the tertiary level) provides insights into the point where different cohort of students have exited the education system. The point where individuals exit the education system reflects the highest level of education they successfully completed (or the highest educational qualification achieved, or the number of years of education or schooling completed).

Table 1: Age of population in 2011 Census who qualified to start each level of education during the indicated policy period

Qualified to start during period	Level of education			
	Primary	Junior Certificate	Senior Secondary	Tertiary (Post-secondary)
Independence (1966-78)	51	58	61	63
NPE* (1980-1994)	38	45	47	50
RNPE -(1995 – 20000)	22	29	32	34
MDG/V2016 –(2001-2011)	16	23	26	28

**The NPE cohort used the 7+2+3 school structure hence would have started senior secondary a year earlier than other cohorts.*

Table 2: Year of birth of population in 2011 Census who qualified to start each level of education during the indicated policy period

Qualified to start during period	Level of education			
	Primary	Junior Certificate	Senior Secondary	Tertiary (Post-secondary)
Independence (1966-78)	1960	1953	1951	1948
NPE* (1980-1994)	1973	1966	1964	1961
RNPE -(1995 – 20000)	1989	1982	1980	1977
MDG/V2016 –(2001-2011)	1995	1988	1986	1983

**The NPE cohort used the 7+2+3 school structure hence would have started senior secondary a year earlier than other cohorts.*

In Table 2, persons born before 1960 (aged 51+ in 2011) are assumed to have started primary school in the "pre-independence" period and after completing 7 years, qualified to start JC before 1966 (aged 58+ in 2011). Children born between 1960 and 1973 started primary under the independence" policy period. Children born between 1974 and 1989 started primary under the NPE policy, children born between 1990 and 1995 started primary under the RNPE policy and children born between 1996 and 2005 started primary under the MDG/V2016 policy. Children born after 1995 were too young to legally start primary during 2011 census.

With respect to junior certificate, children born in 1953 or earlier were eligible to start JC during "pre-independence" period provided they had not "repeated" any class. Children born between 1961 and 1973 started primary under the independence" policy period while children born between 1953 and 1966 started JC under independence" policy, provided they had not "repeated" etc.

The analysis shall be disaggregated by district and strata and comparison shall be made with respect to gender of person and of head of household, citizenship, disability. Furthermore the effect of ownership of ICT on educational attainment shall be investigated.

The age coding shall be relative to the particular policy of interest hence the traditional coding of age is not useful in the paper. The raw data on the following variables shall therefore be required.

Results

Patterns in school transition

Transition trends were analysed for students who moved across the different phases of the formal education system – i.e., from the primary to the tertiary level. Three significant transition points exist in the formal education system in the country: i.e., (a) transition from primary to JC; (b) transition from JC to senior secondary; and (c) transition from senior secondary to tertiary. Pre-primary phase is an important stage in all education system but in terms of this analysis, it has been excluded because for most of the period between 1966 and 2011, it

was not included as part of the formal education system.

Trends in student transition from one phase of the education system to the next are shown in Table 1 and Figure 3-5. Table 3 shows the percent of the relevant cohort that transited from one level of the educational system to the next, during each of the four policy phases analysed, namely: Independence, National Policy on Education era, the Revised National Policy on Education Era, and the period subsequent to the implementation of Vision 2016. Pre-independence was used as a reference point.

As can be seen from the table, overall there has been an increase in student transition rate across each of the five policy phases, in each of the stages of the education system.

Table 3: Proportion of student transiting across the phases of the education system by policy period

Characteristics		Transition to Junior Secondary		Transition to Senior Secondary		Tertiary			
						Transition to professional or technical		Transition to University	
		Not Transited	Transited	Not Transited	Transited	Not Transited	Transited	Not Transited	Transited
		Row N %	Row N %	Row N %	Row N %	Row N %	Row N %	Row N %	Row N %
Policy period	Pre-Independence	82.9	17.1	84.6	15.4	95.1	4.9	95.6	4.4
	Independence	62.8	37.2	71.8	28.2	89.6	10.4	89.1	10.9
	NPE	33.7	66.3	50.1	49.9	84.5	15.5	85.7	14.3
	RNPE	12.2	87.8	47.5	52.5	83.5	16.5	86.0	14.0
	Vision 2016	8.4	91.6	44.3	55.7	86.4	13.6	86.0	14.0

Transition rate from Primary School to Junior Secondary School during the Pre-Independence policy era was 17.1% but this rate grew to 37.2% during the Independence policy phase, and continued its upward trend to 91.6% in the current Vision 2016 phase. Likewise, transition rate from Junior Secondary School to Senior Secondary during the Pre-Independence policy era was 15.4%, which climbed steadily across the policy phases to 55.7% in the current Vision 2016 phase.

Transition rate from Secondary School to the Tertiary level was analysed taking into consideration the professional / vocational college education pathway and the university pathway. Transition rate from secondary school to each of these pathways grew or remained constant across the policy phases, with the exception of the Vision 2016 phase where transition to the professional/ vocational college education pathway declined from 16.5% in the previous policy RNPE phase to 13.6%. Interestingly, compared to transition across the policy phases from the primary to the secondary phases, transition from the secondary to the tertiary level across all the policy phases was relatively low.

While there has been increase in student transition rate within each level of the education system across the policy phases, the transition rate between the different levels of the education system within each policy phases has declined. During the Pre-independence policy period (i.e., before 1966), for instance, 17.1% of students transited from primary to junior secondary school. However, within the same policy period, only 15.4% reached senior secondary level, and even less (about 9.3%) transited to the tertiary level. The situation has not changed much today. For the policy period of the RNPE (three decades after independence), transition rate from primary to junior secondary was 87.8%, which declined to 52.5% from junior to senior secondary level, and still further to 30.5% to the tertiary (combining professional / vocational college and university education).

Student transition rate across the education system in each of the policy phases shows there is serious problem of access in the education system. Table 3 shows that whereas students progressed through the education system, there is heavy attrition at each phase.

Regardless of the policy phase, school transition rate declined sharply between the senior secondary and tertiary stage of the education system. For instance, of the 87.8% of students who transited to JC during the RNPE policy phase, only 52.5% transited further to senior secondary school, and still only 30.5% transited to the tertiary level (professional / vocational and university combined). The declining trend in transition as students moved through the education system is evident in each policy phase.

School transition and student demographic factors

School transition rate was compared with selected demographic variables such as gender, geographic location; citizenship and language group (see Figure 1). These demographic variables may help in the explanation of any variation in school transition rate. Figure 2 to 4 and Table 2 show the result of the analysis.

Figure 1: Student transition rate by gender, citizenship and policy periods

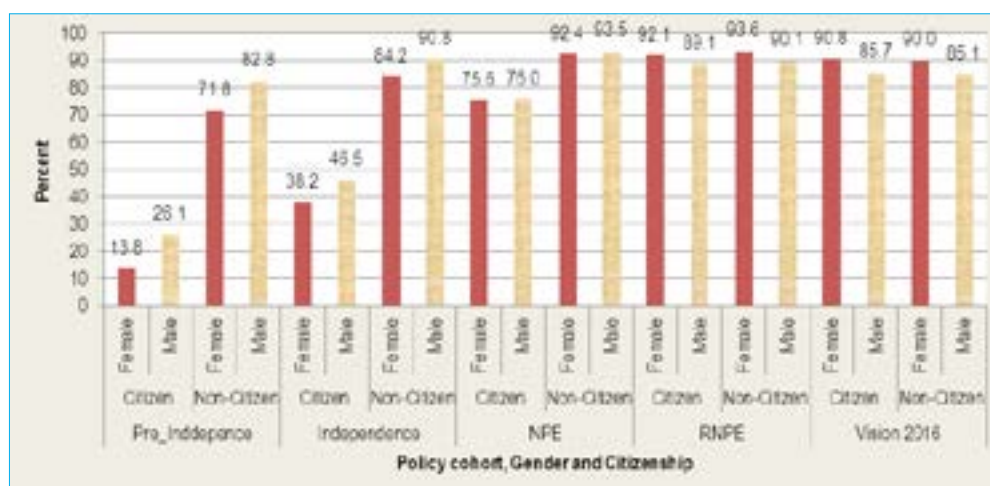


Figure 1 indicates that throughout the pre-independence and the independence policy period in Botswana, school transition rate was higher for male than for female, regardless of citizenship. However, gender parity in transition rate began to emerge during the National Policy on Education (NPE) period, with male and female transition rate, regardless of citizenship, ranged between 75.6% and 93.5% (i.e., citizen male=76.0%; citizen female =75.6%; non-citizen male =93.5%; non-citizen female 92.4%).

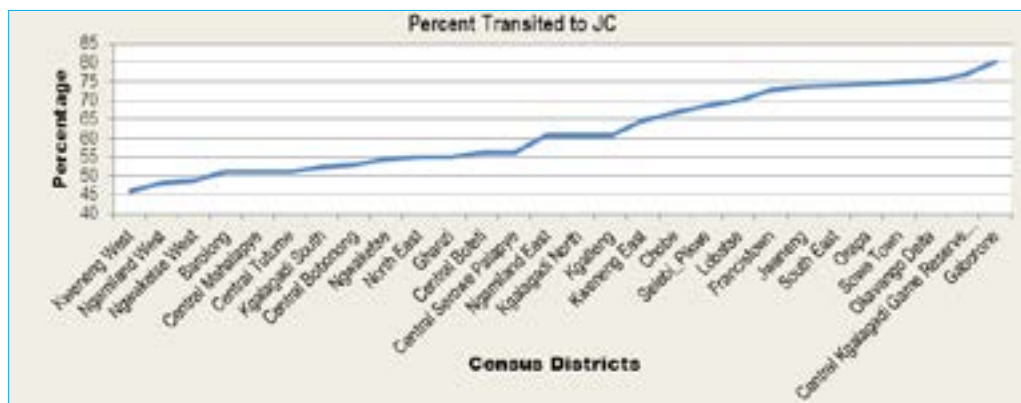
As Figure 1 shows, gender parity in transition rate continued into the RNPE period, but tipped in favour of female, regardless of citizenship, in the period following the introduction of the Vision 2016 strategy. Thus, male and female school transition rate in the current policy period to 2011 showed an inversed trend; female transition rate increased whereas male transition rate decreased, which gives a reverse of the situation during the pre-independence era.

Another significant observation in the data is that, in general, compared to male and female Botswana citizens, male and female non-citizens had consistently higher school transition rate across the policy period (pre-independence to the Vision 2016 era). During the pre-independence period, for instance, Botswana male school transition rate was 26.1%, compared to 13.8% for Botswana female. Over the same policy period, school transition rate for non-citizen female was 71.8%, compared to 82.8% for non-citizen male. Throughout the period 1966 to 1996, Botswana trailed non-citizens in school transition rate. Figure 1 indicates that between 1966 and 2011 (i.e., between independence and Vision 2016 policy period), non-citizen male and female maintained a school transition rate between 84.2% and 93.6%.

Parity in school transition rate of citizen and non-citizen emerged after the introduction of the RNPE and the subsequent Vision 2016 strategy period. In other words, it took Botswana 30 years after independence to gain parity in school transition rate with non-citizens in the country. Figure 1 shows, during the RNPE period, school transition rate for Botswana female and non-citizen female was 92.1% and 93.6%, respectively; whereas, for Botswana male and non-citizen male the figure was 89.1% and 90.1% respectively. This trend in parity in school transition rate among gender of the different citizenship continued into the subsequent policy period.

Although school transition occurs, and the pattern by gender is evident, a sense of the trend by Census Districts is also necessary for further policy planning. Thus, another aspect of the school transition rate analysed was transition by Census Districts in Botswana. Transition from primary to JC School is the first of the three major transition points in the formal education system. Figure 2 shows the percentage of students who transitioned at this first stage in each of the 28 different Census District.

Figure 2: Percent Transited From Primary to JC by Census District



Although student transition from primary to junior secondary school occurs, and the rate in 2011 stood at 91.6%, Figure 2 shows that the rate of student transition to JC is uneven across the districts. Some geographic locations were more affected than others by JC school transition problems.

The highest transition rate from primary to junior secondary school occurred in Gaborone (80.1%), whereas the lowest occurred in Kweneng West (45.9%). These two geographic locations represent the extremes of poverty and wealth in Botswana. Gaborone was the only census district with 80.0% primary to JC school transition rate. However, Gaborone was followed closely by eight other districts whose transition rate ranged in the 70s - the Central Kgalagadi Game Reserve (CKGR) (76.5%), Okavango Delta (75.3%), Sowa Town (74.9%), Orapa (74.4%), South East (74.0%), Jwaneng (73.6%), Francistown (72.9%), and Lobatse (70.2%). These figures show that primary to JC school transition rate in these communities were relatively high; these figures also show a few surprises such as the case of the CKGR – an area dominated by Basarwa and other minority groups – with the second highest transition rate to JC. However, these figures also confirm that 20% or more of the eligible children in the population are not making it to the JC school level from the primary school stage.

Majority of the children in Kweneng West (54.1%); Ngamiland West (52.0%); and Ngwaketse West (51.2%) who are eligible are not making the transition from the primary school phase to JC. Furthermore, there is also district level disparity. For instance, in Kweneng and Ngamiland, majority of the eligible children in the West – i.e., Kweneng West (54.1%) and Ngamiland West (52.0%) did not transit to junior secondary school. But majority of their counterpart in the East – i.e., Kweneng East (64.7%) and Ngamiland East (60.7%) transited. The same is true of other districts such as Ngwaketse. In fact, Figure 2 confirms that 16 of the 28 Census Districts is characterised by a situation where 40% or more of the eligible children did not transit from primary to JC School. These districts include Ngamiland East (60.0%), Kgalagadi North (60.0%), Kgatleng (60.0%), Barolong (51.1%), Central Mahalapye (51.1%), Central Tutume (51.2%), Kgalagadi South (52.2%), Central Bobonong (53.1%), Ngwaketse (54.6%), North East (54.9%), Ghanzi (55.0%), Central Boteti (56.2%), and Central Serowe Palapye (56.3%).

Policy can influence patterns of transition between phases of the education system. Thus, trends in school transition was analysed to determine whether there has been any meaningful change in the transition rate at different policy phases from the pre-independence era (before 1966) to the present Vision 2016 period. Figure 3 shows JC school transition rate by Census Districts across the five different policy phases.

Figure 3: Percent transited to JC by Policy periods and census districts

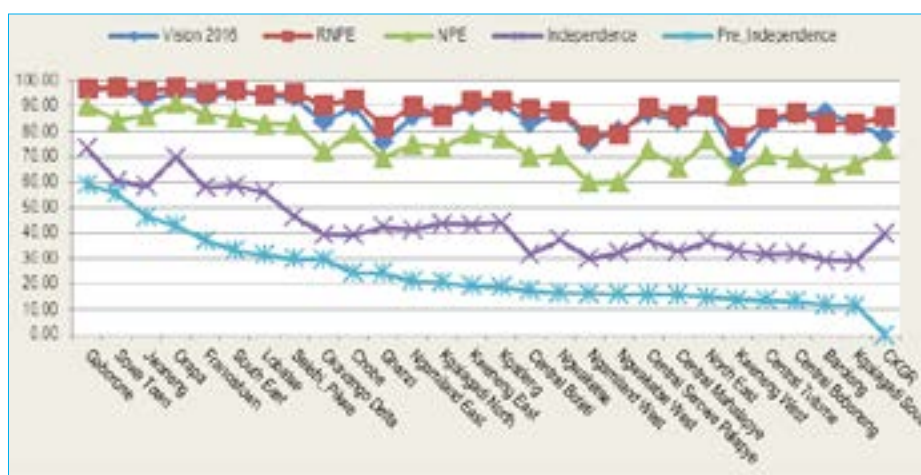


Figure 3 shows that school transition rate to JC improved, albeit at different pace, in the different districts across each policy phase. During the pre-independence policy phase, for instance, transition from primary to JC School was highest in Gaborone (59.0%), followed by other high commerce areas such as Sowa Town (55.6%), Jwaneng (46.6%), and Orapa (42.9%) and was lowest in Kgalagadi South (11.6%), followed by other deep rural areas then such as Barolong (11.9%), Central Bobonong (13.1%), Central Tutume (13.6%) and Kweneng West (13.9%). At the time the CKGR was not established as a Census District.

However, subsequent to the pre-independence period, each successive policy period shows there has been positive growth in JC school transition rate in the different districts. The gap that existed during the pre-independence era between the primary to JC School transition rate, has significantly narrowed in each of the districts, compared to the rate in those same districts in the current RNPE and the Vision 2016 policy period. In addition to policy, the language group of those who transited from primary school to JC was also analysed and shown in Table 4.

Table 4 shows that throughout the policy period from Pre-independence to the Vision 2016 Era, JC school transition rate was highest between (87.2% and 97.7% rate) for individuals whose main language spoken at home was English, other NEC languages (between 89.6% and 97.0% rate), and Asian between (93.7% and 95.4% rate) Languages. Homes in which foreign languages such as Zezuru / Shona, Afrikaans, and Other African and European languages were the main language spoken also had a high JC school transition rate

Table 4: Percent transiting to JC for each policy cohort by language

Main language spoken at home	Transited to JC Pre-Independence	Transited to JC Independence	Transited to JC at NPE	Transited to JC at RNPE	Transited to JC at Vision 2016
	%	%	%	%	%
English	87.2	93.6	96.4	97.7	96.5
Other (NEC)	89.6	94.2	95.4	97.0	83.7
Other Asian languages	93.7	94.7	96.0	95.4	94.0
Zezuru / Shona	52.4	80.5	94.4	94.9	86.5
Other African languages	65.5	85.7	90.7	94.7	89.0
Sesubiya	14.5	28.7	75.6	93.2	88.4
Setswana	18.2	42.4	76.8	91.4	89.4
Sekalanga	14	34.8	75.0	91.3	89.2
Seherero	16.5	38.7	70.6	90.6	85.8
Afrikaans	40.1	57.4	79.1	90.6	87.5
Other European languages	51.9	82.4	86.7	90.3	87.9
Shekgalagadi	13.0	29.8	65.1	84.6	82.4
Ndebele	23.0	62.9	83.3	82.1	78.9
Seyeyi	13.8	26.6	58.6	80.2	82.4
Sembukushu	15.2	17.6	45.4	73.3	75.7
Sesarwa	13.0	12.1	36.4	54.4	51.3

Prior to the introduction of the RNPE, homes in which Sesarwa or Sembukushu were the main language spoken had the lowest JC School transition rate (Sesarwa 12.1% to 36.4% rate; Sembukushu 15.2% to 45.4%). It was only during the RNPE policy period that parity in JC school transition among the different language groups, emerged. The lifting of PSLE exam requirement as a condition to transit from primary school to JC may account for the parity in school transition among the groups after the RPNE policy period.

Educational attainment

The highest level of education successfully completed was the factor used to determined educational attainment. This was judged by the highest educational qualification achieved, or by the number of years of education or schooling completed.

Just over 75% of the population responded to the question of the level of education achieved. Table 5 shows that Pre-Primary schooling is developing as a key phase of the education system with less than two percent (1.6%) of the population indicating that they achieved that level of education.

Table 5: Highest level of education completed by population aged 3years and over

	Description of variables	Frequency	Percent	Valid Percent	Cumulative
1	Never attended	351253	17.3	18.4	100
2	Pre-primary	32329	1.6	1.7	81.6
3	Non-Formal	8358	0.4	0.4	79.9
4	Primary	572617	28.3	30.0	79.5
5	Secondary	671920	33.2	35.2	49.5
6	University Certificate or Diploma	47927	2.4	2.5	14.4
7	Technical	38745	1.9	2.0	11.9
8	Professional	104845	5.2	5.5	9.9
9	Degree or higher	83484	4.1	4.4	4.4
10	Total	1911478	94.4	100.0	
11	Under Age	101670	5.0		
12	Unknown	11756	0.6		
Total		2024904	100.0		

Overall slightly lower than one third of the population (28.3%) completed primary school education, and about one third (33.2%) completed secondary school education – which includes the JC level. Above the secondary phase, whereas 5.2% of the population stated they have successfully completed a professional qualification, only 4.1% acknowledged that they have a degree or higher as their highest level of education. A slightly lower figure (2.4%) completed university level Certificate or Diploma, and an even less number (1.9%) completed technical qualification. The results indicate that only 14.4% of the population have a post-secondary, technical or professional qualification, while 18.4% of those eligible have never attended school. Thus, although a relatively high 79.5% of the population have attained primary education, the proportion that supplies the required skilled workforce is quite low. Until this proportion increases substantially, efforts to diversify the economy reduce unemployment and increase productivity will be futile.

The transition data above points clearly to transition access to tertiary education as problem. Among those who get to the tertiary level, the educational attainment data in Table 5 points to a failure to complete tertiary as an additional problem in the education system.

Educational attainment by citizenship and gender

Educational attainment by citizenship and by gender was analysed, and is shown in Table 6.

Table 6: Educational attainment by citizenship and gender

Citizenship and gender	Highest level completed								
	Pre-primary	Primary	Secondary	Non-Formal	Technical	Professional	University Certificate or Diploma	Degree or higher	
Non-Citizen	Male	2.4	14.9	43.2	0.3	1.2	12.3	5.6	16.7
	Female	3	17.1	50.8	0.3	0.5	11.4	4.3	11.8
	Total	2.7	15.8	46.5	0.3	0.9	11.9	5.1	14.6
Citizen	Male	2.1	38.2	41.4	0.4	3.8	5.8	2.9	5
	Female	1.9	37.6	43.7	0.7	1.4	6.9	2.9	4.5
	Total	2	37.9	42.6	0.5	2.6	6.3	2.9	4.7
Total	Male	2.1	36.5	41.5	0.4	3.6	6.2	3.1	5.9
	Female	2	36.5	44.1	0.6	1.4	7.1	3	4.8
	Total	2.1	36.5	42.8	0.5	2.5	6.7	3.1	5.3

Table 6 shows that whereas about the same proportion of citizen (2.0%) as non-citizen (2.7%) attained pre-primary school level education, a higher proportion of citizens (37.9%) compared to non-citizens (15.8%) successfully completed primary level education. However, at the secondary education level, a higher proportion of non-citizen (46.5%), compared to citizen (42.6%), successfully completed. Similarly, a much higher number of non-citizens, compared to citizens, have completed and attained professional qualification, university certificate/diploma and degree or higher qualification.

There is gender parity in the number of citizens who have successfully completed the highest qualification in all but one of the different stages of education. About the same number of male as female attained pre-primary education, primary education, secondary education, university certificate /diploma, and degree or higher qualification. However, higher proportion of male than female citizens attained technical level education. This dynamic may be explained in different ways.

In contrast, gender disparity prevailed in educational attainment in certain levels of education among non-citizens. For instance, whereas more female, compared to male, successfully completed primary (female 17.1%; male 14.9%) and secondary (female 50.8%; male 43.2%) education, more male, compared to female, successfully completed technical education, professional qualification, university certificate /diploma, and university degree or higher qualification (see Table 4). This dynamic may be explained in different ways.

Language and educational attainment

The distribution of the language groups in the population was analysed, and is shown in Table 7.

Table 7: Distribution of Language groups in population

Mother tongue Language	Frequency	Percent
Setswana	1484474	73.3
Sekalanga	141616	7.0
Shekgalagadi	65378	3.2
English	52925	2.6
Zezuru/Shona	38491	1.9
Sesarwa	31783	1.6
Sembukushu	31229	1.5
Ndebele	18959	0.9
Seherero	18710	0.9
Afrikaans	8082	0.4
Sesubiya	6515	0.3
Other European languages	6972	0.3
Seyeyi	4181	0.2
Other Asian languages	3857	0.2
Other (NEC)	4883	0.2
Other African languages	1280	0.1
Total	1 919 335	94.8

Table 7 shows that just over 94% of the population responded to the question of the mother tongue language spoken. Setswana remained the largest (73.3%) indigenous language spoken among the population in Botswana, followed by Sekalanga (7.0%) and Shekgalagadi (3.2%). The educational attainment by gender and language spoken at home is shown in Table 7.

The main languages spoken at home have been regrouped as shown in Table 8, with the three population indigenous languages and other languages being the categories. Citizens and non-citizens used a language as main language in each of these groupings. More Botswana citizens (36.9%), compared to non-citizens (23.0%), who speak Setswana as their main language at home have successfully completed primary level education.

However, more non-citizens, compared to Botswana citizens, who speak Setswana as their main language at home, have successfully completed secondary level education (51.6%), professional level qualification (10.2%), as well as degree or higher qualification (6.8%). There is parity among speakers of Setswana in educational attainment in the other areas.

Table 8: Education attainment by sex and main language spoken at home

Main language spoken at home		Highest level completed							
		Pre-primary %	Primary %	Secondary %	Non-Formal %	Technical %	Professional %	University Certificate or Diploma %	Degree or higher %
Setswana	Non-Citizen	1.6	23.0	51.6	0.4	1.5	10.2	4.0	6.8
	Citizen	2.0	36.9	43.0	0.5	2.6	6.7	3.1	4.8
English	Non-Citizen	4.1	13.2	32	0.2	0.6	14.7	7.7	26.3
	Citizen	7.2	20.9	31.1	0.3	1.4	10.2	6.8	21.3
Sekalanga	Non-Citizen	0.7	34.6	57.2	0.2	0.9	3.7	1.0	1.4
	Citizen	1.7	40.6	42.2	0.5	3.3	5.5	2.2	3.8
Other Botswana languages	Non-Citizen	6.1	48.4	35.5	0.5	1.2	4.4	1.0	2.7
	Citizen	1.7	49.9	40.7	0.8	1.9	2.7	1.0	1.1
Other languages	Non-Citizen	2.3	13.8	52.1	0.3	0.9	11.5	4.3	11.4
	Citizen	1.8	42.9	42.5	0.4	1.7	4.4	1.9	3.0

English is the official language in the country, and is the medium of instruction at the JC and higher level of the education system. However, educational attainment is not equal for citizens and non-citizens who used English as their main language at home. For example, Table 6 shows that more Botswana citizens, compared to non-citizens, who speak English as their main language at home, attained pre-primary and primary level education. In contrast, more non-citizens with the same language as home language successfully completed professional and degree or higher level qualification.

Conclusion and Recommendations

The analysis has highlighted the differentials in school educational transition from primary to University during different developmental phases of Botswana. It shows within the current population, education transition from The analysis also shows that transition from primary to junior secondary grew rapidly from 17 percent of those eligible at independence to a high of 92 percent. Transition from junior secondary to senior secondary grew less rapidly from 15 percent to 56 percent. But transition from secondary to professional, technical and university has more or less stagnated since the 1970s.

Given that the about 45 percent of junior secondary school children are not transiting to senior secondary, and further that the JC certificate is no longer adequate as a basis from training skilled labour, it is recommended that the government consider phasing out of JC. Indeed, the JC could be converted to 5 year secondary schools and the current senior secondary schools be converted into A-level colleges. This single move could significantly revolutionise education transition in Botswana and eliminate the bottle necks revealed in this study.

References

1. Angrist, J & Krueger, A. (1991). Does compulsory school attendance affect schooling and earnings", *Quarterly Journal of Economics*, 106, 979-1014.
2. Barrera-Osorio, F., Linden, L., & Urquiola, M. (2007). The Effects of User Fee Reductions on Enrolment: Evidence from a quasi-experiment. http://siteresources.worldbank.org/EDUCATION/Resources/278200-1121703274255/1439264-1171379341729/SessionIII_FelipeBarrera3.pdf
3. Borkum, E. (2009). Grade structure, educational attainment and labour market outcomes: Evidence from Botswana. Working paper. Columbia University.
4. Duflo, E. (2001). Schooling And Labour Market Consequences Of School Construction In Indonesia: Evidence From An Unusual Policy Experiment. *American Economic Review*, 91(4), 795-813.
5. Jenkins, A. & Sabates, R. (2007). The classification of qualifications in social surveys. Technical Report 2007/2, Centre for Longitudinal Studies, London.
6. http://eprints.ioe.ac.uk/5699/1/Jenkins2007Classification_2007_2.pdf
7. OECD. (2012). Educational attainment in the OECD, 1960-2010. Working Paper by A. de la Fuente and R. Doménech (2012). WP 12/20 BBVA Research. *Economic Watch*. Online: http://www.bbva-research.com/KETD/fbin/mult/130115_Global_Economic_Watch_tcm348-364404.pdf
8. RNPE. (1994). *The Revised National Policy on Education*. Government of Botswana. Gaborone: Government Printers.
9. Schultz T. P. (2004). School subsidies for the poor: evaluating the Mexican Progresa poverty pro-gram. *Journal of Development Economics*, 74, 1, 199-250.

Appendix A

	Year of birth to Start			
	Prim	Jc	Snr Sec	tertiary
entry	6	13	15	18
1966	1960	1953	1951	1948
1979	1973	1966	1964	1961
1995	1989	1982	1980	1977
2001	1995	1988	1986	1983
	cohorts			
1966	1960-1973	1953-1966		
1979	1974-1982			
1995	1983-1988			
2001	196-2011			

Attainment of different cohorts by level of education

Reach age to start JC during the following milestone

age in 2011 if started school at milestone

	Prim	Jc	Snr Sec	tertiary
independence	51	58	60	63
NPE	38	45	47	50
RNPE	22	29	31	34
MDG/V2016	16	23	25	28

* Visual Binning.

*P05_AGE.

RECODE P05_AGE (MISSING=COPY) (LO THRU 13=1) (LO THRU 23=2) (LO THRU 29=3) (LO THRU 45=4) (LO THRU 58=5) (LO THRU HI=6) (ELSE=99) INTO JC_Age.

RECODE P05_AGE (MISSING=COPY) (LO THRU 15=1) (LO THRU 26=2) (LO THRU 34=3) (LO THRU 47=4) (LO THRU 61=5) (LO THRU HI=6) (ELSE=99) INTO SS_Age.

RECODE P05_AGE (MISSING=COPY) (LO THRU 18=1) (LO THRU 28=2) (LO THRU 34=3) (LO THRU 50=4) (LO THRU 63=5) (LO THRU HI=6) (ELSE=99) INTO Tertiary_Age.

Execute. variable labels

JC_Age 'Reach required junior secondary age during policy period'

/Tertiary_Age 'Reach required tertiary education age during policy period'

/SS_Age 'Reach required senior secondary age during policy period'.

MINORITY LANGUAGES IN BOTSWANA: GROWTH OR DECLINE

By Jabulani Dick
Statistics Botswana

Abstract: This paper uses the 2001 and the 2011 Population and Housing Census results of Botswana to determine if the existence of minority languages in Botswana is on the increase or decline.

There is a concern amongst the minority tribes groups of Botswana that due to Government policy to observe English and Setswana as official languages in the country, the use of other so called minority languages is bound to decline and eventually run a risk of extinction.

The 2001 and 2011 Population and Housing Census results reflect that the minority languages are still in existence despite the challenges.

1. Introduction

The purpose of this paper is to examine if the minority languages of Botswana are experiencing growth in terms of population and in districts or otherwise. The paper uses the 2001 and 2011 Population and Housing Census results to determine the patterns.

According to the Country's language policy, Setswana is the national language, while English is the official language. Other languages are referred to as minority languages and are not recognized at all. While these remains the Government's position since independence in 1966. There has been an outcry by the minority languages representative groups that their languages are on the decline and most importantly that these minority groups are denied access to Government information and programmes as they cannot read and write both English and Setswana, and that they cannot either understand or speak any of these two languages which are forced upon them. In most districts where the majority cannot speak Setswana language, kgotla meetings by Government officials are addressed in Setswana and those in attendance may not comprehend or follow what is communicated. Even important messages such as on HIV and AIDS to date have been communicated in Setswana leaving the rural minority population at the mercy of urban migrant relatives who visit the rural areas during the festive season to come and translate to them. While there is a Setswana name for HIV & AIDS known as "Segajaja" and other local names for other accessories such as condoms known as "sekausu" in Setswana, there seem to be no known synonyms in other languages spoken in Botswana and one is left to doubt the outreach of such lifesaving messages if there are communicated in the current format of Setswana and English.

It has been argued elsewhere by various commentators on the subject matter that Government discriminates against minority groups in general. This is evidently in-built into Botswana laws which include the Constitution of Botswana, the Chieftainship Act, the tribal lands Act, and the Botswana National Settlement Policy amongst others.

The National Education Policy does not allow children from minority groups to be taught in their mother tongue and does putting them at a disadvantage as they have to learn Setswana language first before they can understand concepts. While going through this difficult learning process they have to compete with Setswana language users.

The paper will determine the following:

- a. The language use in Botswana.
- b. The distribution of languages in Botswana per District.
- c. Whether there has been an increase or decline in the language population per district since 2001.
- d. Suggest recommendations for improvement on language use.

2. Methodology

The paper will analyze language use in Botswana districts based on population usage as well as the percentage usage per district since 2001 and determine whether in 2011 there has been any change across districts and at what levels.

According to Prof. H. M. Batibo (Botswana Language Situation paper), there are 28 languages in Botswana belonging to three language families, namely Bantu, Khoisan and Germanic. However, it should be noted that the Population and Housing Census question on language is vague and data collected through the questionnaire cannot be relied upon to determine one's ethnicity. This argument was raised by Chebanne and Nyati-Ramahobo in 2003 on their submission on Language use and language knowledge in Botswana. The two authors correctly pointed out that the question "What language does---speak most often at home?" amongst others, is not asking about one's ethnicity. They argue that the data collected by the instrument does not represent the numerical significance of the ethnic speakers of those languages. In this regard, the language one uses at home may not necessarily be one's ethnic language. More often than not we speak the language of our spouses and significant others at home than our mother tongue as a compromise.

It follows therefore that there are a few statistics on ethnicity in Botswana because Government has sought to define all the people of Botswana as Batswana and has managed to manifest itself as a champion for the poor such that even the poorest of the poor from these minority tribes still cherish.

The table below gives a summation of the 2001 Population Census results on language per district in Botswana.

District	language																	Total			
	SET	ENG	KAL	SHEKG	YEI	HER	TSWAP	SEB	SEMB	SUBI	THU	SES	AFRI	NDE	ZEZ	IND	O.AFR		O.EUR	O.ASI	Other
GABORONE	142,299	15,916	9,215	1,024	17	178	510	221	67	169	35	40	799	1,244	2,391	1,061	2,079	368	1,071	237	178,941
FRANCISTOWN	48,164	3,182	21,493	90	23	95	393	308	151	176	16	100	180	1,562	1,860	139	680	114	192	55	78,973
LOBATSE	26,026	848	382	132	1	18	26	11	5	22	4	7	91	128	173	107	162	14	93	7	28,257
SELIBE PHIKWE	39,639	1,259	2,932	60	8	75	742	1,090	68	31	3	14	149	168	1,018	93	268	7	83	11	47,718
ORAPA	6,995	547	758	25	13	63	14	11	13	5	-	5	103	22	83	-	112	8	13	-	8,790
JWANENG	13,004	657	277	265	-	15	9	5	-	8	-	-	165	31	65	2	65	12	9	2	14,591
SOWA TOWN	1,959	149	521	5	-	2	10	17	-	4	-	61	21	5	-	2	3	2	-	-	2,761
KANYE/MOSHUPA	105,944	588	139	373	5	12	6	1	3	24	14	7	168	117	137	63	371	12	15	17	108,016
BAROLONG	43,975	118	71	94	1	9	10	4	1	1	1	5	88	14	17	3	657	3	4	8	45,084
NGWAKETSE WEST	7,753	15	6	2,054	-	-	1	-	-	2	1	58	16	1	4	-	10	-	1	2	9,924
SOUTH EAST	53,542	1,959	529	120	2	16	65	28	18	48	5	10	214	243	644	69	399	65	69	30	58,075
KWENENG EAST	172,544	2,822	1,238	346	-	217	45	32	3	111	45	107	215	479	1,733	82	630	27	94	80	180,850
KWENENG WEST	21,588	59	220	15,529	4	3	29	10	4	21	2	799	52	7	8	12	46	-	11	25	38,429
KGATLENG	68,439	753	202	26	1	45	12	6	2	27	21	10	29	48	214	4	127	9	17	25	70,017
SEROWE/PALAPYE	139,799	1,248	1,266	78	10	53	214	53	17	98	21	1,030	59	129	675	29	394	35	34	61	145,303
CENTRAL MAHALAPYE	96,944	607	678	386	7	1,081	2,939	88	31	77	28	207	100	86	169	36	310	6	20	41	103,841
CENTRAL BOBONONG	52,487	231	439	39	14	21	180	9,435	44	55	21	47	45	39	98	12	102	-	11	26	63,346
CENTRAL BOTLETI	30,219	296	8,041	31	287	914	53	58	629	60	4	4,491	28	28	90	8	125	8	11	10	45,391
CENTRAL TUTUME	57,641	658	50,238	51	26	35	27	50	462	137	27	3,765	44	396	888	18	2,237	17	23	57	116,797
NORTH EAST	17,159	379	25,702	38	35	40	14	34	14	39	15	15	47	2,841	350	7	178	14	20	18	46,959
NGAMILAND EAST	53,709	1,117	1,312	1,029	734	3,608	15	51	4,543	162	14	1,460	127	146	279	72	271	30	32	34	68,745
NGAMILAND WEST	15,192	123	182	676	3,142	1,516	35	14	21,029	69	5	4,366	194	10	68	4	146	17	11	33	46,832
CHOBÉ	9,219	292	764	13	17	5	12	13	89	5,108	3	503	79	396	201	12	406	18	8	28	17,186
DELTA	1,618	121	8	4	420	8	1	-	72	3	-	12	2	-	2	1	1	2	-	2	2,277
GHANZI	6,137	261	224	10,087	26	2,880	14	2	381	11	40	10,141	374	25	86	5	176	10	19	18	30,917
CKGR	37	-	1	73	-	1	-	-	-	-	-	537	1	-	-	-	-	-	-	2	652
KGALAGADI SOUTH	18,300	127	56	1,640	2	64	4	85	2	8	267	547	3,289	6	43	4	34	-	10	21	24,509
KGALAGADI NORTH	2,748	101	58	10,418	6	24	2	6	5	1	98	1,693	71	3	12	3	47	6	20	14	15,336
TOTAL	1,253,080	34,433	126,952	44,706	4,801	10,998	5,382	11,633	27,653	6,477	690	30,037	6,750	8,174	11,308	1,848	10,036	804	1,891	864	1,598,517

From these 2001 results we can conclude that among the local languages, Setswana is the most used/spoken language in Botswana by 1,253,080 out of a total population of 1,598,517 which represents 78.4 % followed by Ikalanga 7.9 % while other minority languages are below 3% of the entire population.

**Where are local languages mostly spoken?
The table below gives an illustration of local languages per district in percentages.**

The table below gives an illustration of local languages per district in percentages.

District	language																			
	SET	ENG	KAL	SHEKG	YEI	HER	TSWAP	SEB	SEMB	SUBI	THU	SES	AFRI	NDE	ZEZ	IND	O.AFR	O.EUR	O.ASI	Other
GABORONE	11.4	46.2	7.3	2.3	0.4	1.6	9.5	1.9	0.2	2.6	5.1	0.1	11.8	15.2	21.1	57.4	20.7	45.8	56.6	27.4
FRANCISTOWN	3.8	9.2	16.9	0.2	0.5	0.9	7.3	2.6	0.5	2.7	2.3	0.3	2.7	19.1	16.4	7.5	6.8	14.2	10.2	6.4
LOBATSE	2.1	2.5	0.3	0.3	0.0	0.2	0.5	0.1	0.0	0.3	0.6	0.0	1.3	1.6	1.5	5.8	1.6	1.7	4.9	0.8
SELIBE PHIKWE	3.2	3.7	2.3	0.1	0.2	0.7	13.8	9.4	0.2	0.5	0.4	0.0	2.2	2.1	9.0	5.0	2.7	0.9	4.4	1.3
ORAPA	0.6	1.6	0.6	0.1	0.3	0.6	0.3	0.1	0.0	0.1	-	0.0	1.5	0.3	0.7	-	1.1	1.0	0.7	-
JWANENG	1.0	1.9	0.2	0.6	-	0.1	0.2	0.0	-	0.1	-	-	2.4	0.4	0.6	0.1	0.6	1.5	0.5	0.2
SOWA TOWN	0.2	0.4	0.4	0.0	-	0.0	0.2	0.1	-	0.1	-	0.2	0.3	0.1	-	0.1	0.0	0.2	-	-
KANYE/MOSHUPA	8.5	1.7	0.1	0.8	0.1	0.1	0.1	0.0	0.0	0.4	2.0	0.0	2.5	1.4	1.2	3.4	3.7	1.5	0.8	2.0
BAROLONG	3.5	0.3	0.1	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.0	1.3	0.2	0.2	0.2	6.5	0.4	0.2	0.9
NGWAKETSE WEST	0.6	0.0	0.0	4.6	-	-	0.0	-	-	0.0	0.1	0.2	0.2	0.0	0.0	-	0.1	-	0.1	0.2
SOUTH EAST	4.3	5.7	0.4	0.3	0.0	0.1	1.2	0.2	0.1	0.7	0.7	0.0	3.2	3.0	5.7	3.7	4.0	8.1	3.6	3.5
KWENENG EAST	13.8	8.2	1.0	0.8	-	2.0	0.8	0.3	0.0	1.7	6.5	0.4	3.2	5.9	15.3	4.4	6.3	3.4	5.0	9.3
KWENENG WEST	1.7	0.2	0.2	34.7	0.1	0.0	0.5	0.1	0.0	0.3	0.3	2.7	0.8	0.1	0.1	0.6	0.5	-	0.6	2.9
KGATLENG	5.5	2.2	0.2	0.1	0.0	0.4	0.2	0.1	0.0	0.4	3.0	0.0	0.4	0.6	1.9	0.2	1.3	1.1	0.9	2.9
SEROWE/PALAPYE	11.2	3.6	1.0	0.2	0.2	0.5	4.0	0.5	0.1	1.5	3.0	3.4	0.9	1.6	6.0	1.6	3.9	4.4	1.8	7.1
CENTRAL MAHALAPYE	7.7	1.8	0.5	0.9	0.1	9.8	54.6	0.8	0.1	1.2	4.1	0.7	1.5	1.1	1.5	1.9	3.1	0.7	1.1	4.7
CENTRAL BOBONONG	4.2	0.7	0.3	0.1	0.3	0.2	3.3	81.1	0.2	0.8	3.0	0.2	0.7	0.5	0.9	0.6	1.0	-	0.6	3.0
CENTRAL BOTETI	2.4	0.9	6.3	0.1	6.0	8.3	1.0	0.5	2.3	0.9	0.6	15.0	0.4	0.3	0.8	0.4	1.2	1.0	0.6	1.2
CENTRAL TUTUME	4.6	1.9	39.6	0.1	0.5	0.3	0.5	0.4	1.7	2.1	3.9	12.5	0.7	4.8	7.9	1.0	22.3	2.1	1.2	6.6
NORTH EAST	1.4	1.1	20.2	0.1	0.7	0.4	0.3	0.3	0.1	0.6	2.2	0.0	0.7	34.8	3.1	0.4	1.8	1.7	1.1	2.1
NGAMILAND EAST	4.3	3.2	1.0	2.3	15.3	32.8	0.3	0.4	16.4	2.5	2.0	4.9	1.9	1.8	2.5	3.9	2.7	3.7	1.7	3.9
NGAMILAND WEST	1.2	0.4	0.1	1.5	65.4	13.8	0.7	0.1	76.0	1.1	0.7	14.5	2.9	0.1	0.6	0.2	1.5	2.1	0.6	3.8
CHOBÉ	0.7	0.8	0.6	0.0	0.4	0.0	0.2	0.1	0.3	78.9	0.4	1.7	1.2	4.8	1.8	0.6	4.0	2.2	0.4	3.2
DELTA	0.1	0.4	0.0	0.0	8.7	0.1	0.0	-	0.3	0.0	-	0.0	0.0	-	0.0	0.1	0.0	0.2	-	0.2
GHANZI	0.5	0.8	0.2	22.6	0.5	26.2	0.3	0.0	1.4	0.2	5.8	33.8	5.5	0.3	0.8	0.3	1.8	1.2	1.0	2.1
CKGR	0.0	-	0.0	0.2	-	0.0	-	-	-	-	-	1.8	0.0	-	-	-	-	-	-	0.2
KGALAGADI SOUTH	1.5	0.4	0.0	3.7	0.0	0.6	0.1	0.7	0.0	0.1	38.7	1.8	48.7	0.1	0.4	0.2	0.3	-	0.5	2.4
KGALAGADI NORTH	0.2	0.3	0.0	23.3	0.1	0.2	0.0	0.1	0.0	0.0	14.2	5.6	1.1	0.0	0.1	0.2	0.5	0.7	1.1	1.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

On recording districts with 5% or better frequency, the data depicts the following patterns:

- a. Setswana is mostly used in the following Districts :
 - Kweneng East at 13.8%
 - Gaborone at 11.4%
 - Serowe/Palapye at 11.2%
 - Kanye/Moshupa at 8.5%
 - Central Mahalapye at 7.7%
 - Kgatleng at 5.5%

- b. Ikalanga is mostly used in the following Districts:
 - Central Tutume at 39.6%
 - North East at 20.2%
 - Francistown at 16.9%
 - Gaborone at 7.3%

- c. Shekgalagari is mostly used in the following districts:
 - Kweneng West at 34.7%
 - Kgalagadi North at 23.3%
 - Ghanzi at 22.6%

- d. Shiyeyi is mostly used in the following Districts:
 - Ngamiland West at 65.4%
 - Ngamiland East at 15.3%.
 - Okavango Delta at 8.7%

- e. Herero is mostly used in the following Districts:
 - Ngamiland East at 32.8%
 - Ghanzi at 26.2%
 - Ngamiland West at 13.8%
 - Boteti Central at 8.3%

- f. Setswapong is mostly used in the following Districts:
 - Central Mahalapye at 54.6%
 - Selibe-Phikwe at 13.8%
 - Gaborone at 9.5%
 - Francistown 7.3%

- g. Sebirwa is mostly used in the following Districts:
 - Central Bobonong at 81.1%
 - Selibe-Phikwe at 9.4%

- h. Mbukushu is mostly used in the following Districts:
 - Ngamiland West at 76.0%
 - Ngamiland East at 16.4%

- i. Subiya is mostly used in the following Districts:
 - Chobe at 78.9%

- j. Sekgothu is mostly used in the following Districts:
 - Kgalagadi South at 38.7%
 - Kgalagadi North at 14.2%
 - Ghanzi at 5.8%

- k. Sesarwa is mostly used in the following Districts:
 - Ghanzi at 33.8%
 - Boteti at 15.0%
 - Ngamiland West at 14.5%
 - Central Tutume at 12.5%
 - Kgalagadi North at 5.6%

- I. Ndebele is mostly used in the following Districts:
 - North East at 34.8%
 - Francistown at 19.1%
 - Gaborone at 15.2%
 - Kweneng East 5.9%

POPULATION CENSUS 2011 RESULTS.

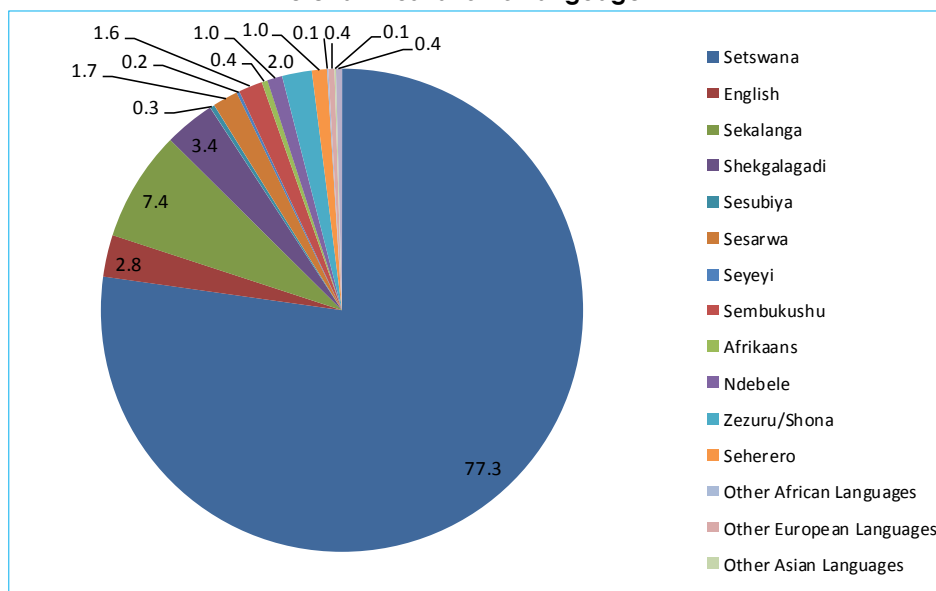
The table below gives us the language use population wise nationally in 2011.

District	Language														Total		
	Setswana	English	Sekalanga	Shekgalagadi	Sesubiya	Sesarwa	Seyei	Sembukushu	Afrikaans	Nebele	ZeZuru/Shona	Seherero	Other African languages	Other European languages		Other Asian languages	Other (NEC)
Gaborone	166,365	23,934	11,544	1,769	121	51	67	101	821	2,894	8,379	533	439	1,848	3,680	255	222,801
Francistown	60,214	4,578	20,780	132	148	40	39	139	182	2,468	3,516	178	129	549	612	88	93,792
Lobatse	24,976	888	361	249	1	3	4	3	56	119	443	45	70	107	21	72	27,418
Selebi_Pikwe	41,749	1,332	1,930	81	23	7	14	4	52	246	1,372	59	54	131	151	5	47,210
Orapa	7,656	445	577	20	-	6	11	3	17	64	148	54	1	19	7	-	9,028
Jwaneng	14,729	931	330	453	7	2	8	3	254	76	284	33	29	99	30	3	17,271
Sowa Town	2,452	119	689	10	12	64	3	2	1	18	33	6	2	33	2	4	3,450
Ngwaketse	118,048	990	318	791	16	22	16	8	206	314	871	73	40	281	69	7	122,070
Barolong	50,282	251	126	120	10	9	4	5	80	99	176	27	10	646	8	10	51,863
Ngwaketse West	4,329	49	34	8,218	3	85	5	1	29	21	53	9	6	5	-	2	12,849
South East	71,324	3,738	1,219	407	45	10	18	56	334	871	2,681	111	35	224	67	189	81,329
Kweneng East	218,192	5,001	5,024	1,986	129	201	48	45	342	2,489	8,764	555	91	623	294	143	243,927
Kweneng West	22,711	181	237	20,383	14	1,006	6	12	31	76	158	35	13	17	7	16	44,903
Kgatleng	81,594	1,453	638	181	11	14	21	12	74	835	1,975	124	33	111	56	30	87,162
Central Serowe Palapye	160,264	1,884	2,275	221	56	1,181	33	41	126	707	2,133	181	92	182	1,700	189	171,265
Central Mahalapye	107,422	844	593	205	18	200	15	16	72	372	818	1,216	38	108	60	17	112,014
Central Bobonong	65,372	382	494	55	10	11	6	9	30	503	741	35	15	88	174	10	67,935
Central Boteti	39,614	464	6,796	73	72	4,650	225	94	32	141	376	1,541	43	101	31	14	54,267
Central Tutume	69,753	1,355	57,310	123	244	2,941	33	477	39	2,732	2,575	152	29	1,075	106	20	138,964
North East	25,096	783	26,470	32	40	22	11	25	39	3,114	1,125	116	21	55	25	23	56,997
Ngamiland East	65,208	1,628	1,651	1,158	198	1,568	1,062	3,242	154	338	940	7,342	72	172	70	53	84,856
Ngamiland West	19,934	225	322	782	81	3,924	1,975	25,685	35	40	146	1,969	36	314	20	15	55,503
Chobe	12,967	617	1,332	98	5,188	332	46	369	77	266	257	59	20	74	25	19	21,746
Okavango Delta	1,208	83	49	8	19	25	439	147	2	4	2	25	1	-	-	-	2,012
Ghanzi	8,490	438	306	12,265	34	13,372	62	717	489	81	355	3,995	18	50	35	5	40,712
Central Kgalegadi Game Reserve (CKGR)	124	3	9	31	-	46	-	-	-	2	-	4	-	-	-	-	219
Kgalagadi South	21,177	183	114	1,801	8	283	7	6	4,378	47	49	154	3	60	19	2	28,291
Kgalagadi North	3,348	142	88	13,723	7	1,703	3	7	130	22	119	79	8	38	68	11	19,496
Total	1,484,598	52,921	141,616	65,375	6,515	31,778	4,181	31,229	8,082	18,959	38,489	18,710	1,348	7,010	7,337	1,202	1,919,350

The table below gives us the language percentage use per district in 2011.

District	Language													Total			
	Setswana	English	Sekalanga	Shekgalagadi	Sesubiya	Sesarwa	Seveyi	Sembukushu	Afrikaans	Ndebele	Zezuru/Shona	Seherero	Other African languages		Other European languages	Other Asian Languages	Other (NEC)
Gaborone	11.2	45.2	8.2	2.7	1.9	0.2	1.6	0.3	10.2	15.3	21.8	2.8	32.6	26.4	50.2	21.2	11.6
Francistown	4.1	8.7	14.7	0.2	2.3	0.1	0.9	0.4	2.3	13.0	9.1	1.0	9.6	7.8	8.3	7.3	4.9
Lobatse	1.7	1.7	0.3	0.4	0.0	0.0	0.1	0.0	0.7	0.6	1.2	0.2	5.2	1.5	0.3	6.0	1.4
Selebi_Pikwe	2.8	2.5	1.4	0.1	0.4	0.0	0.3	0.0	0.6	1.3	3.6	0.3	4.0	1.9	2.1	0.4	2.5
Orapa	0.5	0.8	0.4	0.0	-	0.0	0.3	0.0	0.2	0.3	0.4	0.3	0.1	0.3	0.1	-	0.5
Jwaneng	1.0	1.8	0.2	0.7	0.1	0.0	0.2	0.0	3.1	0.4	0.7	0.2	2.2	1.4	0.4	0.2	0.9
Sowa Town	0.2	0.2	0.5	0.0	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.5	0.0	0.3	0.2
Ngwaketse	8.0	1.9	0.2	1.2	0.2	0.1	0.4	0.0	2.5	1.7	2.3	0.4	3.0	4.0	0.9	0.6	6.4
Barolong	3.4	0.5	0.1	0.2	0.2	0.0	0.1	0.0	1.0	0.5	0.5	0.1	0.7	9.2	0.1	0.8	2.7
Ngwaketse West	0.3	0.1	0.0	12.6	0.0	0.3	0.1	0.0	0.4	0.1	0.1	0.0	0.4	0.1	-	0.2	0.7
South East	4.8	7.1	0.9	0.6	0.7	0.0	0.4	0.2	4.1	4.6	7.0	0.6	2.6	3.2	0.9	15.7	4.2
Kweneng East	14.7	9.4	3.5	3.0	2.0	0.6	1.1	0.1	4.2	13.1	22.8	3.0	6.8	8.9	4.0	11.9	12.7
Kweneng West	1.5	0.3	0.2	31.2	0.2	3.2	0.1	0.0	0.4	0.4	0.4	0.2	1.0	0.2	0.1	1.3	2.3
Kgatleng	5.5	2.7	0.5	0.3	0.2	0.0	0.5	0.0	0.9	4.4	5.1	0.7	2.4	1.6	0.8	2.5	4.5
Central Serowe Palapye	10.8	3.6	1.6	0.3	0.9	3.7	0.8	0.1	1.6	3.7	5.5	1.0	6.8	2.6	23.2	15.7	8.9
Central Mahalapye	7.2	1.6	0.4	0.3	0.3	0.6	0.4	0.1	0.9	2.0	2.1	6.5	2.8	1.5	0.8	1.4	5.8
Central Bobonong	4.4	0.7	0.3	0.1	0.2	0.0	0.1	0.0	0.4	2.7	1.9	0.2	1.1	1.3	2.4	0.8	3.5
Central Boteti	2.7	0.9	4.8	0.1	1.1	14.6	5.4	0.3	0.4	0.7	1.0	8.2	3.2	1.4	0.4	1.2	2.8
Central Tlume	4.7	2.6	40.5	0.2	3.7	9.3	0.8	1.5	0.5	14.4	6.7	0.8	2.2	15.3	1.4	1.7	7.2
North East	1.7	1.5	18.7	0.0	0.6	0.1	0.3	0.1	0.5	16.4	2.9	0.6	1.6	0.8	0.3	1.9	3.0
Ngamiland East	4.4	3.1	1.2	1.8	3.0	4.9	25.4	10.4	1.9	1.8	2.4	39.2	5.3	2.5	1.0	4.4	4.4
Ngamiland West	1.3	0.4	0.2	1.2	1.2	12.3	47.2	82.2	0.4	0.2	0.4	10.5	2.7	4.5	0.3	1.2	2.9
Chobe	0.9	1.2	0.9	0.1	79.6	1.0	1.1	1.2	1.0	1.4	0.7	0.3	1.5	1.1	0.3	1.6	1.1
Okavango Delta	0.1	0.2	0.0	0.0	0.3	0.1	10.5	0.5	0.0	0.0	0.0	0.1	0.1	-	-	-	0.1
Ghanzi	0.6	0.8	0.2	18.8	0.5	42.1	1.5	2.3	6.1	0.4	0.9	21.4	1.3	0.7	0.5	0.4	2.1
Central Kgalagadi Game Reserve (CKGR)	0.0	0.0	0.0	0.0	-	0.1	-	-	-	0.0	-	0.0	-	-	-	-	0.0
Kgalagadi South	1.4	0.3	0.1	2.8	0.1	0.9	0.2	0.0	54.2	0.2	0.1	0.8	0.2	0.9	0.3	0.2	1.5
Kgalagadi North	0.2	0.3	0.1	21.0	0.1	5.4	0.1	0.0	1.6	0.1	0.3	0.4	0.6	0.5	0.9	0.9	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Pie chart illustration of language



5. COMPARISON OF 2001 AND 2011 RESULTS

LANGUAGE	2001 POPULATION AND HOUSING CENSUS		2011 POPULATION AND HOUSING CENSUS		% VARIANCE	
	FREQUENCY	PERCENT	LANGUAGE	FREQUENCY		
SETSWANA	1,253,080	78.4	SETSWANA	1,484,598	77.3	(1.0)
ENGLISH	34,433	2.2	ENGLISH	52,921	2.8	0.6
KALANGA	126,952	7.9	KALANGA	141,616	7.4	(0.6)
SEK GALAGADI/SEN GOLOGA	44,706	2.8	SEK GALAGADI/SEN GOLOGA	65,375	3.4	0.6
SEYEI	4,801	0.3	SEYEI	4,181	0.2	(0.1)
HERERO	10,998	0.7	HERERO	18,710	1.0	0.3
SETSWAPONG	5,382	0.3	SETSWAPONG	-	0.0	(0.3)
SEBIRWA	11,633	0.7	SEBIRWA	-	0.0	(0.7)
SEMBUKUSHU	27,653	1.7	SEMBUKUSHU	31,229	1.6	(0.1)
SESUBIYA	6,477	0.4	SESUBIYA	6,515	0.3	(0.1)
SEKGO THU	690	0.0	SEKGO THU	-	0.0	(0.0)
SE SARWA	30,037	1.9	SE SARWA	31,778	1.7	(0.2)
AFRIKAANS	6,750	0.4	AFRIKAANS	8,082	0.4	(0.0)
NDEBELE	8,174	0.5	NDEBELE	18,959	1.0	0.5
ZEZURU/SHONA	11,308	0.7	ZEZURU/SHONA	38,489	2.0	1.3
INDIAN	1,848	0.1	INDIAN	-	0.0	(0.1)
OTHER AFRICAN	10,036	0.6	OTHER AFRICAN	1,348	0.1	0.6
OTHER EUROPEAN	804	0.1	OTHER EUROPEAN	7,010	0.4	0.3
OTHER ASIAN	1,891	0.1	OTHER ASIAN	7,337	0.4	0.3
OTHER	864	0.1	OTHER	1,202	0.1	0.01
TOTAL	1,598,517	100	TOTAL	1,919,350	100	-

Comparison between the 2001 and 2011 results percentage variance informs us of the following:

- A.** Setswana use has declined by 1% nationally while English usage increased by 0.6 %.
- B.** Ikalanga usage also declined by 0.6%.
- C.** Shekgalagari and Herero languages experienced some growth at 0.6% and 0.3% respectively.
- D.** Minority languages usage has declined by 2.6% in total since the last census.
- E.** There has been a quantum leap increase in Shona and Ndebele usage and this can be attributed to Zimbabwean migrants who speak these languages in the country since the last census. The majority of these people have been recorded in Kweneng East district (Mogoditshane) where most have set small businesses and reside.
- F.** There has been a quantum leap of usage of other Asians and other Europeans languages from 0.1% to 0.4% and this can be attributed to the Chinese migration to Botswana since the last census.
- G.** Dominance of minority language usage continues to be limited in the districts of their origin as no major infiltration has been recorded from one district to another, except for growth of Ikalanga in Gaborone which can be attributed to migration of tertiary students from up north to down south.

Conclusion

From the above data one can therefore make the following conclusions:

- a.** That minority languages are still very much in existence in Botswana despite challenges over the years.
 - b.** That minority languages are widely used in the country save for Kanye/Moshupa, Kweneng East, Serowe/Palapye, Central Mahalapye and Kgatleng Districts; this represents 5 out of 28 census Districts.
- In the final analysis, it is my observation that unless the minority languages are recognized and promoted by Government policies, they are bound to decline and the use of English language will be on the increase. This paper provides some observations that could inform Government policies especially in introducing the mother tongue in the education curriculum at primary schools in districts where the minority languages are mostly used.

Recommendations

The author wish to make the following recommendations:

- a.** The question on language on the Household questionnaire should be revised to capture the ethnicity of respondents.
- b.** The fact that Botswana is a multilingual and multicultural country should be acknowledged.
- c.** Government programs and official kgotla meetings in 'minority districts' should be communicated and conducted in local languages.
- d.** The National education policy should be revised to cater for use of minority languages in primary schools in districts where their usage is high.

References

1. Batibo, H. M. Botswana language situation.
2. Chebanne, A & Nyati-Ramahobo, L. Language use and language knowledge in Botswana. 2001 Population and Housing Census Dissemination Seminar, September, 2003.
3. Ditshwanelo; Ethnic minorities and indigenous peoples.
4. Nyati-Saleshando, L. 2012. National Reform on minority issues in Botswana: Implementing the Declaration on the rights of persons belonging to National or ethnic religious and linguistic minorities.

DEMOGRAPHIC AND SOCIAL CORRELATES OF LIVING ARRANGEMENTS OF OLDER ADULTS IN BOTSWANA

By **Kenabetsho Bainame and Dr. Sheila Shaibu**
University of Botswana
 &
Dr. Denise Burnette

Introduction

During the past half century, population profiles have shifted dramatically worldwide, with lower rates of mortality and fertility shifting age structures upward. This demographic transition represents significant progress in terms of development, but older populations bring new social and economic challenges, e.g., increased prevalence of non-communicable diseases (NCD) and, in the case of some regions, HIV and AIDS, as well as major effects of globalization and modernization dynamics on individuals, families, communities and societies.

Population dynamics in Botswana, which we review in more detail below, clearly demonstrate the demographic transition that is underway. Also evident is the heavy toll of the HIV and AIDS epidemic in the country. But access to highly-active anti-retroviral medication, coupled with ongoing improvements in other health, social and economic indicators, is expected to raise the percentage of the population aged ≥ 60 years to 7 % by 2025-2030 – the United Nation's standard for an "older population." Kinsella and colleagues lay out the major challenges of aging populations around the world (Kinsella & He, 2007) and advocate for national and sector-wise policies that will address needs across various population subgroups (Kinsella & Phillips, 2005).

Living arrangements are among the most fundamental structures of social organization, affecting the functioning and well-being of individuals, families, communities and societies. In traditional societies, preference is for co-residence, and older adults tend to live with, contribute to, and be cared for by kin. In less developed countries, two-generation and three-generation households remain the norm, and older people tend to choose to live with or close to their children for economic and cultural reasons (Kinsella & Phillips, 2005; UNDESA, 2005). But rapid modernization and industrializing economies are driving changes fast-paced changes in these patterns, eroding the social status of older people and the longstanding protective and supportive functions of traditional family structures in many developing countries (Aboderin, 2005). There thus are diminishing options for meaningful inclusion and participation of older adults in social and civic life, especially in contexts of scarce resources.

Intergenerational solidarity also appears to be waning in higher-income countries, as multi-generational households give way to nuclear and alternative family forms and growing numbers of older adults live alone by choice and by default. Cultural norms and social transfers of time, space, and money are equally important in deciding whether an older person lives alone or with family. Cross-national comparisons show substantial differences in living arrangements of the age group in developed and developing regions—most notably that older people (especially older women) in developed countries often live alone, while living with kin is still the norm in the developing world.

Key determinants of living arrangements of older adults include marital status, kin availability, personal wealth, health and individual preferences and effects include life satisfaction, health, mental health, social integration and, if it is an option, chances of institutionalization. It remains to be seen how external forces and internal dynamics will affect the living arrangements of older adults in Botswana. As a society-wide phenomenon that crosses generations and sectors, it is important to track trends and establish their correlates to inform social and economic policies and best practices going forward.

Study Purpose

The purpose of this study is to examine the living arrangements of adults aged ≥ 60 years (hereafter, older adults) in the Botswana 2011 Census. There are three specific objectives:

- 1) To establish the main descriptive features of the living arrangements of older adults.
- 2) To determine individual-level and household-level characteristics associated with living arrangements of this population sector.
- 3) To establish factors that encourages older adults to live alone.

Population Ageing

Much has been written about the social and economic forces that have shaped this demographic trend and the near and long-term implications for older adults. Patterns vary by context, but essentially stem from sharp modernization-related declines in fertility after 1970 and declines in mortality after 1950. More recently, internal and out-migration have also contributed. The populations of sub-Saharan Africa (SSA) are comparatively young, but like other developing countries, they are ageing far more rapidly than those of developing countries that are further along in their demographic transitions. The number of persons aged ≥ 50 years in SSA is expected to quadruple, from 40 million in 2010 to nearly 160 million by 2050. In Botswana, this age sector will triple, from 223,000 (11.3 %) to 677,000 (24.3%) in this time interval (United Nations, 2013).

Table 1 presents key demographic factors related to fertility, mortality and migration in Botswana during five 5 periods from 1970 to 2030. As indicators of social and economic development, these measures can be helpful in assessing the impact of modernization on family structure and household composition, as they are associated with a tendency for older couples and individuals to live apart from children and other relatives (United Nations, 2005).

In Botswana, net migration between the early 1970s and early 1990s roughly doubled, but the percentage is small and is expected to return to 1970s level over the next decade. Far more staggering, with economic development, the percentage of people living in urban areas has increased from 16.7% in 1970 to 61.2% in 2010 and is projected to be 72.7 by 2030 (The Guardian, 2009). Table 1 shows dramatic reductions in fertility and steady increases in the percentage of the population aged ≥ 60 years. The scathing effects of the HIV / AIDS epidemic are seen in data in life expectancy at birth and crude death rates, both of which have begun to rebound to pre-epidemic levels.

These rapid, concentrated changes in the age structure and urbanicity of Botswana occurred before social and economic conditions permitted secure transfers of wealth towards older adults to emerge, develop or consolidate. As a result, Palloni (2002) argues, institutional contexts tend to be characterized by insufficiently developed capital markets; high risk and uncertainty that inhibit private savings; insecure property rights; high inflation and inadequate or non-existent social security schemes, private pension plans and health insurance. Older adults in Botswana have fared better than most of their contemporaries in SSA in terms of social security pensions and social protection measures. However, many do not know about or are unable to access these schemes, others die before they are eligible. In part, this situation is due to the longstanding African tradition for older adults to live in intergenerational households that serve as an economic safety net and provide meaningful roles that help sustain their health, mental health and social well-being (Bainame & Shaibu, 2003).

Living Arrangements

In addition to explaining changes in the age structure of a society, population dynamics contribute to living arrangements and household structures. Living arrangements are influenced by factors such as marital status, financial resources, health status, family size and structure, and cultural traditions such as kinship patterns, the value placed on living independently or with family members, the availability of social services and social support, and the physical features of housing stock and local communities (Verloff, 2001). In turn, living arrangements affect quality of life, life satisfaction, health and functional status, social support and mental health.

The rapid succession of large extended families in rural areas by nuclear families in urban enclaves raises serious concerns about the welfare of older people (Apt, 1997; Bongaarts & Zimmer, 2002; Cheng & Siankam, 2009). Yet, it is crucial to recognize the nature and extent of reciprocity and interdependence in co-resident households, and the bi-directional flow of resources and supports, which change in response to individual needs and capacities (Ruggles & Heggeness, 2008). Co-resident older adults contribute, for example, through employment, childcare and household work and many are preserving families by caring for grandchildren and other young kin affected by HIV/AIDS. Studying the living arrangements of older adults will thus also shed important light on other generations in Botswana families and on changing intergenerational family dynamics.

For consistency with other studies that document living arrangements, we use United Nations (2005) schema to assess the living arrangements of older adults and the major risks and benefits associated with these household configurations. The U.N. format employs five mutually exclusive categories: 1) alone; 2) with spouse only; 3) with a child (including adopted children), child-in-law or grandchild; 4) with another relative (other than a spouse or child/grandchild); and 5) with unrelated people only, apart from a spouse. Those living with a child/grandchild may also be living with other relatives or non-relatives, and those living with other relatives may also have non-kin in the household.

The category of living with a child or grandchild is further broken down into multi-generational and skipped-generation households. This schema is based on family relationships of household members, not household headship, the meaning of which varies culturally. It also ignores the marital status of adult children, which is salient in some contexts but in terms of the ability of adult children to support their parents, characteristics such as children's age and health status are likely to be more important (United Nations, 2011). The point is that the risks and benefits for older adults' well-being vary greatly depending on their living arrangements.

The percentage of older people who live alone is the most widely available statistic on living arrangements of older adults, mostly due to how data on household composition are tabulated. This group is particularly vulnerable and of great concern to health and social policy. First, as Zimmer and Das (2013) note, linking household composition of older persons and material well-being is an important step toward understanding quality of life among older adults in less developed settings-- especially in sub-Saharan Africa, given poverty in the region. Further, older people living alone are more likely to need assistance if ill or disabled, they tend to have smaller social networks and greater risk of isolation, loneliness and mental health problems, i.e., depression and anxiety, and they are disproportionately likely—especially older women—to be poor (Casey & Yamada, 2002; Hermalin, 1997; Mui & Burnette, 1994; Zimmer, 2009).

The number of older persons living alone in Botswana rose in the last population census (Bainame & Shaibu, 2003). In 2001 14.5% of older people lived alone. This is worrisome as the country's 2001 household and population census showed that 36% of older persons were disabled and may need to be living with someone who can assist and care for them. Also important, Botswana does not have old age homes (Shaibu & Wallhagen, 2002). However, a few day care centres are mushrooming in some villages.

UNDESA (2011) reports that, on average, around three quarters of persons aged ≥ 60 years in less developed regions live with children and/or grandchildren, compared with about a quarter of the older population in the more developed regions. Perhaps the starkest example of the downward flow of intergenerational support is the tremendous growth of households in which older adults are raising grandchildren and other young kin who are orphaned or otherwise made vulnerable (OVCs) due to HIV/AIDS (some of which include the middle-generation). In SSA, an estimated 13.5% of persons aged ≥ 60 years were heading skipped generation households without adults (Cheng & Siankam, 2009; see also Hosegood & Timeaus, 2005 and Kautz, Bendavid, Bhattacharya & Miller, 2010). One in four people in Botswana is now living with HIV/AIDS and 93,000 children (12%) are orphaned due to the disease. New infections are declining; but, owing to a time lag between parent infection and death, adult deaths from AIDS will continue to add to the number of affected orphans in the next decade. Even with improved effectiveness, ease of administration and access to treatment, the number of HIV/AIDS affected OVC will thus remain exceedingly high (AVERT, 2013).

In Botswana, 42.5% of orphan caregiving households are headed by grandmothers (Botswana Government, 2008). Grandparents are the sole caregivers for at least half of all OVC, and their numbers are expected to double between 2008 and 2015 (Help Aged, 2008). Raising young kin can have significant personal and societal benefits, but these gains are too often countered by social, health and mental health problems, disrupted family and social relationships and financial insecurity, especially in resource-limited settings where many grandparent carers are extremely poor (Help Age International, 2003; UNDESA, 2004) and consequently experience premature morbidity (Clausen, Wilson, Molebatsi, & Holmbow-Ottensen, 2007).

The social and economic needs of these families are well documented. There is less attention to the quality of their environments. Types of housing and community amenities that help older persons live comfortably and stay active and engaged in society include dwellings that can accommodate persons with limited mobility and strength, a clean and safe environment inside and outside the home, transportation that is affordable and accessible, walkways in urban areas that are in good repair and free of obstacles, traffic signals that allow time for older persons to cross streets safely, places to rest outdoors, and public buildings that are accessible to those with limited mobility (WHO, 2007).

To summarize, there is growing evidence that the traditional system of living with and caring for older people is under increasingly strain, as economic development, rural-to-urban migration and changing norms concerning families and households are weakening traditional support systems (Mokomane, 2012). Together with high mortality of working-age adults due to HIV/AIDS, these social forces have disrupted demographic trends that highly favour social security and economic development. Given the inevitable competition for scarce resources, it is necessary to go beyond descriptions of household composition and characteristics to determine what factors influence the living arrangements of older adults and what contributes to increased risks of poor economic, social, health, and mental health outcomes (McKinnon & Moore, 2013). It is also important to assess trends in living arrangements and environmental change. Residential situations appear stable in aggregate, but panel studies show that these change within a few years for many older adults due to changes in health and economic status (UNDEAS, 2011). This study aims to address these questions, which are essential for health and social policies for older Botswana and ultimately, their families and communities.

Methods

The main instrument used in the 2011 Population and Housing Census was a questionnaire. The questionnaire was designed to collect data on: geographical identification; name; relationship to head of household; sex; age; place of birth; nationality; religion; place of usual residence; place of residence in the last year; duration at the present residence; disability (types and causes); maternal and paternal orphan hood; date of birth; language spoken at home; education (school attendance, educational attainment); economic activity; occupation; employment status; marital status; fertility (children ever born, children living); housing and living conditions; agro-pastoral activity at household level; mortality (deaths in the past 12 months); maternal mortality (female aged 15-49 deaths: during pregnancy, giving birth, within 2 months of the end of a pregnancy or childbirth).

The 2011 Population and Housing Census adopted the de facto type of enumeration whereby the total population are those counted in the country when the census is taken, and enumerated at the place where they are on census night, regardless of their usual place of residence. The country has also adopted an aspect of de jure enumeration by including absent Botswana or Botswana leaving outside the country on the census night. Secondly, in consistency with previous censuses, the 2011 PHC adopted the interviewer (cavasser) method of enumeration.

In conformity with Botswana's last four population censuses, the 2011 PHC enumeration lasted for 10 days in August 2013. The duration was meant for a complete canvass of the whole population at a time school children were on holiday.

Results

1. Living arrangements and socio-economic characteristics of older person's

The 2011 PHC solicited responses on household member's socio-economic characteristics. Tables 3 to 5 present a percent distribution of living arrangements of older persons by their background characteristics. The data in table 2 shows that overall 12.6 percent of older persons lived alone, 37.1 percent lived with their spouse, 50.4 percent lived with their children, and 53.8 percent lived with close relatives. There are, however, differentials by residence, sex and age. A comparison between places of residence shows that a higher percentage of older persons who live alone reside in rural villages and settlements (15.7 percent) than there are in urban villages (8.9 percent) and in cities and towns (11.2 percent). A comparatively higher percentage of those who live with their spouse (43.1 percent) reside in cities and towns, 38.4 percent in rural villages and settlements and 34.4 percent in urban villages (Table 3). Thus, an examination of the data in table 3 present a pattern where a higher percentage of older persons living with a spouse are found in cities and towns (43.1 percent), those living with children (57.7 percent) and close relatives (57.4 percent) in urban villages and those living with other relative (15.8 percent) and not related (8.5 percent) in cities and towns.

While on that, it can also be observed from table 3 that a higher percentage of males (17.4 percent) than females (9.3 percent) lived alone. For women, it would appear from table 3 that a higher percentage would live with their children (54.5 percent) and close relatives (59.6 percent) compared with 44.4 percent and 45.5 percent of males, respectively.

Table 1: Percent distribution of household members aged 65 years and above living arrangements by residence, sex and age group, PHC 2011.

Place of residence	Living arrangements												Total N
	Living alone		Living with spouse		Living with children		Living with close relatives		Living with other relatives		Not related		
	N	%	N	%	N	%	N	%	N	%	N	%	
Cities and Towns	723	11.2	2783	43.1	3478	53.9	3602	55.8	1021	15.8	549	8.5	6455
Urban villages	3304	8.9	12799	34.4	21462	57.7	21343	57.4	5153	13.9	2765	7.4	37205
Rural villages and settlements	7577	15.7	18507	38.4	21301	44.2	24454	50.8	5990	12.4	3808	7.9	48145
Total	11604	12.6	34089	37.1	46241	50.4	49399	53.8	12164	13.2	7122	7.8	91805
Sex of respondent													
Female	5056	9.3	12812	23.7	29523	54.5	32273	59.6	7679	14.2	3979	7.3	54167
Male	6548	17.4	21277	56.5	16718	44.4	17126	45.5	4485	11.9	3143	8.4	37638
Total	11604	12.6	34089	37.1	46241	50.4	49399	53.8	12164	13.2	7122	7.8	91805
Age group													
65 - 69	3500	13.2	10973	41.3	13467	50.7	13659	51.4	3313	12.5	2164	8.1	26578
70 - 74	2870	13.4	8383	39.2	10844	50.7	11233	52.5	2691	12.6	1653	7.7	21383
75 - 79	2118	12.3	6187	36.1	8737	50.9	9345	54.5	2196	12.8	1278	7.4	17158
80 - 84	1583	12.5	4265	33.7	6211	49.1	7002	55.4	1734	13.7	931	7.4	12644
85 - 89	911	11.7	2387	30.6	3895	49.9	4481	57.4	1189	15.2	614	7.9	7811
90 - 94	396	10.7	1161	31.3	1861	50.2	2149	57.9	587	15.8	251	6.8	3710
95+	226	9.0	733	29.1	1226	48.6	1530	60.7	454	18.0	231	9.2	2521
Total	11604	12.6	34089	37.1	46241	50.4	49399	53.8	12164	13.2	7122	7.8	91805

Furthermore, the distribution by age shows that there is a tendency for older adults to live with close relative than with their spouses and children. It can also be observed from table 3 that the percentages of older adults living alone decrease with increasing age and so those living with a spouse. Regarding other types of household living arrangements, there are no distinct patterns by age (Table 3).

Table 2: Percent distribution of household members aged 65 years and above living arrangements by marital status, educational attainment and religious affiliation, PHC 2011.

Marital status	Living arrangements												Total N
	Living alone		Living with spouse		Living with children		Living with close relatives		Living with other relatives		Not related		
	N	%	N	%	N	%	N	%	N	%	N	%	
Married	3369	9.2	24247	65.9	18627	50.6	18784	51.1	3819	10.4	2722	7.4	36785
Never Married	2729	17.8	1440	9.4	7375	48.0	8412	54.8	2864	18.6	1298	8.5	15360
Living together	562	7.0	5938	73.8	3494	43.4	3724	46.3	1084	13.5	705	8.8	8044
Separated	326	35.9	51	5.6	302	33.3	413	45.5	107	11.8	66	7.3	908
Divorced	681	30.8	153	6.9	883	40.0	1051	47.6	302	13.7	192	8.7	2209
Widowed	3936	13.8	2258	7.9	15555	54.6	17014	59.7	3987	14.0	2139	7.5	28492
Total	11603	12.6	34087	37.1	46236	50.4	49398	53.8	12163	13.2	7122	7.8	91798
Educational attainment													
Never attended	41	10.8	123	32.4	186	48.9	207	54.5	60	15.8	39	10.3	380
Non-formal	170	10.8	535	34.1	851	54.2	856	54.5	189	12.0	147	9.4	1570
Primary	3675	11.9	10414	33.7	16332	52.8	17432	56.4	3644	11.8	2221	7.2	30935
Secondary	479	14.8	1431	44.1	1513	46.6	1597	49.2	402	12.4	335	10.3	3247
Tertiary	486	15.4	1560	49.4	1421	45.0	1391	44.0	357	11.3	344	10.9	3161
Total	4851	12.3	14063	35.8	20303	51.7	21483	54.7	4652	11.8	3086	7.9	39293
Religious affiliation													
No religion	1800	13.6	5483	41.3	6302	47.5	6798	51.3	1929	14.5	1079	8.1	13262
Non-Christians	1357	15.7	3585	41.4	4017	46.4	4301	49.7	1144	13.2	664	7.7	8651
Christians	8405	12.1	24940	35.8	35824	51.4	38197	54.8	9059	13.0	5359	7.7	69675
Total	11562	12.6	34008	37.1	46143	50.4	49296	53.8	12132	13.2	7102	7.8	91588

In addition table 4 shows that on the general older persons who live alone with regard their marital status are mainly those who have never married or who reached that state through marital dissolution. Table 4 further shows that many those whose marriages were dissolved lived with their children and close relatives.

It can also be deduced from table 4 that as the level of education increases the proportions of older persons living alone also increases. However, for the other categories of living arrangements it does not appear as if there are distinct patterns that emerge. It is also of interest to note that a higher percentage of older adults living alone were Non-Christians (15.7 percent) as compared with 13.6 percent with no religion and 12.1 percent Christians. A low percentage of Christians lived with their spouse (35.8 percent) compared with Non-Christians (41.4 percent) and No religion (41.3 percent). On the other hand a higher percentage of older adults living with children and those living with close relatives were of the Christian denomination.

Table 3: Percent distribution of household members aged 65 years and above living arrangements by economic activity, PHC 2011.

Economic Activity	Living arrangements												Total
	Living alone		Living with spouse		Living with children		Living with close relatives		Living with other relatives		Not related		
	N	%	N	%	N	%	N	%	N	%	N	%	
Seasonal - Paid	462	13.3	1493	42.8	1636	46.9	1793	51.4	436	12.5	325	9.3	3485
Seasonal - Unpaid	1231	11.9	4613	44.4	5285	50.9	5358	51.6	1175	11.3	783	7.5	10388
Non_seasonal - Paid	1531	20.3	3483	46.2	3156	41.9	3078	40.9	868	11.5	756	10	7531
Non_seasonal - Unpaid	1729	24.0	3056	42.4	2706	37.6	3064	42.5	700	9.7	569	7.9	7205
Job seeker	108	11.1	354	36.5	496	51.1	501	51.6	163	16.8	93	9.6	970
Home maker	3345	10.3	10343	31.7	17351	53.2	18708	57.4	4326	13.3	2287	7.0	32600
Student	26	11.2	70	30.2	127	54.7	119	51.3	48	20.7	32	13.8	232
Retired	1262	11.7	4976	46.2	5604	52.0	5871	54.5	1462	13.6	935	8.7	10769
Sick	1902	10.3	5662	30.5	9825	53.0	10862	58.6	2976	16.1	1335	7.2	18536
Prisoners	8	9.8	37	45.1	51	62.2	43	52.4	7	8.5	5	6.1	82
Other (NEC)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Total	11604	12.6	34087	37.1	46237	50.4	49397	53.8	12161	13.2	7120	7.8	91798
Employment status													
Not working	7275	10.3	24567	34.8	37409	53.0	40097	56.8	9888	14.0	5278	7.5	70549
Working	4329	20.4	9522	44.8	8832	41.6	9302	43.8	2276	10.7	1844	8.7	21256
Total	11604	12.6	34089	37.1	46241	50.4	49399	53.8	12164	13.2	7122	7.8	91805

Information in table 5 is on older adult's main economic activity in the last 12 months and the type of work for pay in the past 7 days. The data table 5 shows some interesting observations; one is that there are older adults who still seek employment. Table 5 shows that among older adults living alone, about 11 percent were jobseekers in the 12 months preceding the census, this compares with 36.5 percent among those living as a couple, 51.1 percent among those living with children, 51.6 percent among those living with close relatives, and 16.6 percent among those living with other relatives. Second are older adults that were reported sick. From table 5 the data indicates that 7.2 percent were living with persons they were not related to, 10.3 percent were living alone, and 16.1 percent with other relatives, 30.5 percent with spouse, 53.0 percent with children and 58.6 percent lived with close relatives.

With regard economic activity in the last 7 days, information from table 5 shows that 8.7 percent of older adults living with persons they were not related worked for pay, profit or home use, while 10.7 percent living with distant relatives, 20.4 percent living alone, 41.6 percent living with their children, 43.8 percent living with close relatives and 44.8 percent living as a couple worked for at least one hour in past 7 days for pay, profit or home use.

1. Household living arrangements and older persons living with disability

The population and housing census questionnaire comprised of questions on disability that were posed to members of the household. This analysis focuses on 91807 members of the household that were aged 65 years above who responded on questions regarding disability. Table 2 shows that there two common types of disabilities, the types of disability being partially sighted (9.8 percent) and partial hearing (4.1 percent). Other type's disabilities recorded percentages between 2.5 and 0.03, and the least being missing one (1) arm with only 0.03 percent out of a total of 91807 respondents'.

Table 2 further shows that, among 8981 older persons who reported to be partially sighted, 22.0 percent lived alone compared with 30.7 percent who lived with a spouse, 39.8 percent who lived with children, 48.6 percent who lived with close relatives, 11.0 percent with other relatives and 6.0 percent of older persons who were partially sighted lived with people they were not related to. Furthermore, 3775 older persons reported to have hearing difficulties. Among those with partial hearing, 21.1 percent lived alone, 29.0 percent with spouse, 41.5 with children, 50.2 with close relatives, 16.8 percent with other relatives and 5.8 percent lived with people they were not related to.

It should also be noted from table 2 that, although it is commonly cited in the literature and it is also commonly believed that older persons often suffer mental health problems, overall only 0.6 percent of older persons were reported to suffer mental health disorder. The distribution by living arrangements also suggest that in most instance they live with people they are closely related to.

Table 4: Percent distribution of household members aged 65 years and above living arrangements by type of disability, PHC 2011.

Disability	Living Arrangements						Total	Total
	Living alone	Living with spouse	Living with children	Living with close relatives	Living with other relatives	Not related		
Partially sighted	22.0	30.7	39.8	48.6	11.0	6.0	8 981	9.8
Total blindness	6.2	37.9	55.2	59.7	19.4	8.0	2 251	2.5
Partial hearing	21.1	29.0	41.5	50.2	11.8	5.8	3 775	4.1
Deafness	12.4	34.0	47.4	55.6	16.8	7.5	477	0.5
Partial speech impediment	16.0	33.5	49.4	60.2	13.0	8.2	269	0.3
Inability to use 1 leg	20.5	32.7	41.9	49.8	11.6	5.9	1 402	1.5
Inability to use 1 arm	20.2	34.5	43.3	47.7	11.8	8.7	771	0.8
Inability to use the whole body	12.0	34.9	50.0	56.0	17.9	9.2	498	0.5
Intellectual impairment	21.1	24.8	37.6	52.6	24.8	9.0	133	0.1
Mental health disorder	8.0	28.2	52.3	59.5	21.9	9.4	511	0.6
Missing 1 arm	19.4	32.3	45.2	41.9	9.7	3.2	31	0.0
Missing 1 leg	10.9	44.5	51.8	54.5	13.6	8.2	110	0.1
								91807

2. Wealth Index (quintiles) for Households with Older Adults 65 years and above

The wealth index is a composite measure of a household's cumulative living standard. Information on the wealth index is based on data collected using the 2011 Population and Housing Census questionnaire. The census questionnaire included questions concerning the household's ownership of a number of consumables such as a television and car; dwelling characteristics such as flooring material; type of drinking water source; toilet facilities; and other characteristics that are related to wealth status.

Each household asset for which information was collected is assigned a weight or factor score generated through principal components analysis. The resulting asset scores were standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one. These standardized scores were then used to create the break points that define wealth quintiles as: Lowest, Second, Middle, Fourth, and Highest. The lowest being the poorest and the highest being the richest (Rutstein and Johnson, 2004).

The 2011 population and housing census shows that 5.8 percent of the older adults were living in very poor households, 34.2 percent of older adults lived in second poorest households and 20.0 percent of older adults were in the richest households (see figure 1).

Figure 1: Wealth Index for Older Adults



In essence, figure 1 depicts that 40.0 percent of older adults lived in poorer households.

In addition information in table 5 presents wealth variations by background characteristics and living arrangements. Information in table 5 indicates that comparatively older adults living alone fared poorly on the wealth index against older adults living in other arrangements. For instance, 15.2 percent of older adults living alone were in households that scored the lowest on the wealth index as compared to 8.3 percent of older adults living a spouse, 5.8 percent of older adults living with children and 4.0 percent of older adults living with other relatives.

Table 5: Wealth Index (quintiles) for older adults by Living arrangements

Living arrangements	Wealth Index(quintiles)										Total N
	Lowest		Second		Middle		Fourth		Highest		
	N	%	N	%	N	%	N	%	N	%	N
Living alone	1778	15.3	1213	10.5	4197	36.2	2589	22.3	1827	15.7	11604
Living with spouse	416	8.3	2243	44.7	864	17.2	596	11.9	900	17.9	5019
Living with children	407	5.8	1486	21.2	1631	23.2	1563	22.3	1937	27.6	7024
Living with close relatives	720	5.6	4586	36.0	2430	19.1	2343	18.4	2666	20.9	12745
Living with other relatives	262	4.0	3325	50.5	912	13.9	941	14.3	1140	17.3	6580
Living with people not related	67	5.4	429	34.7	268	21.7	235	19.0	237	19.2	1236
Total	3479	8.6	12058	29.9	9577	23.7	7478	18.5	7738	19.2	40330
Age group											
65 - 69	1403	5.1	8897	32.3	5208	18.9	5480	19.9	6551	23.8	27539
70 - 74	1278	5.8	6967	31.5	4653	21	4484	20.2	4764	21.5	22146
75 - 79	1042	5.8	5694	31.9	3648	20.5	3734	20.9	3707	20.8	17825
80 - 84	868	6.6	4520	34.3	2855	21.7	2640	20.0	2290	17.4	13173
85 - 89	540	6.6	3211	39.1	1721	21.0	1581	19.2	1161	14.1	8214
90 - 94	238	6.1	1837	47.0	725	18.6	651	16.7	455	11.6	3906
95+	186	7.0	1505	56.8	458	17.3	307	11.6	195	7.4	2651
Total	5555	5.8	32631	34.2	19268	20.2	18877	19.8	19123	20.0	95454
Place of residence											
Cities and Towns	11	0.2	2617	39.4	391	5.9	1084	16.3	2542	38.3	6645
Urban villages	482	1.2	12205	31.3	5242	13.5	8891	22.8	12148	31.2	38968
Rural villages and settlements	5062	10.2	17809	35.7	13635	27.4	8902	17.9	4433	8.9	49841
Total	5555	5.8	32631	34.2	19268	20.2	18877	19.8	19123	20.0	95454
Sex											
Female	2862	5.0	21849	38.2	10715	18.7	10980	19.2	10749	18.8	57155
Male	2693	7.0	10782	28.2	8553	22.3	7897	20.6	8374	21.9	38299
Total	5555	5.8	32631	34.2	19268	20.2	18877	19.8	19123	20.0	95454
Educational attainment											
Never attended	7	1.8	152	38.4	65	16.4	78	19.7	94	23.7	396
Non-formal	35	2.1	506	30.9	339	20.7	426	26.0	333	20.3	1639
Primary	457	1.4	9387	29.3	5160	16.1	7795	24.4	9203	28.8	32002
Secondary	16	0.5	1145	34.6	221	6.7	446	13.5	1484	44.8	3312
Tertiary	1	0.0	839	26.3	67	2.1	200	6.3	2089	65.4	3196
Total	516	1.3	12029	29.7	5852	14.4	8945	22.1	13203	32.6	40545

It can also be observed from table 5, save for the age group 65-69 years, that there is a tendency for the percentage of older adults in the second quintile of the wealth index to increase with age. For instance, it can be observed that the percentages of range from 35.5 percent among older adults aged 70-74 years to 58.8 percent among older adults 95 years and over. On the other hand older adults in the richest households present the opposite, where it can be found from table 5 that the percentage of older adults from the richest households decrease with increasing age. For example, 23.8 percent of older adults aged 65-69 years were in the highest quintile of the wealth index, and this declines to 7.4 percent among older adults aged 95 years and over.

The data in table 5 also shows that, 10.2 percent of older adults in rural villages and settlements were living in the poorest households compared with only 0.2 percent of older adults in cities and towns. This probably lends itself to the low numbers of the older adult population resident in cities and towns. It is also worth noting that cities and towns comprise 38.3 percent of older adults in households that scored highest on the wealth index compared with 8.9 percent of older adults in rural villages and settlements.

Still in table 5, it can be observed that, 7.0 percent of older adult males were in the lowest quintile of the wealth index compared with 5.0 percent of older adult females. However, 21.9 percent of older adult males scored highest on the wealth index compared with 18.8 percent of older adult females.

Lastly, among older adults with non-formal education, 2.1 percent were in the poorest households compared with a very negligible percentage of 0.03 percent among older adults with tertiary education. It should also be brought to the fore that, 20.3 percent of older adults with non-formal education were in households that scored highest on the wealth index, this compares with 23.7 percent who never attended school, 28.8 percent with primary education, 44.8 percent with secondary education and 65.4 percent with tertiary education.

Multivariate analysis of the effects of demographic and socioeconomic variables on living alone among older adults.

Multivariate logistic regressions were performed to identify factors that affect living arrangements among older adults. The variables that were used in the analysis could only explain 16.2 percent of the variations in living arrangements. Table 6 presents co-efficients on predictors of living arrangements. The data in this table are read with the understanding that the odds ratios represented control for confounders. The data indicates that, save for the age group 65-69 years; older adults aged 95 years and over were less likely to live alone than older adults in other age groups. The effect of education on living arrangements is, though, not statistically significant. In addition to education, one other variable which is not statistically significant is religion. While on that the older adults with secondary education were 88.4 percent less likely to live alone than were their counterparts with tertiary education. This though was not statistically significant. Nevertheless, older adults who have never attended school, those with non-formal education and those at primary level were less likely than their counterparts in tertiary to live alone, and these were statistically significant (see table 6).

Table 6:

Variables in the model	Sig	Odds Ratio
Age group		
65 – 69	0.953	0.99
70 – 74	0.604	1.094
75 – 79	0.669	1.077
80 – 84	0.265	1.217
85 – 89	0.449	1.147
90 – 94	0.889	1.029
95+		
Educational attainment		
Never attended	000	0.48
Non-formal	000	0.427
Primary	000	0.531
Secondary	0.097	0.884
Tertiary		
Wealth Index(quintiles)		
Lowest	000	5.759
Second	000	0.202
Middle	000	2.704
Fourth	000	1.696
Highest		
Religious affiliation		
No religion	0.244	0.934
Non-Christians	0.727	1.024
Christians		
Place of residence		
Cities and Towns	0.03	0.884
Urban villages	000	0.679
Rural villages and settlements		
Sex		
Female	000	0.566
Male		
Marital status		
Ever married	000	0.504
Never married		

Again the data in table 6 indicate that older adults in cities and town, and urban villages were less likely to live alone than their counterparts in rural villages and settlements. These were also statistically significant at 0.05.

Female older adults and those that have ever been married were 56.6 percent and 50.4 percent less likely to live alone than their counterparts.

The wealth of the household appear to be an important factor in living arrangements, since the poorest were 5.8 likely to live alone than the richest. Conversely, older adults who were second lowest on the wealth index were 20.2 percent less likely to live alone than the wealthiest older adults. These are statistically significant at 0.05 level of significance.

Conclusions and Recommendations

This paper sought to provide a background to living arrangements of older persons through a review of the literature on living arrangements of older people and to provide data on the demographic transition currently under way. The living arrangements of the older people in Botswana show a population transition that has several policy implications on many levels. The main conclusions are as follows:

- In the age disaggregated data older people lived with close relatives than with their spouses and children, including couples who are married. Perhaps this requires more investigation to understand the family dynamics that lead to this extended family scenario.
- Older adults in cities and town, and urban villages were less likely to live alone than their counterparts in rural villages and settlements as people in Botswana reside in urban areas. Perhaps the increasing rural to urban migration may explain this trend as urban residents comprised 64.1 percent of the 2011 population and these included urban villages.
- Interestingly, a higher percentage of men than women lived alone, a new trend compared to the last population census where more women than men lived alone. This is also counter-intuitive to common patterns, given that women generally outlive men and are more likely to be widowed in their old age.
- Although older people lived with their children and other relatives, there needs to be a study on intergenerational transfers as co-residence does not necessarily imply that the older people were being taken care of. The number of people who were still working in their old age is worrisome. Even the older people who were living with their children were still seeking employment even at advanced ages. It might be important to know why they are continuing to work. Some may want to stay active and involved, but many may work till they die for economic reasons.
- Government may have to review the old age pension and increase the retirement age for public service. Older people in Botswana receive a non-contributory old age pension equivalent to (230 Botswana Pula = USD 26.)
- Older people are likely to continue to be more vulnerable as the fertility levels decline and old-age dependency ratio rises as many depend on family support.
- Two types of common disabilities were identified among older people, namely poor sight and hearing. Oftentimes older people have poor sight that is caused by undiagnosed cataracts due to diabetes mellitus, and they could easily be extracted to improve sight. Some of the hearing disorders could be easily improved with the use of hearing aids. Screening programs targeting older people need to be put in place to improve the quality of life of ageing populations in Botswana. Although more people with partial sight were living with other people, 22% of older people with partial sight were living alone, and this compromises their quality of life. Government and civil society needs to raise awareness and increase screening for NCDs that accompany ageing such as Diabetes Mellitus, Cancer and Hypertension among others, as the life expectancy of older people has increased.
- The increase in the rising prevalence of NCDs among people living with HIV (PLWH) in Botswana is also worrisome (Reid, Tsima & Kirk, 2012). Many people have aged with HIV due to a successful ARV program and response to HIV, therefore diabetes mellitus is more likely to develop among older people. The current National Health Policy has several policy thrusts that include health promotion and these should be extended to the older people as well.
- There were older people who were reported sick, including those who were living with persons they were not related to, those living alone and those who lived with family members. The Home Based Care Program should be strengthened so that it can provide outreach services to the sick older people. Currently the patients on HBC are older people with mostly NCDs like stroke, cancer and hypertension.
- A few day care centres have been formed by civil society in response to the plight of older people. More day care centres should be opened by both civil society and government to improve the quality of their lives. Multidisciplinary programs could be offered at such facilities.

- It is also important that we train interdisciplinary professions (social workers, physiotherapists, doctors, nurses, pharmacists, lawyers etc.) for the longevity revolution to enable them to have knowledge pertinent to ageing issues.
- A policy framework for active ageing as recommended by WHO is necessary to guide a plan of action for healthy ageing. This should incorporate the four pillars of health, lifelong learning, participation and protection (WHO, 2002).
- A more detailed situational analysis of older people's living arrangements should be carried out as the variables that were used in the analysis could only explain 16.2 percent of the variations in living arrangements. This would yield important information that could be used to inform the planned ageing policy.

References

1. Aboderin, I. (2005). Modernization and ageing theory revisited: current explanations of recent developing world and historical Western shifts in material family support for older people. *Ageing and Society*, 24 (1), 29-50.
2. Apt, N. A. (1997). *Ageing in Africa*, Geneva: World Health Organization.
3. Apt, N.A. (2000). Rapid urbanization and living arrangements of older persons in Africa. <http://www.un.org/esa/population/pubsarchive/untech/pdf/untech9.pdf>
4. AVERT, HIV and AIDS Statistics: Sub-Saharan. <http://www.avert.org/africa-hiv-aids-statistics.htm> Retrieved 6 August, 2013.
5. Bainame & Shaibu, S. (2003). The Demography of and the Socio-economic conditions of the Ageing population in Botswana. In Central Statistics Office Analytical Report: 2001 Population and Housing Census (pp. 279-292). Gaborone, Botswana: Government Printers.
6. Bongaarts, J. & Zimmer, Z. (2002). Living arrangements of older adults in the developing world: An analysis of demographic and health survey household surveys. *Journals of Gerontology*, 57(3), S145-57.
7. Botswana Government, (2008). National situation analysis on orphans and vulnerable children in Botswana. Ministry of Social Services, Local Government. Gaborone, Botswana: Government Printers.
8. Casey B., Yamada A. (2002), "Getting older, getting poorer? A study of the earnings, pensions, assets and living arrangements of older people in nine countries", OECD Occasional Papers 60, OECD, Paris.
9. Cheng S.T. & Siankam, B. (2009). The impacts of the HIV/AIDS pandemic and socioeconomic development on the living arrangements of older persons in sub-Saharan Africa: a country-level analysis. *American Journal of Community Psychology*. 44:136-47.
10. Clausen, T., Wilson, A., Molebatsi, R., Holmbow-Ottensen, G. (2007). Diminished mental- and physical function and lack of social support are associated with shorter survival in community dwelling older persons of Botswana. *BMC Public Health*, 7, 144.
11. The Guardian (2009). Percentage of global population living in cities, by continent. <http://www.theguardian.com/news/datablog/2009/aug/18/percentage-population-living-cities>
12. Help Aged (2008, 29th Sept), 'Grandparents caring for orphaned grandchildren worldwide doubles in 0 years'
13. Help Age International & International HIV/AIDS Alliance, *Forgotten Families: Older People as Carers of Orphans and Vulnerable Children*, policy report (UK: International HIV/AIDS Alliance, 2003). http://www.aidsalliance.org/includes/Publication/ssp0903_forgotten_families.pdf.
14. Hermalin, A.I. *Ageing in Asia: Facing the crossroads: Comparative study of the elderly in Asia Research Reports*, No. 00-55. Ann Arbor, Michigan: Population Studies Center, University of Michigan, August 2000. <http://www.psc.isr.umich.edu/pubs/pdf/ea00-55.pdf>

15. Hosegood, V. & Timaeus, I. (2005). The impact of adult mortality on living arrangements of older people in rural South Africa. *Ageing and Society* 2005, 25:431-444.
16. Kautz, T., Bendavid, E., Bhattacharya, J., Miller, G. (2010). AIDS and declining support for dependent elderly people in Africa: Retrospective analysis using demographic and health surveys. *BMJ*, 340:2841.
17. Kinsella, K. & Phillips, D.R.(2005). Global aging: The challenge of success. *Population Bulletin*, 60 (1), 2-32
18. Kinsella, K. & He, W. (2009). *An aging world: 2008*. U.S.G.P.O., Washington, DC.
19. McKinnon, H.S. & Moore, S. (2013). The relationship of living arrangements and depressive symptoms among older adults in sub-Saharan Africa. *BMC Public Health* 13:682 available at <http://www.biomedcentral.com/1471-2458/13/682>
20. Mokomane, Z. (2012), Social protection as a mechanism for family protection in sub-Saharan Africa. *International Journal of Social Welfare*. doi: 10.1111/j.1468-2397.2012.00893.x
21. Mui, A. C. & Burnette, D. (1994). A comparative profile of frail elderly persons living alone and those living with others. *Journal of Gerontological Social Work*, 21 (3/4), 5-26.
22. Palloni, A. (2002). Living arrangements of older persons. www.un.org/esa/population/publications/bulletin42_43/palloni.pdf Retrieved January 08, 2014
23. Reid, J. A., Tsima, M. B., & Kirk, B. (2012). HIV and diabetes in Africa. *African Journal of Diabetes Medicine*, 20, (2), 1-5.
24. Ruggles, S. & Heggeness, M. (2008). Intergenerational co-residence in developing countries. *Population Development Review*, 34 (2): 253–281
25. Rutstein, S.O. & Johnson, K. (2004). DHS Comparative Reports No. 6. The DHS Wealth Index . <http://www.measuredhs.com/pubs/pdf/CR6/CR6.pdf> / Retrieved January 08, 2014.
26. Shaibu, S. & Wallhagen, M. (2002). Family caregiving of the elderly in Botswana: Boundaries of culturally acceptable options and resources. *Journal of Cross-Cultural Gerontology*, (17), 2, 139-154.
27. United Nations, Living arrangements of older persons around the world. *Population Study Series*, December 30, 2005.
28. United Nations Department of Economic and Social Affairs/Population Division. Current status of the social situation, well-being, participation in development and rights of older persons worldwide, 2011.
29. United Nations. World Population Prospect, 2012 Revision. <http://esa.un.org/wpp/> Retrieved August 14, 2013.
30. United Nations Department of Economic and Social Affairs/Population Division. Living arrangements of older persons around the world, 2005.
31. United Nations. Department of Economic and Social Affairs/Population Division. The Impact of AIDS (Sales No. E.04.XIII.7), 2004.
32. Verloff, V. A. (2001). Living arrangements and well-being of the older population: Future research directions. *Population Bulletin of the United Nations*, Nos. 42/43.
33. WHO, 2002. Active Ageing: A Policy Framework. Geneva: WHO.
34. World Health Organization. *Global Age-Friendly Cities: A Guide*. Geneva: WHO, 2007.
35. Zimmer, Z. (2009). Household composition among elders in sub-Saharan Africa in the context of HIV/AIDS. *Journal of Marriage & Family*, 71:1086-1099.
36. Zimmer, Z. & Das, S. (2013). The poorest of the poor: Composition and wealth of older person households in Sub-Saharan Africa. *Research on Aging*. <http://roa.sagepub.com/content/early/2013/04/12/0164027513484589>

THE ELDERLY POPULATION IN BOTSWANA

By Dr. S.R.T. Moeng
Department of Statistics, University of Botswana, Gaborone

Abstract: This chapter gives a brief insight of the situational analysis of the elderly population in Botswana. The Elderly refers persons aged 65 years and above, and an insight is also discussed for the elderly old, 75+ years old. The analysis is based on the 2011 Population Census of Botswana which enumerated 95,947, elderly persons, aged 65 years and above which is 4.7%, of the total population in Botswana. About 51% of the elderly were females and 71% lived with close relatives. Most, 52.1% of the elderly population lives in rural villages. The distribution of socio-demographic, living arrangements and health status of the elderly by sex and type of residential locality are presented.

Introduction

The Elderly Population of Botswana

Elderly or old age refers to ages past the average life expectancy. The boundary of old age may have different meanings in different societies. Often people are considered as old once they lose their ability to perform certain physical and socio-economic activities. At these ages the person become more prone to diseases and sicknesses compared to the other age groups in the population.

Due to the changes in the family structures, the emergence of nuclear families, socio-cultural and economic developments, the elderly are increasingly becoming exposed to emotional, physical and financial hardships and insecurities. The ageing of the population has become a global issue and has presented challenges of meeting the needs of the elderly and Botswana is no exception to these challenges. Government and institutional programs catering for the elderly have been very few and have had less and limited coverage. It is Botswana's aspiration to ensure the well-being of its population and hence policies, programs and laws that address different sectors of the population need to be put in place. This has become more essential in the context of the International plan of Action on Ageing adopted by the Second World Assembly in Madrid in 2002, of which Botswana has ratified. The aim of the Plan of Action is to ensure that persons everywhere are able to age with security and dignity and to continue to participate in their societies as citizens with full human rights (economic, social and cultural rights, and civil and political rights). Furthermore the elderly are to be provided with health care, support and social protection.

Objectives

This report presents a situational analysis of the elderly to identify the emerging areas of key concern and inform on possible interventions to improve the living conditions of the elderly. The analysis on this report provides insights to policy-makers and legislators in developing turnaround strategies, policies and programmes that can improve the living conditions of the Elderly persons. The findings in this report will therefore inform the review of existing policies and programs including pensions, social welfare and other benefits.

In the broad context, the aims of this report are:

- To examine the distribution and background characteristics of the elderly according to: sex; residence; religion; marital status; education, economic status and housing status, ownership of assets, living conditions etc.
- To highlight key policy issues make recommendations that will enable government and policy-makers to design appropriate measures to further improve the welfare of older persons.

Methodology

This report is based on data from the Botswana 2011 Population and Housing Census. The census collected data on population size and composition, population dynamics, population and household characteristics, health characteristics and other variables. This report therefore provides the distribution of the demographic and socio-economic status or profile of the Elderly mainly by sex and type of residence.

The report clearly describes and interprets the results of the data, provides highlights and conclusions and discusses policy implications. Different chapters of the report contain the following:

- Statistical tables related to the thematic analysis.
- Indicators related to the selected theme for analysis.
- Thematic charts and figures illustrating some results of the thematic analysis.

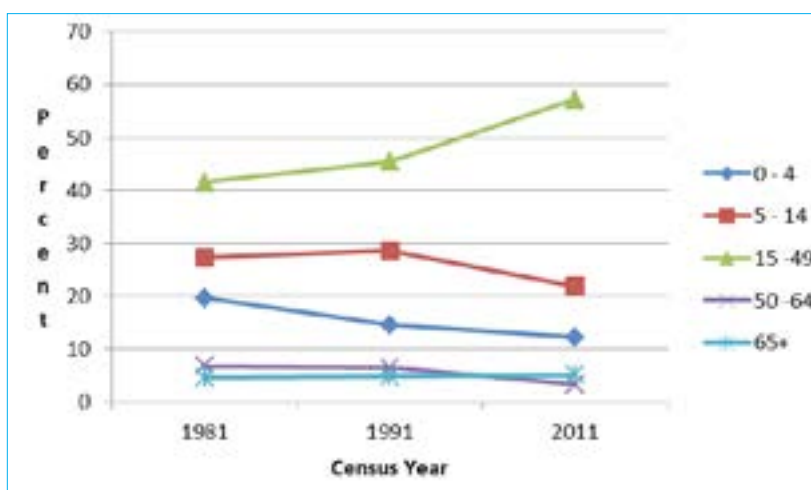
The Ageing scenario

Elderly population in this report is defined as population aged 65 years or older, which is the average age of retirement and the life expectancy in Botswana. Life expectancy at birth in Botswana is reported to have reached an average of 68 years while by sex it is 66 years for males and 70 years for females. According to latest WHO data published in April 2011, the life expectancy in Botswana at the age of 65 is 77.9 years for males and slightly higher, 79.6 years for females. The same report indicates that males and females aged 75 years expect to live an extra 7 years.

Figure 1 shows the breakdown of the percentage distribution of the population of Botswana, into five broad age groups; 0-4 years, 5-14, 15-49, 50-64 and 65 years and above over the census periods, from 1981 to 2011. Over the years, the share of the 0-4 and 5-15 years declined from 19.7% to 12.3% and from 27.3% to 21.9% respectively from 1981 to 2011 (Figure1). During the same period, however, the percentage of the elderly population remained steady at about 4.8%, and its share of the total. Although the share of the elderly population is low, compared to many countries, especially the developed countries, in absolute numbers, the population of the elderly is increasing.

This calls for the government of Botswana to come up with appropriate policy programs to cover the senior citizens. Reliable population projections are required to assist the policy makers to adequately prepare for the increasing greying population.

Figure 1: Age distribution of the population over the census years (1981 to 2011)



Demography of the Aging population

Share of the Elderly in the Total Population

HIGHLIGHTS

- The Elderly population (65 years and above) is 95,947, which constitutes 4.7% of the total population of Botswana.
- Most of the elderly in Botswana are females (59.8%).
- More than half of the elderly live in rural villages (52.1%).

The 2011 Population Census of Botswana counted 95,947, elderly persons aged 65 years and above, which represent 4.7% of the total population.

Table 1 show that a large percentage (59.8%) of the elderly is females whereas 40.2% are males. An even larger gender disparity is at the older ages, when the females make up a large majority (63.2%) of the old elderly aged 75 years and above. This could be explained by disproportionate higher male mortality at older ages.

Table 1: Percentage distribution by Age Group, Sex and Locality Type

Age Group	Sex			Locality Type		
	Total	Male	Female	City/Town	Urban Village	Rural Village
	Count	%	%	%	%	%
0-4	237,314	50.6	49.4	16.4	41.4	42.2
05-14	422,456	50.4	49.6	16.5	43.1	40.4
15-49	1,106,267	49.1	50.9	26.7	42.8	30.4
50-59	120,411	44.9	55.1	19.2	39.5	41.3
60-64	37,584	46.1	53.9	12.8	38.3	48.8
65-74	50,008	43.4	56.6	8.7	39.9	51.4
75+	45,939	36.8	63.2	5.3	41.8	52.9
<i>Not Stated</i>	4,925	62.7	37.3	15	41.2	43.8
Total	2,024,904	48.8	51.2	21.7	42.3	35.9

Around 7.1% of the elderly population lives in cities and towns and a further 40.8% lives in urban villages. Most (52.1%) of the elderly population lives in rural villages (i.e. including farming lands areas and cattle posts). Most of Batswana consider cities and towns as a temporary residence, a place of economic employment and opportunities. On retirement the majority of Batswana in cities or towns return to their “homes”, in the villages. It is in their villages where they get engaged in traditional economic activities, like farming. The elderly often feel the village locations provide a sense of belonging and an environment in which they can enjoy peaceful, less stressful remaining years of their lives.

Distribution Number and share of the Elderly population in the Total Population by district

Table 2 shows the distribution of the elderly population by census districts in Botswana. Of the total population of Botswana, Ngwaketse District proportionately has the largest share of the elderly population (7.0%), followed by Barolong and Central Mahalapye Districts with 6.7% of their population aged 65+ years. The top two districts, in terms of the absolute number of the elderly population, are Kweneng East and Central Serowe/Palapye, with the elderly populations above 10,000 each.

Table 2: Percentage share of the elderly population by District

District	Total Population N	Population above 65 years (Total) N	% of population above 65 years %	% of population above 65 years	
				Male %	Female %
Gaborone	231,170	3,302	1.4	44.2	55.8
Francistown	98,735	1,814	1.8	40.1	59.9
Lobatse	28,985	783	2.7	39.2	60.8
Selebi-Phikwe	49,392	743	1.5	46.2	53.8
Orapa	9,501	56	0.6	33.9	66.1
Jwaneng	17,987	104	0.6	62.5	37.5
Sowa Town	3,598	9	0.3	44.4	55.6
Ngwaketse	129,107	9,009	7	41.5	58.5
Barolong	54,634	3,680	6.7	42	58.0
Ngwaketse West	13,683	777	5.7	43.4	56.6
South East	84,718	3,456	4.1	38.3	61.7
Kweneng East	255,907	11,406	4.5	40.5	59.5
Kweneng West	47,733	3,041	6.4	43.4	56.6
Kgatleng	91,434	5,801	6.3	40.2	59.8
Central Serowe/Palapye	180,300	10,792	6	39.3	60.7
Central Mahalapye	118,635	7,788	6.6	40.3	59.7
Central Bobonong	71,786	4,585	6.4	37.6	62.4
Central Boteti	57,195	2,899	5.1	42.2	57.8
Central Tutume	146,867	9,300	6.3	37.4	62.6
North East	60,170	3,836	6.4	35.1	64.9
Ngamiland East	89,834	4,021	4.5	41.8	58.2
Ngamiland West	59,350	3,528	5.9	38.3	61.7
Chobe	23,154	704	3.0	39.2	60.8
Okavango Delta	2,519	162	6.4	54.3	45.7
Ghanzi	42,981	1,929	4.5	45.5	54.5
Central Kgalagadi Game Reserve (CKGR)	242	6	2.5	50.0	50.0
Kgalagadi South	29,909	1,283	4.3	42.6	57.4
Kgalagadi North	20,453	1,133	5.5	41.5	58.5
Total	2,019,979	95,947	4.7	40.2	59.8

Cities and towns have the lowest share of the elderly populations, ranging from 0.6% to 2.7%. Mining towns recorded the lowest share of the elderly populations also ranging between 0.3% (Sowa Town) and 0.6% (Jwaneng and Orapa).

North-East District has the largest female share percentage (64.9%) of the elderly, followed by Central Bobonong and South East Districts

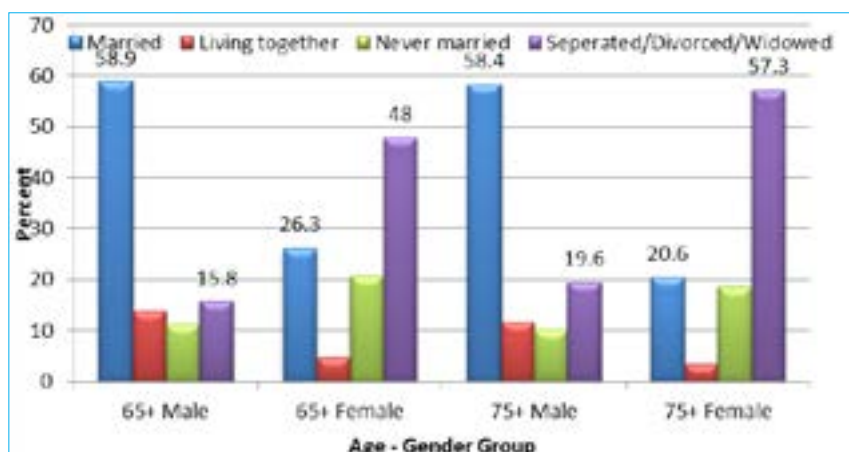
Marital and Religious Status of the elderly

Highlight

- About 70% of the elderly have been in marital union at one time or the other in their lifetime.
- Almost 40% of the elderly are currently married and 35% of the elderly have had their marriages disrupted by separation, divorce or widowhood.
- In each elderly age group, more males than females are still in their marital union.
- In each elderly age group, more females are separated, divorced or widowed.
- Only a small percentage of male or of female elderly are found living together, co-habiting with out marriage vows. A significant sex difference is observed in the currently married elderly popula-

A significant sex difference is observed in the currently married elderly population. Table 3 and Figure 2 illustrate that almost 60% of the elderly males are currently married compared to 26.3% of females still married. The sex difference in currently married is wider among the elderly old of 75+. In this category, 58.4% of males are married whereas only 20.6% of females are currently married.

Figure 2: Percentage distribution of marital status of the elderly by sex



There is little difference between the localities in terms of percentage of the elderly currently married. The percentage currently married were the highest of any marital status in the three types of residential locality.

More than one third (35.1%) of the elderly have experienced disruptions in their marriage through separation, divorce or widowhood. More of the females (48.0%) compared to males (15.8%) are no longer in marriage communion, the gap between the sex groups gets even wider among the elderly old, 75+ years of the population. About 57.3% of the elderly old females are separated, widowed or divorced compared to 19.6% of the elderly old males.

Living together (cohabitation) is a new phenomenon in Botswana with younger generations, due to among other things, the socio-economic development and modernization. Very few elderly are found living together with their partners, not married. Only 8.6% of the elderly reported living together with their partners and the lowest percentage 5.1% of the elderly in urban villages are living together with their partners.

Educational Attainment of the elderly

Highlights

- More than half (57.4%) of the elderly population have never been to school.
- About one third have at most primary school education.
- The percentage with any level of education decreases with age, the oldest elderly have less education than the younger elderly.
- Gender disparities with respect to illiteracy, with a higher percentage of elderly males never been through any formal schools.
- About two thirds (67.1%) of the elderly in Rural Villages have never been to school compared to half and one third of the elderly in Urban Villages and Cities/Towns respectively who have never been to school.
- Furthermore, more of the elderly population in Cities/Towns have primary and secondary education than the elderly in Urban villages or Rural villages.

Education is an important component for improvement of quality of life. If the elderly are educated they can support their families economically, they will be able to read medical prescriptions, instructions appliances thus minimize on the risk of not being able to follow instructions.

The 2011 Botswana Population Census collected data on the highest level of education completed, field of education and whether the individual is still in school. However questions directly related to literacy were not covered in the population census. These are addressed in the literacy survey conducted regularly by Statistics Botswana in collaboration with the Ministry of Education.

The 2011 Census data reveals that more than half (57.4%) of the elderly have never been to school and a further 33.6% have had at most primary level of education (at most 7 years of education). Few elderly, almost 10%, have secondary school or higher education. More of the elderly old have less education, primary or none, compared to the elderly segment of the population elderly. This implies that the highest illiteracy rates occur at the oldest ages.

The census data also indicate gender disparities in literacy and educational attainment. A large percentage (62.5%) of elderly males has never been to school compared to 53.9% of the females who have no education. More elderly females, than elderly males have some primary education or higher education.

Educational attainment varies by urban and rural type of residence (Table 3). Whereas 27.0% of the elderly population residing in urban areas have never been to school, much higher percentages, 50.3% and 67.1% of the elderly in urban and rural villages, respectively, have never been to school. The elderly residing in cities and towns have recorded higher percentage with primary and secondary school education than their counterparts in urban or rural villages.

Living Arrangements

Highlights

Relation to the Head of the household

- Majority, 69.4% of the elderly persons were heads of their households.
- 11.7% and 7.7% of the elderly were the spouses and parents, respectively, to the head of household
- A small percentage, 0.5% of the elderly persons were described as sons and daughters of the head of their households.

Relation to the Head of the household

The census collected data on individual's relationship to the head of the household. Most, 69.4% of the elderly persons were heads of their households. It is also observed that 76.4% of the elderly males are heads of their households and a lower percentage, 64.8% of the elderly females were heads of their households. These high numbers are in line with the widespread cultural norm that the most elderly person in the household assumes the household headship role.

Also noted is the next largest percentage of 11.7% of the elderly being spouses/partners to the head of the household. This was followed by 7.7% of the elderly who were parents to the head of household.

Spouses

Table 4 indicates the living arrangements of the elderly by gender and type of locality. Most, 55.6% of the elderly males were living with their spouse compared to 22.4% of the elderly females who reported living with their spouses. This reflects the differences in their marital status. The gap is even higher among the elderly old. There is a little difference in the percentages of elderly living with their spouse between types of residential locality. Figure 3 depicts that Urban villages have the lowest percentage, 32.9% of the elderly living with their spouses. Within the each types of locality, the percentage of elderly living with their spouse decrease with age.

Number of children

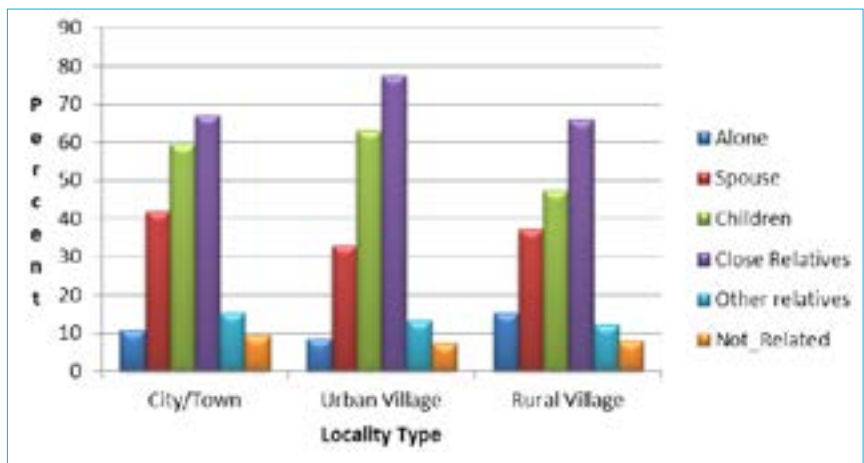
As culturally expected a large percentage, 45.3% and 47.0% of the elderly and oldest elderly respectively are not living with their children, given that their children would have most likely be married and staying elsewhere. More than half, 52.6% of the elderly residing in the rural villages was not staying with any of their children, whereas 40.6% of the elderly in the cities and towns are not staying with their children, (Figure 3).

Close relatives

More of the elderly females, 43.6%, than elderly males, 31.0%, live with 3 or more close relatives. Urban elderly have a high percentage, 44.5% living with 3 or more close relatives than the percentage of elders in cities/towns and rural villages.

An overwhelming percentage of the elderly do not live with persons unrelated to them. Only about 6% of the elderly are living with one person not related to them. This is observed through both gender groups and the different types of residential locations of the elderly, as shown in Figure 3.

Figure 3: Percentage of elderly with different forms of living arrangements by locality



Economic Activities and Employment of the Elderly

Another important aspect of the elderly situation is their economic dependence. Economic independence reveals the day-to-day maintenance of the livelihood of the elderly. The 2011 Botswana Population Census did collect data on various economic activities of the individuals and the household; their main occupation or economic activities in the past 7 days and since independence (the 12 months prior to the census date), the main products produced by the household and ownership of various durable assets.

It should be noted however, that the population census did not quantify these items, like the amount income from various sources, (including employment, government social grants, remittances etc.) the quantity of farmland and amount produced, the number of livestock owned. These components are addressed in the Botswana Core Welfare Indicator Survey of 2009/2010 conducted by Statistics Botswana.

This report looks into various sources of income or assets the elderly persons have at their disposal. Other than the direct regular source of income generated from some form of employment, the household income generated by other members of the household, ownership of livestock, farmland for crop production, rental income from property owned by the elderly person or members of their household are considered. Remittances into the household are also be assessed.

Employment

Table 5 indicates the economic activities of the elderly. The common activity the elderly persons were engaged in was homemaker where 35.7% of the elderly reported they were homemakers. This is not unexpected since at these ages the persons are retired from active labour force, in fact 11.6% reported they were retired and thus not involved in any economic activity.

It was also noted that 20.4% of the elderly persons spent the past 12 months being sick and hence did not participate in any economic activity.

Small percentages of the elderly, 3.8% and 8.1% were engaged in Seasonal and Non-seasonal paid work, respectively.

On the distribution of economic activities by sex, Table 6 reveals that higher percentage of males than females were involved in any category of economic activity in the last 12 months, with an exception of home-maker category where 45.8% of the elderly females and 20.8% of the elderly males were home-makers.

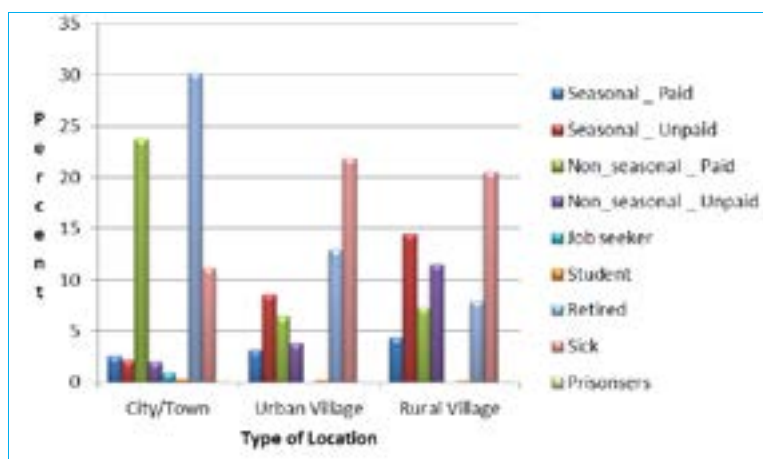
There were also differentials in the distribution of the economic activities of the elderly by type of locality, as shown in Figure 4. A larger percentage, 14.5% of the elderly in rural areas was engaged in unpaid seasonal

economic activities compared to 2.2% of the elderly in cities/towns who were engaged in the unpaid seasonal work. Differences in paid work were also notable between elderly living in cities or towns and elderly living in rural areas. About 23.7% of the elders in the cities or towns were engaged in paid work compared to 7.3% of the elders in rural areas who were in paid work.

Also there was a higher percentage, 23% of the elderly females who reported they were sick compared to 16.6% of the elderly males who were sick in the past 12 months.

The elderly persons residing in rural or urban villages were more likely to have spent the last 12 months being sick than the elderly persons residing in cities or towns, with 20.6% of the elderly in rural areas having been sick compared to 11.2% of the elderly in cities or towns who reported being sick in the past 12 months prior to the census.

Figure 4: Percentage Distribution of the Economic Activities of the Elderly by Type of Residential location.



Source of Income

The population census asked for information about the source of household income from agricultural activities, household activities and other sources including remittances, pensions, employment and property rentals. Table 6 shows the different sources of income accrued to the households within which the elderly live.

Income from Agricultural Activities

The majority of Batswana are engaged in agriculture, though mostly on subsistence basis. About 56% of households own some livestock for various reasons such as investment, source of ceremonial activities etc. Batswana are however not very likely to part with livestock like cattle to cover their daily needs. Small stock like poultry, goats and sheep are easily sold for day-to-day household needs. Crop production is also mostly at subsistence level. With irregular and unpredictable rains and lack of irrigation, the popular crops are maize, sorghum and beans, which are somehow drought resistance.

The majority, 70% of the elderly had no income from agricultural activities in the year preceding the census. Among the agricultural items, cattle were the most popular source of income, with 15% of the elderly having received income from cattle. This was followed by goats, sheep and poultry, with 7.7% and 5.5%, of the elderly reporting having received cash from the sale of by goats and sheep, and poultry, respectively. Maize, melons and sweet reeds were the crops reported to be the source of income, as shown in Table 6.

Table 6 also indicates that larger percentages of the elderly in rural households were relying more on agricultural income than the elderly in cities and towns or larger urban villages.

Income from Household Activities

Household activities can be an important source of income either as the sole source or as a supplementary income for the day-to-day lives of the family especially in the absence of employment and agricultural activities for the family. Small scale household activities which normally do not require substantial capital to set up, like selling of craft, food, alcohol, cooked food and tuck-shops are important source of supplemental income for many families.

The activities highly reported were selling of traditional beer; craftwork and selling of other beverages from which 9.1%, 2.1% and 2.4% respectively, of the elderly persons reported some income (Table 6). Larger percentage, 11.6% of elderly persons received cash from selling traditional beer. Selling cooked food was more common in cities and towns than in other localities.

Income from Other Sources: non-economic activity sources

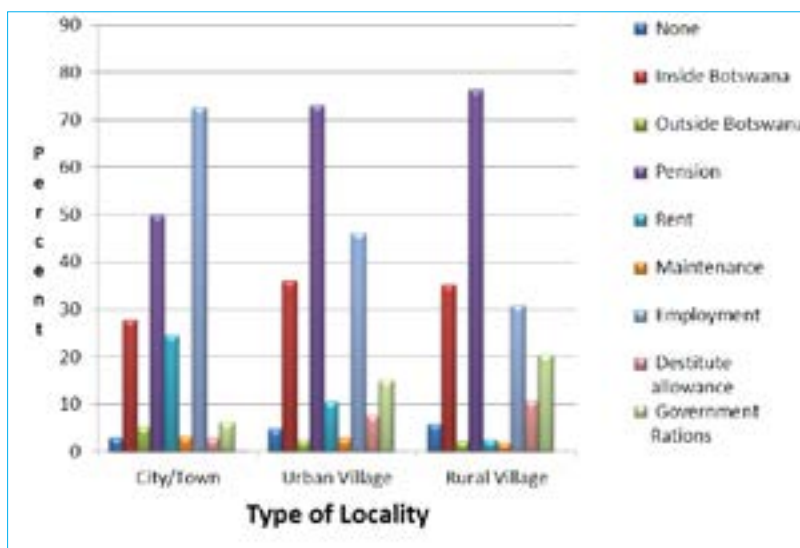
Slightly more than five percent, 5.2% of the elderly had no other source of income (Table 6).

Almost 3 out of 4, 73.2% of the elderly receive pension and the percentage on pension increases with age. Higher percentage, 76.4%, of elderly persons residing in rural villages reported receiving pension compared to 49.8% of the elderly persons residing in Cities and Towns (Figure 5).

Nationally, only 40% of the elderly persons receive income from some form of employment. A significant difference in the percentage of elderly receiving income from employment exists between types of residence. A large percentage, 72.6% of the elderly residing in cities and towns received income from employment compared to 30.9% of the elderly residing in rural areas who receive income from employment (Figure 5).

The third most popular source of income for the elderly, after income from pension and employment, was remittances from inside Botswana. Only a small percentage of elderly persons received remittances from outside Botswana. An even larger percentage, about 35%, of elderly persons in Urban villages and Rural villages receive cash remittances, compared to 27.9% of the elderly in cities and towns.

Figure 5: Percentage of the elderly in different types of locations receiving income from other sources



Another important source of living for the elderly was the government rations and destitute allowances. Close to a fifth, (17.2%) of the elderly received government rations and 9.0% received destitute allowances. The reliance on government rations and destitute allowances was higher among elderly persons in Rural and Urban Villages than the elderly persons in Cities and Towns.

Property rentals, especially from housing properties, were more common among the elderly persons in Cities and Towns. About a quarter (24.5%) of the elderly in Cities/Town received some income from the rentals compared to only 2.6% of the elderly in Rural Villages.

Asset Ownership

Data on asset ownership, at household level was collected in the 2011 population and housing census. It is to be noted that this information does not directly relate to the individual, but to the household the individual is a member of. Hence the extent to which the individual has total control cannot be totally guaranteed, however it is mostly expected by and large that the household individuals have to some extent some benefit from these assets.

The assets include the type of housing and its ownership, including household utilities like water, electricity and sewage, toilets and agricultural assets like livestock, crop production. Other assets included communication means and transport modes. These assets have a great implication on the living conditions, health and wellbeing of the elderly.

Highlights

- Most, 75.4% of the elderly had access to livestock owned by their households whereas slightly more than half, 52% were in households which had planted some crops in the year preceding the census.
- More elderly females than elderly males were in households which had no livestock. Both livestock and crop production were more predominant among elderly in rural villages. This shows more dependence on agriculture among the elderly in Urban and Rural Villages than the elderly residing in Cities and Towns.
- Radio and television are the most popularly owned means of communication, reaching more than half of the elderly populations. This means that any programmes aimed at the elderly could better be transmitted by radio and television but mostly by radio to the elderly in Rural Villages.
- More of the elderly in Rural Villages have access to cell phones than the elderly in Cities and Towns. There is need to improve the landline telephone system, especially since cell phone rates may be too high for the elderly to afford, and that electricity to charge the cell phones may not be available to some of the households the elderly live in.
- Ownership of motorized means of transportation is higher in the cities and towns than in rural areas. Donkey carts are owned by a large percentage of elderly person's households living in Rural Villages.

Agricultural Assets

Livestock

Given the less diverse economy and the arid conditions in Botswana, most of Botswana traditionally depended on livestock. The most kept livestock are cattle, goats and sheep and poultry. Cattle are traditionally normally not kept for day-to-day household economic needs but are kept for substantial and more pressing economic relief, drought power for crop planting, ceremonial activities like bridal payments and bereavements. Livestock like poultry, goats and sheep are instead widely used for quick economic relief through their sales and home consumption.

About 1 in 4, 24.6% of the elderly were living in households that did not own any livestock, as shown in Table 7. The disparity in percentage of male and female elderly with no livestock was marginal, with 20.5% and 27.3% of elderly males and elderly females keeping no livestock. Lack of livestock ownership was much higher, 60.9% among the elderly residing in cities and towns, compared to 27.7% and 17.3% of the elderly in Urban Villages and Rural Villages who did not own any livestock.

Table 7 shows that the most kept livestock was poultry, with 55.5% of the elderly keeping poultry, followed closely by cattle and goats ownership. A higher percentage of elderly males compared to the elderly females owned each type of the livestock. The disparity in percentage owning each type of livestock was higher among the elderly living in Urban Villages and Rural Villages compared to the percentage of elderly in Cities and Towns owning each type of livestock.

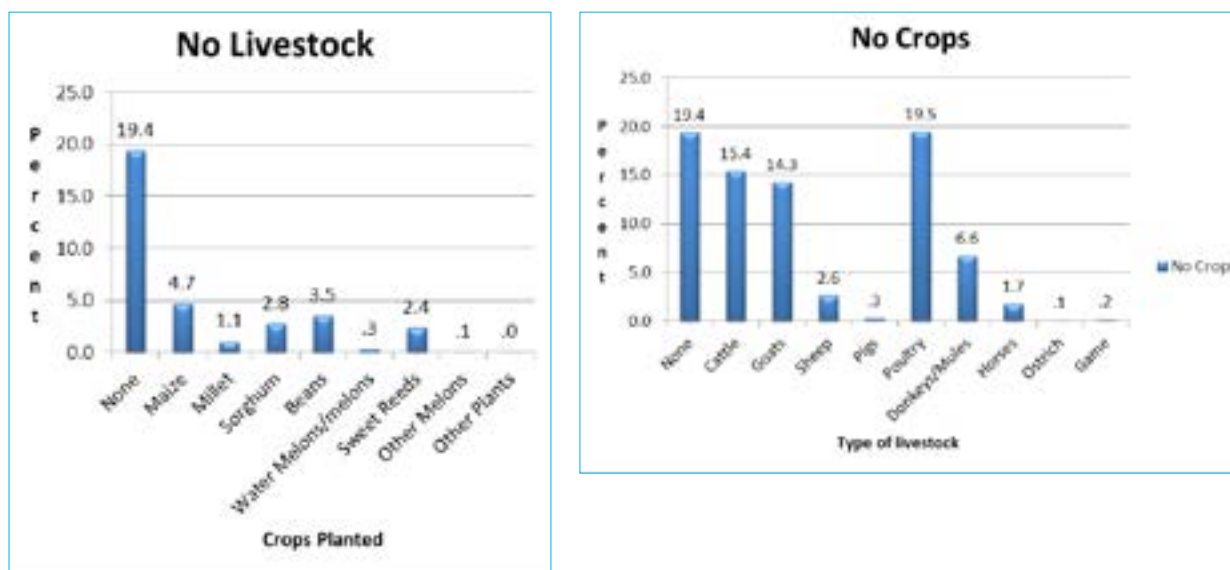
Crop production

Crop production is more susceptible to weather conditions and lack of irrigation means most households depend largely on unpredictable rains. It is for this reason and the requirement of planting equipment that most households may not engage in planting activities during some seasons.

Table 7 shows that almost half, 48.0% of the elderly were in households that did not plant any crops in the year prior to the 2011 population census. An even higher percentage, 80.4% of the elderly in Cities and Towns and 38.0% of the elderly in Rural Villages had not ventured in crop production in the season prior to the census year.

The most common crops planted were maize, beans sorghum and sweet reeds with 47.7%, 39.4%, 29.6% and 28.5%, respectively being planted by the elderly households. Depending on the yield, these crops are often produced for home consumption and the excess are often sold for cash. Most of the production of these crops is by the elderly in Rural Villages. About 1 in 5 (19.4%) of the elderly were in households that did not plant any crops and very few, less than 5%, had planted any of the crops in the year previous to the census. In contrast, the elderly in households with no crops planted had kept some livestock. About 19.5% and 14.3% of the elderly with no crops planted, kept some poultry and goats, respectively, which could be used for quick cash or supplement their day-to-day food security needs.

Figure 6: Percentage distribution of households owning no livestock planting various types of crops and households with no crops planted owning various types of livestock



Communication

The importance of modern communication technology cannot be overemphasized, even among the elderly. Most of information comes through the electronic and print media, while communication with the family members and friends is mostly through telephones. Internet can prove to be of utmost importance to the elderly population. The number of fixed telephone line subscription in Botswana has increased by 20.8% between 2011, from 123,819 to 149,578 (2011 Information and Communication technology Report). The same report states that the mobile cellular subscription increased from 106,029 in 2000 to 2,900,263 in 2011, a growth rate of 2,635.3%. During the same period, internet services went up by 446.7% to 254,649 in 2011.

The 2011 population census collected information on household ownership of computers, radio, television and telephones. Table 8 shows different modes of communication owned by the elderly population's households.

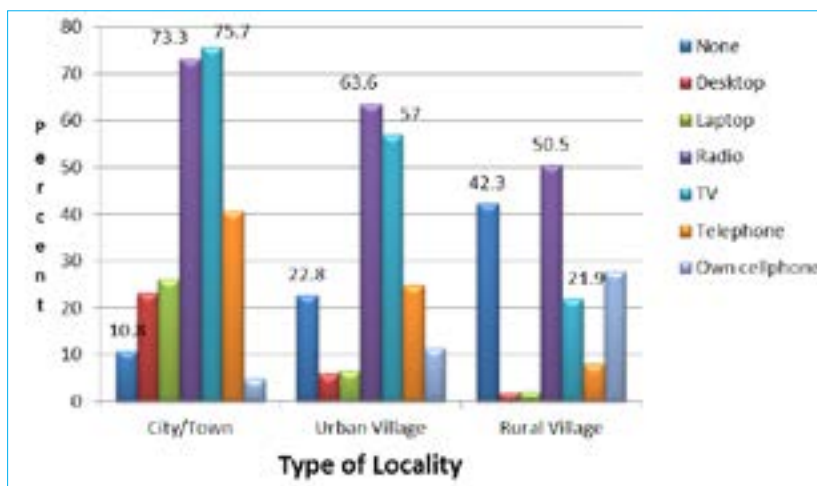
About one third, 32.1% of the elderly population's households reported no ownership of the means of communication items. The Rural Villages had the highest percentage, 42.3% of elderly living in households that did not own any of the communication items compare to only 10.8% of the elderly population living in Cities and Towns.

Computer ownership is very low among the elderly, only 5.6% of the households the elderly live in owned laptops. Figure 7 shows that a great disparity was noted between the households in the cities and villages. About 26.2% of the elderly population's households in the Cities and Towns owned laptops compared to 2.1% of the elderly population's households in the Rural Villages. This could be explained by low educational level coupled with lack of electricity utilities in the rural areas. There is little difference in computer ownership between the elderly male and elderly females. The ownership of computers decrease with the age, where the elderly are less likely to own computers.

The most popular communication owned was the radio followed by television ownership. More than half, 57.4% and about 40% of the elderly have access to radio and television, respectively, in their households. In comparison nationally, 76% of the households owned radio and 56.8% owned television and an overwhelming 80.2% of the households owned mobile cell phones (2011 Information and Communication technology Report). Ownership of radio and television decreases from the elderly in cities to elderly in rural villages, and the disparity is even wider with television ownership (Figure 7).

Telephone access is more common with the elderly in cities and towns compared to elderly in rural villages; this could be explained by less telephone infrastructure especially rural villages. Most of the households in the rural villages depend largely on cell phones as a means of communication.

Figure 7: Percentage of elderly persons in different locality by ICT access.



Transportation and other durables

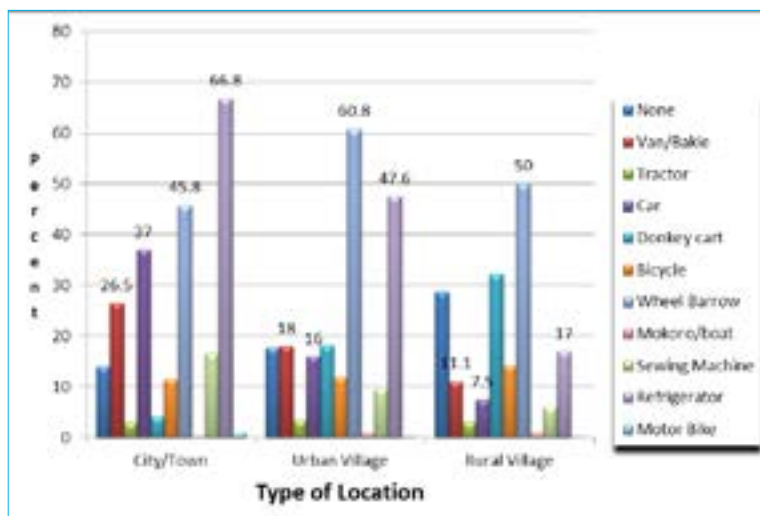
Ability to move self and goods from one place to another is another important aspect to the lives of the elderly persons. The distribution of transportation means is depicted in Table 8 and Figure 8 by type of locality.

Almost a quarter of the elderly were living in households with no household ownership of the means of transportation. The elderly population's households in the rural areas were less likely to have transportation means than the elderly population's households in the cities

Among cars, vans/bakkies and tractors, cars were the most popular in cities and towns whereas in urban and rural villages, vans/bakkies were more popular than car ownership. This is not surprising since vans have more utility in the rural villages where often the roads may not be as good as the roads in the cities and vans can carry more goods as well.

Almost 25% of the elderly person's households owned donkey carts, which is used for draft power for crop planting and movement of agricultural output from the farms to the villages. The ownership of donkey carts is more prevalent in rural villages than in urban villages and cities/towns.

Figure 8: Percentage of elderly persons in different locality by means of transport



Refrigeration is important to the elderly population since it allows for the storage of food supplies for a longer period. However, probably due to more access to electricity in the cities, ownership of fridges is more popular in cities than in rural villages (Figure 8).

Housing, Utilities and Sewage

Type of housing

The census has shown that most, 65.2% of the elderly in Cities and Towns live in detachable houses whereas detachable houses are less preferred in Rural Villages where only 25.8% of the elderly persons live in detachable houses (Table 9). The most common type of housing for the elderly in rural villages are the traditional houses, housing about 36.7% of the elderly persons.

Another style of housing common in cities and towns was rooms, used by 18.0% of the elderly persons compared to 11.8 % and 9.4% of the elderly persons in urban villages and rural villages, respectively.

Tenure of housing

Home owner occupied housing was more prevalent among the elderly persons, with 94.4% of the elderly residing in their own houses (Table 9). In fact only 3.2% of the elderly enumerated lived in rented houses. House rentals were more common in cities and towns, with 24.0% of the elderly persons in cities and towns renting the houses they live in and only 1.0% of the elderly in rural villages living in rented houses. The predominance of rented houses in towns can be explained by lack of affordable land to build in and the fact that most Botswana consider towns as temporary place of residence. No significant difference was observed between male and female elderly persons with respect to house ownership and tenure.

Water supply source

Clean and regular sources of household water have an important impact on health and wellbeing of the community. The census collected information on the source of water to the households. Water in Botswana is mainly supplied by Water Utilities Corporation, however some other sources include boreholes, dams and rivers.

The majority, 43.2% of the elderly get their water supply from piped outdoor taps, in their yards and a further 16.8% and 20.9% source their water from indoor piped water taps and communal water taps, respectively (Table 10).

More elderly females than elderly males have access to indoor or outdoor taps in their homes, (Table 10).

Most, 55% of the elderly persons use piped indoor tap water, while the main source of water in Urban Villages is piped outdoor tap water whereas in rural villages the majority of the elderly persons get their water from communal water taps. Only 7.2% of the elderly in rural villages have access to indoor tap water. It was also noted that a significant 10.9% of the elderly in rural villages source their water from boreholes.

Electricity and Energy

Most of the houses, especially in the urban and rural villages do not have electricity supply. Electricity in Botswana is supplied by the Botswana Power Corporation (BPC) which still imports the bulk of its electricity from the neighbouring South Africa. Wood is still the main source for cooking for many homes.

Table 10 shows that the majority, 69.8% of the households the elderly persons live in, use fire wood for cooking and the second most popular source of cooking energy is gas, used by 18.9%. Only 8.8% of the elderly persons' households use electricity for cooking and 38.5% use electricity for lighting. The majority, 42.0% of the elderly use paraffin for lighting.

The availability and use of electricity differs by location. The elderly persons living in the cities and towns predominantly use electricity for cooking and lighting, (Table 10). An overwhelming majority, 88.9% and 54.1% of the elderly persons in the rural villages use firewood and paraffin for cooking and lighting, respectively.

Sewage

Waste disposal and toilet facilities are some of the indicators of the living conditions impacting on one's health. Poor facilities are risk factors to the spread and manifestation of a variety of diseases. The census collected data on household waste disposal and type of toilets available to the households.

Table 11 shows that 34.8% of the households the elderly live in, have their waste material disposed of in the rubbish pits. The next common method of refuse disposal used by households of the elderly was the burning of waste material (26.2%). Refuse in cities and towns is more regularly collected and disposed of by the city/town councils. A large majority, 76.7% of the elderly have their refuse collected regularly and a further 15.8% have irregular collection of their waste material. In contrast, the situation of refuse disposal in urban and rural villages is not so good. Only 15.5% and 10.3% of the elderly have their refuse being regularly collected by the council administration. The majority of the elderly in urban and rural villages use rubbish pits or roadside disposal of their refuse.

More than half of the households the elderly live in, use pit latrines. About 41.7% of the elderly use owned pit latrines and a further 11.2% use shared pit latrines with other households. Only 17.2% of the elderly own flush toilets.

There is a significant difference between localities with respect to type of toilets used by the households of the elderly persons. The majority of the elderly living in cities and towns, 55.5%, use flush toilets compared to 23.3% and 7.3% of the elderly in urban and rural villages, respectively. Most, 51.4% and 38.3% of the elderly living in urban and rural villages use household owned pit latrines. Also a large percentage, 38.8% of the elderly in rural villages were living in households with no toilet facilities (Table 11).

Disability among the elderly

Highlights

- The majority, 80% of the elderly persons did not indicate any form of disability, hence 17.2% of the elderly had some form of disability.
- Sight disability was the most common form of disability, 12.2% of the elderly persons, followed by hearing impairment, 4.6% and inability to use one or two legs, 2.7%.
- Sight impairment most common among the elderly residing in rural areas.
- All forms of disability rates tend to increase from Cities to Urban Villages to Rural Villages, probably a result of differential in health facility resources and their standards.

Disability has been defined as “a restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human-being” (WHO, 1980:27). A disabled person may be described as a person with physical or mental deficiencies such as bodily abnormalities, defects or impairments which makes it difficult for the person to perform activities considered normal for a person of their age. The limitations may not only be physical but health problems as well.

A disabled person is compelled to be particularly or totally dependent on others. A disabled person may be disadvantaged in several ways – socially, economically, psychologically and educationally. Disability combined with the normal emotional stress of old age often leads to an unpleasant remaining years of life of the elderly persons.

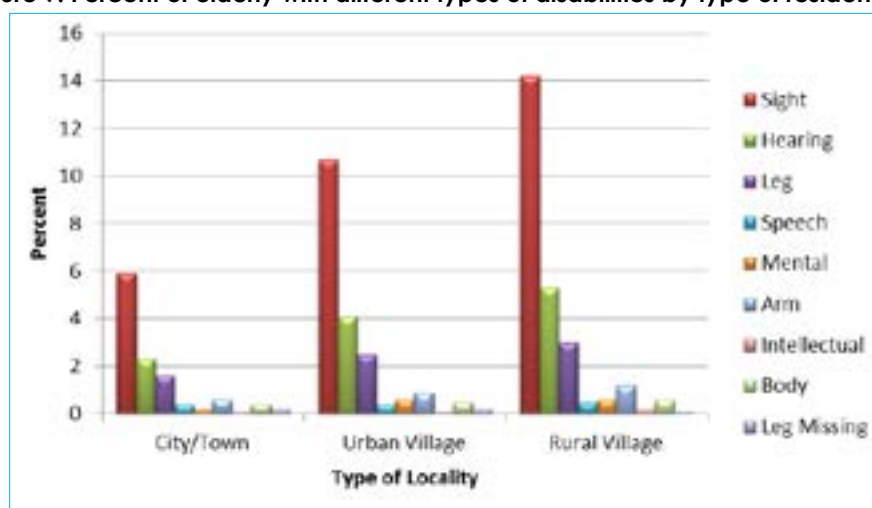
Information about 10 types of disabilities, including sight impairment, hearing impairment, mental and intellectual impairment was collected in the population census. Due to the difficulties surrounding the definition of disability, data on only obvious disabilities was collected and this may still fail to capture the true state of disability as some may not be reported, especially when the respondent did not perceive them as serious disabilities. Table 12 indicates the type of disability afflicting elderly persons.

Table 12 indicates that an overwhelming majority, 80%, of the elderly had no disability. The most common disability reported was sight impairment with 12.2% of the elderly having sight impairment followed by 4.6% having hearing impairment. The least frequent disability among the elderly is missing one or both arm and leg organs of the body.

Disability rates among the elderly persons vary by City/Town, Urban Villages and Rural area residence. Rural areas have higher disability rates than Urban Villages, and the lowest disability rates are among the elderly persons residing in the Cities and Towns. The lower disability rates in cities and towns areas might not be unconnected with the rural urban differentials in access to health care in Botswana.

The highest percentage, 14.2% of the elderly residing in the rural areas reported sight impairment, (Figure 9). The percentage of impairment increased with age, across all the gender groups and type of residential location.

Figure 9: Percent of elderly with different types of disabilities by type of residential locality



Conclusions

The number of elderly persons is increasing in absolute numbers, though their share of the total population has remained steady at low, about 5% over the years. The improvements in health sector, low reduction in mortality levels coupled with decline in fertility has led to the longer life expectation of the population.

The problems faced by the elderly will increase as a result of modern and development path Botswana is experiencing. Increasing urbanization, emergence of nuclear family structure and eroding extended family structure means the traditional support system can no longer be available to sustain old age.

Differential situations experienced by elderly men and women, by the elderly living in different type of residential needs more attention. This calls for urgent government and other stakeholders to address issues of health, socio-economic and living conditions faced by the elderly.

This report needs to be supplemented by more directed surveys to study the living conditions of the elderly. The census has provided valuable information, though does not address the size and quantity of household economic assets to the elderly, rather household ownership.

Emerging challenges for the health of the elderly include:

- An increasing incidence of chronic illnesses.
- Accessibility of health care clinics due to lack of transport and distance to the health facilities, especially in rural villages.
- Care giving; the burden of family caretakers especially with dwindling family size
- Lack of social and economic support from the economically active members of their family

Policy Implications

The Second World Assembly of Ageing, held in Madrid, Spain in 2002, marked a turning point in international policy debate and action on ageing. Ageing was acknowledged not simply as an issue of social security and welfare, but of overall development and economic policy. Responding to growing concern over the speed and scale of global ageing, the General Assembly of the United Nations adopted by consensus the Madrid International Plan of Action on Ageing to guide Governments, the United Nations and civil society to face the challenges and fulfill the enormous potential of population ageing. Critical to its success was the promotion of a positive approach to ageing. It stressed the opportunity for older persons to contribute to development, with older persons embraced as a resource, rather than in need of care and support. Its overall objective was to create a 'society for all' in which 'persons everywhere are able to age with security and dignity and to continue to participate in their societies as citizens with full rights'.

Although the pace of ageing is progressing gradually in Botswana, the country needs to prepare to meet the needs of the growing numbers of older persons to avert greater social and economic problems in the future. Relating to the census data, the country should prioritize on: providing flexible employment and business opportunities for older persons who are able and wish to continue working; providing sustainable pensions and forms of social security or safety-nets to prevent impoverishment in old age. Government also needs to ensure improving access to quality health care, especially by focusing on prevention and treatment of non-communicable diseases, including heart disease, stroke, high blood pressure, diabetes, bone loss, cancer, anemia and other common illnesses for the elderly.

Structurally, Government needs to strengthen national capacity to respond to the implications of ageing and to meet the needs of older persons and support data collection and research efforts to provide for the formulation of appropriate policies and programmes.

Government has employed a number of programmes and initiatives to meet the needs of older persons but these are not adequately guided due to the absence of a National Policy on the Elderly. At present, sources of health and social services for the elderly in Botswana fall within three ministries, The Ministry of Health (MOH), Ministry of Labour and Home Affairs (MLHA), and Local Government Rural and Development (MLGRD). The MOH provides professional and technical direction for health policy and planning. MLHA provides social and welfare matters. MLGRD is in charge of implementing health and social welfare services through local authorities (Mugabe, 1994). The old age pension scheme was established, through the ministry of Local Government, to relieve the elderly of the economic hardships that they face. The development of the Policy on the Elderly should be given immediate attention as Government strives to uplift the livelihood of the elderly in line with the VISION 2016 Pillar of a Compassionate and Caring Nation. Some of the programmes that could be given consideration could include:

- Supporting establishment of nursing home and/or day care centres – to address loneliness, depression, anxiety, financial difficulties, and other overwhelming circumstances can inhibit the intent to maximize wellness.
- Home bound elderly programs and mobile clinics to help the elderly to live in dignity and self-esteem while maintaining optimal physical and mental well-being.
- Identify NGO who are working with the elderly – to create elderly-friendly environment enabling them to live in their society and community and enjoy a life of dignity and self-esteem.
- Strengthening family support systems – to deal with disintegrating or erosion of family support systems.
- Expand services such as rehabilitation, assistance care and psychosocial support provided by social workers.

When developing policies and programmes, it should be acknowledged that the needs of the elderly are varied, by sex, age cohort, wellness (e.g. state of disability) locality and socio-economic background. For instance, the population aged 75 years and above, (the elderly old) need some special attention since their needs will be more challenging than the 65-74 year old. Also, females are most disadvantaged and more vulnerable social impediments compared to their male counterparts.

References

- 1) Second World Assembly on Ageing available on <http://www.un.org/ageing/coverage>
- 2) World Health Organisation (WHO) (1980): International Classification of Impairments, Disabilities and Handicaps: A Manual of Classification Relating to the Consequences of Diseases. Geneva: WHO.
- 3) 2011 Information and Communication technology Report, Statistics Botswana, September 2013
- 4) Mugabe, M. (1994). The elderly, health and social policy in Botswana. In F.J. Bruun, M. Mugabe, and Y. Coombes (Eds). "The situation of the elderly in Botswana: Proceedings from an International workshop (pp13-20).

Table 3: Percentage distribution of the elderly by Marital, Education and Religion

	Sex															
	Total				Male				Female				Locality type			
	Age Elderly		Age Elderly		Age Elderly		Age Elderly		Age Elderly		Age Elderly		Age Elderly		Age Elderly	
	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+
	(N=95953)	(N=45940)	(N=38592)	(N=16886)	(N=57361)	(N=29054)	(N=6812)	(N=2448)	(N=39126)	(N=19191)	(N=50014)	(N=24300)				
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
MARITAL STATUS																
Married	39.4	34.5	58.9	58.4	26.3	20.6	42.6	34.5	38.7	33.8	39.4	35.1				
Living together	8.6	6.5	14	11.8	4.9	3.5	6.8	5.1	5.3	3.7	11.4	8.9				
Never married	17	15.5	11.3	10.2	20.8	18.6	17.2	16.2	18.5	16.6	15.8	14.6				
Separated/Divorced/ Widowed	35.1	43.4	15.8	19.6	48	57.3	33.5	44.2	37.5	45.9	33.4	41.4				
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Education highest completed																
None	57.4	64.1	62.5	69.2	53.9	61.1	27	34.6	50.3	56.8	67.1	72.8				
Pre-school	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1				
Primary	33.6	29.9	26.5	23.8	38.5	33.5	40.8	41.8	39.9	36.4	27.8	23.6				
Secondary	3.5	2.4	4.4	2.9	2.9	2.1	13.4	10.7	3.9	2.7	1.8	1.3				
Tertiary	1.9	1.6	1.5	1.3	2.1	1.7	1.2	1.1	2.1	1.9	1.8	1.4				
Non- Formal	3.4	1.9	4.9	2.6	2.4	1.4	17.5	11.6	3.7	2.1	1.3	0.7				
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Religion																
Christian	75.7	74.5	68.7	67.7	80.5	78.4	83.9	85.9	82.3	81.4	69.5	67.8				
Other	24.3	25.5	31.3	32.3	19.5	21.6	16.1	14.1	17.7	18.6	30.5	32.2				
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 4: Percentage and total number of the elderly living in the main households, by living arrangements

	Sex											
	Total						Locality Type					
	Male			Female			City/Town		Urban Village		Rural Village	
	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+
HH Size												
1	12.1	11.4	17.1	14.2	8.8	9.8	10.8	7.8	8.5	8.7	15.2	14
2	14	14.4	14.8	15.3	13.5	13.9	14.5	12	11.1	11.7	16.3	16.8
3 or more	73.8	74.2	68.1	70.6	77.7	76.3	74.6	80.2	80.5	79.7	68.5	69.3
Total	95660	45819	38416	16823	57244	28996	6671	2389	39011	100	49978	24291
Spouses												
No	64.3	67.8	44.4	44	77.6	81.6	58.1	63.7	67.1	70.7	62.9	65.9
Yes	35.7	32.2	55.6	56	22.4	18.4	41.9	36.3	32.9	29.3	37.1	34.1
Total	95437	45761	38290	16792	57147	28969	6644	2384	38954	19116	49839	24261
Number of children												
None	45.3	47	48.6	48.8	43.1	45.9	40.6	38.5	36.9	39.7	52.6	53.6
1	26.6	28.1	22.3	24.5	29.6	30.1	25.9	27.1	28.5	30.6	25.3	26.1
2	14.4	13.5	13.6	13.8	15	13.4	16.8	18.4	17.3	16	11.9	11.1
3 or more	13.6	11.4	15.5	12.9	12.3	10.6	16.7	16	17.4	13.7	10.2	9.2
Total	95450	45767	38297	16796	57153	28971	6645	2384	38966	19120	49839	24263
Close Relatives												
None	29.3	26.6	40.4	36.1	21.8	21.1	32.9	22.9	22.6	21.5	34	31.1
1	17.9	18.6	16.2	16.6	19	19.8	22.2	24.7	17.9	18.3	17.3	18.3
2	14.2	14.6	12.4	12.8	15.5	15.7	15.2	18	15	15.1	13.5	13.9
3 or more	38.6	40.1	31	34.5	43.6	43.4	29.7	34.4	44.5	45.1	35.1	36.7
Total	95453	45768	38298	16796	57155	28972	6645	2384	38967	19121	49841	24263
Other relatives												
None	87.1	86.4	88.2	87.8	86.4	85.6	84.6	81.7	86.6	85.9	87.9	87.2
1	8	8.4	7.6	7.9	8.2	8.7	9.9	11.9	8.2	8.6	7.6	7.8
2	2.4	2.5	2.2	2.2	2.6	2.7	3	3.2	2.5	2.7	2.3	2.4
3 or more	2.5	2.7	2	2.1	2.7	3	2.4	3.2	2.7	2.8	2.3	2.5
Total	95453	45768	38299	16797	57154	28971	6645	2384	38967	19121	49841	24263
Not_Related												
None	92.2	92.5	91.4	91.8	92.8	92.9	91.4	90.7	92.7	92.8	92	92.4
1	5.9	5.7	6.4	6.2	5.5	5.5	6.4	6.6	5.7	5.6	6	5.8
2	1.2	1.1	1.3	1.3	1.1	1.1	1.3	1.7	1.1	1.1	1.3	1.2
3	0.7	0.6	0.8	0.7	0.6	0.5	0.9	1	0.6	0.5	0.7	0.6
Total	95442	45763	38291	16793	57151	28970	6645	2384	38957	19116	49840	24263

a. Excludes Elders in Institutional questionnaire

Table 5: Percentage of the elderly by current Economic Activity

	Sex												
	Total						Locality Type						
	Male			Female			City/Town		Urban Village		Rural Village		
	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	
	Age group elderly												
Mainly doing since Independence day													
Seasonal _ Paid	3.8	2.4	4.8	3.4	3.1	1.8	2.6	1.3	3.2	2.0	4.4	2.7	
Seasonal _ Unpaid	11.2	9.6	12.4	11.9	10.5	8.3	2.2	2.4	8.6	7.2	14.5	12.2	
Non_seasonal _ Paid	8.1	4.4	14.7	8.9	3.7	1.8	23.7	11.8	6.4	3.5	7.3	4.4	
Non_seasonal _ Unpaid	7.7	6.2	12.8	11.2	4.2	3.3	2.0	1.4	3.8	2.9	11.5	9.3	
Job seeker	1.1	0.8	1.2	0.8	0.9	0.7	1.2	1.0	1.3	1.0	0.9	0.6	
Home maker	35.7	34	20.8	21.6	45.8	41.2	26.4	28.4	41.3	38.9	32.6	30.7	
Student	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.7	0.3	0.3	0.2	0.3	
Retired	11.6	11.5	16.3	16.5	8.4	8.6	30.2	33.5	13.0	12.2	7.9	8.7	
Sick	20.4	30.7	16.6	25.3	23	33.8	11.2	19.4	21.9	31.8	20.6	30.9	
Prisoners	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Total	95751	45894	38475	16861	57276	29033	6768	2437	39104	19185	49879	24272	
Working as during the past 7 days													
Employee - paid cash	34.3	27.2	37.6	30.6	27.9	20.3	63.6	56.8	36.7	30.2	29	23.6	
Employee - paid inkind	1.1	1.1	0.9	1.0	1.5	1.3	0.6	1.1	1.0	1.0	1.2	1.1	
Self-employed (no employees)	10.5	9.9	7.2	6.8	16.9	16.1	16.1	20.6	14.5	13.7	7.8	7.4	
Self-employed (with employees)	3.6	2.5	4.1	2.8	2.7	1.7	14.7	13.7	3.9	3.2	1.9	1.2	
Unpaid family helper	1.2	1.5	0.8	1.0	2.1	2.5	0.9	2.1	1.2	1.5	1.3	1.4	
Working at own lands/cattle posts	49.3	57.9	49.5	57.8	48.9	58.0	4.2	5.6	42.7	50.4	58.9	65.2	
Total	21806	7059	14363	4727	7443	2332	1959	373	6296	1990	13551	4696	

Table 6: Percentage of elderly by gender locality and Source of income

	Sex															
	Total				Male				Female				Locality Type			
	Age group elderly		Age group elderly		Age group elderly		Age group elderly		Age group elderly		Age group elderly		Urban Village		Rural Village	
65+ (N=95454)	75+ (N=45769)	65+ (N=38299)	75+ (N=16797)	65+ (N=57155)	75+ (N=28972)	65+ (N=6645)	75+ (N=2384)	65+ (N=38968)	75+ (N=19122)	65+ (N=49841)	75+ (N=24263)	%	%	%	%	
Income from Agric																
None	70.1	72.3	65.0	66.6	73.6	81.9	75.5	73.3	74.9	80.5	74.9	66.1	69.4			
Cattle	15.3	14.3	19.7	18.9	12.4	7.6	11.7	14.6	13.8	8.2	13.8	16.9	15.4			
Goats/Sheep	7.7	7.1	9.6	9.1	6.4	3.4	6.0	6.3	5.8	3.9	4.4	9.3	8.5			
Poultry	5.5	5.0	6.2	5.7	5.0	2.2	4.6	4.7	4.4	2.3	4.4	6.5	5.8			
Maize	4.0	3.6	4.8	4.3	3.5	2.8	3.1	4.1	3.4	3.2	3.4	4.1	3.7			
Sorghum/Millet	1.8	1.6	2.1	1.9	1.5	1.4	1.4	1.6	1.5	1.3	1.5	1.9	1.7			
Melons/Sweetreeds	3.5	3.3	4.2	3.9	3.1	2.2	2.9	3.2	3.0	2.3	3.0	4.0	3.6			
Fruits & vegetables	2.1	1.8	2.1	1.9	2.0	3.7	1.7	2.0	1.7	3.9	2.0	1.9	1.7			
Phane	3.3	3.0	3.3	3.1	3.3	3.6	2.9	2.4	2.3	3.8	2.4	3.9	3.4			
AGRIC_OTHER	3.6	3.2	4.0	3.5	3.3	2.9	3.0	2.7	2.4	3.0	2.4	4.4	3.8			
Income HH Activities																
None	84.9	86	85.4	86.0	84.6	89.0	86	86.9	88.2	88.1	88.2	82.9	84.1			
Traditional beer	9.1	8.4	8.6	8.5	9.4	2.1	8.4	7.1	6.2	2.3	6.2	11.6	10.7			
Other beverages	2.1	2.0	2.1	1.9	2.1	2.2	2.1	1.9	1.9	2.9	1.9	2.2	2.1			
Craftwork	2.4	2.3	2.7	2.7	2.3	1.5	2.1	1.8	1.7	1.6	1.8	3.0	2.9			
Clothes	1.6	1.4	1.5	1.3	1.7	3.4	1.5	2.0	1.8	3.5	2.0	1.1	0.9			
Cooked food	1.8	1.7	1.7	1.4	1.8	3.3	1.8	2.0	1.8	3.3	2.0	1.4	1.4			
Other (NEC)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2			
Other sources non-economic																
None	5.2	4.3	5.8	4.7	4.8	3.0	4.1	4.8	4.0	2.8	4.0	5.8	4.8			
Inside Botswana	35.1	34.9	34.3	34.5	35.7	27.9	35.1	36.1	35.5	28.6	35.5	35.3	35			
Outside Botswana	2.6	2.5	2.3	2.3	2.7	5.1	2.6	2.6	2.5	4.7	2.6	2.2	2.2			
Pension	73.2	77.3	71.6	77.4	74.4	49.8	77.2	73.1	76.9	55.7	73.1	76.4	79.7			
Rent	7.3	6.6	6.8	6.1	7.7	24.5	6.9	10.5	9.7	25.8	10.5	2.6	2.2			
Maintenance	2.4	2.3	2.2	2.1	2.6	3.3	2.3	3.0	2.8	3.7	3.0	1.8	1.7			
Employment	40.0	36.8	41.3	36.5	39.2	72.6	36.9	46.2	43.8	70.5	43.8	30.9	27.9			
Destitute allowance	9.0	10.9	7.5	9.6	10.0	3.0	11.6	7.7	8.8	3.7	7.7	10.8	13.2			
Government Rations	17.2	20.3	15.0	18.3	18.7	6.3	21.4	15.0	17.3	7.6	17.3	20.4	23.8			
Student Allowances	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.3	0.1	0.0	0.0			

Table 7: Percentage of the elderly in households with Livestock ownership and Crops planted in the last year, by gender and locality

	Sex															
	Total				Male			Female			City/Town		Urban Village		Rural Village	
	Age group				Age group			Age group			Age group		Age group		Age group	
	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+
	(N=95453)	(N=45769)	(N=38299)	(N=16797)	(N=57154)	(N=28972)	(N=6644)	(N=2384)	(N=38968)	(N=19122)	(N=49841)	(N=24263)	(N=49841)	(N=19122)	(N=49841)	(N=24263)
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Livestock																
None	24.6	25.4	20.5	19.8	27.3	28.7	60.9	58.6	27.7	29.0	17.3	19.3	27.7	29.0	17.3	19.3
Cattle	47.7	46.5	55.8	56.0	42.3	41.0	27.3	29.4	46.7	45.9	51.2	48.7	46.7	45.9	51.2	48.7
Goats	46.7	45.3	52.6	52.5	42.7	41.1	22.1	24.3	40.4	39.0	54.9	52.4	40.4	39.0	54.9	52.4
Sheep	9.7	9.0	12.3	11.7	8.0	7.4	5.4	6.1	8.7	8.2	11.0	9.9	8.7	8.2	11.0	9.9
Pigs	1.0	0.8	1.1	0.9	0.9	0.8	0.8	0.9	1.0	0.8	1.0	0.9	1.0	0.8	1.0	0.9
Poultry	55.5	54.1	57.6	57.5	54.0	52.1	21.4	22.4	50.2	48.7	64.2	61.5	50.2	48.7	64.2	61.5
Donkeys/Mules	29.6	28.3	36.9	37.6	24.7	22.9	6.5	7.8	21.6	20.8	38.9	36.3	21.6	20.8	38.9	36.3
Horses	5.2	4.8	6.9	6.4	4.1	3.9	2.4	2.7	4.1	3.7	6.4	6.0	4.1	3.7	6.4	6.0
Ostrich	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2
Game	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.7	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3
Crops Planted																
None	48	50.2	43.8	44.0	50.9	53.7	80.4	79.7	55.4	57.7	38	41.3	55.4	57.7	38	41.3
Maize	47.7	45.6	51.8	51.6	44.9	42.2	18.6	19.4	41.7	39.5	56.2	53	41.7	39.5	56.2	53
Millet	12.2	12.4	12.3	13.1	12.1	11.9	5.9	6.4	7.9	7.8	16.4	16.5	7.9	7.8	16.4	16.5
Sorghum	29.6	28.6	31.7	32.3	28.2	26.4	11.8	12.0	23.1	22.3	37.1	35.1	23.1	22.3	37.1	35.1
Beans	39.4	37.6	42.8	42.7	37.2	34.7	14.1	14.8	34.5	32.7	46.6	43.7	34.5	32.7	46.6	43.7
Water Melons/melons	4.0	3.9	4.5	4.5	3.7	3.5	1.0	0.9	3.4	3.3	4.9	4.6	3.4	3.3	4.9	4.6
Sweet Reeds	28.5	27.3	30.9	30.8	26.8	25.3	11.3	12.9	25.1	23.7	33.4	31.5	25.1	23.7	33.4	31.5
Other Melons	0.7	0.7	0.8	0.8	0.7	0.6	0.2	0.1	0.6	0.5	0.9	0.8	0.6	0.5	0.9	0.8
Other Plants	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1

Table 8: Percentage of the elderly in households with Communication and Transport means by sex and locality

	Sex		Locality Type														
			Male			Female			City/Town			Urban Village			Rural Village		
	Total	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+
	(N=95454)	(N=45769)	(N=16797)	(N=57155)	(N=28972)	(N=6645)	(N=2384)	(N=38968)	(N=19122)	(N=49841)	(N=24263)	%	%	%	%	%	%
Own communication																	
None	32.1	35.0	32.9	33.2	36.2	10.8	11.5	22.8	24.7	42.3	45.4						
Desktop	4.9	4.1	3.9	4.8	4.3	23.2	21.9	5.9	5.2	1.7	1.5						
Laptop	5.6	4.8	4.5	5.6	5.0	26.2	25.3	6.6	5.9	2.1	2.0						
Radio	57.4	55.0	58.7	55.3	52.9	73.3	74.0	63.6	61.9	50.5	47.7						
TV	40	36.9	34.1	41.8	38.5	75.7	75.2	57.0	53.7	21.9	19.8						
Telephone	17.2	16.2	15.3	18.1	16.7	40.6	39.8	24.9	24.2	8.1	7.5						
Own Cellphone	19.6	23.1	24.2	18.8	22.5	5.0	5.9	11.4	14.0	27.9	32.0						
Own Transport																	
None	23.3	25.7	23.6	24.3	26.8	14.1	13.9	17.8	19.5	28.8	31.7						
Van/Bakkie	15.0	13.0	14.7	13.2	12.0	26.5	24.5	18.0	16.0	11.1	9.4						
Tractor	3.3	3.0	3.9	2.7	2.4	3.0	3.0	3.5	3.3	3.1	2.7						
Car	13.0	11.2	10.7	12.9	11.5	37.0	34.8	16.0	14.2	7.5	6.6						
Donkey cart	24.5	23.2	31.0	20.6	18.7	4.2	3.9	18.2	17.5	32.2	29.6						
Bicycle	13.1	11.6	15.8	10.0	9.1	11.6	10.7	11.9	10.7	14.2	12.3						
Wheel Barrow	54.1	53.1	53.5	54.2	52.9	45.8	46.5	60.8	60	50.0	48.4						
Mokoro/boat	1.0	0.9	1.2	0.8	0.8	0.4	0.4	1.0	0.8	1.1	1.1						
Sewing Machine	8.3	7.7	7.7	8.4	7.7	16.8	16.4	9.6	9.3	6.1	5.6						
Refrigerator	33.0	30.5	27.9	34.6	31.9	66.8	65.7	47.6	45.2	17.0	15.4						
Motor Bike	0.4	0.3	0.3	0.4	0.3	1.1	1.0	0.4	0.4	0.3	0.2						

Table 9: Percentage of elderly persons by type of housing and by sex and locality

	Sex											
	Male						Female					
	Age group		City/Town		Urban Village		Age group		City/Town		Rural Village	
Total	65+ (N=95454)	75+ (N=45769)	65+ (N=38299)	75+ (N=16797)	65+ (N=57155)	75+ (N=28972)	65+ (N=6645)	75+ (N=2384)	65+ (N=38968)	75+ (N=19122)	65+ (N=49841)	75+ (N=24263)
	%	%	%	%	%	%	%	%	%	%	%	%
Type of housing unit												
Traditional	21.9	22.1	25.8	26.2	19.3	19.7	0.5	0.6	6.7	7.2	36.7	36.0
Mixed	21.3	23.0	19.5	21.7	22.5	23.7	1.9	2.1	21.2	22.7	24.0	25.2
Detached	40.7	39.6	37.5	36.0	42.8	41.6	65.2	65.8	55.5	53.7	25.8	25.9
Semi_detached	2.0	2.0	1.8	1.8	2.2	2.1	4.2	4.3	2.7	2.7	1.2	1.2
Town House/Terraced	1.4	1.2	1.4	1.2	1.4	1.3	6.5	6.2	1.5	1.4	0.6	0.6
Flats, Apartment	0.3	0.1	0.3	0.1	0.2	0.2	2.8	2.0	0.1	0.1	0.0	0.0
Part of Commercial building	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Movable	0.3	0.2	0.4	0.3	0.1	0.1	0.2	0.3	0.1	0.1	0.4	0.3
Shack	1.1	0.8	1.9	1.5	0.5	0.5	0.6	0.5	0.3	0.3	1.7	1.3
Rooms	11.0	10.9	11.3	11.1	10.8	10.8	18	18.2	11.8	11.8	9.4	9.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Tenure of House												
Owned	94.4	95.4	92.9	95.0	95.4	95.7	72.1	76.3	96.2	96.8	95.9	96.2
Rented	3.2	2.4	3.9	2.3	2.8	2.4	24.0	19.8	2.6	2.1	1.0	0.9
Donated	2.2	2.1	3.1	2.6	1.7	1.8	3.7	3.5	1.1	1.0	2.9	2.7
DK	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 10: Percentage of the elderly in households and water supply, the type of household energy used by gender and locality

	Sex													
	Male						Female							
	Total		City/Town		Urban Village		Rural Village		City/Town		Urban Village		Rural Village	
	Age group elderly													
	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+	65+	75+
	(N=95947)	(N=45939)	(N=38594)	(N=16887)	(N=57353)	(N=29052)	(N=6811)	(N=2447)	(N=39118)	(N=19189)	(N=50018)	(N=24303)	(N=50018)	(N=24303)
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Water Supply														
Piped Indoors	16.8	15.1	15.8	13.2	17.5	16.2	55.7	53.1	22.4	20.8	7.2	6.8	22.4	20.8
Piped Outdoors	43.2	44.7	37.9	40.3	46.7	47.3	33.5	36.0	63.1	64.4	28.9	30.0	63.1	64.4
Neighbors' Tap	6.2	6.9	5.8	6.3	6.5	7.2	2.4	2.2	6.7	7.1	6.4	7.3	6.7	7.1
Communal Tap	20.9	22.0	21.8	23.3	20.2	21.2	5.3	5.4	6.7	6.7	34.1	35.7	6.7	6.7
Borehole	5.7	4.8	8.7	7.6	3.7	3.2	0.2	0.1	0.1	0.0	10.9	9.1	0.1	0.0
Other	7.2	6.4	10.0	9.2	5.3	4.8	2.8	3.1	1.0	0.9	12.6	11.1	1.0	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0	100.0	100.0
Cooking mode														
Electricity	8.8	7.9	8.4	7.4	9.0	8.2	26.7	25.3	13.4	12.7	2.7	2.3	13.4	12.7
Gas	18.9	17.7	17.1	15.8	20.0	18.8	50.3	50.0	29.1	28.3	6.5	6.1	29.1	28.3
Wood	69.8	72.2	71.4	74.3	68.7	71.0	16.3	18.4	54.7	56.4	88.9	90.1	54.7	56.4
Paraffin	1.0	0.9	1.3	1.2	0.7	0.7	3.0	2.6	0.8	0.9	0.8	0.7	0.8	0.9
Other	1.6	1.4	1.7	1.4	1.5	1.4	3.6	3.8	1.9	1.8	1.1	0.8	1.9	1.8
Total	100	100	100	100.0	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0	100	100.0
Lighting mode														
Electricity	38.5	36.6	34.6	33.0	41.1	38.7	69.7	68.0	58.9	56.7	18.4	17.5	58.9	56.7
Wood	6.5	6.9	8.0	8.4	5.6	6.1	0.1	0.0	1.6	1.7	11.3	11.7	1.6	1.7
Paraffin	42.0	43.2	43.1	44.3	41.3	42.6	19.3	19.6	30.5	32.6	54.1	54.0	30.5	32.6
Candles	11.0	11.6	11.6	12.1	10.6	11.4	7.8	9.3	8.0	8.0	13.8	14.7	8.0	8.0
Other	1.9	1.7	2.6	2.3	1.4	1.3	3.1	3.1	1.0	1.0	2.5	2.0	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100	100	100.0	100.0	100.0	100.0	100.0	100.0

Table 12: Percentage of the elderly by type of Disability

Type of Disability Impairment	Sex												
	Total	Male						Female					
		Age group elderly						Age group elderly					
		75+		65+		75+		65+		75+		65+	
(N=95947)	(N=45939)	(N=38594)	(N=16887)	(N=57353)	(N=2905)	(N=6811)	(N=2447)	(N=39118)	(N=19189)	(N=50018)	(N=24303)		
%	%	%	%	%	%	%	%	%	%	%	%		
none	82.8	76.5	82.8	76.7	82.8	76.5	85.5	84.5	78.9	80.4	73.7		
Sight	12.2	17.5	11.8	17.1	12.4	17.7	5.9	10.7	15.4	14.2	20.0		
Hearing	4.6	6.9	4.3	6.4	4.8	7.2	2.3	4.1	6.2	5.3	7.8		
Leg	2.7	3.5	2.6	3.3	2.7	3.6	1.6	2.5	3.3	3.0	3.8		
Speech	0.4	0.6	0.5	0.6	0.4	0.5	0.4	0.4	0.4	0.5	0.6		
Mental	0.6	0.6	0.6	0.5	0.5	0.6	0.2	0.6	0.5	0.6	0.6		
Arm	1.0	1.2	1.1	1.3	1.0	1.1	0.6	0.9	1.0	1.2	1.3		
Intellectual	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2		
Body	0.5	0.8	0.5	0.8	0.6	0.9	0.4	0.5	0.7	0.6	1.0		
Leg Missing	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1		
Arm Missing	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

THE PROFILE OF ORPHANS BASED ON 2011 BOTSWANA CENSUS

By Elizabeth P. Mukamaambo
Department of Population Studies, University of Botswana

Dr. Gwen N. Lesetedi
Sociology Department, University of Botswana

Abstract: The increasing number of orphans is one of the major challenges that Botswana is facing as a result of the HIV/AIDS pandemic that has increased the number of deaths beyond what would be considered a normal rate. As mortality rises, growing numbers of children become orphaned by the disease. By increasing the number of children who lose one or both parents, HIV/AIDS exacerbates poverty and inequality. In answer to this situation the Government has come up with policies and programmes that address the plight of orphans and vulnerable children. The paper makes an attempt to profile the orphans and use the profile to assess the degree of vulnerability of the orphans. In profiling the orphans the paper looks at age, sex, relationship to the head of family, educational level, marital status and employment status. Where appropriate a comparative analysis is made between orphans and non-orphans to show where or not the situation of orphans is different from that of non-orphans. For the girl child aged between 15 years and 29 who are maternal orphans the paper was to go further and establish the number of children they have. This is as a result of the traditional role that mothers play in raising and fostering grandchildren. The loss of a mother has far reaching consequences than the loss of a father as it has implications of child care practices and mothers need to be relieved of responsibilities to either pursue further education or to look for employment. The upper age limit of orphans is taken as 18 years of age. The Government of Botswana's definition of the upper age limit of youth is however 29 years of age. The paper argues that the depletion of potential foster mothers due to increased death rates as a result of HIV/AIDS epidemic and the weakening of the extended family system have acted together to expose the youth especially females to poverty as in most cases, it is the girl child who is usually called upon to fill the gap of a parent in the absence of a parent.. With this information, the paper recommends that the upper age limit of 18 years to be a beneficiary of orphan programme be increased because vulnerability of orphans extends beyond economic situation. There is need to synchronise the age limits of who should be regarded as an orphan and who should be regarded as a youth in order to rationalise implementation of youth programmes. The paper then recommends a synchronisation of the age limits of who should be regarded as an orphan and who should be regarded as a youth in order to rationalise implementation of youth programmes.

Introduction

While persons referred to as orphans have been in existence to a very long time. As in Mukamaambo (2010), Botswana like many societies around the world has had orphans resulting from various causes of death. However, what is new is the sheer magnitude of the orphans that has almost completely incapacitated the traditional methods of dealing with the same. The number of orphans in Botswana has been on the increase due to the high prevalence of HIV (Malinga and Ntshwarang, 2011). The 2001 Population and Housing Census estimated 111,812 orphans compared to 128076 during the 2011 Population and Housing Census. HIV and AIDS have increased the death rate among reproductive age persons who in most cases still have young children to care for. The death of those in reproductive ages implies that it is those who are outside these ages that have to cope with the burden of looking after children left by their parents due to death. Given that those left to care for the young are either too old or too young, taking care of the orphans has been challenge. In recognition of this problem, the Government of Botswana came up with an orphan policy and its implementation procedures where the orphans are registered at community level and are assisted through a welfare system specifically established for the same.

The main objective of this paper was to profile the orphans as reported during the 2011 census and use the profile to assess the degree of vulnerability of the orphans. In profiling the orphans the paper looks at age, sex, educational level and employment status to mention just a few. Using the profile the paper assess whether or not the age limit of who is regarded as an orphan and qualifies as a beneficiary of the orphan programme is not too low. In addition the paper interrogates this upper age limit using the profile of orphans as provided by the 2011 census data and advocates for the age limit to be raised to 29 years of age. According to the Department of Welfare, children up age 18 years qualify for orphan support. This support should ideally cease once an individual reaches the exact age of 18 years. Those above aged 18 years and over are regarded as being outside the age category of orphans and as such would normally not receive welfare support.

The paper argues that in most cases those aged 19-23 years old would still be attending tertiary education acquiring some form of skills to enable them to get employment. With the current high unemployment rate amongst the youth who in most cases remain unemployed even after completing their education, there is need to re-assess the upper age limit of who should be considered an orphan. The main source of data is the 2011 Population and Housing Census. The paper uses simple cross tabulations and percentages in its analysis.

Limitations of the paper

The main imitation of the paper is that related to the data. It was not possible to exhaustively use tabulation plan that the authors had planned for the analysis. Specifically, for any form of analysis on orphans the variable "age" is the key as it is used to define who is an orphan. As it turned out, most of the classifications are not provided by age. This has made the initial objective of the paper which was to profile orphans with a view of using the profile to assess whether or not orphans are a vulnerable population and the factors that make them vulnerable a bit weak. However, comparison with non-orphaned population provides some indicator.

Orphans and Vulnerable Children (OVC) in Botswana

The state of orphan hood in the 2011 Population and Housing Census was established by asking about parental survival. Respondents were asked to indicate whether the biological parents i.e. either father or mother of the household member were still alive or dead. This question was asked with reference to biological parents and no other parents like step parents or foster parents. In cases where an enumerator could not ascertain the survival status of the biological parents of the household member they were advised to record "don't know" (Republic of Botswana, 2009). On the other hand in Botswana, an orphan is defined as any child younger than 18 years of age who has lost his/her only parent (in the case of a child of a single parent) or both parents (child of a married couple) Government of Botswana, 2008). The HIV epidemic in Botswana has caused a vast increase in the number of orphans who are faced with a lot of challenges both socially and economically as well as emotionally making them vulnerable. However, the loss of a parent is not the only cause of vulnerability amongst children. Situations like living in an abusive environment, heading a household or living in a child-headed household, living with a sick parent or guardian, living with HIV, living with a disability, and living outside family care can contribute to the vulnerability of children (Feranil et al., 2010). In recognition of this a vulnerable child is defined as any child under the age of 18 years who lives in an abusive environment, a poverty-stricken family unable to access basic services, or a child-headed household; a child who lives with sick parents or outside family care; or who is HIV positive (Government of Botswana, 2008).

Both government and non-governmental organizations have put measures in place to deal with the ever increasing number of orphans. The government of Botswana has formulated policies and programmes to address challenges faced by orphans and vulnerable children. These have been put in place to offer social support amongst others. For instance the National Orphan Care Programme was started in 1999 to provide food baskets and psychological counseling to orphans and vulnerable children. The 2008 National Guidelines on the Care of Orphans and Vulnerable Children (OVC) provide policy guidance on how to handle children facing challenges related to the loss of parents and other related issues. Another official document in place to guide the protection and welfare of children in general, and OVC in particular is the 2009 Children's Act. The Children's Act is very comprehensive covering issues on parental duties and rights, community and government support to parents, children in need of protection, alternative care of children and foster care. It also states penalties for those not complying with the act. The act has bearing on National Orphan Care Programme and related policies in that it states the rights of all children, not only orphans and how they should be treated.

With approval from the government of Botswana, NGOs have set up residential care facilities, covering the whole country (Malinga and Ntshwarang, 2011). These include 3 SOS Children's Villages, Childline Botswana, Mpule Kwelagobe Children's Home and Paolo Zanichille. Despite these efforts, orphans continue to face a lot of problems making them even more vulnerable. Orphaned children especially, are vulnerable to malnutrition, illness, dropping out of school, lack of clothing, and general neglect (Lesetedi, 2010). In addition they face problems of severe financial constraint and hunger. In addition, they struggle against stigma and discrimination (UNAIDS, 2000). The weakening of the extended family system resulting in loss of social and financial support further compounds the problems faced by orphans.

Results

The census established orphan hood on the basis of household members indicating the survival status of the parents. Based on this question, the censuses estimated a total of 128076 orphans. Of these 64964 were males and 63112 were females. Further analysis of the data included comparing the distribution of orphans to the district population.

Distribution of Orphans and Population by District

Table 1 shows the distribution of orphans by district. The aim of the table was to find out the district where orphans are mostly found, and also the proportion of orphans per 100 in the population within the district. As a control measure, the table also provides population distribution by district. This was to establish if the percent distribution of the orphans is influenced by population size of the district. The table (column 2) shows that while in most cases the number of orphans in a district is consistent with the population size of the district, there are some exceptions in that some districts show that the proportion of orphans in the district is at variance with the proportion of the population size of the district. The districts showing such differences are: North East (4.3% orphans and 2.7% population), Central Tutume (10.7% orphans and 7.1% population) and Central Mahalapye (7.2% orphans and 5.8% population). On the other hand those showing a lower proportion of orphans compared to their proportionate share of population are Gaborone (5.1% orphans and 11.2% population), Ngamiland South East (2.9% orphans and 4.6% population) and Kweneng East (10.8% orphans and 14.9% population). All other districts show that the proportion of orphans is not much different from the proportion of the target population.

Looking at within the district proportion, the general picture as provided in column 3 is that Botswana has a large number of orphans. In almost all districts the proportion of orphans to the total target population is close to 20%. Only in few districts is proportion slightly above 10%. Orapa is the only exception with only 5% of the target population being orphaned.

Table 1: Percent Distribution of Orphans and Population by District

	% Orphans*	% Population Distributions
Gaborone	10.9	11.2
Francistown	4.9	4.9
Lobatse	1.4	1.4
Selebi Phikwe	2.4	2.4
Orapa	0.4	0.5
Jwaneng	0.9	0.9
Sowa Town	0.2	0.2
Southern	9.4	9.7
South East	0.7	4.6
Kweneng East	16.6	14.9
Kgatleng	2.3	4.5
Central Serowe Palapye	4.5	9.2
Central Mahalapye	9.1	5.8
Central Tutume	6.0	7.1
North East	3.7	2.7
Ngamiland East	2.8	4.7
Ngamiland West	7.6	3.0
Chobe	3.2	1.2
Ghanzi	2.9	2.1
Kgalagadi South	0.1	1.5
Kgalagadi North	2.1	1.5
Country Total		19.4

May not add to 100 as some sub district has been left out as they did not have comparable population percentage

Age and Sex Distribution

The age distribution of orphans shows that the proportion of orphans increases with an increase in age. The highest proportion is at age group 10-14. This has a lot of implications on the socio-economic status of the orphans in general and Table 2.

Table 2: Percent Distribution of Orphans and by Age Group

Age Group	Promotion Orphans	Promotion Non Orphans
Under 1	1.2	8.1
00-04	8.2	26.0
05-09	21.1	28.5
10-14	37.3	24.2
15-18	32.2	13.2
Total	100.0	100.0

Relationship to Head of Household

Based on table 3, 1.7 % of orphans were reported to have been heads of households compared to only 0.6% who were not orphans at the time. There also seems to be a large element of child fostering for both orphans and non-orphans as it seems grandparents play a big role in staying with children. However, thought the table it shows that orphans are fostered more than non-orphans.

Table 3: Percent Distribution of Orphans and Non-Orphans by Relationship to the Head of Family

Head	1.7	0.6
Spouse/Partner	0.2	0.0
Son/Daughter	31.0	48.1
Child in-Law	0.7	0.5
Step-child	0.8	0.4
Grand child	35.5	33.7
Parent	0.1	0.0
Parent in-Law	0.1	0.0
Grand Parent	0.5	0.3
Brother/Sister	7.7	2.7
Nephew/Niece	11.9	7.5
Other Relative	8.1	4.8
Visitor/No Related	0.4	0.3
Not Related	1.4	0.9
Total	100.0	100.0

School Attendance

In terms of school attendance, and from the table 4, it seems orphans are fairing much better as a small proportion of them have never been to school, though a slightly higher percentage compared to non-orphans have left school. Form the table it is not clear at what level those who left school were at the time of leaving school and why.

Table 4: Percent Distribution of Orphans and non-Orphans by School Attendance

	Orphans	Non-Orphans
Still in School	81.8	65.5
Left School	6.6	3.0
Never attended	11.6	28.5
School attendance	100.0	100.0

Marital Status

In terms of marital status, there is not much difference between orphans and non orphans. Table 5 shows that the majority never married.

Table 5: Percent Distribution of Orphans and non-Orphans by marital status

	Orphans	Non -orphans
Married	0.7	0.7
Never married	97.2	97.8
Living together	1.9	1.4
Separated	0.0	0.0
Divorced	0.0	0.0
Widowed	0.2	0.1
Total	100.0	100.0

Orphan by Type of Employment Status

Table 6 provides some information on employment status of orphans. The table shows that a high proportion of orphans are still in school just like their non-orphan counterparts with 89 % and 91.5 respectively.

Table 6: Percent Distribution of Orphan by Sex and Type of Employment Status

Economic Activity	Orphans	Non-orphans
Seasonal - Paid	0.6	0.4
Seasonal - Unpaid	0.4	0.3
Non_seasonal - Paid	1.7	1.1
Non_seasonal - Unpaid	0.5	0.5
Job seeker	2.4	1.7
Home maker	4.8	3.7
Student	89.0	91.9
Retired	0.0	0.0
Sick	0.4	0.3
Prisoners	0.0	0.0
Total	100.0	100.0

Discussions

The distribution of orphans by district shows that of the three districts that reflect a higher proportion of orphans, two of them are remote districts. This is a concern considering that in most cases service provision for orphans is situated near large urban areas. Monitoring orphan situation may be a problem. In term of the age distribution, the paper shows that the number of orphans increases with age. It is higher among those who are expected to be in school, work and those within the reproductive ages. Being an orphan during this period in one's life brings its own level of vulnerability. There is an issue of social connection at young ages. It is at this age that parental support is crucial. According to Tout (1994) orphans undergo a transition from a secure home with parents and siblings to a home where they have to fend for themselves or take care of elderly grandparents while they are ill prepared to take up such roles. This may affect their schooling. Being orphaned during reproductive age has implications on child care system especially because child fostering is common in Botswana. This affects those in labour force age as at times some young mothers are forced to take care of their children instead of looking for work. Given that in Botswana one ceases to be an orphan after age of 18, this makes female orphan especially vulnerable and disempowered. This is more so because, there is no smooth transition from being a beneficiary of the orphan programme to being a beneficiary of the youth programme. One has to completely stop before the other can start. The other challenge during this transition is the complicated procedures that are necessary to start benefitting from the youth.

For Botswana the definition of an orphan is circumstantial. An orphan is regarded as any person aged 18 years and below, who has lost both parents if the parents were married, or one who has lost a parent, if the parent was not married (single parent). The definition of an orphan, therefore, centres upon loss of a biological parent rather than loss of economic and social support as a result of the death of parent. This means an orphan is defined in terms of physical as opposed to psychological and social support. This invariably means that the definition centres on the parent and not on the child. Therefore, in effect, any child suffering from neglect, economic and/or social deprivation is not regarded as an orphan as long as a person regarded as a parent is still alive regardless of lack of support or a person reaches age of 18 years. There have been many cases when a child is classified as a potential orphan when the parent is terminally ill. However, the said potential orphans may not receive material support until the parent dies (Mukamaambo 2004.)

The different age limits specified in various government policies and programmes also poses problems. For instance for the purposes of service provision, the National Youths Policy (1996) defines youths as all persons aged 12-29 years old. The policy recognises that people in this age group require social, economic and political support to realise their full potential. The policy includes those who are above 18 years up to the age of 29 years old unlike in the official definition of who is an orphan where the age limit is 18 years. According to the National Orphan Care Programme upon attaining the age of 18 years, orphans are supposed to exit the programme. This is too early an exit because at this age most children are still at school or they don't have the necessary skills to get themselves employment. No provision is made for the orphans at this stage leaving them more vulnerable than before. Despite the fact that the census data indicated that most of the orphans had left school it could not be ascertained at what level they had left school.

Both Governmental and Non-Governmental organizations have out in place measures to counteract the problems faced by orphans (Malinga and Ntshwarang, 2011). However orphans continue experiencing problems such as illness, dropping out of school, lack of clothing, stigma and discrimination (Lesetedi, 2010). The census revealed that most of the orphans had left school and were engaged in paid non seasonal employment. Based on this one could class them as vulnerable.

Conclusions and Recommendations

The number of orphans has been on the rise mainly due to the HIV epidemic. The government has come up with programmes and policies to tackle the challenges posed by this increase in the number of orphans. These include The Children's Act, National Orphan Care Programme as well as the National Guidelines on the Care of Orphans and Vulnerable Children (OVC).

Recommendations

Based on the result provided in the tables and the discussion presented, the Government has done a lot because there seem not to be major differences in the situation of the orphans compared to the situations of non-orphans apart from their proportionate size. However, there is a lot to be done in relation to the issues of orphan. The first such step should be to synchronise the upper age limit of those regarded as orphans to the one used for youth especially because up to age 23 or 24 most would still be at school. Second, there is need to assess child care system in Botswana with a view of assisting orphan with no family support to have a place to leave their children while at school or looking for employment. There are orphans who live under conditions

of poverty with their children because they have no one to help them. This may lead to a vicious circle of poverty among orphans and their children. Lastly, a census results may not be a proper mode to assess the situation of orphans due to the proxy nature of data collection which implies that the situation of orphans is assessed through the reporting of the key respondents and not the orphans themselves.

References

- Acevedo L. et.al 1986: Learning outcomes and school cost-effectiveness in Mexico, World Bank Washington, DC
- BIDPA 1992: "Study of Poverty and Poverty Alleviation in Botswana Phase One", (Unpublished)
- Botswana Government 1999-2005: National Action for Youth 1998: Government Printer, Gaborone
- Botswana Government 1997: National Population Policy Gaborone: Government Printers.
- Botswana Government 1996: National Youth Policy Government Printer, Gaborone
- Botswana Government, 2008. National Guidelines on the Care of Orphans and Vulnerable Children.
- Botswana Government, 2009. 2011 Population and Housing Census: Enumeration Manual. Central Statistics Office. Gaborone.
- Botswana Government, 2009. Children's Act of 2009
- Encyclopedia Britannica 2003 Deluxe edition CD-ROM
- Feranil, I., B. Herstad, W. Jallow, and R. Mbuya-Brown. 2010. Assessing Implementation of Botswana's Program for Orphans and Vulnerable Children. Washington, DC: Futures Group, Health Policy Initiative, Task Order 1
- Fidzani H. N. and Mukamaambo E. P2001: "HIV/AIDS IN Ghanzi District: Situation and Response Analysis" Unpublished Research Report
- Jackson H 2002: AIDS Africa: Continent in crisis, SAFAIDS, Harare, Zimbabwe
- Jacques G 2003: "Alien Ways or Brave New World? Alternative Care Policy for Orphans in Botswana" in Mulinge et al (ed) Dept. Relive and Poverty Alleviation: Lessons from Africa, Africa Institute for South Africa, Pretoria
- Lesetedi, G.N.2008. "The Family under Siege in Sub Saharan Africa: Disintegrating or Transforming in the Era of HIV/AIDS?" A Paper Presented at the Schapera Project Conference 30 - 31st October 2008, University of Botswana.
- Malinga, T. and Ntshwarang, P.N. 2013. Alternative Care for Children in Botswana: a Reality or Idealism? Social Work and Society International online Journal. Vol 11, No.1 (2013)
- Mukamaambo E. P 2010. "Orphan of Orphans: The Plight of Maternal Orphaned Youths in Botswana" pp 133-149 in Osei-Hwedie B, Osei-Hwedie K, and Rankopo M J (Ed.): HIV/AIDS and Social Welfare: Issues in Prevention, Management And Care, GIMPA Press, Accra Ghana
- Oppong, C. (1993): Adolescent Girls: Botswana's Human Resources at Risk: Some Policy Priorities, Programmes Responses and Requirements, International Labour office, Geneva
- Pitso J N. situation and Response Analysis of the Youth from Depressed Economic Communities, (Unpublished) (<http://dictionary.reference.com/browse/orphan.2013>).
- Tout K (1994): Grandparents as parents in Developing Counties in Aging International Vol. Xx1 No.1

RELIGIOUS PERSPECTIVES IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS DATA

Dr. Moatlhodi Kgosimore, Dr. Boingotlo Sebolai, Boipono J. Macheng
Botswana College of Agriculture

& Motshwari M. Mabote
University of Botswana

Abstract: Botswana is an extremely religious society with religion spanning from spiritual to traditional inclinations. The paper reported an increase in religious affiliations and reduction in non-religious affiliations. A significant increase was recorded among the Christian community. The study also revealed that cohabitation is highly practiced in Botswana and the level of literacy is reasonably high across religious groups. In conclusion the results highlight the collapse of the family unit which is critical to moral development and enhanced ethical standards.

1. Introduction

Religion is an organized collection of beliefs, cultural systems and world-views that relate humanity to an order of existence (<http://en.wikipedia.org/wiki/Religion>). It is a system from which a society derives its morality, ethics and religious laws or lifestyle. Botswana is an extremely religious society with religion spanning from spiritual to traditional inclinations. Since the arrival of the colonial missionaries in the early 1800s, people worshipped Badimo, a greater God or Supreme Being representing the ancestors. Modimo was believed to be a supernatural being responsible for the creation of humankind, animals and plants providing a strong connection between people and the natural environment.

Ancestral worship and religious practice remains central to those who still follow the traditional belief systems. It is generally believed that, if appeased, the ancestors will protect the family, strengthen the community and keep away ill omens. Ancestors may also be invoked to promote auspicious seasonal events, such as timely onset of the rains and a good-quality harvest. A traditional healer played a strong or significant role in these belief systems as a medium through which ancestral spirits were contacted. Many traditional practices and beliefs started disintegrating when Christian word teachings were introduced by the missionaries.

Botswana has three (3) main categories or families of churches, namely the (i) Mainline churches (ii) African independent churches and (iii) Evangelical or Pentecostal or Charismatic churches (for detailed description of types of churches see Haron et al, 2008). The challenge has been the determination of the prominent category, even though some studies suggest that the African independent churches dominate, followed by the mainline churches. It is worth noting that these churches have varying doctrines or practices. The mainline churches commonly described as missionary-founded churches focus mainly on salvation and shared resources and their doctrines are aligned to international denominations such as the Anglican, Catholic, Lutheran, Seventh Day Adventists just to mention a few (Haron et al, 2008). The African Religion comprises a variety of churches; among them the Healing Church of Botswana, the Zionist Christian Church and the Apostolic Faith Mission belonging to two main movements: the African Independent and Pentecostal churches. These are indigenous religions that practice an integrated form of worship, combining the Christian liturgy with the more ritualistic elements of traditional ancestral worship. The African Independent Religion is very popular in rural areas and has a strong sense of community worship, rather than the more individualistic routine of modern Christianity. The Pentecostal or Charismatic church focuses on being born again, Holy Spirit filled, living holy and prosperity.

Other religions such as Islam and Hinduism also uphold the spirit of adherence to religion focused on the social, economic and health aspects of humans. However, just like other religions the form of worship or practice differs from others.

The constitution of Botswana recognizes the right to religious association in all spheres of life. This is supported by Botswana's vision 2016 pillars of a moral and tolerant nation, and a compassionate, just and caring nation (Vision 2016, 1997). The Vision recognizes family as a central institution for support and development of the people of Botswana and for transformation of social and moral values. However, the country is faced with challenges that include failure to cultivate and preserve national moral and cultural values in the face of rapid social change (Botswana Performance, 2009). The vision also advocates for shared values and respect for religious beliefs. The religious institutions are viewed as agents for change, maintenance and

transmission of moral and ethical standards. The constitution permits the government to suspend religious freedom in the interest of national defense, public safety, public order, public morality, or public health when the suspension is deemed "reasonably justifiable in a democratic society (Botswana international religious freedom report, 2012). That is, the role or importance of religion in a society is the promotion of social justice and dignity among humans particularly girls and poor women. Religious institutions have played a central role in shaping the character and quality of intimate relationships between married parents (Iannaccone, 1998) by fostering a range of relationship related values, norms, morals and social support. It fosters the establishment of a family unit, the key institution for transmission of traditional values, through the promotion of investment in marriage, discouraging behaviour harmful to marriages and encouraging spouses to take favourable decisions appropriate for relationship building. The principles and goals of the vision form the foundation for future development plans, mid-term reviews and guides formulation of national policies. Every society's standards and laws are based on some form of religion (<http://www.ask.com>, 2013).

Traditionally, population census data is the most extensive and regular source of data relating to size, growth and structure of religious affiliations. It provides a comprehensive or complete picture than vital statistics; however, it has considerable limitations in the scope and usage (Open Society Institute, 2009). Generally, a question of religion investigates membership to a particular church, community or confession. It may extend to in-depth investigation of individual beliefs, creed or the frequency and intensity of religious practice. This paper, therefore, focuses on membership to a confession or community and demographic, educational and socio-economic (marital and employment status) indicators or structures.

2. Literature review

Haron et al (2008) carried out an extensive secondary literature review on the contributions of faith-based organizations in the prevention of HIV/AIDS. The study reviewed both the local and international researches relevant to the involvement of faith-based or religious organizations on the prevention of HIV/AIDS. The study revealed weak links between collaborations between faith-based organizations (religious vs non-religious) as well as researchers (local vs international scholars). Precisely, there is no mechanism for nurturing and sustained collaborations and partnerships.

According to the International Religious Freedom report (2007) Botswana's constitution provides for freedom of religion and is widely respected by both government and private actors. Botswana enacted a Societies Act which requires the registration of all churches bodies and controls some of their activities (Sales, 2005).

As survey, census and historical data pile up, the continuing vitality of religion has become apparent especially in countries such as the United States where church membership has increased from 17% at the time of the Revolution, 34% by the mid-1800s and to more than 60% in the late 1990s (Iannaccone, 1998). Religion is not the province of the poor or uninformed, it was reported in numerous analyses of cross-sectional survey data that rates of religious belief and religious activity tend not to decline with income and most rates increase with education. However, styles of religion do vary with income and education. Theologically conservative denominations typically labeled 'fundamentalist', 'Pentecostal' or 'sectarian' draw a disproportionate share of their members from among the poorer, less educated, and minority members of society (Stark 1972; Roof and McKinney 1987; Iannaccone, 1992). On average individuals in academia were less religious than the general public, but it was not clear that this reflects a fundamental tension between faith and science. Faculty staff members in the physical sciences and professional fields were much more likely to attend church, profess faith and approve of religion (Ecklund and Scheitle, 2007). Among leading physicists, chemists and biologists, belief in a god who answers prayer is widespread irrespective of the generation (Larson and Witham, 1997).

The economics of religion reflects that in some countries such as the USA, churches' contribution to the GDP is estimated at 1%, thus religious giving contributes significantly to charitable giving, with religious volunteer work been more common than any form of volunteer work and the majority of non-profitable organizations are or were religiously based (Iannaccone, 1998).

Botswana adopted the United Nations Millennium Declaration in 2000 and set a deadline of 2015 for the achievement of the millennium development goals (MDGs) and an impressive progress has been reported. This commitment according to the INDRH (2005) implies that Botswana through faith and tradition should be able to:

1. Eradicate extreme poverty and hunger: through practice of generous behaviour and service to others. These traits go beyond the economic stability of families to include health, well-being and spiritual development of individuals.
2. Achieve universal primary education: through faith and traditions that promote appreciation for diversity and tolerance, such as the development of non-violence, peace-making, tolerance and healthy living values.
3. Promote gender equality and empower women: through devotion and respect for justice and equality, dignity and rights, education, both physical and mental health services which allows for participation in human societies. Provision of access to information to women of reproductive health, education, employment, social and political involvement as well as leadership in religious traditions.
4. Reduce child mortality: faith and religion should have high regard for sanctity of life.
5. Improve maternal health: promote balance and harmony for the well-being and health of humans.
6. Combat HIV/AIDS, Malaria and other diseases: Understanding of suffering and compassion shall be attributes of a religious society.
7. Ensure environmental sustainability: Understanding of need for balance of health and environment is crucial to a religious society.
8. Develop a global partnership for development: Strong advocacy for a just and peaceful society is a pre-requisite for collaboration.

The current status of progress of MDGs and vision 2016 shows progress particularly in the following goals: (i) Eradication of poverty and hunger (ii) Achievement of the universal primary education (iii) Promotion of gender equity and empower women and (iv) The establishment of global partnerships. These goals are driven by the national vision pillars (a) A compassionate, just and caring nation and (b) A moral and tolerant nation. The review of the vision also highlighted high rise in crime and violence, which demonstrates Botswana's regard for acceptable behaviour and law abiding society. There is also concern for eroded culture of family, with transition of 'traditional' to nuclear 'family' which destroys support and development, including transmission of social and moral values (Heterliu and Isaic-Maniu, 2009).

The Afrobarometer raised crucial findings such as status of activity to religious affiliations and frequency of worship which could be attributed to some of the negative findings in the study. Improved communication with improved access to renowned international ministries, with messages centered on prosperity and healing may be the cause of growth of the Christian society. The legal framework that promotes or advocates for involvement of religion in spiritual healing may also have contributed to the rise in Christian levels.

3. Methodology and materials

The study used the 2001 Population and housing Census, the Afrobarometer (2005) and the 2011 Population and Census (2011) to compare established trends in religious distribution in Botswana. The Vision 2016 and Millennium Development Goals (MDGs) documents were used to determine religious policies and issues to establish the implications of the 2011 Population and Housing Census analysis results. A survey of both national and international literature was conducted to motivate the study and for comparative purposes.

The analysis of the 2011 Population and Housing Census data considered distribution of religion by age, gender, marital status, level of education and employment status. A population of 12 years and above was considered for the study, resulting in a sample population size of approximately 1.5 million. The study considered religious inclinations in Botswana; structural population by viewpoint (age, employment etc.) and balance of legally constituted families (marital status).

Constraints and limitations of the data were highlighted in brief meetings between analysts and Statistics of Botswana and hence would not be spelt out in the paper. The balance of multi-confessional families were not captured in the data or literature.

4. Analysis Results

The focus of the work is establishment of trends and distribution of religion in Botswana based on the following indicators (a) age (b) gender, (c) level of education attained (d) marital status and (e) employment status.

Trends in the distribution of religion in Botswana since the 2001 showed an increase in the religious affiliation among people living in Botswana.

Religion/Year	2001	2005	Trends on 2001 & 2011 data	
			2011	
Christian	71.6	65	79.3	Increased
Muslim	0.4	0	0.7	Increased
Bahai	0.06	0	0.1	Increased
Hindu	0.3	0	0.3	Constant
Badimo	6	5	4.1	Decreased
Rastafarian	-	-	0.1	Evolved
No religion	20.6	27.2	15.3	Decreased
Other religion	1	2.8	0.1	Decreased

Table 6: Trends in religious distribution between 2001 and 2011

Christianity, Muslim, Bahai recorded significant increase, Hindu community remained constant, while decrease were reported among individuals worshipping Badimo, other religions and non-religious groups.

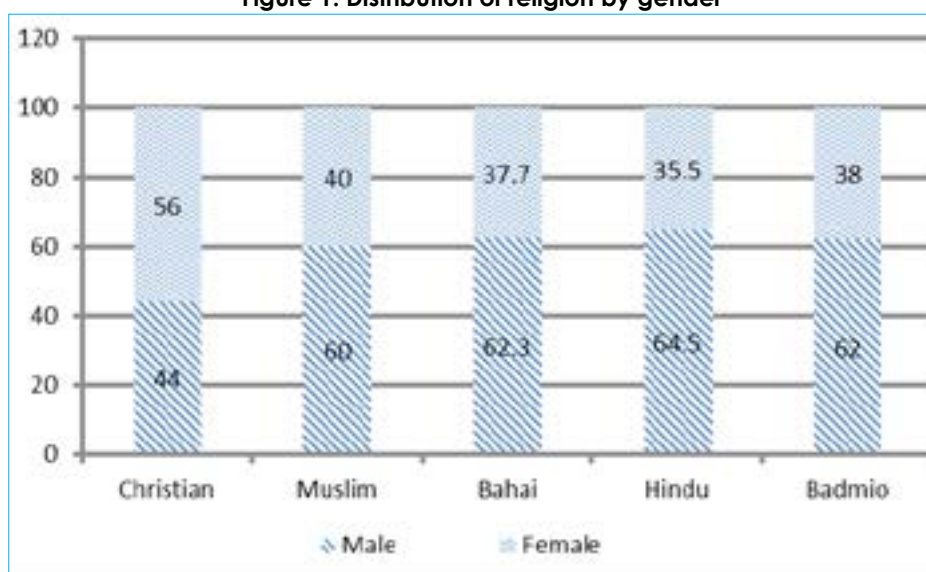
4.1 Age distribution

We categorized the age groups into the youth (18 – 35 years), sexual reproductive group (15–49 years of age) and the elderly (65 years and above) to obtain insight on the dynamics of religion among these important groups. These groups have key roles and responsibilities in the society which needs to be preserved for the development of the country. The youth are the future leaders of the society, the reproductive group is crucial for population growth, leadership and implementation of initiatives while the elderly are the mentors. The trends of Christianity dominance were recorded from the study and a higher proportion of the youth and/or reproductive groups (estimated 79%) are Christians. Notable the African tradition religion (Badimo) is dominated by elders; this is expected as elders tend to be preservative on issues of tradition while youth are generally vulnerable to the fast changing environment. The challenge arises from a higher proportion (16.3% against 15.5% and 14.5% of the reproductive and elderly groups) of the youth not aligned to any religion. The Islamic religion seems to be establishing itself among the youth and/or the reproductive groups. Implications of these results are that Botswana's young generation upholds religious values that is envisaged to transform the country to become a moral and tolerant nation and also capable of striving for spiritual and physical health.

4.2 Gender based distribution

The results of the study show that Christianity is female dominated religion (56%). The other religions are male dominated with Hindu leading the group at 64.5% (table 2(a) and Figure 1).

Figure 1: Distribution of religion by gender

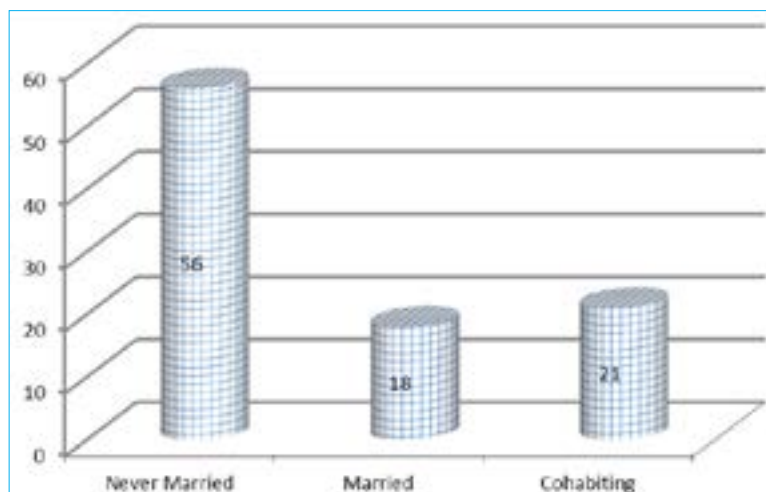


Comparison by religion shows that male Christian population dominated other religions with 72.5% followed by the Hindu religion with 20%. Similarly the female population dominates at 85% followed by Hindu religion at 10.4%.

4.3 Marital status

The analysis of the 2011 Population and Housing Census data shows that of the estimated 1.5 million population that responded to the question of religion (12 years and above), 56% never got married, 21% was cohabiting and 21% were married (see figure 2 below).

Figure 2: Distribution of marital status

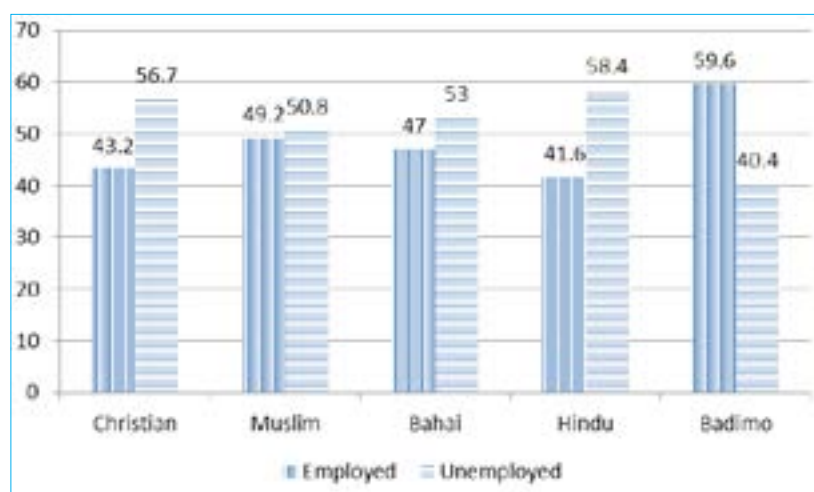


One of the main objectives of Botswana in its mandate to achieve the millennium development goals and fulfill pillars of vision 2016 is through the promotion of family—a unit institutionalized through marriage. Comparison across religions shows that Christianity dominates all categories (married (83.6%), never married (79.1%), cohabitation (75.2%), separation (77.2%), divorce (83.6%) and widows (81.7%)) followed by non-affiliation to religious grouping (table 3(b)). The study further shows that within the Christian community a large proportion of individuals never got married (55.6%), while married and cohabitation are respectively about 19% and 20% respectively. The high rates of divorce among the Christian and traditional community poses a major challenge as the two systems are believed to have strong and solid marriage building foundations such as marriage counseling by qualified marriage counselors (in church) and uncles in the traditional settings. The question that remains “Would Botswana achieve its objective of promoting family in the context of a marriage?”. These results have serious implications in building a tolerant nation as well as a compassionate and caring or united nation. Marriage support systems are slowly eroded by fast changing environment.

4.4 Employment status

Religion is a vehicle for develop and transformation in different aspects of life including economic stability. Trends show that within each religion the majority have no formal employment except for those practicing traditional religion (Badimo) [table 5(a)]. Hindu and Christian communities are the most hit with proportion of no-formal employment estimated at 58.4% and 56.7% respectively. Across all religions Christianity leads on both formal and non-formal employment with an estimated employment of 79% followed by the Hindu community (14.7%–formal employment and 15.7% on non-formal employment). Implications of employment status could be attributed to a number of issues among them the prosperity teachings.

Figure 3: Distribution of employment status



The researches even though reviewed religious contribution to the health aspect of the society particularly HIV/AIDS, did not incorporate analysis of HIV/AIDS as more data will have been required to effectively complete the exercise. It is hoped that analysis of HIV/AIDS will be covered elsewhere. Also omitted from the analysis are issues of child-bearing, juvenile delinquency and mortality.

4.5 Level of education attained

Education is the tool through which assimilation of knowledge can be easily implemented. In her vision Botswana has advocated for universal primary education and access to ten years of basic education for all by 2016 through the pillar of an educated and informed nation. It is encouraging to note high level of literacy in Botswana. Today's gospel teaching encourages reinforcement of knowledge through self-study, which puts people of Botswana at an advantageous position to understand issues of life through access to information through various media.

5. Implications on policies, programs and strategies

Trends on the 2011 Population and Housing Census data show that Christianity (79%) remains the predominant religion followed by Badimo (4.1%) (commonly known as African traditional religion) and then Islam (0.74%). At least 15% of the population was not associated to any religion. The results showed an increase in level of religion with Christianity increasing by at least 7% from the 2001 population and housing census and reduction in non-affiliated members by about 5%. However, there is evolution of another religion known as Rastafarian advocating for recognition.

Implications of a society with strong religious tradition are that in addition to the economic aspects of individuals and families focus is also directed to the health, well-being and spiritual development of families. The faith and traditions 'aspirations for appreciation of diversity and tolerance advocate for non-violence which introduces children and youth to education programmes teaching peace building, tolerance and healthy living.

The picture portrayed by the 2001 and 2011 population and housing census coupled with the Afrobarometer survey of 2005 of predominantly religious society (at least 84%) places Botswana in a better position to develop into a just, free, equal and compassionate society. The implications of the results are that Botswana is capable of fulfilling all the set standards of the MDGs, Vision 2016 as well as NDP10 initiatives provided the society practices strongly the characteristics and functions religions. However, more in-depth studies should be undertaken to determine factors crucial to the break-down of families. The high rates of cohabitation go against the Christian teachings which promote establishment of families made from formal marriages. The high rates of HIV/AIDS prevalence which seem to be reversing most of the gains made poses a major concern and calls for more rigorous intervention measures. Further, studies are also crucial to determine gaps that allow for the generation of new infections despite so much information about the disease. The results of the analysis show high rates of literacy which is an indicator of effective weaponry for understanding of moral values required for protection and execution of goals and initiatives.

6. Discussion of results

The results show increase religious affiliations which intuitively implies grow in morals and ethical standards. Now, crucial questions are what factors contribute to low levels of marriage (56% that was never married), high levels of cohabitation (21% living together against 18% married), substantial levels of divorce among religious groups particularly Christians. Is Botswana a tolerant nation? Or Will Botswana sustain the pillar of a tolerant nation following the prevalence of church splits, which lead to the evolution of African Independent Churches? What does the female dominance in the Christian community mean to the unit of family leadership in contrast with Christian doctrines? Will family consultative processes be sustained? Has Christianity succumbed to societal pressures? Religious communities need to introspect or carry-out research on these crucial issues in the establishment of family unit and consequently the development of moral and ethical standards in a society. Non-alliance to a particular religious community and its consequences (Is the society growing into atheism or not?) require special attention. The effects of growing technology in the spread and evolution of religious groupings also needs to be investigated.

The study highlighted important points on the distribution and trends on the religious groupings; however crucial aspects such as distribution by citizenship, language, locality or spatial distribution were omitted in the study and they may provide vital information necessary to address the raised issues. The Population and housing Census data even though has provided insight on the dynamics of religion in Botswana could not provide in-depth information about religion and its role in the development of the society. Some of the unanswered questions can be addressed through in-depth surveys or studies.

7. Conclusions/Recommendations

7.1 Conclusions

Botswana is a highly religious society, with Christianity dominating. The study recorded low rates of marriages and high rates of cohabitation owing to the collapse of solid family structure. The high levels of literacy provide hope for a knowledge based society. The age distribution of religion also provides a foundation for young spiritual generation which may be a strong advocacy for transformation of the society.

7.2 Recommendations

- (a) A framework aimed at reviving the family unit should be developed, probably of multi-sectoral nature like that of prevention of HIV/AIDS.
- (b) Further studies on the influence, dominance and overlaps of category of churches in socio-welfare should be conducted.
- (c) Initiatives like Reanyalana in Boka should be supported to reduce cohabitation.

8. Appendices

• Statistical tables

Table 1: Distribution of religion by selected age groups

Category/Religion	Christian		Muslim		Badimo		No religion		Other religions		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Youth (18-35 years)	542,616	78.7	5,494	0.8	24,858	3.6	112,274	16.3	4,577	0.7	689,819
Reproductive age (15-49 years)	874,038	79.4	8,755	0.8	40,475	3.7	170,647	15.5	7,399	0.7	1,101,314
Elderly (65-98 years)	72,663	76.1	394	0.4	8,239	8.6	13,861	14.5	373	0.4	95,530

Table 2(a): Intra-distribution of religion by Gender

Gender	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Male	515,891	44.0	6,566	60.0	37,781	62.3	145,349	64.5	5,764	62.0	711,351
Female	655,646	56.0	4,375	40.0	22,832	37.7	80,067	35.5	3,530	38.0	766,450
Total	1,171,537	100.0	10,941	100.0	60,613	100.0	225,416	100.0	9,294	100.0	1,477,801

Table 2(b): Population based distribution of religion by Gender

Gender	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Male	515,891	72.5	6,566	0.9	37,781	5.3	145,349	20.4	5,764	0.8	711,351
Female	655,646	85.5	4,375	0.6	22,832	3.0	80,067	10.4	3,530	0.5	766,450
Total	1,171,537		10,941		60,613		225,416		9,294		1,477,801

Table 3: (a) Intra - religion distribution by marital status

Marital Status/Religion	Christian		Muslim		Badimo		No religion		Other religions		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Married	226,316	19.3	4,587	41.9	10,042	16.6	24,662	10.9	5,022	54.1	270,629
Never Married	651,597	55.6	4,344	39.7	27,272	45.0	137,293	60.9	2,784	30.0	823,290
Living together	230,205	19.7	1,369	12.5	18,566	30.6	55,088	24.4	971	10.5	306,199
Separated	5,084	0.4	100	0.9	450	0.7	904	0.4	48	0.5	6,586
Divorced	11,941	1.0	237	2.2	659	1.1	1,250	0.6	188	2.0	14,275
Widowed	46,281	4.0	300	2.7	3,620	6.0	6,198	2.7	278	3.0	56,677
Total	1,171,424		10,937		60,609		225,395		9,291		1,477,656

Table 3: (b) Distribution of religion by marital status

Marital Status/Religion	Christian		Muslim		Badimo		No religion		Other religions		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Married	226,316	83.6	4,587	1.7	10,042	3.7	24,662	9.1	5,022	1.9	270,629
Never Married	651,597	79.1	4,344	0.5	27,272	3.3	137,293	16.7	2,784	0.3	823,290
Living together	230,205	75.2	1,369	0.4	18,566	6.1	55,088	18.0	971	0.3	306,199
Separated	5,084	77.2	100	1.5	450	6.8	904	13.7	48	0.7	6,586
Divorced	11,941	83.6	237	1.7	659	4.6	1,250	8.8	188	1.3	14,275
Widowed	46,281	81.7	300	0.5	3,620	6.4	6,198	10.9	278	0.5	56,677
Total	1,171,424		10,937		60,609		225,395		9,291		1,477,656

Table 4 (a): Intra-religious distribution by educational status

Educational status/Religion	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Still at school	274,501	23.4	2,080	19.0	6,257	10.3	43,575	19.3	1,414	15.2	327,827
Left school	779,292	66.5	7,956	72.8	35,073	57.9	141,082	62.6	7,261	78.2	970,664
Never attended	117,367	10.0	897	8.2	19,268	31.8	40,642	18.0	613	6.6	178,787
Total	1,171,160		10,933		60,598		225,299		9,288		1,477,278

Table 4 (b): Distribution of religion by educational status

Educational status/Religion	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Still at school	274,501	83.7	2,080	0.6	6,257	1.9	43,575	13.3	1,414	0.4	327,827
Left school	779,292	80.3	7,956	0.8	35,073	3.6	141,082	14.5	7,261	0.7	970,664
Never attended	117,367	65.6	897	0.5	19,268	10.8	40,642	22.7	613	0.3	178,787
Total	1,171,160		10,933		60,598		225,299		9,288		1,477,278

Table 5(a): Intra-religious distribution by employment history

Employment status/Religion	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Employed	506,979	43.3	5,388	49.2	28,477	47.0	93,798	41.6	5,538	59.6	640,180
Unemployed	664,558	56.7	5,553	50.8	32,136	53.0	131,617	58.4	3,756	40.4	837,620
Total	1,171,537		10,941		60,613		225,415		9,294		1,477,800

Table 5(b): Distribution of religious by employment history

Employment status/Religion	Christian		Muslim		Bahai		Hindu		Badimo		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	
Employed	506,979	79.2	5,388	0.8	28,477	4.4	93,798	14.7	5,538	0.9	640,180
Unemployed	664,558	79.3	5,553	0.7	32,136	3.8	131,617	15.7	3,756	0.4	837,620
Total	1,171,537		10,941		60,613		225,415		9,294		1,477,800

References

1. Afrobarometer: Botswana Round 3: 2005, M.H Lekorwe, M.G. Molomo, W.B. Molefe, D. Sebudubudu, L.L. Mokgatlhe and K.K. Moseki
2. Iannaccone, L. R., 1998. Introduction to the Economics of religion. *Journal of Economic Literature*, Vol. XXXVI, pp. 1465–1496.
3. UNDP, Millennium Development Goals: Botswana
4. Sales, R, 2005, A case in point: The Botswana theological training programme, Kgologano Press, Gaborone, Botswana.
5. International Interfaith Network for Development and Reproductive Health (INDRH), 2005, A faith – filled commitment to development includes a commitment to woman’s rights and reproductive health, Religious reflections on the Millennium Development Goals, 2005 World Summit, 14–16 September 2005.
6. Botswana International religious freedom report, 2012
7. Botswana Performance, 2009, Vision 2009
8. Haron M, Jensen K, Mmolai S, Nkomazana F, Sebina L and Togarasei L, 2008, Ditumelo Secondary Literature Review: HIV prevention and faith-based organizations in Botswana.
9. Heterliu C and Isaic-Maniu A (2009), Statistical Indicators for religious studies: Indicators for levels and structure, *Journal of Applied Quantitative Methods*, vol. 4, No. 4, pp. 525–531.
10. Ecklund E.H and Scheitle C.P (2007), Religion among Academic Scientists: Distinctions, Disciplines, and Demographics, *Social Problems*, vol. 54, Issue 2, pp. 289–307, ISSN 0037-7791, electronic ISSN 1533-8533.

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SOCIO-ECONOMIC SITUATION OF YOUTH IN BOTSWANA

By Mpho Keetile
Department of Population Studies
University of Botswana

Abstract: The socio-economic wellbeing of youth is indicative of the success and progress in development of any nation since young people are the active participators and beneficiaries of the development process. This paper uses the 2011 Population and Housing Census of Botswana to assess the socio-economic situation of youth in Botswana. The results indicate that the issue of unemployment estimated at 27.7% is still a major concern among youth. Labor force participation rate among youth is estimated at 50.1%. Furthermore the results show residential differences in access to socio-economic opportunities. For instance, the results show that unemployment, school dropouts and having never attended school are more common among youth in rural and urban villages than in cities and towns. The results also show that female youth are still left behind in participation in managerial and administrative jobs. However, progress has been made in terms of improving the socio-economic situation of youth in Botswana, and even though there is still need to do more.

1. Introduction

Young people are the future and the greatest resource in the socio-economic development of any country since they are both active participators and beneficiaries of the development process. The Revised National Youth Policy of Botswana serves as a framework for youth development and empowerment in Botswana. It is intended to guide all national efforts in the development and implementation of youth programmes. According to the Revised National Youth Policy (RNYP 2010) a youth is a person aged between 12-35 years. Over the past few years there has been a rapid increase in youth unemployment and a decline in youth entrepreneurship globally (Morima 2012). The problem of youth unemployment and its results among which are poverty and lack of opportunities has become a major policy issue in Botswana. Despite Botswana's recovery from the economic meltdown, the progress in creation of employment opportunities for youth has been considerably slack. Although economic growth is sustained and rapid, and there are deliberate policy measures to spread the benefits of economic growth Botswana still faces persistent and unacceptably high levels of unemployment, particularly among youth and the unskilled (International Labour Organization 2011).

2. Background

The protracted and deep-rooted economic crisis that has affected nearly every country in Sub Saharan Africa (SSA) has had a profoundly negative impact on the well – being of the entire population in the region, more especially young people. During the early years of independence until the late 1990's, young people in Botswana did not face any serious social and economic problems. As a result, unemployed and disadvantaged youth were not a major challenge for the government since Botswana needed more human resource for its fledgling economy. However, since early 2000 there has been a rapid fall in the socio-economic welfare of youth which has mainly been exacerbated by over dependence on government as the main employer and saturated employment opportunities. In 2009, the overall unemployment rate in sub-Saharan Africa was about 6 percent compared with a global average of 5 percent and Botswana was counted among the countries with alarmingly high youth unemployment together with Nigeria and South Africa (African Development Bank 2012). Many youth remain marginalized in social and economic opportunities, with limited access to essential resources such as land and employment opportunities. Youth are among the most vulnerable of all persons the Millennium Development Goals (MDGs) aim to reach. Whether it is poverty, hunger, lack of education, maternal mortality, unemployment, environmental degradation or HIV/AIDS, the impact on young people can be far greater than on their older counterparts. This is because many young people often lack access to information, social influence and basic rights, and are often overlooked in national development agendas. According to the International Labour Organization (2011), Botswana has made progress in a number of areas including education, and gender issues, but a disturbing feature is the persistence of high levels of unemployment and poverty which are more pronounced among the youth and rural population.

Vision 2016 envisage the welfare and socio-economic success of Botswana of all ages by deliberately aiming for a reduction of unemployment and economic inactivity in Botswana through a variety of measures aimed at training and education as well as job creation through diversifying the economy, building partnerships between the public and private sectors, introducing measures that support small- and medium sized enterprises, etc. National Development Plan 10's (NDP) main objective has been outlined as achieving

MDGs and Vision 2016 pillars through enhancement of service delivery and project implementation thereby enabling Botswana to be more competitive internationally. Botswana's competitiveness internationally now and in future is very much premised on the socio-economic achievements of her young population. The current discussion is vital because an understanding of the socio-economic situation of youth in Botswana will help in discernment of progress made by Botswana in terms of the MDGs, Vision 2016 and NDP 10.

The results of this analysis will also inform youth policy of Botswana, whose main objective is to firstly promote youth development based on youth contribution and participation in socio-economic development; secondly to develop a coordinated contribution and participation by all stakeholders involved in youth development programmes and activities; lastly to develop structures and strategies that are supportive to young people's initiatives and capable of promoting social responsibilities and national pride among youth. The main objective of this paper is to identify, analyze and evaluate the socio-economic situation of youth in Botswana as revealed by the 2011 population census and to highlight the policy implications related to this. This will serve as a useful tool to the government, policy makers and researchers in the country. The discussions of this paper are organized into the following sub sections; introduction, background, definition of youth, demographic profile of youth in Botswana, socio-economic characteristics of youth in Botswana, economic activities among youth, employment, unemployment and labour force participation among youth, discussion and finally recommendations.

3. Definition of Youth

The idea of defining youth is generally a varied and dynamic issue, which usually depends on the context. The fact is that the operational definition of youth differs from country to country, depending on the socio-cultural, institutional, economic and political factors obtaining within a particular context. According to the first National Youth Policy of Botswana of 1996, youth in Botswana constituted males and females aged between 12-29 years (Government of Botswana 1996). On the other hand United Nations General Assembly defined youth as those persons falling between the ages of 15-24 years. (<http://www.un.org/esasocdev/unyin/qanda.htm07/07/03>). The Revised National Youth Policy of Botswana defines youth as persons aged between 12-35 years. This paper adopts the Revised National Youth Policy definition of youth and the analysis would be focused on this group. It is however, note-worthy that the youth may be divided into three sub groups; teenagers (12-19 years); young adolescents (20-29 years) and young adults (30-35 years). Previous analyses on youth related issues have used the United Nations (15-24 years) definition of youth and the first National Youth Policy of Botswana (12-29 years) definition of youth.

4. Demographic Profile of youth

Botswana is one of the countries which have a relatively youthful population. The trends show that out of 1,680,863 people who lived in Botswana in 2001, just about 732,053 or 43.6% were youth or people aged between 12-29 years and in 2011 out of about 2,024,904, just about 941,371 or 46.5% were youth at the time of enumeration (see table 2).

Table 1: The youth of Botswana in 1991 and 2001

Age group	1991	2001
10-14	183,483	209,968
15-19	152,525	203,705
20-24	116,883	170,614
25-29	99,848	147,766
Total	552,739	732,053

Source: Analytical report 2001 Population and Housing Census

Table 1 above shows that there was a 32.4% increase of youthful population from 552,739 recorded in the 1991 population census to 732,053 in 2001. In 2011 the number of youth had increased to 941,371 making a 28.6% increase from the 2001 figure.*

Table 2 below presents the socio-demographic characteristics of youth in Botswana. The results of this analysis indicate a total of 477504 (50.7%) females and 463867 (49.3%) males. This implies that there were slightly more females than males. Furthermore, results indicate that at the time of 2011 census, young people aged 12-14 years accounted for only 12.7% of youth, while all other groups had more than one fifth of youth. Thus, youth aged 15-19 years accounted for 22.4%, 20-24 years for 21.3%, 25-29 years for 22.1% and 21.5% for those aged 30-35 years. Table 2 also shows that most of young people in Botswana reside in urban villages (43.7%), followed by rural areas (30.8%) and then Cities and towns (25.5%).

Table 2: Youth of Botswana by sex, age and residence -2011

Variable	Number	Percent (%)
Sex		
Male	463867	49.3
Female	477504	50.7
Age group		
12-14	119938	12.7
15-19	210746	22.4
20-24	200350	21.3
25-29	207852	22.1
30-35	202485	21.5
Place of residence		
Cities and towns	239627	25.5
Urban Villages	411383	43.7
Rural areas	290361	30.8
Total	941371	100.0

Source-Calculated from the 2011 Population and Housing Census data

The size and nature of this youthful population has immediate implications in the distribution of the countries resources as well as the planning and implementation of any national policy that deals with the equitable distribution of resources.

5. Socio-economic characteristics of youth in Botswana

After being one of the fastest growing economies in sub Saharan Africa and the world, Botswana's economy has since experienced lower rates of growth and this has ultimately impacted on the governments' ability to deliver jobs to enhance the socio-economic livelihoods of Botswana, more especially the young people. The trends in total labour force, show that national unemployment rate was 13% in 1991 and continued to increase in 1993 (21.6%), 1995/6 (21.5%), and in 2001 Census it was estimated to have declined to 19.6 (MFDP Annual Economic Report 2003) before it declined further to about 17% in 2010 (Morima 2012). Employment and labour force participation rates continue to be considerably low among youth. Botswana is a country which has a youth population, with approximately 57% of its population aged under 25 years and 20% of its population aged between 15-24 years (CSO 2006). According to the Labour Force Survey (LFS) of 2005/06 youth unemployment accounted for over 60% of the total unemployed labour force (Botswana 2012). The state of youth's socio-economic status needs serious attention from the government and all concerned stakeholders.

Education

A number of policies aimed at the development of quality education are in place in Botswana. The Revised National Policy of Education (1994) seeks to produce competent and productive workforce, to provide long life education to achieve efficiency in educational development (GOB 1994). Botswana as a country has made substantial investments in education and training with annual recurrent and development budgets of over 20% allocated to education (International Labour Organization 2011). With regard to school enrolment, the country has attained the MDG target on parity in education enrolment; the 2005 enrolments at primary, secondary and tertiary are 98,105 and 100 girls for every 100 boys respectively (CSO Stats Brief, 2008).

Early statistics have shown that the national literacy rate in 1993/94 was 68.9%, and increased to 81.2% 200/04 and has even increased to over 87% in 2011 (Botswana 2012). Botswana's education policy has focused on achieving universal access to primary education. It is also aimed at eliminating gender disparities in educational access and on providing the skills needed to meet the demands of a modern economy. Even though the Revised National Policy on Education (1994) emphasizes a free and compulsory primary education, the previous censuses have shown that there were cases of young people who dropped out of school, and those who have never attended school. One of the proposed national strategies is to encourage taking stern measures against parents who do not give their children basic education, towards achieving the envisaged goal of an educated and informed nation by 2016. Government is spending a lot of money on education and educational investment is seen as vital for socio-economic development of individual youth and the country.

Results

The results of table 3 below indicate that 63% of youth had secondary education, 18.3% primary, 9% certificate, 8.6% diploma, and 0.1% had non-formal education at the time of the 2011 census. The results further indicate a relatively lower percentage of youth who have degree and postgraduate degree (1% and 0.1% respectively). However, one important finding is that over 95% of youth in Botswana have had access to education. It is worth noting that most of youth have secondary education, and as this is the highest level of basic education, it equips youth with the basic skills of life.

Most of the youth who have finished or completed secondary education, go on to pursue certificates, diplomas, degrees and postgraduate degrees. Some who have completed secondary education are absorbed into vocational and technical colleges to be equipped with necessary life skills. However, other youth who have completed basic education end up idling and as a result fall into social ills that are often propagated by negative peer pressures.

Among those with secondary education (65.6% and 60.2% respectively) and degree (1.1% and 0.9% respectively), females are more than males, whereas at primary level (20.5% and 16.5% respectively) and post graduate level (1.0% and 0.1% respectively) males are more than females. This indicates that at the highest level of education male youth are actively involved than their female counterparts. In 1993 literacy rate was 68.9% in which male literacy was significantly higher (70.3%) than female literacy (66.9%). In 2000, youth literacy was estimated at 88% in Botswana (CASE 2003). Although there is an observed gender difference in educational attainment, the disparity is small and this is attributable to the government's deliberate emphasis on access to education regardless of gender and the RNPE goal of bridging the gender gap in access to quality education.

Table 3: Education level among youth by sex

Level	Male	Female	Total	%Male	%Female	Total
Non formal	505	683	1188	0.1	0.1	0.1
Primary or less	89695	73981	163676	20.5	16.5	18.3
Secondary	263771	300507	564278	60.2	65.6	63
Certificate	42498	37888	80386	9.7	8.3	9.0
Diploma	37617	39224	76841	8.6	8.6	8.6
Degree	3766	5209	8975	0.9	1.1	1.0
Postgraduate	479	387	866	1.0	0.1	0.1
Total	438331	457879	896210	100	100	100

The census data (Table 4 below) reveal that overall, 62.7% of youth left school, 34.3% were still at school while 3% never attended school. Although, the number of those who never attended school seem low there is need for the government to ensure that education policy goal of compulsory basic education is enforced to ensure improved numbers of youth who have attended school. The number of youth who were not in school was slightly higher among females (63.6%) than males (61.7%).

However, the number of youth who never attended school was higher among males (3.8%) than females (2.2%). When looking at age, most of youth aged 12-14 years (96.8%), 15-19 years (72.6%) and 20-24 years (19.5%) were still at school, while most of those aged 25-29 years (91.2%) and 30-35 years (92.6%) had left school and were probably working or seeking for employment. When looking at residence, the number of youth who never attended school was higher in rural areas (6.3%) than in urban villages (1.8%) and cities and towns (1%) respectively, while those who were still school was higher among those at urban villages (37.8%), rural areas (31.3%) and cities and towns (32%) respectively.

Table 4: Youth in school, left school and never attended school by place of residence, age and sex

	Still at school	Left school	Never attended	Total	% still at school	% left school	% never attended
Gender							
Male	159408	285445	17537	462390	34.5	61.7	3.8
Female	163113	303114	10673	476900	34.2	63.6	2.2
Age							
12-14	115999	2849	1024	119872	96.8	2.4	0.9
15-19	152945	54262	3319	210526	72.6	25.8	1.6
20-24	38892	155658	5311	199861	19.5	77.9	2.7
25-29	10500	188932	7769	207201	5.1	91.2	3.7
30-35	4185	186858	10787	201830	2.1	92.6	5.3
Residence							
Cities & Towns	76254	160021	2388	238663	32.0	67	1.0
Urban Villages	155405	247800	7572	410777	37.8	60.3	1.8
Rural	90862	180738	18250	289850	31.3	62.4	6.3
Total	322521	588559	28210	939290	34.3	62.7	3.0

6. Economic activities among youth

The situation of youth's socio-economic status deserves urgent attention as it threatens to violate the principles of equality and commonality between generations, which is an important aspect of social justice. In addition, while unemployment destroys the economic and personal welfare of all those affected by it regardless of age, the destruction is most marked when it occurs at the fragile start of one's life.

The 2005/06 Labour force Survey shows that youth are largely unemployed when compared to the older counterparts, mainly because they have lower on-the-job experience (CSO 2006) and due to their later entry into the labour market compared to the older cohort. According to the survey the private sector is the country's largest employer, accounting for 43.1 % of the total labour force, of whom 49.9% were women. The public sector (Central and local government) was the third largest employer, absorbing 20.7% of the country's total employment, 51.9% of whom are women (CSO 2006).The following subsections discuss the economic activity status of youth in Botswana.

Results

Table 5 results below show occupational status of youth in Botswana by sex. The results show that youth are underrepresented in administrative and managerial jobs, with only 1% of youth occupying such jobs. There is need for the government of Botswana to come up with strategies of ensuring that youth participate in these jobs so as to build their portfolio as future leaders. One interesting observation is that unlike in the past female youth (0.8%) are also represented in administrative and managerial jobs. The jobs which are common among youth include; service works, shop and markets sales works (6.5%), elementary occupations (10.4%), craft and related works (5.2%) and other occupations which are not specified (63.8%). There are still few youth in skilled agricultural works (0.3%) and hence there is need for the government to consider youth active involvement in this sector as an effort to diversify the economy. One interesting observation is that there were 147 female youth soldiers at Botswana Defence Force.

Table 5: Occupational status of youth in Botswana by sex

Occupation	All	Male	Female	% Distribution	%Female
Admin and managers	9810	6107	3703	1.0	0.8
Professionals	22978	11400	11578	2.4	2.4
Tech. & associated prof.	26887	12341	14546	2.9	3.0
Clerks	29996	8791	21205	3.2	4.4
Service workers, shop and markets sales workers	61502	27954	33548	6.5	7.0
Skilled agricultural workers	2931	1992	939	0.3	0.2
Craft and related workers	48669	40979	7690	5.2	1.6
Plant and machine operators and assemblers	20850	18731	2119	2.2	0.4
Elementary occupation	98245	49322	48923	10.4	10.2
BDF	6877	6730	147	0.7	0.0
Occupations not stated	600518	270159	330359	63.8	69.2

7. Employment, unemployment and labour force participation among youth In Botswana

Across the world, young people face real and increasing difficulty in finding decent work. Youth unemployment has become a threat to the social, economic and political stability of many countries across the world. The problem of low participation in labour force is not a new concept. In 1985, for instance youth labour force participation of those aged 15-19 years was 46.1% and 78.2% for the 20-24 year olds, and these statistics decreased to 29.4% for 15-19 year group and 66.8% for 20-24 year group in 1991 (CSO, census report 1991). Furthermore BIDPA (1997) estimated that youth unemployment was as high as 52% in 1994. In 2006 the preliminary Labour Force Survey Results indicated that unemployment rate among youth was estimated at 40.9% and labour force participation at 36.5% (CSO 2006). Female unemployment was estimated at 48% while among males it was estimated to be at 34.6%.

Botswana continues to be faced with challenges of high unemployment rate of 17.6%, poverty level of 20.7% and high income inequality. According to the Labour Force Survey (LFS) of 2005/06, youth unemployment (age 12-29 years) accounted for 63.4% of the total unemployed labour force (CSO 2006). The major challenge of youth unemployment in Botswana is often attributed to the limited capacity of the country's economy to generate enough jobs to absorb the growing number of youth with employable skills. According to the 2009/10 Botswana Core Welfare Indicators Study (BCWIS) 41.4% of the 15-19 year olds were unemployed, 34.2% of these being males while 65.8% of these were females. The same study also indicated that 34% of the 20-24 year olds are unemployed, 27.8% being males while 41% are females (Baakile 2012).

Results

This section summarises the employment, unemployment and labour force participation among youth in Botswana. Table 6 below, indicate that 86.5% of youth in Botswana who are economically active are employees who are paid in cash, 6.8% are self-employed with no employees, and 3.2% were working at the cattle post, while the balance constitutes of those who were self-employed with employees, unpaid family helper and employees paid in kind. When looking at the place of residence the number of employees paid in cash was higher in cities and towns (90.2%) than in urban villages (86.7%) and rural areas (81.9%) while, self-employed youth with no employees were many in urban villages (8.5%) than in cities and towns (6.3%) and rural areas (5.1%) whereas those self-employed with employees were many in cities and towns (2.8%) than in urban villages (2.5%) and rural areas (1.1%). Almost 10% of youth in rural areas were working at the cattle-post.

Table 6: Currently economically active youth by place of residence in Botswana-excluding youth actively seeking for employment

	Employee paid in cash	Employee paid in kind	Self-employed(no employees)	Self-employed (employees)	Unpaid family helper	Working at cattle post	Total
	294889	1650	23195	7525	2715	11032	341006
	86.5	0.5	6.8	2.2	0.8	3.2	100
Cities and towns	101034	329	7103	3180	247	83	111976
Urban villages	113206	534	11049	3283	741	1718	130531
Rural areas	80649	787	5043	1062	1727	9231	98499
Total	294889	1650	23195	7525	2715	11032	341006
Percentage distribution							
Cities and towns	90.2	0.3	6.3	2.8	0.2	0.1	100
Urban villages	86.7	0.4	8.5	2.5	0.6	1.3	100
Rural areas	81.9	0.8	5.1	1.1	1.8	9.4	100

Table 7: Youth actively seeking work and economically inactive in Botswana

	Actively seeking work	Homework	Students	Retired	sick	Unknown	Total
	130354	146009	309603	18	7923	4311	598218
	21.8	24.4	51.8	0	1.3	0.7	100
Cities and towns	28936	22439	72945	6	1140	1281	126747
Urban villages	64646	60162	149626	5	3338	2422	280199
Rural	36772	63408	87032	7	3445	608	191272
Percentages							
Cities and towns	22.8	17.7	57.6	0	0.9	1	100
Urban villages	23.1	21.5	53.4	0	1.2	0.9	100
Rural	19.2	33.2	45.5	0	1.8	0.3	100

In terms of youth who are seeking for employment and those who are economically inactive, the results of table 7 above shows that 21.8% of youth were actively seeking work, 24.4% were doing homework, 51.8% were students, 1.3% were sick and 0.7% unknown. In terms of the distribution by place of residence, many youth in urban villages (23.1%) than in cities and towns (22.8%) and rural areas (19.2%) were actively seeking for employment, while those who were doing home works were many in rural areas (33.2%) than in urban villages (21.5%) and cities and towns (17.7%), respectively.

Table 8 below summarises the unemployment and labour force participation rate among youth in terms of their age. The results show that unemployment rate is higher among youth aged 12-14 years (42.34%) , 15-19 years (51.98%) and 20-24 years (40.20%) and this is mainly so because most of these youth are still at school. On the other hand, for those of the "working age" unemployment rate among those aged 25-29 years (24.58%) and 30-35 years (16.48%) is still high. Overall, the results indicate that unemployment rate among youth had declined from the 2001 figure and it currently stands at 27.65% compared to about 31% in 2001.

Table 8: Unemployment and labour force participation rate among youth by age

Age	Actively seeking work	Total economically active	Total Population	Unemployment rate	Participation Rate
12-14	672	1587	119938	42.34	1.32
15-19	16902	32515	210746	51.98	15.42
20-24	47275	117586	200350	40.2	58.7
25-29	38884	158187	207852	24.58	76.1
30-35	26621	161485	202485	16.48	79.8
Total	130354	471360	941371	27.65	50.1

Furthermore results indicate that participation generally increases with age among youth, and reaching almost 80 percent at 30-35 years. The low participation rate, as unemployment rate among youth aged 12-24 years is generally accounted for by the fact that most people at that age are attending school and few would be active in the labour force. Table 9 below shows the number of unemployed youth by sex and highest level of education. The distribution show that for those who had non-formal education 58.9% of those unemployed were females, while for those who had primary or less education 58.8% of those who were unemployed were males. For those with secondary education, more females (53.6%) than males (46.4%) were unemployed, whereas for those who certificate there were more females (54.1%) than males (45.9%) who were unemployed. Furthermore, results indicate that for those with diploma and degree there were more unemployed females than females. These results are quite indicative in the sense that, they show that women participation in economic activity is still minimal. These results underscore the need for empowerment of women at all levels of economic participation concomitant with their level of education and capabilities.

Table 9- Unemployed youth (Actively seeking work) by sex and highest level of education

Highest education Level	Males	Females	Total	%Male	%Female
Non-formal	69	99	168	41.1	58.9
Primary or less	7400	5185	12585	58.8	41.2
Secondary	42857	49589	92446	46.4	53.6
Certificate	4815	5665	10480	45.9	54.1
Diploma	3772	4668	8440	44.7	55.3
Degree	382	708	1090	35.0	65.0
Postgraduate	26	25	51	51.0	49.0
Unknown	3211	1883	5094	63.1	36.9

8. Discussion

The government of Botswana has long been coming up with plans and programmes to improve the socio-economic wellbeing of Batswana. Despite these efforts, there are still socio-economic challenges facing youth such as high unemployment rate and youth being side-lined in high occupation jobs such as managers and administrators. However, an encouraging observation shown in this analysis is that unemployment rate among youth has declined from the 2001 population census figure and this shows socio-economic progress. This could be attributed to the robust programmes and projects that are aimed at empowering youth. However, there is still need to put more effort to address the socio-economic situation of youth by bridling unemployment rate to a reasonable and acceptable range.

The number of youth who reported to have never attended school is also a cause for concern and relevant stakeholders have to put in defined efforts, more especially because the Revised National Policy on Education advocates for universal access to education. Although the country's vocational and technical training has been expanding over the years, there are important concerns however, about its quality. Some of the concern which has been raised against it includes minimal participation of industry in training which has made most of the training provided less relevant to the labour market. The artisan's skills have often lacked behind in favour of the white collar jobs. Investments in the quality of this type of education can be vital for youth to start their own businesses and employ other youth. There is need to also address the issue of mismatch of the mismatch of skills of youth and those needed by employees. Botswana's skill development schemes are supply-driven and disconnected from the demands of the labour market.

Although significant efforts have been made by the government of Botswana to enhance the socio-economic status of women, there still a gap in terms of labour participation among male and female youth. The current analysis like the previous analysis on employment and unemployment rates has shown that unemployment is common among females than males, even though the gap is being gradually closed. The government should put some more effort in addressing unemployment, especially among female youths. A linked but separate strategy to overall employment promotion is needed to target youth in particular.

Overall, the results show a commendable observation, that most of the youth in Botswana have access to education, and it's only among those in rural areas where some few cases of youth who have never attended school are recorded. The results show that most of youth in rural areas are faced with relatively many socio-economic challenges compared to those in urban villages and urban towns. To create more jobs for youth, Botswana needs more industry. While manufacturing is the industrial sector mostly associated with employment-intensive growth, there are also "industries without smokestacks" in agriculture and services that can create good jobs hence the solution to youth employment problem cannot be found in employment policies alone. A strategy for industrial development-including the growth of agro-industry and tradable services is needed.

9. Recommendations

- Employment creation among youth has to be pursued more vigorously by the government and private sector
- There is need for more broad based preferential schemes for youth in business to help reduce unemployment rate.
- The government should address the issue of disparities in socio-economic development among youth in urban areas and rural areas. Rural areas should be developed, and cultural activities could be used to generate money through cultural and ecotourism hence employing youth in rural areas
- The government should spend more money in agriculture to encourage young people in rural areas to venture in to commercial farming hence economic diversification.
- There is need for more consolidated efforts by government, parastatal organizations and private sector to take the issue of youth development aboard, in all programs and policies.
- All the policies and programmes aimed at youth development should be monitored and evaluated regularly to monitor their progress.

References

- African Development Bank (2012). Youth employment in Africa; A background Paper for the 2012 African Economic Outlook. Tunis; African Development Bank.
- Botswana Institute for Development Policy Analysis (1997) A Study of Poverty and Poverty Alleviation in Botswana, MFDP.
- Baakile T.,(2012)-Statement By Mr Tapologo Baakile, Director of Population and Development of the Republic of Botswana at the 45th Session of the Commission on the Population and Development 24th April 2012, New York.
- Botswana Institute for Development Policy Analysis (2005) Poverty Status Report for Botswana: Incidence, Trends, and Dynamics, International Poverty Centre (UNDP).
- (Botswana 2012). www.africaeconomicoutlook.org
- CASE (2003); The situation of Youth in the Southern African Development Community, An Overview of SADC Countries. Country Summaries Researched for the Youth Development Network by Community Agency for Social Enquiry (CASE).
- Central Statistics Office (1991); Census Report, Government Printers, Gaborone
- Central Statistics Office, (2004)-Analytical Report 2001 Population and Housing Census, Government Printers, Gaborone.
- Central Statistics Office (2006); The Labour Force Survey Report; Government Printers, Gaborone.
- Central Statistics Office (2006). Preliminary Labour Force Survey Results. Stats Brief No. 02/2006. Gaborone
- Central Statistics Office (2008); Education Stats Brief, Government Printers, Gaborone
- Government Of Botswana (1994); Revived National Policy on Education, Government Printers, Gaborone.
- Government of Botswana (1996); National Youth Policy of Botswana, Department of Culture and Social Welfare. Government Printers, Gaborone.
- (<http://www.un.org/esasocdev/unyin/qanda.htm07/07/03>).
- International Labour Organization (2011); Decent Country Programme for Botswana 2011-2015, Gaborone. Botswana
- MFDP (2003); Annual Economic Report, Government Printers Gaborone
- Morima N.A (2012); A paper presented at the 12th National Business Conference on Youth Unemployment. Mosireletse Legal Services.

ADOLESCENTS AND YOUNG PEOPLE IN BOTSWANA

By R. Molebatsi and K. Kobedi
University of Botswana

1.0 INTRODUCTION

1.1 Background Information

This monograph presents information on adolescents and youth in Botswana based on the 2011 Population and Housing Census. The population growth rate of 4.7%, 3.5%, 2.4% and 1.9% respectively for the period 1971/81, 1981/91, 1991/01 and 2001/11 shows that the country's population is growing at a decreasing rate, but is increasing in absolute numbers. It is this increase in absolute numbers that has major implications for the development of the country. Furthermore, this increase of population in absolute numbers has resulted in a youthful population, with slightly over a half of people in the country being between 10 and 35 years. This is reflected in all the national censuses conducted in the country after independence. For example, in 1971, 40.5% of the country's population was reported to be between 10 and 35 years. This increased to 42.8%, 47.7% and 50.5% respectively in 1981, 1991 and 2001 Population and Housing Censuses, and lastly, a reduction to 49.3% in 2011 Population and Housing Census.

In terms of the population aged 10-19 years, it made up 22.4% of the population in 1971, increased to 22.7%, and 25.3% in 1981 and 1991 respectively but reduced to 24.7% and 20.7% in 2001 and 2011 respectively. Similarly, the proportion of the population up to 35 years has equally been high and has represented more than two-thirds of the total population of Botswana recorded in each of the censuses: 75.5% in 1971, 77.3% in 1981, 77.1% in 1991, 74.7% in 2001 and 70.0% in 2011.

The large size of the population of children below 15 years is indicative of a high dependency ratio in the country. This is especially so when a majority of the adolescent population is either in school or unemployed. This has implications for resource accumulation and investment at the individual and household level, a situation that could largely affect poverty eradication programmes of the country.

Quite clearly, young people in Botswana constitute a huge proportion of the population and are exposed to a number of physical, social and reproductive health risks and challenges. It is against this backdrop, that this analysis provides answers to some fundamental questions, including how we classify adolescents and youth in the country, the varying challenges they face and the relevant policy and programme-specific interventions that could address these challenges.

Firstly, it has to be pointed out that for the purposes of this analysis, there are definitional overlaps regarding where adolescents begin and again at what point youthfulness commences after adolescence. For policy purposes, therefore, there is the need to understand how the two groups are classified in order to address each one with different interventions as their needs may vary depending on their age differences.

1.2 Rationale and Objectives

The needs of adolescents are quite different from those of youth, although there may be overlaps. This large segment of the population made up of adolescents and youth is very important in the social, economic and political decision-making in Botswana today. This stems from the fact that considering their large size and their diverse nature, major decisions cannot but take account of their interests or risk reducing the relevance of the decisions.

Spatially, however, the adolescents and youth population is not uniform and varies by region as well as rural/urban locality of residence. The need to analyse them by their specific characteristics in the context of the 2011 Population and Housing Census cannot be underestimated as the dynamics of the population change. Further to this, young people have been actively involved in internal and international migration flows both within and outside the country. It is important, therefore, to analyze the adolescents and youth of the country in terms of their characteristics, pointing out what constitutes the challenges they face and the implications for policy action taking into consideration their geographical and gender differences. Areas of critical interest in this analysis include the demographic, economic and social characteristics of adolescents and youth, the component often referred to as the future of the population.

Young persons between 10 and 35 years everywhere are confronted with a number of challenges which call for urgent policy attention. These challenges are not different in Botswana. For example, there are challenges of access to food and nutrition, descent shelter, education, health and employment. These challenges should be adequately analyzed and their implications for the growth and development of the young people presented to guide policy interventions. Therefore, adolescents and youth are quite diverse by age and spatial distribution and, therefore, there cannot be one uniform set of policies or programmes that can sufficiently address the challenges they face. This calls for a critical analysis of their variation by gender and geographical location in the country.

An analysis of these two groups is relevant as it attempts to bring out a clearer distinction among them for policy intervention purposes. This is because the analysis presents a vivid description of each group not only by age but by spatial location in the country. Again, considering the obvious overlaps, the analysis would enable us understand how institutions, agencies and departments involved in addressing issues pertaining to the two groups of young people could coordinate their efforts to complement each other while avoiding unnecessary duplication and waste of scarce resources. Furthermore, adolescents and youth are confronted with diverse challenges and problems and where they are similar, they are of different magnitudes which are not always appreciated and understood in order to consider them for policy and programme interventions. In addition, the classification of these groups and analysis of their associated characteristics and challenges would enable us segment national sensitization and advocacy programmes to make them target-specific to each group in order to achieve expected results.

Government is embarking on several policy initiatives that affect different segments of the population particularly young people differently. The implementation of these policy initiatives such as the Youth Empowerment Scheme, National Internship program and others would require evidence-based analysis and information to ensure effectiveness. This means that the distribution of these groups of young people in the country by age and sex, region and type of locality as well as education, marital status and economic activity would be of critical importance.

Against this backdrop, the analysis has the overall objective of presenting a comprehensive socio-demographic and economic description of adolescents and youth in the country, pointing out their critical needs and their geographical spread in order to recommend appropriate policy interventions. Under this general objective, the analysis specifically seeks to:

- (i) classify adolescents and youth in the country and differentiate them based on their respective challenges
- (ii) examine the composition of the two groups of the population in relation to the total population and highlight implications for the socio-economic development of the country;
- (iii) assess the variation of the two groups with respect to their demographic, social and economic characteristics in the country;
- (iv) present policy recommendations to address the implications of the situation of children, adolescents and youth in Botswana

1.3 Definition of Concepts of Adolescents and Youth

There are overlaps in the definition and classification of the two target groups: adolescents and youth. The term "adolescent" is often used synonymously with "teenager" that ranges from 13 to 19 years. In the demographic and health surveys, data are collected on persons 15-49 years with respect to fertility where the 15-19 year-olds are taken as representing the adolescents because persons below the age of 15 years are not surveyed. From this presentation, and as earlier pointed out, there may not be a neat line drawn as to where the classification of adolescents by age ends and that for youth begins. At the same time, the period of transition from childhood into adulthood may not necessarily depend on a person's age.

The definition of youth varies from country to country. Generally, the period between childhood and adulthood is called either adolescence or "Youth". During this period a person prepares himself/herself to be an active and full responsible member of the society. It is also the period of transformation from family-dependent childhood to independent adulthood and integration into the society as a "responsible" citizen.

The United Nations (UN) defines the youth to encompass all persons 15-24 years. This appears to be a universal definition. However, due to differences in national policies, this may vary. In Botswana, for instance, the National Youth Policy classifies all persons 15-35 years to constitute the youth of the country (Republic of Botswana,

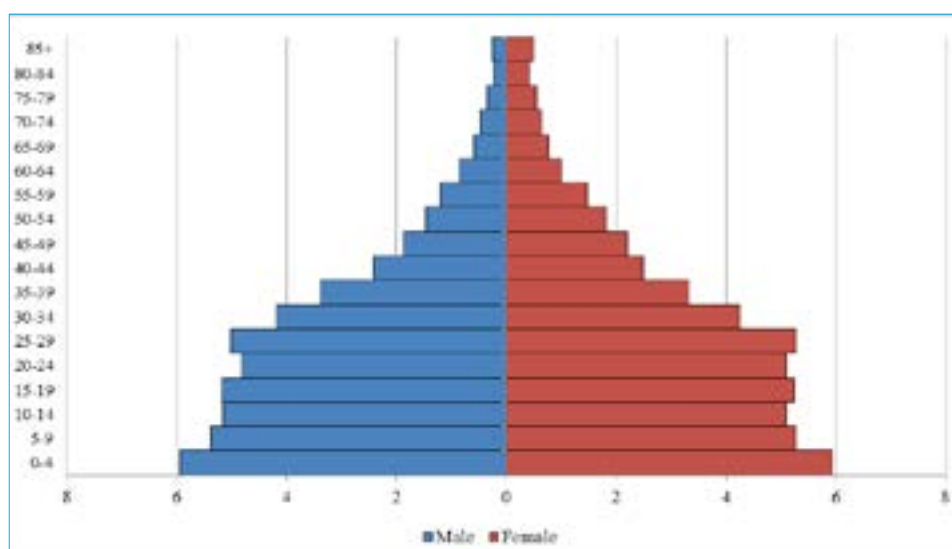
2010). This means, the youth overlap adolescents between 15 and 19 years and beyond the 24 year-old cut-off used by the United Nations. In the light of this foregoing overlap of the groups, and in an attempt to conform to national policy, the analysis in this monograph operationally classifies all persons aged 10-19 years as defined to constitute the adolescent population. On the other hand, the population considered as youth is classified at two levels: first, 15-24 years, to conform to the international definition and second, 15-35 years, in accordance with the National Youth Policy definition. In the analysis, however, the age categorization is 10-19 years for adolescents and 20-35 years for youth. It should be noted further that this categorization does not overlook the obvious overlap of the 15-19 year-group between the adolescents and youth. The report provides information on various demographic portraits of adolescents and youth. These include age and sex structure, household size and composition, educational attendance and attainment, marital status and fertility, economic and employment characteristics, disability status, and mortality.

2.0 Population Size, Age-Sex and Household Structure

The spatial distribution of Botswana's population has since independence been uneven as a result of differences in reproduction, mortality and migration flows. With respect to the population of young people, migration plays a major role determining where their concentration may be due to migration selectivity which usually affects young people more than the aged. This section presents distribution of adolescents and youth in Botswana by age and sex as well as by district and type of locality. It also examines the household structure, and household headship and relationship of young people to the head of household.

2.1 Population Size and Age-Sex Composition

As earlier pointed out, Botswana's population has remained youthful and this is reflected in all the national censuses conducted in the country since independence. The 2011 Census is not an exception, as shown by Figure 1. The population is very young, with about a third of it (32.7%) comprised of children under the age 15. The age-sex profile depicts a tapering apex typical of the expansive population structure genre characterized by a relatively improving life expectancy.



The age structure is typical of a young population characterized by high fertility. This type of population structure imposes a heavy burden on the social and economic assets of the country. Botswana's population is still young, with close to a third of the population under 15 years, with percentage in the older age groups (65 years and above) constituting just 5.5 percent of the population.

Adolescents: In terms of classification by gender, it is observed that from Figure 1 that males outnumbered females in the 10-14 category. On the other hand females outnumber males in the age group 15-19 years.

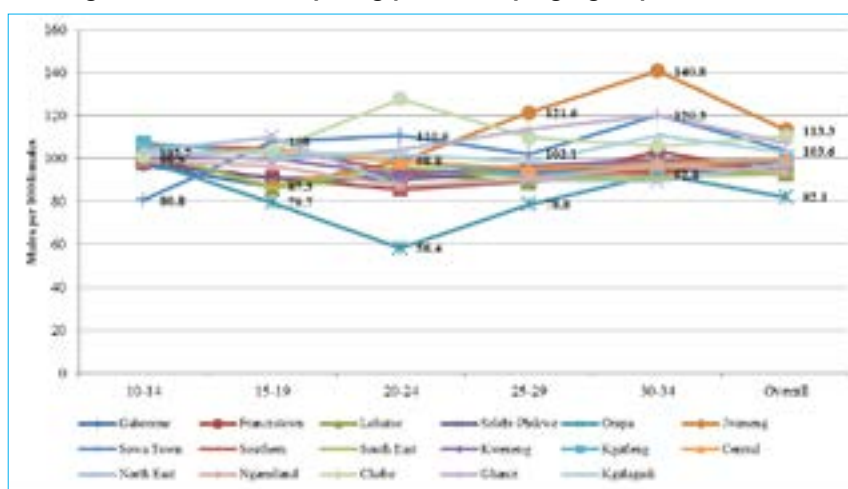
Youth: Figure 1 above shows part of the rectangular base made of the youth population from age 10- 34 years. The age distribution of the population in Botswana characteristically resembles that of other developing countries, with a large proportion of young people. Youth aged from 15 years to 35 years account for 40.7% of the entire population in the country.

Table 1: Population and percentage distribution of young persons by age and district

District	10-14		15-19		20-24		25-29		30-34		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Gaborone	15619	12.0	22295	17.0	34077	26.0	32825	25.0	27111	21.0	131927	13.0
Francistown	8588	16.0	9785	18.0	11987	22.0	13665	25.0	10642	19.0	54667	5.0
Lobatse	2694	17.0	3165	21.0	3054	20.0	3412	22.0	3109	20.0	15434	2.0
Selebi-Phikwe	4917	19.0	4951	19.0	4887	19.0	6280	24.0	5277	20.0	26312	3.0
Orapa	880	19.0	665	14.0	773	16.0	1182	25.0	1232	26.0	4732	0.0
Jwaneng	1494	15.0	1176	12.0	1869	19.0	2710	28.0	2439	25.0	9688	1.0
Sowa Town	387	20.0	495	25.0	297	15.0	386	20.0	412	21.0	1977	0.0
Southern	22553	26.0	21804	25.0	15211	17.0	15221	17.0	12859	15.0	87648	9.0
South East	6744	15.0	9974	22.0	10390	23.0	9983	22.0	8327	18.0	45418	5.0
Kweneng	30125	20.0	28285	19.0	32388	22.0	33300	22.0	26457	18.0	150555	15.0
Kgatleng	9200	22.0	9303	22.0	8565	20.0	8348	20.0	7293	17.0	42709	4.0
Central	67684	25.0	64167	24.0	46763	18.0	48084	18.0	39391	15.0	266089	27.0
North East	7396	27.0	6774	24.0	4862	18.0	4804	17.0	3930	14.0	27766	3.0
Ngamiland	17044	23.0	15512	21.0	14295	19.0	15512	21.0	11929	16.0	74292	7.0
Chobe	2014	17.0	1757	15.0	2829	23.0	3050	25.0	2430	20.0	12080	1.0
Ghanzi	4542	21.0	4937	23.0	4022	19.0	4302	20.0	3477	16.0	21280	2.0
Kgalagadi	5413	22.0	5701	24.0	4081	17.0	4788	20.0	4227	17.0	24210	2.0
Total	207294	2.01	210746	21.0	200350	20.0	207852	21.0	170542	17.0	996784	100.0

Youth: Among the population classified as youth, Table 1 show that with respect to the population 20-24 years, all the districts recorded more than 15% of their population in this group, with Gaborone recording the highest proportion of 29% of the district's population to be aged 20-24 years. Table 1 further shows a wide variation among districts with respect to youth aged 25-29 and 30-34 years. The proportion of this population ranges from a low of 14% in North East district to a high of 28% in Jwaneng, followed by Orapa, Gaborone, Francistown and Chobe. These differences in inter-district migration flows where these regions happen to receive the highest number of migrant population from the other regions may account from these variations.

Figure 2: Sex Ratio of young person's by age group and district



Migration, mortality and fertility operate differently to create inequalities in the ratio of males and females (sex ratio). Several patterns are observable from Figure 2, where sex ratios for all the districts have been plotted at each age group of the young population. Majority of the districts show a general pattern that sex ratio declines with age, but it is more noticeable for Jwaneng, Sowa Town, Ghanzi, Francistown and Kgalagadi.

Adolescents: The distribution of population of adolescents 10-14 and 15-19 years is presented in Table 1 and 2. The results indicate that the proportion of adolescents aged 10-14 years is lowest in Sowa Town while the highest were recorded in Kgatleng district. This was followed by Southern district. Information presented in Table 1 indicates that Jwaneng and Orapa reported the smallest proportion (12% and 14% respectively) of their population recorded as adolescents aged 15-19 years. The other districts each recorded between 15% and 25% of their population to be 15 -19 years, with North East and Sowa Town recording the highest proportion of 25%, followed by Central and Chobe districts. Furthermore, for those aged 10-19 in Francistown, Gaborone, Orapa and Selebi-Phikwe, females out-number males. There appears to be higher migration of females from the rural areas to the urban areas

Youth: The findings reveals that the proportion of youth aged 20-34 years is highest in Chobe, Ghanzi, Jwaneng and Sowa Town districts, implying that these districts have more males than females, while the lowest were found in Orapa and Lobatse. In all cities or towns except Jwaneng and Sowa Town, females out-number their counterparts, an indication of having a higher migration of females from the rural areas to the urban areas.

Table 2: Population distribution of young persons by age-sex and locality type

Age group	All localities			Cities or Towns			Urban Villages			Rural Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
10-14	10.6	9.9	10.3	7.9	7.8	7.9	11.3	10	10.6	11.4	11.2	11.3
15-19	10.6	10.2	10.4	9.2	10.1	9.7	12.2	11.7	11.9	9.8	8.5	9.2
20-24	9.9	10	9.9	12.5	13.4	13	9.7	10	9.9	8.4	7.8	8.1
25-29	10.3	10.3	10.3	13.5	14	13.8	10	10.3	10.2	8.6	8	8.3
30-34	8.6	8.3	8.4	11.5	11.3	11.4	8.4	8.4	8.4	7	6.4	6.7
Total %	49.9	48.8	49.3	54.7	56.6	55.7	51.7	50.4	51	45.2	41.9	43.6
Total Botswana	985869	1034110	2019979	216581	222787	439368	401267	453885	855152	368021	357438	725459

Adolescents: Just above 2 in 5 of all persons in Botswana in 2011 Population and Housing census were adolescents aged 10-19 years. This is made up of about 10.3% and 10.4% respectively of the 10-14 and 15-19 year olds and is a further confirmation of how young the Botswana population is. It is also noted that the proportion of the male population classified as adolescents is higher than that for females. The urban-rural variation shows that in the rural areas, 21.2% of the male population was represented by adolescents aged 10-19 years compared to 19.7% of the females. This compares with almost 23% of the urban village population being classified as adolescents either among the males and females (see Table 2).

Youth: Almost three out of every ten people in Botswana was reported to be aged 20-34 years. However, persons 15-35 years, who form the youth according to the National Youth Policy, constitute just below 40% of the population of Botswana. There is some variation between the youth aged 20-24, 25-29 and 30-34 years irrespective of type of place of residence. For example, from Table 2, the proportion of the population classified as male youth aged 20-29 years is slightly lower compared to their female counterparts either in the urban or urban villages but slightly higher for rural areas. This is not the case with age group 30-34 years, in which male out-number their counterparts in cities/towns and rural areas but are equal in urban villages.

The distribution of the population of young persons in Botswana by urban-rural residence classified by sex ratio is presented in Table 3.

Table 3: Sex Ratio and percent of males by age group and locality

Age group	All localities			Cities or Towns			Urban Villages			Rural Areas		
	% Male	Sex ratio	Total population	% Male	Sex ratio	Total population	% Male	Sex ratio	Total population	% Male	Sex ratio	Total population
10-14	50.4	101.5	207,294	49.5	98	34,579	50.0	99.9	90,848	51.2	104.8	81,867
15-19	49.7	99	210,746	47.0	88.6	42,532	48.0	92.4	101,767	54.1	118.1	66,447
20-24	48.5	94.3	200,350	47.6	91	56,944	46.3	86.2	84,433	52.6	111.1	58,973
25-29	48.7	94.9	207,852	48.5	94.1	60,460	46.1	85.7	87,229	52.6	110.8	60,163
30-34	49.6	98.2	170,542	49.8	99.2	50,222	47.0	88.6	71,734	53.1	113.4	48,586

Adolescents: Table 3 shows a higher proportion of adolescents in Botswana were made up of males aged 10-14; this is translated into a sex ratio of 101.5 and a percentage share of 50.4% of males. However, in the cities/towns and urban villages, females out-number males but in the rural areas, the reverse is the case where high sex ratios of 104.8 and 118.1 were recorded among the adolescents aged 10-14 and 15-19 years respectively compared to 99.9 and 92.4 in the urban villages. It may appear, therefore, that there is higher migration of females from the rural areas to the urban areas.

Youth: The distribution of the population of youth by rural and urban residence shows that unlike the adolescents, a higher proportion of the youth aged 20-34 years was represented by females. The same situation is true for the urban or rural areas with sex ratios relatively lower in the urban than rural areas in the country. This could be a reflection of the general population in the country where females out-number males.

2.2 Living Arrangements

Analysis of young persons based on their living arrangements includes their relationship to the head of household and by extension, household headship. This examines the young people regarding their status particularly as heads of household or as a spouse or partner to the head of household. Table 4 shows the distribution of young persons aged 10-35 years in Botswana by relationship to head of household, sex and type of locality.

Table 4 shows that just close to a third of the young persons in Botswana were living with their parents as sons or daughters, the proportion being higher among the females than males. Also, in the cities & towns, the females that were daughters to the heads of household were less than 28%, a situation which could be due to earlier age at marriage for females than males. In line with this explanation, a much higher proportion of the females than the males were recorded as being a spouse or partner to the head of household. Here, the variation is even higher between the males and females whether in the rural or urban localities. It is also important to note that overall, just over two in five of the households was headed by a young person not more than 35 years old with a higher proportion recorded among the males than the females. This is to be expected because in Botswana, the likelihood of a head of household being a male is higher than being a female. This is because, traditionally, males are often recognized as heads of families and, by extension, households. Furthermore, 12% young persons are staying with their grandparents.

Table 4: Population aged 10-35 years by relationship to head of household, sex and locality

Relationship to Head of Household	All localities			Cities& Towns			Urban Villages			Rural Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Head	25.6	19.9	22.7	34.5	24.8	29.4	21.5	18.4	19.9	24.3	17.7	21.2
Spouse/Partner	2.8	11.2	7.1	3.5	17.4	10.8	2.7	9.2	6.1	2.4	8.8	5.4
Son/Daughter	32.2	33.5	32.8	28.6	27.1	27.8	34.9	35.1	35	31.4	36.6	33.8
Child in-Law	0.6	0.9	0.8	0.4	0.6	0.5	0.6	0.9	0.7	0.9	1.2	1.1
Step-child	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Grand child	12	11	11.5	3.7	3.3	3.5	14.2	12.7	13.4	15.4	15.4	15.4
Parent	0	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0	0.1	0
Parent in-Law	0.1	0.1	0.1	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1
Grand Parent	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Brother/Sister	8	7.9	8	8.9	8.6	8.7	8.6	8.4	8.5	6.5	6.6	6.5
Nephew/Niece	6.4	5.6	6	6.6	5.9	6.3	6.6	5.8	6.2	5.9	4.9	5.4
Other Relative	6.3	5.7	6	7.4	6.8	7.1	6.1	5.6	5.8	5.8	4.9	5.4
Visitor/No Related	1.3	1	1.1	1	1.2	1.1	1.2	1	1.1	1.6	0.9	1.3
Not Related	4.2	2.6	3.4	5	3.7	4.3	3	2.3	2.6	5.3	2.2	3.8
All relationships	100	100	100	100	100	100	100	100	100	100	100	100

Table 5: Distribution of young persons by relationship to head of household by age and sex

Relationship to Head of Household	All young persons			Male			Females		
	10-19	20-35	Total	10-19	20-35	Total	10-19	20-35	Total
Head	3.5	46.5	18.3	3.7	53.3	20.4	3.3	39.9	16.2
Spouse/Partner	0.4	16	5.8	0.1	8	2.8	0.7	23.6	8.7
Son/Daughter	47	17.7	36.9	47	16.2	36.6	47.1	19.1	37.2
Child in-Law	0.6	0.9	0.7	0.5	0.9	0.6	0.6	1	0.8
Step-child	0.6	0.1	0.4	0.5	0.1	0.4	0.6	0.1	0.4
Grand child	22.7	1.8	15.5	23.3	1.8	16.1	22	1.8	14.9
Parent	0	0.2	0.1	0	0.1	0	0	0.2	0.1
Parent in-Law	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1
Grand Parent	0.2	0.1	0.2	0.2	0	0.2	0.2	0.1	0.2
Brother/Sister	7.1	6.3	6.8	7	6.2	6.8	7.2	6.3	6.9
Nephew/Niece	9	1.9	6.5	9	2.2	6.7	9	1.6	6.4
Other Relative	6.6	3.7	5.6	6.3	4.3	5.6	6.8	3.2	5.5
Visitor/No Related	0.5	1.3	0.8	0.5	1.6	0.9	0.6	0.9	0.7
Not Related	1.7	3.6	2.4	1.8	5.2	2.9	1.7	2.2	1.9
Total	100	100	100	100	100	100	100	100	100

Adolescents: Table 5 indicates that quite negligible proportions of adolescents aged 10-19 years were heads of household. Overall, 3.5% of this group of adolescents was recorded as head of household with a variation by sex. As expected, relatively higher proportion of the males was head of household compared to their female counterparts (3.7% compared to 3.3%). A comparison of the urban and rural areas, however, shows that adolescents aged 15-19 years are more likely to be heads of household in urban than in rural areas in Botswana for either males or females. These adolescents are most likely single persons who constitute single-person households in the cities and towns.

Youth: Analysis of the youth groups indicates much higher proportions recorded as heads of household and as spouses of the head of household. From Table 5, a higher proportion of the males than females were heads of their households. For example, overall, we have 46.5% of youth aged 20-35 years as heads of household: about 53% of males versus 39.9% of females. With respect to spouses of heads of household, the results suggest higher proportions of the female youth being reported as such compared to the males.

2.3 Summary and Conclusions

Adolescents: Just above 2 in 5 of all persons in Botswana in 2011 Population and Housing census were adolescents aged 10-19 years, revealing the youthfulness of the Botswana population. It is also noted that the proportion of the male population classified as adolescents is higher than that for females, and it is higher in the rural areas than the urban. This translates into a higher sex for the adolescent groups. There appears to be higher migration of females from the rural areas to the urban areas.

The results indicate that the proportion of adolescents aged 10-19 years is lowest in Francistown, Gaborone, Orapa, Namaland and Selebi-Phikwe and highest in the Kgatleng, North East, and Southern districts. Males outnumber females in all districts except in Francistown, Gaborone, Orapa, Ngamiland, Selebi-Phikwe and Sowa Town where the reverse is the case among adolescents 10-14 years. As expected, relatively higher proportion of the males were heads of households compared to their female counterparts in either the urban or rural areas.

Youth: Almost one out of every four persons in Botswana was reported to be aged 20-35 years. A higher proportion of the youth aged 20-24 and 25-35 years was represented by females. The same situation is true for the urban and rural areas with sex ratios relatively lower in the urban than rural areas. The proportion of the population classified as male youth aged 20-24 years is slightly lower compared to their female counterparts either in the urban or rural area. The reverse is the case with respect to the youth 25-34 years where the proportion of the population classified as male youth is higher compared to the female group. It is also interesting to note that the population of the youth 20-24 years is skewed in favour of females in each of the districts, thus translating into sex ratios below 100 in all regions.

3.0 Education

Education is an important characteristic of the population and reflects the human resource development potential particularly among young persons in the country. An analysis of education, therefore, throws light on the challenges that affect the capacity of the population as a vital human resource for the

country's socio-economic development. This is because the level of education of young people is an indication of the quality of the population in terms of their knowledge, skills and expertise in the production of goods and services in the country. This section, therefore, presents the analysis of young people by school attendance and attainment. Throughout the analysis in this section, a comparison is made by sex and region to show the variations in order to highlight gaps as a basis for directing policy action in addressing possible challenges that may be observed. The 2011 Population and Housing Census collected information on educational attainment for persons aged two years and above.

3.1 School attendance

Education is a priority area for development. Increases in school attendance have been considerable in the past decades and stem from multiple factors affecting households, including policy changes. Several African and Asian countries have recently implemented free or compulsory primary education by drawing children into school from labor force and spurring greater enrolments for girls. In Botswana some initiatives have been availed. This includes free primary education to all which have been in place over decades, ten year basic education which include seven years of primary education and three years of junior secondary education, to mention but a few. The Government has put necessary resources in place to ensure that ten year basic education remains accessible to all eligible.

Adolescents: Just over eighty-four percent of adolescents aged 10-19 years were reported to be currently enrolled in school, including equal numbers of boys and girls (49.9% versus 50.1%). There were, however, some observed disparities across districts. Three mining towns of Sowa Town, Orapa and Selebi-Phikwe in that order had the highest enrolment rates. The two cities of Gaborone and Francistown had contrasting features, while Gaborone had the highest enrolments of 87.3%, Francistown on the other hand had only 84.5%. Ghanzi, Chobe and Ngamiland reported the lowest enrolment rates (Table 6).

Youth: As can be expected, the enrolment rates for youth aged 20-34 years are relatively lower than those observed for the adolescents, as they tend to significantly taper off with increasing age. According to the 2011 Census, the overall national attendance rate for those aged 20-34 years is 8.8%. Of this 8.8%, 48.1% are males and 51.9% are females. Table 6 show the narrowing gender gap, low attendance among 20-34 years. This might not be a cause for concern as the majority of this group might have successfully completed a level. The lowest rates of attendance are in Kgalagadi and Ghanzi. The findings further revealed that females are more likely to be in school than their male counterparts.

Table 6: Population of young persons' still attending school by districts and sex-age

District	Total population		Number still attending		National proportion %		District specific %		10-19		20-35	
	10-19	20-35	10-19	20-35	10-19	20-35	10-19	20-35	Male	Female	Male	Female
Gaborone	37914	99019	33080	17637	9.4	32.9	87.3	17.8	48.2	51.8	48.1	51.9
Francistown	18373	38145	15530	2996	4.4	5.6	84.5	7.9	49.6	50.4	42.9	57.1
Lobatse	5859	10146	5127	899	1.5	1.7	87.5	8.9	49.2	50.8	44.7	55.3
Selebi-Phikwe	9868	17410	8683	1069	2.5	2.0	88	6.1	49.6	50.4	45.1	54.9
Orapa	1545	3431	1376	294	0.4	0.5	89.1	8.6	50	50	47.6	52.4
Jwaneng	2670	7480	2195	378	0.6	0.7	82.2	5.1	50.9	49.1	42.6	57.4
Sowa Town	882	1196	789	45	0.2	0.1	89.5	3.8	49.6	50.4	46.7	53.3
Southern	44357	45799	37562	2587	10.7	4.8	84.7	5.6	50.7	49.3	46.3	53.7
South East	16718	30318	14719	4695	4.2	8.8	88	15.5	48.3	51.7	48.2	51.8
Kweneng	58410	97160	48062	8757	13.6	16.3	82.3	9	49.7	50.3	46.8	53.2
Kgatleng	18503	25528	15936	2386	4.5	4.5	86.1	9.3	51.2	48.8	50.8	49.2
Central	131851	141751	111958	7913	31.8	14.8	84.9	5.6	50	50	48.4	51.6
North East	14170	14354	12290	782	3.5	1.5	86.7	5.4	51.7	48.3	48.8	51.2
Ngamiland	32556	43899	25964	1789	7.4	3.3	79.8	4.1	49.8	50.2	53	47
Chobe	3771	8692	2929	484	0.8	0.9	77.7	5.6	51.9	48.1	76.7	23.3
Ghanzi	9479	12492	7049	438	2.0	0.8	74.4	3.5	49	51	49.5	50.5
Kgalagadi	11114	13867	9142	428	2.6	0.8	82.3	3.1	50.4	49.6	59.1	40.9
Total	418040	610687	352391	53577	100.0	100.0	84.3	8.8	49.9	50.1	48.1	51.9

The circumstance for leaving school, and the point where a person may have exited school, was not specified in the census data. Therefore, reasons for leaving school may be multifaceted; including positive reasons such as successful completion of a level, but it could be a result of negative reasons such as health and related personnel problems, psychosocial constraints and systematic inefficiencies such as drop out and multiple repetition of grade. Table 7 further shows the proportion distribution of the population who ever attended school. The results show that at national level, 57.4% of persons aged 10 to 35 years has left school. The proportion is slightly higher among females (50.8 %) than males (49.2 %).

Adolescents: Nonetheless, Table 7 shows that 14.2% of the adolescents aged 10-19 years left school, including equal numbers of males and females. Ghanzi, Chobe and Ngamiland districts had the highest percentage of those who had left school.

Youth: The proportion of the youth who left school was 87%, with Sowa Town has the highest proportion (94.0%) while Gaborone has the lowest (80.8%) of persons aged 20 to 35 years.

Table 7: Population of young persons' left school by districts and sex-age

District	Total population		No. who left school		National proportion %		District specific %		10-19		20-35	
	10-19	20-35	10-19	20-35	10-19	20-35	10-19	20-35	Male	Female	Male	Female
Gaborone	37914	99019	4630	79997	7.8	15.1	12.2	80.8	44	56	48.4	51.6
Francistown	18373	38145	2672	34319	4.5	6.5	14.5	90	41.8	58	48.1	51.9
Lobatse	5859	10146	707	9074	1.2	1.7	12.1	89.4	42.4	58	48.2	51.8
Selebi-Phikwe	9868	17410	1125	16008	1.9	3.0	11.4	91.9	40.8	59	48.6	51.4
Orapa	1545	3431	166	3080	0.3	0.6	10.7	89.8	26.5	73	43.8	56.2
Jwaneng	2670	7480	450	6935	0.8	1.3	16.9	92.7	39.1	61	55.3	44.7
Sowa Town	882	1196	89	1124	0.1	0.2	10.1	94	41.6	58	53.3	46.7
Southern	44357	45799	6143	40338	10.3	7.6	13.8	88.1	53.6	46	47.1	52.9
South East	16718	30318	1922	25136	3.2	4.7	11.5	82.9	47.6	52	47.8	52.2
Kweneng	58410	97160	9158	83657	15.4	15.7	15.7	86.1	50	50	48.4	51.6
Kgatleng	18503	25528	2410	22371	4.0	4.2	13.0	87.6	49.9	50	47.9	52.1
Central	131851	141751	17723	125327	29.8	23.6	13.4	88.4	53.8	46	48.5	51.5
North East	14170	14354	1694	13104	2.8	2.5	12.0	91.3	50.9	49	50	50
Ngamiland	32556	43899	5996	39648	10.1	7.5	18.4	90.3	46.8	53	47.1	52.9
Chobe	3771	8692	772	7941	1.3	1.5	20.5	91.4	45.9	54	52.1	47.9
Ghanzi	9479	12492	2017	10621	3.4	2.0	21.3	85.0	52.2	48	52.5	47.5
Kgalagadi	11114	13867	1860	12768	3.1	2.4	16.7	92.1	51.6	48	49.7	50.3
Total	418040	610687	59534	531448	100.0	100.0	14.2	87.0	49.9	50	48.4	51.6

Botswana Government has made tremendous efforts in the provision and improvement of education in the country. This includes the provision of free education and automatic promotion within primary and secondary levels respectively. Despite the fact that these efforts have been in place for a long time, there is still a proportion of population aged 10 and over who have never attended school.

Adolescents: Table 8 indicates that overall, 1.4% of those aged 10-19 years has never attended school. Central district had the highest proportion of population who never attended school; accounting for 35.8% of those aged 10-19 years. The second and third districts were Kweneng and Southern with 20.4% and 11% respectively. The district specific rates indicate that 4.2% Ghanzi inhabitants had never attended school with 62.7% being males. Kweneng district was the second with 2% comprised of 62.7% females. The highest proportion of males who never attended school were recorded in Orapa and Southern, accounting for 66.7% and 66.1% respectively.

Youth: According to Table 8, the overall proportion of the youth who never attended school is 3.9%, with Central district having the highest proportion 34.7%. This was followed by Kweneng and Southern districts with 18.9% and 11.9% respectively. In comparison with adolescents, youth tend to show higher district specific rates. For example, the district specific rates for adolescents range between 0.3% and 4.2% versus 0.6% and 11.2%. The highest proportion of males who never attended school were recorded in Kgatleng (71.4%) and Southern (68.4%).

Table 8: Population of young persons' never attended school by districts and sex-age

District	Total population		Never attended school		National proportion %		District specific %		10-19		20-35	
	10-19	20-35	10-19	20-35	10-19	20-35	10-19	20-35	Male	Female	Male	Female
	Gaborone	37914	99019	177	949	3.1	4	0.5	1	50.8	49.2	61
Francistown	18373	38145	155	511	2.7	2.1	0.8	1.3	58.1	41.9	51.5	48.5
Lobatse	5859	10146	20	150	0.3	0.6	0.3	1.5	60	40	62.7	37.3
Selebi-Phikwe	9868	17410	60	273	1	1.1	0.6	1.6	45	55	64.1	35.9
Orapa	1545	3431	3	20	0.1	0.1	0.2	0.6	66.7	33.3	25	75
Jwaneng	2670	7480	25	132	0.4	0.6	0.9	1.8	44	56	54.5	45.5
Sowa Town	882	1196	4	16	0.1	0.1	0.5	1.3	50	50	43.8	56.3
Southern	44357	45799	638	2843	11	11.9	1.4	6.2	66.1	33.9	68.4	31.6
South East	16718	30318	51	419	0.9	1.8	0.3	1.4	52.9	47.1	63.5	36.5
Kweneng	58410	97160	1177	4519	20.4	18.9	2	4.7	62.7	37.3	64.4	35.6
Kgatleng	18503	25528	155	761	2.7	3.2	0.8	3	62.6	37.4	71.4	28.6
Central	131851	141751	2073	8274	35.8	34.7	1.6	5.8	63.5	36.5	61.6	38.4
North East	14170	14354	184	465	3.2	1.9	1.3	3.2	54.9	45.1	56.8	43.2
Ngamiland	32556	43899	514	2303	8.9	9.6	1.6	5.2	58.8	41.2	54.3	45.7
Chobe	3771	8692	35	173	0.6	0.7	0.9	2	45.7	54.3	54.3	45.7
Ghanzi	9479	12492	402	1402	7	5.9	4.2	11.2	62.7	37.3	58.9	41.1
Kgalagadi	11114	13867	110	657	1.9	2.8	1	4.7	57.3	42.7	67.6	32.4
Total	418040	610687	5783	23867	100	100	1.4	3.9	61.7	38.3	62.1	37.9

3.2 Highest level of education

Education remains a key measure of the level of human development in the country. The 2011 Population Housing Census collected information on the educational attainment of persons three years and above. Consequently, the analysis presents results for the population of children (3-9 years), adolescents (10-14 and 15-19 years) and the youth groups spanning 20-35 years. The analysis is both at the national and regional levels with a comparison between the sexes. The comparison between the educational attainment of males and females reveal interesting patterns as one moves from childhood through adolescence to youth status.

The highest level of education successfully completed was the factor used to determined educational attainment.

Table 9: Distribution of population of young persons by educational attainment and age-sex

Educational attainment	10-14		15-19		20-24		25-29		30-34	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
No Education	0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.6
Primary or less	86.5	81.8	11.6	6.9	9.4	6.4	10.7	7.7	13.8	11
Secondary	13.5	18.1	84.2	88	63.9	65.8	58.1	63.1	53.3	61.6
Technical/vocational	0	0	1.7	2	13.8	14.1	18	15.8	18.9	15.3
University	0	0	2.4	3	12.7	13.5	13.1	13.2	13.8	11.5
Total	100	100	100	100	100	100	100	100	100	100
Total Number	104419	102875	104818	105928	97249	103101	101194	106658	84515	86027

Table 9 shows the results of the analysis of educational attainment of young persons by sex and age groups. The general picture shown in the table is that of progress made in educational attainment over the years. This is evidenced by the higher proportion of persons with no education in older age groups compared to counterparts in relatively younger age groups.

Adolescents: From table 9, we find a high proportion of adolescents aged 10-14 years with primary level of educational attainment among either males or females. For example, there is about 86.5% of the male and 81.8% of the female adolescents in this age group with primary level of education. There is also virtually no difference between the males and females with no education which is around 0.1% in either case. Among older adolescents (15-19 years), the results do not suggest big gender gap at all levels of education.

Youth: Unlike the adolescent groups, the results in Table 9 reveal some gender gaps in educational attainment among the youth. For example, about 9.4% of the male youth aged 20-24 years were recorded to have primary or less compared to about 6.4% of their female counterparts. Similarly, while 18.0% of the male youth aged 25-29 years had technical / vocational, close to 16% of their female cohort reported same. Also, a relatively higher proportion of the males than the females had attained technical / vocational and university levels of education. This is a clear evidence of gender imbalance in the level of educational attainment among the youth groups.

3.3 Summary and Conclusions

Still at School: The results on still at school show a huge gap between the adolescents and youth. For example, just over eighty-four percent of adolescents aged 10-19 years were reported to be currently enrolled in school, including equal numbers of boys and girls (49.9% versus 50.1%). The highest enrollments are found in Sowa Town, Orapa and Selebi-Phikwe and lowest are found in Ghanzi, Chobe and Ngamiland. On the other hand the enrolment rates for youth aged 20-34 years are relatively lower than those observed for the adolescents, with the proportion of 8.8%. The lowest rates of attendance are in Kgalegadi and Ghanzi.

Left School: The findings revealed that 14.2% of the adolescents aged 10-19 years left school, including equal numbers of males and females. Ghanzi, Chobe and Ngamiland districts had the highest percentage of those who had left school. As was being expected, the proportion of the youth who left school was close to nine in ten.

Never attended school: In comparison with adolescents, youth tend to have a higher proportion of the young people who never attended school. Overall, the proportion of youth who never attended school stood at 3.9% compared to 1.4% of those aged 10-19 years. Central district had the highest proportion of those who never attended school for both the adolescents and the youth.

Highest level of education: The general picture from the findings shows that much progress has been made in educational attainment over the years. This is evidenced by the higher proportion of persons with no education in older age groups compared to counterparts in relatively younger age groups

4.0 Marital Status and Fertility

Fertility is associated with marital status particularly the proportion of the population that is married at any given point in time. This is because fertility of women in marital unions tends to be higher than among those not married. It is, therefore, important to examine fertility against the backdrop of an analysis of the marital status of the population. Such an analysis is particularly relevant when discussing young people because at young ages, there is an expectation that a majority of them would be in school and, therefore, would not contribute to fertility. However, this expectation is not always met on account of either early marriage or early birth that often results in school dropouts particularly among adolescents. Involvement in and contribution to fertility by adolescents also occur due to the low usage of modern family planning methods among young sexually active persons. In situations where unplanned pregnancies occur, some of the young people in an attempt to ensure that they continue their schooling undertake to terminate the pregnancies using all kinds of methods including some which put their lives even at risks.

Against this background, this section examines the population of young people in Botswana by their marital status and their contribution to fertility in the country

4.1 Marital status

The questions in the 2011 Population and housing census on marital status were limited to those persons aged 12 years and older. There were, therefore, no data on children less than 10 years. Consequently, hence the discussion in this section is limited to adolescents aged 12-19 years and youth only.

Figure 3 presents the distribution of the population of young people by age and sex. According to the results from Figure 3, it is clear that at the national level, as age increases, the proportion of people who report being never married reduces while the percentage of persons who get married increases.

Adolescents: A quick look at Figure 3 reveals that among those aged 12-14, a relatively higher proportion of the males (0.6%) than females (0.5%) were reported to be married. Thus, while 99% of the females were never married, a slightly lower proportion of the males had never married. This is quite unexpected because it is not a usual occurrence for boys of such young ages to get married and could be the result of errors in the reporting in the data. The small proportion of persons who reported to have ever been married within ages 12-14 years is to be expected since at these ages, adolescents are expected to be in school and therefore, even the small proportion that was reported to have ever been married is something that is not only interesting but could be avoided. This is especially so when in Botswana, the age at married by law is fixed at 18 years. In contrast, 0.9% of adolescent females aged 15-19 years were married compared to about 0.8% of their male counterparts. This is consistent with findings from all the Botswana Family Health Survey that have been conducted in Botswana. Equally important is the result suggesting that 6% of the adolescent females aged 15-19 years were living together. Positively, Figure 3 shows that none of the adolescents in these ages were reported to be divorced, separated or widowed.

Figure 3: Marital status of young people by age and sex



Youth: A much higher proportion of the youth were married compared to the adolescents. It is, however, quite visible that the proportion of the youth reported to be married were higher among the females than the males for all the three age groups. For example, while about 2% of the males aged 20-24 years were married, about 4% of their female counterparts were reported to be married. Again, among the older youth of age 25-29 years, about 12% of the females and 6% of the males were recorded as married. For the youth described as living together, males recorded a higher proportion of 36.3% compared to 34.1% for females. In contrast, over two in five of the younger female youth of 30-34 years had married relative to only 15% of their male counterparts. We also find a similar result among the population of 25-29 years just like in the case of the adolescents. Again, as expected, relatively higher proportions of the females than males were reported to have ever been married and that is, those classified as divorced, widowed or separated. By age 30-34 years only 42% of the females and 47.7% of the males had never been married in the country

In Table 10, a comparison is made between young persons in urban and rural areas with respect to marital status. The results present interesting scenarios across gender and urban-rural residence.

Adolescents: In the cities and towns, the results of the analysis indicate that a slightly higher proportion of adolescents aged 12-14 years reported to be married compared to those in urban villages and rural areas. For example, about 1% of the adolescents in the cities & towns were married compared to 0.6% and 0.4% of their counterparts in the urban villages and rural areas respectively. A similar trend can also be observed for the adolescents aged 15-19 years, where cities & town dwellers have higher proportion of being married than urban villages and rural areas dwellers.

Table 10: Distribution of population of young persons by marital status, type of locality and age

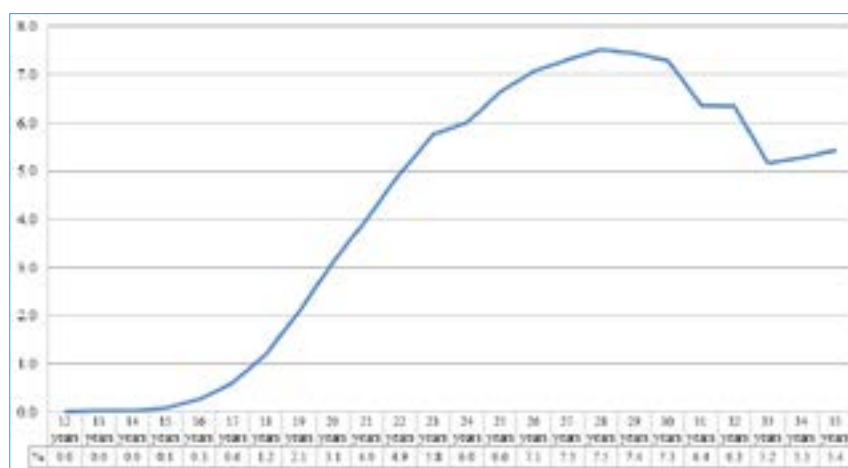
Type of locality	Marital status					
	Married	Never Married	Living together	Separated	Divorced	Widowed
Cities & Towns						
12-14	0.8	98.5	0.7	0.0	0.0	0.0
15-19	1.1	95.7	3.2	0.0	0.0	0.0
20-24	3.2	77.7	18.9	0.1	0.1	0.1
25-29	11.4	54.5	33.6	0.1	0.2	0.1
30-34	24.9	39.4	34.3	0.3	0.7	0.5
Urban Villages						
12-14	0.6	98.7	0.7	0.0	0.0	0.0
15-19	0.8	96	3.1	0.0	0.0	0.0
20-24	2.9	78.7	18.1	0.1	0.1	0.1
25-29	9.0	60.9	29.5	0.2	0.2	0.2
30-34	17.9	49	31.9	0.3	0.5	0.5
Rural Areas						
12-14	0.4	98.5	1.1	0.0	0.0	0.0
15-19	0.8	92.5	6.6	0.0	0.0	0.0
20-24	2.5	69.7	27.1	0.4	0.1	0.2
25-29	6.3	54.5	38.3	0.4	0.2	0.3
30-34	12.7	44.3	41.2	0.7	0.4	0.7

Youth: A similar pattern is shown in Table 10 with respect to marital status among the youth as was with the adolescents. The older youth recorded a higher proportion of their members to be married than their younger counterparts. From Table 10, we find once again that higher proportions of the youth groups in the cities & towns were married than in rural areas and urban villages. For example, while 24.9% of the cities & towns dwellers youth aged 30-34 years were married, 17.9% and 12.7% of the counterparts' in urban villages and rural areas were reported to be married respectively.

4.2 Age at First Birth

One of the factors that determine the level of fertility in a population is the age at first birth. Women who marry early are typically exposed to the risk of pregnancy for a longer period, especially when there is little or no contraceptive use. Thus, early childbearing generally leads to a larger family size than later onset of childbearing. Hence, Figure 4 presents information on adolescents and youth in Botswana by age at first birth.

Figure 4: Percentages of mothers in each category at birth of first child



Findings from Census 2011 (Figure 4) indicate that among all women aged 15-35 who had given birth to at least one child, 0.1% had given birth to their first child at the age of 15 years, and 0.7% at the age of 17 years. The graph shows that the largest percentage of women gave birth to their first child between the ages of 24 and 30. This implies that Botswana women tend to delay their child bearing.

Figure 5: Percentages of mothers in each category at birth of first child by locality

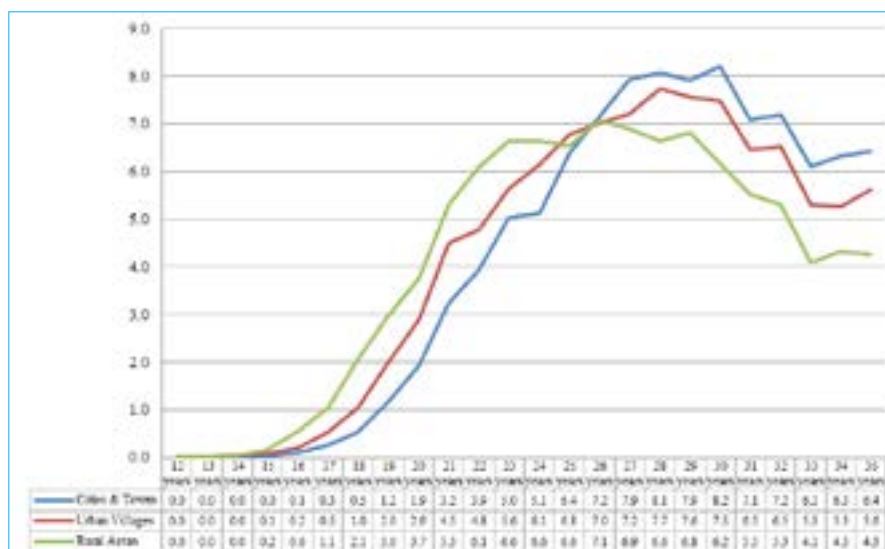


Figure 5 above shows the percentages of young women who had ever given birth, by their age at time of birth of their first child, in each locality type. Generally, rural areas women tend to have given birth to their first children at a younger age than women in other localities. Slightly under 1% of rural young women compared to 0.2% of urban villages, and 0.1% of cities & towns female youth reported having given birth to their first child at 16 years of age.

Among rural women, the largest proportion had given birth to their first child at 26 years of age (7.1%). For urban village women, the peak age is 28 years (7.7%), and for cities & towns, 30 years (8.2%). One of the important aspects about childbirth to emerge from Census is that some female youth become mothers for the first time in their early adolescent years. There are females, particularly among rural areas youth, who indicated that they had their first children at the age of 12 years. This situation demonstrates the need for efficient intervening strategies and policies to empower youth, particularly females in rural areas, with regard to decisions on reproduction.

Table 11: Number of women of reproductive ages, births and age specific fertility and total fertility rates

Age group	No. of women	No. of births	Age Specific Fertility Rates/1000
12-14	59,867	42	1
15-19	105,928	4,134	39
20-24	103,101	14,186	138
25-29	106,658	14,597	137
30-34	86,027	10,029	117
35-39	66,784	5,989	90
40-44	50,530	2,254	45
45-49	44,380	640	14
Total	623,275	51,871	579
Total Fertility Rate/1000			2,897
Total Fertility Rate/woman			2.9

The age specific fertility rates from Table 11 tend to show regular features – a rapid rise to a peak in the early or mid-twenties and a gradual decline to low levels after age 40. For example, the age specific fertility rates range from one birth per 1000 women aged 12-14 years, increases to 39; 138 and 137 births per 1000 births per women ages 15-19; 20-24 and 25-29 years, respectively. Then ASFR start to decline in the early thirties, from 117 to 90; 45 Hence, the average number children a woman would have if she experienced the

5.0 Economic activity

Employment and job creation are fundamental objectives for leaders of every nation especially in developing countries. The size of the labour force is determined by the structure of the population which also shows the number of people who graduate each year into the labour force.

According to the International Labour Organisation (ILO), everyone is eligible for employment at age 15 years and above. Yet, there are situations where children below age 15 years engage in all kinds of economic activities some of which have negative implications not only for their health but most importantly for their education. In this chapter we show that, among the economically active youth, access to jobs also varies on the basis of age, place of residence and sex. In addition, it presents an analysis of the employment status and the sectors and industry of employment of young people in the country and brings out the implications for the development of the country.

5.1 Employment Status

The questions on the type of economic activity engaged in by persons were asked of only respondents aged five years and above. In this section, the target population is examined to find out the kind of work engaged in at the time of the census i.e., employment status, type of occupation and the type of industry within which persons were engaged for their livelihood. Throughout, a comparison is made by sex and age among adolescents and youth.

Table 12: Distribution of young people by age-sex and employment status

Employment status	Male					Female				
	12-14	15-19	20-24	25-29	30-34	12-14	15-19	20-24	25-29	30-34
Employee - paid cash	0.7	7.5	37.4	57.3	62.9	0.2	4.4	24.9	44.3	50.8
Employee - paid in kind	0.0	0.1	0.3	0.3	0.3	0.0	0.1	0.1	0.2	0.2
Self-employed (no employees)	0.1	0.4	1.9	3.9	5.6	0.1	0.4	1.8	3.5	5.0
Self-employed (with employees)	0.0	0.0	0.6	1.7	3.0	0.0	0.0	0.2	0.7	1.1
Unpaid family helper	0.1	0.3	0.5	0.4	0.3	0.0	0.2	0.3	0.3	0.3
Working at own lands/cattle posts	0.3	1.1	2.2	2.4	2.6	0.1	0.2	0.5	0.7	0.9
Actively seeking work	0.7	8.3	23.0	18	13.0	0.4	7.8	24.3	19.5	14.1
Home work	3.9	10.3	14.2	10.2	9.0	2.8	15.2	28.8	25.5	24.7
Students	93.8	71.1	18.2	3.7	0.9	96.0	70.9	17.9	4.1	1.3
Retired	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sick	0.4	0.6	0.7	0.9	1.2	0.3	0.6	1.0	1.0	1.3
Other (not economically active)	0.0	0.2	1.0	1.3	1.2	0.0	0.1	0.2	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Adolescents: At age 12-14 years, a majority of people is expected to be in primary schools while those aged 15-19 years may be in senior secondary school or entering tertiary level of schooling and consequently not expected to be actively engaged in employment. However, as Table 12 presents, 7.5% of the males and 4.4% of the females aged 15-19 years were reported to be employees (paid cash). This suggests that they were in some regular economic activity for which they received regular wages. Another interesting finding from the table is that 0.4% of the 15-19 years males and females indicated that they were self-employed without employees. This is likely to be in the informal sector. Table 12 further shows that about 8.3% of male and almost 8% female adolescents were seeking work. Finally, engagement in education is still quite common among the adolescents, with as high as 93.8% and 71.1% respectively of 12-14 and 15-19 in contrast with 96% and 70.9% of their female counterparts engaged as students.

Youth: With regard to the employment status of the youth across the nation, we find that the proportion of persons described as students is much smaller compared to the adolescents. However, the proportion of the youth working as self-employed without employees increased particularly among the males among

whom about 3.9% and 5.6% respectively aged 25-29 and 30-34 years were recorded. The corresponding proportions among the females were 3.5% and 5.0%. We also note that about 23% and 24.3% of either the males or females aged 20-24 years were said to be actively seeking for jobs at the time of the census. As the age of the youth increases, it is clear that the proportion of the youth working as family worker reduces while self-employment without employees increases. The proportion of the male youth who were described as employees was higher compared to the female youth.

Table 13: Distribution of population of young people by age-sex and sector of employment

Industries	Male					Female				
	12-14	15-19	20-24	25-29	30-34	12-14	15-19	20-24	25-29	30-34
Agriculture, Hunting and Forestry	0.8	4.6	9.9	10.4	10.1	0.1	0.5	1.5	2.0	2.4
Fishing	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Mining and Quarrying	0.0	0.1	1.4	3.2	4.0	0.0	0.0	0.2	0.6	0.6
Manufacturing	0.0	0.4	2.7	3.7	4.0	0.0	0.2	1.3	2.4	3.1
Electricity, Gas and Water Supply	0.0	0.0	0.2	0.6	1.0	0.0	0.0	0.1	0.3	0.4
Construction	0.1	1.2	7.3	10.2	12.1	0.0	0.1	0.7	1.2	1.4
Wholesale and Retail Trade	0.1	0.9	6.0	8.0	8.4	0.1	1.2	6.4	9.8	11.1
Hotels and Restaurant	0.0	0.1	1.0	1.2	1.1	0.0	0.1	1.5	2.5	2.8
Transport, Storage & Communication	0.0	0.1	1.4	3.5	4.5	0.0	0.0	0.5	1.1	1.3
Financial Intermediaries	0.0	0.0	0.3	0.9	1.0	0.0	0.0	0.5	1.6	1.9
Real Estate, Renting & Business Activities	0.0	0.4	4.0	6.8	7.3	0.0	0.1	2.3	4.7	5.0
Public Administration	0.1	1.0	5.6	10.6	11.9	0.0	0.9	5.1	9.2	11.1
Education	0.0	0.0	0.7	2.7	4.8	0.0	0.1	1.2	4.6	7.1
Health and Social Work	0.0	0.0	0.6	1.6	2.0	0.0	0.0	0.9	2.4	3.0
Other Community, Social and Personal Service activities	0.0	0.3	1.3	1.9	1.9	0.0	0.2	1.2	2.3	2.3
Private Households with Employed Persons	0.0	0.2	0.5	0.6	0.6	0.0	1.8	4.5	4.8	4.9
Foreign Missions, International Org	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Other Industries	98.8	90.5	57.1	34.0	25.3	99.7	94.7	72.1	50.4	41.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

5.2 Industry

Data on the type of industry people were working in were also collected in the 2011 population housing and census. The analysis of data on type of industry engaged in by the young people in the country is presented in Table 13.

Adolescents: A majority of adolescents were reported to be working in other industries followed by agriculture, hunting and forestry. In Table 13, more than 90% of both males and females are engaged in other industries at the time of census against about 1% of them in the public administration (Government). While the proportion of adolescents working in other industries is expected, it is strange to have some number of adolescents particularly those aged 12-14 years reported to be working within the public (Government) sector. This is because no government institution can employ adolescents (12-14 years) when the child labour law, which is initiated by the state, outlaws any engagement of adolescents for work. This requires further investigation if it is not caused by errors in the data. Table 13 also shows a number of adolescents are engaged in construction and wholesale and retail trade. This is possible because at this stage in their lives many of the adolescents are either without any professional skills or lack the requisite experience to be eligible for employment in the formal sector.

Youth: Compared to adolescents, Table 13 present far smaller proportions of the youth groups to be engaged in other industries. Among the male youth, a higher proportion was reported to be engaged in Agriculture, Hunting and Forestry compared to smaller proportions among their female counterparts. Wholesale, retail and vehicle repairs industry and manufacturing were also important industries of employment of youth labour in Botswana.

For example, about 8.4% of the males were engaged in wholesale, retail and repair of vehicles and motorcycles while 4% of them worked in the manufacturing industry. Among the females, higher proportions were recorded in these two industries: over 9.8% and 11% respectively among the 25-29 and 30-34 years female youth groups were engaged in wholesale, retail and vehicle repairs and over 3% in manufacturing. It

is observed from Table 13, the distribution of the youth groups exhibits a wider spread across all the categories of industry compared to adolescents.

5.3 Summary and Conclusions

Children: From the results of the analysis, two-thirds of children of each sex were found to be contributing labour as family worker. Surprisingly, three percent of each of the sexes was also found to be self-employed without employees, which is difficult to appreciate. Unemployment was deduced to be high with about 30 percent of each of either the male or female children reported to be seeking for jobs for the first time. This suggests that in Botswana, the search for jobs among children compete with their education. A higher proportion of the male (68%) and female (58%) children was, however, recorded to be engaged as skilled agricultural forestry and fishery workers in Ghana. While this could be the result of data errors, considering that at that young age it is difficult for any of them to have any skills, it also suggests that child labour could be high in the country.

Adolescents: It was found that 8 percent of adolescent males and 6 percent of their female counterparts in Botswana were employees receiving some form of wages. Again, about a quarter of the males within the ages of 15-19 years old and 2 percent of their counterparts aged 10-14 years were self-employed without employees and as high as 85 percent and 46 percent of males aged 10-14 and 15-19 years old respectively were engaged in family labour compared to 83 percent and 41 percent of their female counterparts. As expected, a large percentage of either the male or female adolescents were engaged in private informal sector. It was also found that a higher proportion of adolescent females than males were working in the manufacturing sector in Ghana with agriculture, fishing and forestry sectors recording the highest proportion of these adolescents.

Youth: According to the census results, the females self-employed without employees represented 43 percent and 62 percent respectively of youth aged 20-24 and 25-35 years old. This compares with relatively lower proportions for the males. Compared to the adolescents and children, a much smaller proportion of the youth groups were recorded as seeking work for the first time. It is possible that by this age, a higher proportion of the youth would have had job. Similar to the adolescents, a high proportion of youth were engaged in the private informal sector either among the males or females. Consequently, the public sector is not a major recruiter of youth labour force in Ghana perhaps due to the relatively lower skills and experience many of the youth may possess to make them competitively eligible for public sector work.

6.0 Disability

Disability is a limitation or loss of the ability to perform social roles and activities in relation to family, work, or independent living (Yu, Yeun-Chung 1991). WHO also defined disability as a restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being (WHO, 1980). The impairments could be a loss or abnormality of psychological, physiological or anatomical structure of function and involve disturbances at the level of the organ which contain defects or loss of limb, organ, tissue or other body structure as well as a defect or loss of cognitive function.

A disabled person is unable to use his/her body up to the normal expectation and is, therefore, handicapped. He/she is compelled to be explicitly or fully dependent on others. A disabled person may be disadvantaged in various ways – socially, economically, psychologically and educationally. The term- handicap describes the social and economic roles of impaired or disabled persons that leave them at a disadvantage compared to other persons.

Knowledge of disability among the population is important in informing policy interventions to address the challenges faced by people with disabilities. The 2011 Population and Housing Census collected information on all persons with or without disability and types of disability that respondents have. The types of disability for which information was collected were sight, hearing and speech, physical, intellectual and emotional. This section discusses incidence and type of disability among adolescents and youth and its variation by sex, region of residence, educational attendance, marital status and employment status.

6.1 Age Structure and Disability

A standard demographic approach to measuring the level of disability is the use of "Crude Disability Rate" (CDR) defined as the proportion of population that is disabled in the total population, usually expressed in units per 100 or 1,000 or 10,000 persons depending on the frequency of occurrence of the disabilities in a population. The 2011 census of Botswana yielded a CDR of 2.9% or 29 disabled persons per 1,000 for the total national population, across all ages

Table 14: Age Specific Disability Rates for persons aged 10-34 years

Age	Total population			Population disabled			Disability rates(per 1000)			Sex ratio
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
12-14	104419	102875	207294	2375	1911	4286	2.3	1.9	2.1	124.3
15-19	104818	105928	210746	2894	2792	5686	2.8	2.6	2.7	103.7
20-24	97249	103101	200350	2227	1830	4057	2.3	1.8	2.0	121.7
25-29	101194	106658	207852	2275	1870	4145	2.2	1.8	2.0	121.7
30-34	84515	86027	170542	2298	1807	4105	2.7	2.1	2.4	127.2
Total	492195	504589	996784	12069	10210	22279	2.5	2.0	2.2	118.2

6.3 Type of Disability

Table 15 presents the results of the analysis on incidence and type of disability by age-sex for young people in Botswana. The results indicate that overall, between one to two percent of the population had some disability. Also, the rate of disability increases with age.

Table 15: Distribution of population of young people in Botswana by reported disability and type and age-sex

Sex	Total Number	% with disability	Type of disability								
			Sight	Hearing	Speech	Leg(s)	Arm(s)	Body	Intellectual	Mental	Others
Male											
10-14	104,419	2.4	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.1	11.2
15-19	104,818	2.8	27.1	24.5	25.5	20.6	19.3	21.6	25	17.5	13.5
20-24	97,249	2.3	17.5	14.9	19.3	18.1	19.3	19	20	20.4	28.1
25-29	101,194	2.2	19.1	15.7	15.5	20.3	22.1	18.2	14.8	25.5	12.4
30-34	84,515	2.7	20.7	16.7	13.3	24	21	14.9	13.3	24.1	34.8
Female											
10-14	102,875	1.9	12.9	24.4	24.3	21.7	21.1	19.8	22.7	15.6	25.5
15-19	105,928	2.6	32.6	27.7	26.8	18.5	18.9	26.1	25.5	19.2	25.5
20-24	103,101	1.8	17.6	15.8	18.8	16.6	18.4	19.8	24.2	21.6	15.7
25-29	106,658	1.8	18.2	16.7	16.8	20.2	20.3	18.3	14.5	22.6	19.6
30-34	86,027	2.1	18.6	15.4	13.3	22.9	21.3	16	13.1	20.9	13.7

Adolescents: The results of the analysis in Table 15 do not show much variation in reported disability by sex. This is because among children 10-14 years 2.4% and 1.9% respectively of males and females reported some form of disability. Regarding the specific disabilities reported among the adolescents, Table 15 further shows that sight was the most commonly cited form of disability. Among males with disability, about 27% of those aged 15-19 year-olds had sight disability in contrast to about 32.6% of females with such disability. It is also to be noted that while among males with disability, speech (25.5%) and hearing (24.5%) disabilities were the most reported after sight disabilities. In the case of the females, about one in four of 15-19 years reported to have 27.7% and 26.8% for hearing and speech disabilities respectively. Intellectual disability was also reported among one in four of either males or females aged 10-14 and 15-19 years. The results do not show much variation between the male and female adolescent groups reporting body disability.

Youth: The results of the analysis presented in Table 15 indicate that while the same proportion of the youth group aged 20-24 years reported some form of disability either among the males (2.8%) or females (1.8%) it was slightly higher among the 30-34 age group where 2.7% of the males and 2.1% of the females reporting some disability. Of the number of youth said to have a disability, the results once again indicate that sight was the most commonly reported and was relatively higher among the females than the males. While about 27 percent of the male youth aged 20-24 or 25-35 years who were suffering from some form of disability had sight difficulties, a higher proportion of their female counterparts (32% and 30% respectively) were reported to have sight challenges. This suggests that a relatively higher proportion of the female youth were reported to have some disability compared to the males were suffering from sight defects. Similarly, a slightly higher proportion of the female youth who had some form of disability were reported to have emotional disability compared to their male counterparts. However, with respect to intellectual, physical and speech disability, a contrary picture is shown with the male youth who had some form of disability recorded higher proportions to have these disability challenges.

Variation in disability among young people in Botswana is of interest to policy makers. The analysis enables policy makers to identify where challenges are highest in order to address them. Table 16 presents an analysis of the disability situation in each district by age and sex

Table 16: Distribution of population of young people in Botswana by reported disability, district and age-sex

District	10-14		15-19		20-24		25-29		30-34	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Gaborone	56.3	43.7	54.8	45.2	46.3	53.7	48.9	51.1	50.7	49.3
Francistown	52.0	48.0	47.9	52.1	57.3	42.7	54.2	45.8	62.3	37.7
Lobatse	60.7	39.3	59.6	40.4	56.7	43.3	49.4	50.6	60.5	39.5
Selebi-Phikwe	59.7	40.3	52.8	47.2	48.6	51.4	54.2	45.8	54.3	45.7
Orapa	57.1	42.9	43.8	56.3	26.7	73.3	30.8	69.2	56.7	43.3
Jwaneng	40.0	60.0	53.8	46.2	75.0	25.0	71.9	28.1	67.9	32.1
Sowa Town	50.0	50.0	40.0	60.0	50.0	50.0	0.0	100.0	50.0	50.0
Southern	52.0	48.0	46.5	53.5	57.3	42.7	58.3	41.7	56.8	43.2
South East	52.9	47.1	43.8	56.2	54.6	45.4	48.5	51.5	52.0	48.0
Kweneng	57.2	42.8	55.6	44.4	53.4	46.6	57.8	42.2	54.7	45.3
Kgatleng	65.7	34.3	51.7	48.3	55.7	44.3	52.9	47.1	57.0	43.0
Central	56.4	43.6	51.7	48.3	57.0	43.0	56.4	43.6	58.6	41.4
North East	63.9	36.1	56.1	43.9	61.2	38.8	48.0	52.0	55.3	44.7
Ngamiland	52.3	47.7	56.0	44.0	53.1	46.9	56.5	43.5	49.8	50.2
Chobe	50.0	50.0	54.5	45.5	52.6	47.4	52.2	47.8	50.0	50.0
Ghanzi	46.3	53.7	38.2	61.8	61.4	38.6	60.5	39.5	61.3	38.7
Kgalagadi	50.0	50.0	46.3	53.7	61.9	38.1	50.3	49.7	58.8	41.2

Adolescents: The information in Table 16 shows quite clearly that across all regions, reported disability is higher among male than female adolescents. However, there were some variation between the 10-14 and 15-19 year groups in some of the districts. In the case of adolescents aged 10-14 years, it is only in Ghanzi and Jwaneng that a higher proportion of adolescents with disability were recorded among the females. In the other fifteen districts, a different picture was recorded. Among adolescents aged 15-19 years, the situation is slightly different. Here, as shown in Table 15, the proportion of adolescents reported to suffer from a disability was higher among the females in seven districts: Francistown, Orapa, Sowa Town, Southern, South East, Ghanzi and Kgalagadi, while in the remaining ten districts, the reverse was the case. It may appear that as adolescents grow older, females become relatively more at risk of suffering from one disability or another.

Youth: It is observed that in all but three districts, Gaborone, Selebi-Phikwe and Orapa, reported disability among the youth was higher among females than males. However, at older ages, a higher proportion of the male youth aged 25-29 years than their female counterparts reported a form of disability in eleven districts in the country, namely Francistown, Selebi-Phikwe, Jwaneng, Southern, Kweneng, Kgatleng, Central, Ngamiland, Chobe, Ghanzi and Kgalagadi. In the 30-34 years, Table 13 shows quite clearly that across all districts, reported disability is higher among male than female youths. This is reflected in the observation that in each of the districts, more than half of youth that were reported to have disabilities were among the male youth while less than 50 percent was among youth who were females. This pattern runs through where in each district at least 50 percent of all children suffering from any form of disability were males. This suggests that male children are relatively more prone to suffering from a form of disability in all districts in Botswana.

Figures 6 and 7 discuss the proportion of each sex that was reported to have a disability in each district in Botswana. This is to examine the possible variation among each of the two groups of young persons in Botswana by sex and district

Adolescents: The variation in the proportion of adolescents with disability by district among males and females aged 10-19 years is shown in Figure 6. It is generally observed that with the exception of Sowa Town, Jwaneng, Southern, South East, Ghanzi and Kgalagadi where the proportion of adolescents of each sex reported to suffer from a disability recorded a higher proportion of female adolescents with disability than their male counterparts, while the other districts recorded relatively higher proportion of male adolescents with disability than their female counterparts.

Youths: Among the youth aged 20-34 years, one pattern is observable across all districts except two districts in Botswana (Figure 7). In all districts, the proportion of male youth aged 20-34 years that reported some disabilities was higher than that among females in all districts except in Orapa and Sowa Town. Orapa and Sowa Town on the other hand, a relatively higher proportion of female youth than their male counterparts reported some disabilities. The results also indicate that among either males or females of the youthful age 20-34 years, the Ghanzi recorded the highest proportion of the youth to have a disability, followed by Kgalegadi (3.4%) and Southern (3.3%).

Figure 6: Percent of population 10-19 years with disability by sex and district



Figure 7: Percent of population 20-34 years with disability by sex and district

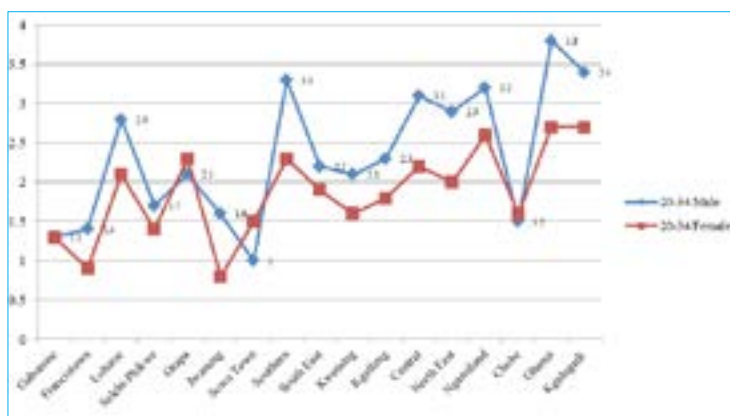


Figure 8: Distribution of disabled young persons by school attendance

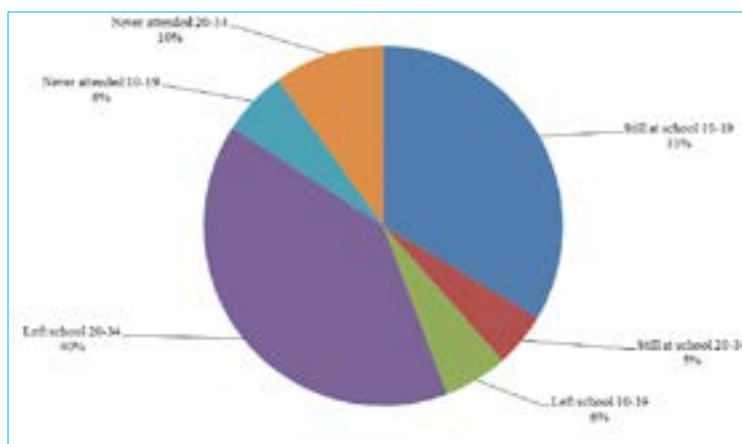
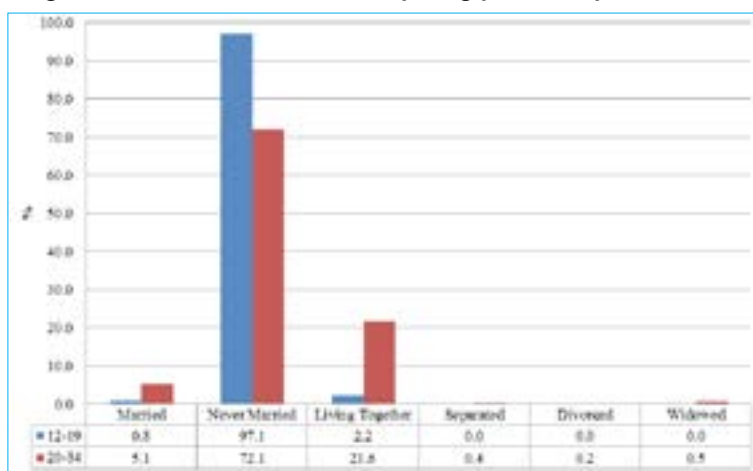


Figure 8 illustrates the distribution of disabled persons aged 10-19 and 20-34 years by school attendance. Amongst those who reported that they had disability 33% and 5% were still at school aged 10-19 and 20-34 years respectively. On the other hand, the results further show that 40% of the disabled aged 20-34 years had left school while those aged the adolescents who left school is only 6%. The proportion of the disabled who never attended school is more or less similar (10% for 20-34 years compared to 6% for 10-19 years.)

6.4 Disability by Marital Status

In Section, it was found that reported disability is likely to be higher among females than males as they grow older. We also know that both males and females go through different life situations which could make them become differently susceptible to disabilities of different kinds. An important life situation that young people are likely to go through that could make them become prone to one disability or another is marriage. Interestingly, in Botswana, marriage is largely universal in that almost everyone is expected to marry at a point in time. At the same time, through childbearing, women go through different physical, mental and psychological circumstances that are quite different from men. It is, therefore, important at this stage to examine the extent to which a young person's marital status may influence his/her disability status in Botswana. Conversely, the disability status of people could also affect their eligibility to being married. The results of the analysis are presented in Figure 9. It should, however, be noted that the analysis is limited largely to adolescents and youth since the 2011 Population and Housing Census did not asked questions on marital status to children less than 12 years. The comparison is, therefore, between the adolescent and youth groups with all children below 10 years presented as never married in the table.

Figure 9: Distribution of disabled young persons by Marital Status



Adolescents: There were no separated, divorced or widowed adolescents of age 12-19 years as shown in Figure 9 and, therefore, the discussion on adolescents is mainly with reference to the married, never married and living together. Among this group, we find that disability is highest among the never married (97.1%), followed by living together (2.2%) and married (0.8%).

Youth: A similar pattern is seen among the youth with respect to disability just like that observed among the adolescent group. Once again, the widowed, divorced and separated have the highest proportion of persons with disabilities. It has to be pointed out, however, that from Figure 9, the analysis shows that the never married youth reported a higher proportion of their members with disability. This, notwithstanding, stability within marriage should be cherished and worked towards achieving in order to reduce the incidence and prevalence of disabilities among the youth some of whom may be marrying for the first time.

7.0 Mortality

7.1 Adolescents and Youth Mortality

Adolescents and youth mortality refers to death occurring to people aged of 10-34 years. The 2011 Population and Housing Census collected data on deaths in the past 12 months by age and sex. Table 17 shows the level of mortality and sex differentials.

Table 17: Percent of total deaths among young persons by age and sex

Age group	No. of deaths in past year			Percent		Sex ratio
	Male	Female	Total	Male	Female	
10-14	81	78	159	50.9	49.1	103.8
15-19	125	129	254	49.2	50.8	96.9
20-24	201	280	481	41.8	58.2	71.8
25-29	374	463	837	44.7	55.3	80.8
30-34	514	557	1071	48.0	52.0	92.3
Total	1,295	1,507	2,802	46.2	53.8	85.9

Adolescents: From Table 17, we find a higher proportion of all deaths reported in the census in the country to be made up of females (53.8% versus 46.2%). However, it shows that at age group 10-14, mortality level between male and female is almost at par (50.9% versus 49.1%). A similar result is reflected among adolescents aged 15-19 years among whom 50.8% of the deaths were females and 49.2% males. This is also reflected in the sex ratios for the deaths among the adolescent groups, where the sex ratio for 10-19 years is 100.

Youth: Just like the results shown among the adolescents, the proportion of deaths recorded among the youth groups was higher among females compared to the males. Once again, the sex ratios that reflect the deaths are lower, suggesting that deaths among the youth groups aged 20-24, 25-29 and 30-34 years were more among the females than the males. Against this reasoning, the low sex ratios recorded with respect to deaths in the 12 months before the census among the youth groups is very much to be expected. Demographically, mortality tends to increase at this age group due largely to reproductive activities because this is the age group at which many adults enter into marriage and/or child bearing.

References

Central Statistics Office, **Analytical Report 2001 Population and Housing Census**, (Gaborone: Ministry of Finance and Development Planning, 2004).

Republic of Botswana/UNFPA, **Adolescent Sexual and Reproductive Health Implementation Strategy 2012-2016**. (Gaborone: Ministry of Health, 2003).

Republic of Botswana/UNDP, **Situation Analysis Report on Youth in Botswana**. (Gaborone: Ministry of Labour and Home Affairs, 2000).

Republic of Botswana, **Revised National Youth Policy 2010**. (Gaborone: Ministry of Youth, Sports and Culture, 2010).

Republic of Botswana, **Vision 2016: Long Term Vision for Botswana**. (Gaborone: Government Printers, 1997).

World Health Organisation World Health Organisation; 1980. International Classification of Impairments, Disabilities, and Handicaps. Geneva:

Yu, Yeun-Chung 1991. The Demography of Disability. Population Bulletin of the United Nations. New York: united Nations, 30: 61-78.

GENDER AND DEVELOPMENT IN BOTSWANA

Thematic Analysis of Gender and Development based on results of the Botswana 2011 Population and Housing Census & Other Sources

By Dr. Serai Daniel Rakgoasi
Department of Population Studies
University of Botswana

1.0 Introduction

Gender analysis is the process of identifying, analyzing and understanding different activities of men and women, relations between men and women as well as patterns of women's and men's access to and control over resources. It involves identifying gender gaps and gender disparities, their confounders and policy implications for gender mainstreaming.

This report provides estimates on levels and trends of gender disparities, and assess the interrelationships between sex-specific data and other specific parameters such to age, location, fertility rate, life expectancy, death rate, marital status, disparities in household resources, disability, economic activities and health. It also presents policy implications of the prevailing gender situation, which are meant to enable stakeholders to design and implement measures to address gender inequality for national development.

1.1 Background

Botswana is home to a number of ethnic groups, the largest of which are the Tswana speaking group. Other non-Setswana speaking groups are the Kalanga, Basarwa, Bayeyi, Ba Subiya, Hambukushu; Bakgalagadi, Bangologa and others. Pre-colonial Tswana societies were based on patriarchal structures and institutions characterised by dominance and corresponding subservience; where male infidelity was tolerated than female infidelity (Dow U and Kidd P, 1994). Traditionally, women build houses, produced and cared for crops, looked after small stock while men were responsible for looking after cattle and hunting (Kalabamu F.T., Housing Delivery Systems in Botswana: The Inadequacy of Gender Neutral Policies, 2001). According to Schapera (1994), although women were responsible for crop cultivation and housing, only male siblings had the right to be allocated land, and women could only access land through men – fathers, sons, paternal relatives or husbands. However during the colonial period, chiefs started to allocate land for housing and cultivation to unmarried mothers (Schapera I., 1994), because land allocation to women did not threaten men's interest because there was no shortage of land; and the increase in the number of households headed by unmarried women made land allocation to women a social and economic necessity that enabled unmarried mothers to raise and feed their children (Larsson A, 1999). Subsequently, some women gained paid employment, and with it, the means to care for their households, and thus the seed for striving for equal rights was planted.

Although Botswana's post-independence constitutions forbade all forms of discrimination, it nevertheless did not explicitly mention discrimination on the basis of sex or gender; consequently, policies and legislation adopted soon after independence were discriminatory against women and tended to favour men (Kalabamu F.T., 2004). The discriminatory nature of these laws thus gave impetus to human rights and women's rights movement to challenge and advocate for their removal or amendment. Subsequently, Botswana acceded to a number declarations and protocols aimed at the full realization of all human rights and fundamental freedoms, including the goal of equality between women and men. These include the Convention on the Elimination of all forms of Discrimination against Women (CEDAW) 1979; the Convention on the Rights of the Child (CRC, 1989); International Conference on Population and Development (ICPD, 1994); Beijing Declaration and Beijing Platform for Action (BPFA, 1995); The SADC Declaration on Gender and Development (1997) and its addendum on The Prevention and Eradication of Violence Against Women and Children (1998) and the UN Security Council Resolution 1325 on Women, Peace and Security (2000). And the United Nations Millennium Development Goals (MDGs) 2000;

Post the 1995 Beijing Conference, Botswana Government initiated and supported efforts and interventions towards gender equality and equity. These include a National Policy on Women in Development, adopted in 1996, and the upgrading of the Women's Affairs Division into a full department in 1997. Its mandate was to enhance the status and role of women in decision-making and leadership at all levels; the promotion of access to and control of factors of production and to removal of all forms of legal, socio-cultural and other constraints to women's participation across all sectors of development. This resulted in the signing in 1997, of an agreement between the UNDP and the Government of Botswana, aimed at strengthening institutional and other mechanisms to facilitate the coordination and implementation of the country's National Gender Program. In 1998, a number of laws which were deemed to be discriminatory were reviewed and amended to make them gender neutral. These include The Citizenship Act; The Criminal Procedure and Evidence Act; The Deeds Registry Act; the Deserted Wives and Children's Protection Act; The Penal Code; The Affiliation Proceedings Act; and The enactment of the Abolition of Marital Powers Act of 2004.

Botswana's explicit commitment to non-discrimination has thus helped to direct attention to pressing needs, different situations and realities of women and men. It has promoted the adoption of measures that embrace gender equality and representation in the development and transformative processes, including economic development, budgeting and legislation. Botswana has signed and ratified the SADC Declaration on Gender and Development in 1997, and by that it committed itself to achieving at least 30% women representation in political and decision-making structures by the year 2005.

According to a 2005 United Nations Development Program report, women constitute 11% of parliamentary seats in Botswana. Post the 2004 general elections, and despite a record number of women political candidates fielded by various parties, the percentage of women legislators declined from 18% to 9% as most of them lost the elections. Thus, despite some slight improvement, women remain seriously underrepresented in political and decision making structures in Botswana. According to the 2010 SADC Gender Protocol Barometer, the percentage of women in Botswana's parliament was only 8%, far lower than that of most SADC countries' parliaments. South Africa (43%); Angola (39%); Mozambique (39%) and Tanzania (31%) had some of the highest representation of women in their respective parliament, while just over a fifth of positions in Lesotho; Seychelles; Swaziland and Malawi were held by women (Morna C.L. & L.J. Nyakujarah (2010). There is a lot of room for improvement in the representation of women in political decision making in Botswana. Botswana and Mauritius are the only countries in SADC that have not signed the SADC Protocol on Gender and Development, whose objectives, among others, provide for the empowerment of women, elimination of discrimination and achievement of gender equality and equity through the development and implementation of gender responsive legislation, policies, programmes and projects.

1.2 Objectives

The objective of this report is to use the 2011 census data and other sources, to provide a situation analysis of the state of gender equality and women's empowerment in Botswana. The report utilises selected indicators measure gender equality in education; health, employment, households headship and participation in political representation, while indicators relating to decision making regarding health and households expenditures are used to estimate women's empowerment.

1.3 Data & Methods

The report uses the 2011 Botswana Population and Housing Census and other secondary data and documentary evidence to provide a situation analysis of the state of gender equality and women's empowerment in Botswana. The 2011 census is the fifth in a series of post-independence decennial censuses since 1966. The first post-independence census was conducted 1971, and censuses have been conducted every ten year since then. In addition, Botswana has a series of national population and other surveys that have been running for a number of years.

The report also features secondary data from a number of surveys, program data, administrative records and other sources to give a picture of the state of gender and development and women's empowerment Botswana.

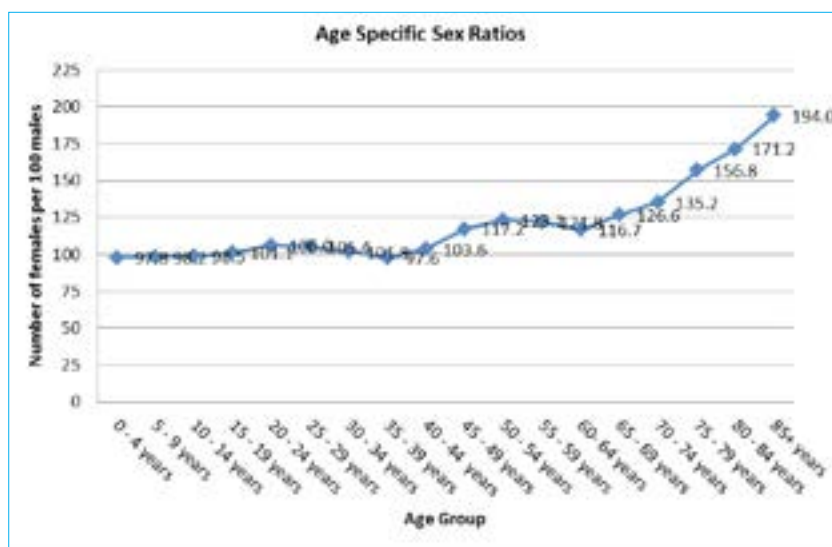
This analysis uses frequencies, measures of central tendency and cross tabulations to provide a sex disaggregated analysis of selected individual and household indicators.

2.0 Results

2.1 Population Characteristics

According to the 2011 Population and Housing Census results, the population of Botswana has reached an unprecedented 2 million people, a majority (94.5%) of whom are Botswana nationals. Botswana's population age-sex structure has a typical expansive shape, signifying past high fertility and mortality. Figure 1 shows age specific sex ratios according to the 2011 Population and Housing Census. On average, there were 105 females for every 100 males; however this ratio varies according to age. For example for ages up to mid-forties, the sex ratio is balanced and fluctuates between 97 and 106 females for every 100 males. However, beyond the mid-forties, the age sex ratios increasingly favour females compared to males, increasing from 117 females per 100 males in the mid-fifties, to over 130 females per 100 males in the seventies and between 171 and 194 females per 100 males in the early to mid-eighties. The rapid increase in sex ratios beyond 60 years of age is indicative of selectively higher male than female mortality at these ages.

Figure 1: Age -Specific Sex Ratios, Botswana 2011



Over half (55.7%) of the population was never married, just under a fifth (18.3%) were married; a fifth (20.7%) were living together (cohabiting) with a partner, while 5.2 percent were either divorced, widowed or separated. Marriage of minors is one of the ways in which gender inequality can be entrenched. Analysis of marital status from the 2011 census shows that 2.1 percent of the population below the age of 18 years (5,400 people) was married or living together with a partner. Among those below the age of 18, less than 1 percent (0.7% or 1,644 people) were married; 1.5 percent (3,748 people) were cohabiting with a partner while 8 were widowed, divorced or separated. Thus, while early marriage is one of the ways in which females often get disadvantaged, the results show that this phenomenon is rare in Botswana. An analysis of early marriage by sex shows that there is no sex differential in the likelihood of early marriage or cohabitation between females and males. Botswana's total fertility has declined from 6.6 children per woman in 1981, to 4.2 in 1991, and further to 3.3 and 2.8 in 2001 and 2011, respectively. (Letamo & Bainame, 2013). This significant decline in fertility since 1981 is driven largely by improved access to education; improved levels of economic development and low marriage rates.

Over the years, Botswana has experienced significant levels of rural - urban migration, resulting in the growth of urban population. Part of Botswana's rapid urbanization also results from re-classification of hitherto rural villages into urban villages. The results (Table 1) show that just over a fifth (21.7%) of the population resides in cities and towns, over 4 in every ten (42.3%) reside in urban villages while just over a third (35.9%) reside in rural areas. This means that, for the first time in its history, close to two thirds of the country's population is urban. There are almost similar proportions of males (21.9%) and females (21.5%) residing in cities and towns; a slightly higher percentage of females (43.9%) than males (40.7%) residing in urban villages; and a slightly higher percentage of males (37.4%) than females (34.6%) residing in rural areas.

While the rapid urbanization of Botswana's population is result of economic growth and development, it nevertheless has the potential to increase food insecurity as more and more people opt for paid employment in urban centres and are not available for subsistence farming, as well as an increasing proportion of land being used for non-agricultural urban settlement.

2.2 Mortality and Life expectancy

Results from the 2011 census shows that the probability of dying between birth and the fifth birthday (Child Mortality) is equal for both male and female children (11 deaths per 1000). This rate is slightly higher for male children in rural; areas (13 deaths per 1000 live births) than female. Child mortality also varies by district, with district such as North East (7 deaths per 1000) Selibe Phikwe children (8 deaths per 1000) Central Boteti, Kweneng West and Francistown (9 deaths per 1000). Lobatse (22 deaths per 1000); Central Tutume (17 deaths per 1000) recorded some of the highest child mortality levels in the country. The results also show that female under five mortality was higher than male under five mortality in Ghanzi; Ngamiland East, Central Mahalapye, Kweneng East, Francistown, South East and North East. (Majelantle RG, 2013)

According to the 2011 census, life expectancy is 68 years, slightly higher for females (70 years) than males (66 years). Life expectancy is higher in cities and towns (74 years); followed by urban villages (67 years) and rural areas (65 years). The sex differential in life expectancy is quite pronounced in urban areas (72 years for females and 67 years for males) and urban villages (70 years for females and 64 years for males) while the gender gap in life expectancy is smallest in rural areas (66 years for female and 64 years for males) (Majelantle, 2013). While higher male than female mortality at advanced ages is a well understood phenomenon, as the level of economic development advances, this gap usually narrows as a result of two processes. The first could be the improvement in male survival as a result of modern advances that reduce men's likelihood of an early death from preventable causes. On the other hand, gender equality and women's empowerment may also increase the likelihood of women engaging in behaviour that increases the chance of early death, such as excessive alcohol consumption, smoking, poor diet and other high risk behaviour. It thus becomes imperative to monitor and understand factors that influence and drive sex difference in survival at advanced ages, to ensure that no population is systematically disadvantaged by preventable causes.

Selectively higher male mortality at advanced ages can also perpetuate female poverty, especially in contexts where inheritance; property ownership and access to economic resources favour men over women. In a context where the male in the household dies, a large gap in survivability implies that the widowed woman will have quite a number of years to live in a state of heightened poverty, especially if her right to inheritance or access to means of survival and economic resources is impeded by traditional customs and practices.

2.3 Access to Education

Improved access and equality in access to education has the power to facilitate gender equality and women's empowerment. Since independence, Botswana has given priority to the development and improvement of education. In 1994, Government of Botswana adopted the Revised National Policy on Education (RNPE), which, among other things, seeks to increase access and equity in education and training through both formal and non-formal means; effectively prepare students for life, citizenship and the world of work; develop a responsive and relevant training geared to the needs of the economy and improve and maintain the quality of the education system. The policy was reinforced by the Botswana Vision 2016 which calls for transformation of Botswana into an 'informed and educated' nation.

The RNPE calls provision of pre-school education by the Ministry of Education and Skills Development, and tasks the Ministry of Education with provision of an enabling environment for pre-school education through provision of policy direction curriculum development and support materials, teacher training and support, through grants to NGOs and CBOs demonstrating commitment to provision of pre-school education. This resulted in the development of the Early Childhood Care and Education Policy of 2001, which was followed by the development of an Integrated Early Childhood Care Development (IECD) Program that targets children from diverse backgrounds, including children with intellectual disabilities, hearing and visual impairment. Botswana has a highly accessible basic education system, which comprises seven years of primary and three years of junior secondary. The Gross Enrolment Rates has been more than 100% since 1994 due to increase in primary schools from 770 in 2003 to 790 in 2008. Net enrolment rates for primary school is very high ranging between 88 and 90 percent of all 6-12 years olds between 2000 and 2011 (Statistics Botswana, 2013). According to statistics from the 2010 Botswana MDG Status Report, Botswana has achieved gender parity in primary and secondary and tertiary education, where, respectively, there were 96; 108 and 100 boys for every 100 girls enrolled in primary, secondary and tertiary education (UN, 2010).

While net enrolment rates are generally high, they nevertheless suggest that close to 10 percent of the country's primary going age population are not attending school. This is an especially worrying development as enrolment figures shows that net enrolment rates have taken a slight decline during recent years. While the magnitude of the decline might be small, it is likely to hide significant variations with certain population groups

like rural and remote area dwellers. It is likely that under such conditions, women would be disproportionately negatively affected.

Education attainment

Just under half (44.4%) of the population 30 years and above had attained secondary education; 37.6 percent had primary education while close one in every ten (9.4%) had vocational and university (8.9%) education. The percentage of population with secondary education is slightly higher among females (45.6%) compared to males (43.0%); while similar proportions of males and females (37.6%) had primary education. The percentage of population with vocational / technical and university education is slightly higher among males (10.1 & 9.2%, respectively) compared to females (respectively 8.7 & 8.1%).

There is significant variation in educational attainment according to language spoken at home. Disaggregation of educational attainment by language spoken at home suggests the existence of considerable differences between ethnic and linguistic minority groups. Use of minority languages is associated with poor educational attainment at all levels (primary, secondary and tertiary) compared to those who speak Setswana and other mostly European and Asian languages. The results show further that within the ethnic and linguistic minorities, women were more likely to have lower educational attainment than males.

Nationally, 12.1 percent of the population 12 years and over have never attended school. The percentage of population 12 years and over who have never attended school is low (below 10 percent) among those who speak English, Afrikaans, Shona, Ndebele and other European and Asian languages. This percentage is around 10 percent among Setswana, Kalanga and Subiya speakers. The percentage of population 12 years and over who have never attended school is much higher among those who speak Sesarwa (44.8%); SeYei (38.0%); Hambukushu (28.1%) and SheKgalagari (21.9%)

Figure 2: Percent of Population who have never attended school by language spoken at home, by sex

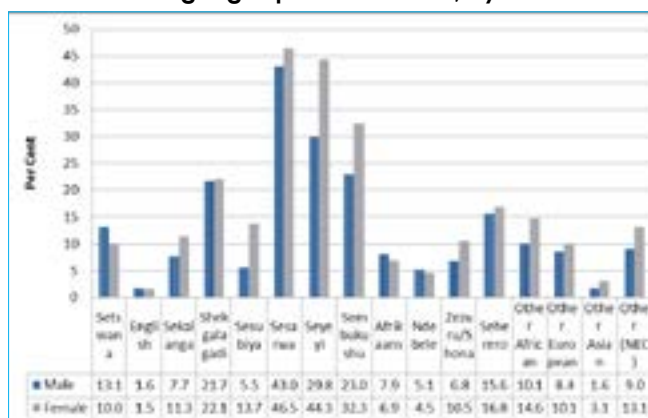
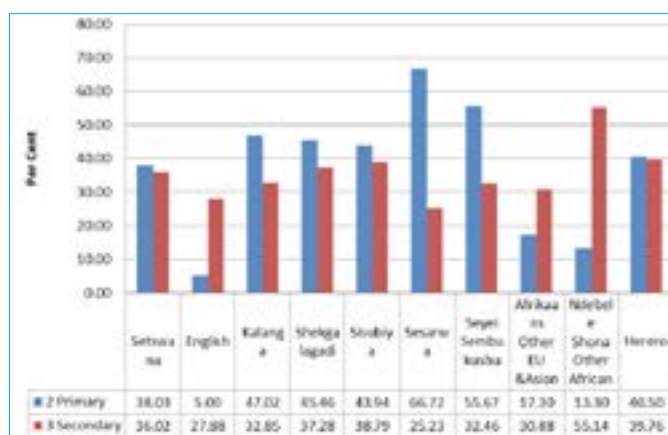


Figure 2 shows the percentage of population 12 years and over, who have never attended school, by language spoken at home, disaggregated by sex. The figure shows for virtually all linguistic groups, the percentage of population 12 years and over who have never been to school is higher among females than males. This suggests that where chances of accessing education are constrained, females are likely to be disproportionately disadvantaged by the restricted access. Similar analysis using population 30 years and over (not shown here) indicate that 21.7 percent of the population 30 years and over have never attended school; and that the sex differences in lack of basic formal education among population 30 years and over disproportionately disadvantages females over males.

Figure 3 Highest level of education attained by language spoken at home



The figure above shows the percentage of population whose highest level of education attained is primary and secondary. A higher percentage of those who speak English, Afrikaans and Ndebele / Shona had attained secondary education while those who speak most of non-Tswana languages like Yei/ Hambukushu; Kalanga, SeKgalagadi and Sesarwa languages were more likely to have attained primary than secondary education. Those who speak Setswana were almost equally likely to have attained primary or secondary education.

2.4 Economic Activity

Latest statistics suggest that women in Botswana account for 43 percent of wage employment in the non-agricultural sector (UN, 2010). Results from analysis of the 2011 census show that over a third (34%) of the population was in non-seasonal paid employment while 6.2 and 3.1 percent of the population was in seasonal paid and seasonal unpaid employment, respectively. The percentage of population non-seasonal paid employment is significantly higher among males (40.1%) compared to females (28.4%) while the percentage of males and females in seasonal paid and unpaid employment were close. Specifically, 6.8% and 5.6% males and females were seasonal paid employment while 2.8 percent of males and 3.4 percent of females were in seasonal unpaid employment. Non-seasonal employment is relatively more stable than seasonal employment. The fact that women were less likely to be in this type of employment suggests that women are at a disadvantage.

In fact, while 43.3 percent of the population had done some work for pay during the seven days leading to the census, the percentage of males who did some work for pay (51.0%) was considerably higher than that of females (36.2 %). Thus, females are not only poorly represented in the relatively more stable non-seasonal employment, but also that much of the work they do remain unrecognised and therefore not remunerated. The results show that while under a fifth (16%) of the population were home makers, females were significantly more likely to be home makers (23.7%) compared to males (8.4%). (Table 4, appendix)

Quite often, the contribution of home work to the economy of the households and indeed the national economy is seldom recognised and often either poorly measured or not measured at all. This is a major source of concern because it means that women's contribution to the household and indeed national economy is likely to go unmeasured and therefore not recognised.

3.0 Household & Housing Characteristics

This section presents results based on household characteristics, including household headship and size. (Tables 5 & 6)

3.1 Household Headship

An analysis of the economic and demographic status of female headed households in Botswana found that these households are more likely to be poorer than other households (Kossoudji S & E. Mueller (1983). In a systematic analysis of 61 studies on female headship and poverty, 38 such studies found that poverty was associated with female household headship, 15 of them found the association only in certain types of female headship while only 8 did not find any empirical evidence of an association (Buvinić M & G Gupta, 1997). According to the 2011 census, 52.5 percent of households were male headed, while the complement (47.5 percent) were female headed. A large percentage of heads of households (36.9%) were never married; over a quarter (27.2%) were married while a quarter (25.1%) living together with a partner. One out of ten (10.7%) had their marital union terminated through divorce, widowhood or separation.

The marital status of heads of households varies significantly by sex of head of household. For example, percentage of married heads of households is significantly higher among male heads (35.6%) compared to female heads (18%). Conversely, the percentage of never married heads of households is also higher among females (42.1%) compared to males (32.1%). This means that women heads of households are to shoulder a larger economic and other burden of caring for their household than would have been the case if they were married. The results also show that while just over a tenth of heads of households were divorced, widowed or separated, this proportion is almost a fifth (17.7%) among female heads of household compared to male heads (4.4%). The difference between these proportions suggest that once men lose their partners through divorce, separation or widowhood, they are more likely to remarry, and thus change their marital status to 'married' while women are less likely to re-marry and thus share the burden of household headship with a spouse. (Table 5)

3.2 Type of house

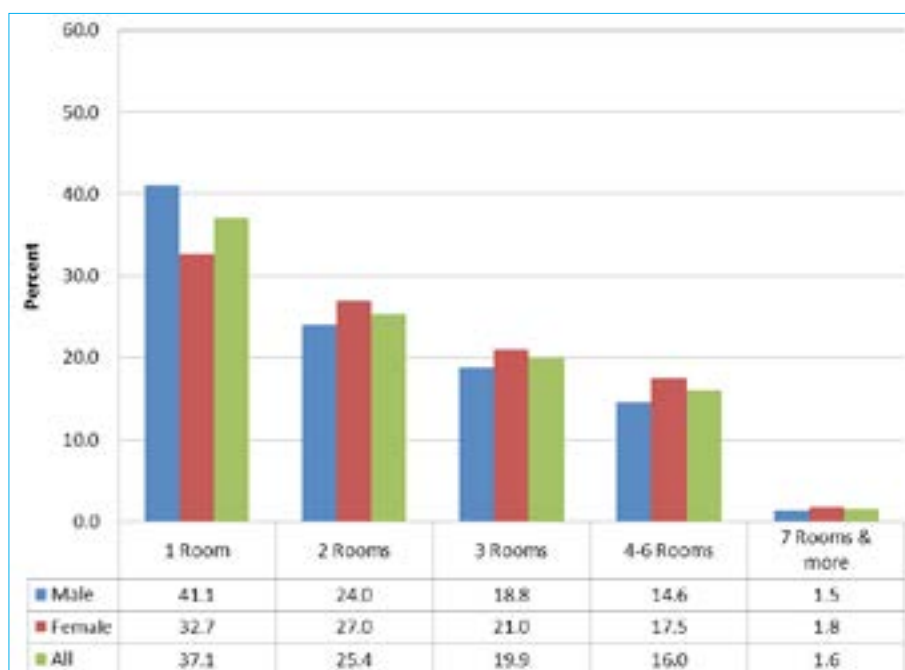
The revision of a number of laws and statutes to make them gender neutral has ensured that, at least in as far as the law is concerned; women have the same rights as men to access land and to own and inherit property. Analysis of types of housing by sex of head of households seems to suggest that female headed households are almost equally likely to live in good quality houses as their male counterparts. Results from the 2011 census show that close to half (48.0%) of households resided in housing that comprised detached and semi-detached structures; just under a quarter (23.2%) resided in traditional housing structures, some of which were mixed with modern ones, while over a fifth (22.9%) resided in flats or townhouses.

The percentage of male and female headed households who reside in detached and semidetached housing was almost similar (46.8% males & 49.4% females), suggesting that female headed households are almost as likely as male headed households to reside in relatively good quality housing. On the other hand, just over a fifth (21.4%) of male headed households and quarter (25.1%) of female headed households resided in traditional structures. The relatively over representation of female headed households residing in mud structures compared to male headed households might be an indicator of the relatively poorer state of female headed households, especially in rural areas when a large portion of houses are still constructed with mud.

Over half (56.3%) of the houses were self-built or purchased while 43.6 percent of the housing structures was rented. The percentage of purchased or self-built houses was discernibly higher among female headed households (63.1%) compared to male headed households (50.3%). The fact that a large proportion of female headed households reside in self-built or purchased houses might be indicative of the fact that women are relatively more empowered to work, earn and control their economic resources that ever before.

Figure 4 shows the number of rooms occupied by households according to the sex of head of household. The results show that 37.1 percent of households occupied one room; a quarter (25.4%) occupied two rooms; a fifth (19.9%) occupied three rooms while just under a fifth (16.0%) occupied four to six rooms. Less than two percent (1.6%) of households occupied seven or more rooms.

Figure 4: Number of Rooms Occupied by Households, by Sex of Head Household



The percentage of households occupying one room is higher among male headed households (41.1%) compared to female headed households (32.7%) while the proportion occupying two or more rooms was slightly higher among female headed households compared to male headed households. This might suggest that female headed households tend to be relatively larger than male headed households.

3.3 Type of housing structure

The type of material used to construct a house (walls, roof and floor) is reliable proxy for the quality of the house. An analysis of the types of houses in Botswana shows that eight out of every ten (81.8%) households resided in houses with walls that are made of conventional bricks (80.5% male headed; 83.2% female headed) and just under a fifth (18.2%) had resided in houses with walls made of mud or other materials. This seems to suggest

that, at least in as far as housing is concerned, female headed households were slightly more likely to reside in relatively good quality houses.

Close to two thirds of households resided in housing structures whose floors were made of cement (64.9%), while just over a fifth (22.0%) resided in housing whose floor was made of floor tiles. The percentage of households residing in housing structures whose floors are made of cement was slightly higher among female headed households (67.6%) than male headed households (62.4%); while the percentage residing in housing whose floor is made of tiles is slightly higher among male headed households than female headed (23% vs. 21.0%). Close to three quarters (73.5%) of households lived in housing structures whose roof is made of corrugated iron (72.5% male headed; 74.7% female headed).

The results show that 13.1 percent of households had orphans, and that of these, 8.1 percent of households had one orphan, while 5 percent of households had two or more orphans. The results also show that female headed households were disproportionately more likely to have orphans compared to male headed households. For example, while 8.1 percent of households had one orphan, this proportion was significantly higher among female headed households (11.8%) than male headed households (4.8%). Also, while 5 percent of households had 2 or more orphans, this percentage was 8.1 percent among female headed households compared to 2.2 percent among male headed households. The propensity of female households to have more orphans compared to male headed households is interesting because if indeed female headed households tend to be relatively poorer than other types of households, it implies that these households are bringing up orphans in relatively with relatively little economic resources compared to other households.

3.4 Source of water, Household Refuse Disposal & Sanitation

Just less than three quarters (71.1%) of households had water piped into the house or within the yard. In fact, 30.2 and 39.9 percent of households had water piped indoors and outdoors, respectively; while a fifth (20.4%) accessed water from communal standpipes or neighbours' taps. One in ten (9.5%) households accesses their water from other sources such as rivers; dams and mobile water delivery sources. (Table 6)

The percentage of households which as water piped indoors are almost similar between male and female headed households (31.2% male and 29.1% female headed), while a slightly higher percentage of female headed households (43.2%) had water piped outdoors (within the yard) compared to males (36.9%).

Close to half (44.9%) of households have their refuse collected from their homes; close to a fifth (19.0%) burn their refuse; just over one in ten (11.3%) dispose their refuse by the roadside (hopefully for onwards collection by relevant authorities), while a quarter (24.8%) dispose of their refuse using a rubbish pit. A slightly higher percentage of male headed households (46.9%) have refuse collected from their homes compared to female headed households (42.3%). A slightly higher proportion of female headed households (26.8%) dispose of their refuse using a rubbish pit compared to male headed households (23.0%).

The most common toilet facilities available to most households are own flush (25.8%); own pit latrine (23.7%) and shared pit latrine (18.2%). Fewer than fifteen percent (14.8%) of households had no toilet facilities. A slightly higher percentage of male headed households (26.6%) have a flush toilet compared to female headed households (23.7%) while a discernibly larger percentage of female headed households (28.1%) own a pit latrine compared to male headed households (19.7%). The percentage of both male and female headed households who use a shared pit latrine is almost similar (18.8% male headed vs. 17.6% female headed households).

3.5 Household sources of energy & assets

Over half (53.5%) of households use electricity for lighting while just under a third (30.2%) use paraffin and slightly over one in ten (11.1%) use candles for lighting. Almost equal proportions of male (53.6%) and female (53.3%) use electricity for lighting. This suggests that male and female headed households have almost equal access and likelihood of using electricity for lighting. The percentage of households which use paraffin for lighting is slightly higher among female headed households (32.6%) than male headed households (28.0%). The use of paraffin, instead of electricity for lighting could result because of two things: either the household resides in a remote area where electricity is inaccessible, or that the household is too poor to afford an electricity connection. , possibly suggesting that female headed households are relatively poorer

The results also show that a majority of households use wood for cooking (41.6%); followed by gas (38.2%) while fewer than a fifth (18.0%) use electricity for cooking. The percentage of households that use wood for cooking is slightly higher among female headed households (44.3%) than male headed households (39.1%) while the proportion that uses gas for cooking is marginally higher among male headed households (39.4%)

than female headed households (36.9%). A slightly higher proportion of male headed households (18.9%) use electricity for cooking compared to female headed households (16.9%).

The results show that a significant proportion of households don't have any source of energy for heating. In fact, over a third (33.6%) of households do not have a source of energy for heating; while close to half (47.7%) use wood for heating and just fewer than a fifth use electricity for heating. The percentage of households that don't have a source of energy for heating is almost similar between male and female headed households (34.3% male & 32.8% female headed households). Half (50.0%) of female headed households use wood for heating compared to 45.5% of male headed households; and a slightly higher percentage of male headed households (18.9%) use electricity for heating compared to female headed households (16.9%).

The results show that 6.3 percent of households had at least one member who owns a car or bakkie, while close to a third (32.3%) had other modes of transport, such as bicycles, motorbikes, donkey carts and boats, and six out of every ten (61.4%) households owned a refrigerator. The percentage of households who own a car or bakkie is higher among male headed households (7.8%) compared to female headed households (4.5%), while the percentage of households who own other means of transport was marginally higher among female headed households (33.5%) than male headed households (31.4%). Almost equal proportions of male (60.9%) and female headed households (62.0%) owned a refrigerator.

Ownership and use of cell phones is very common in many parts of the country. In fact, nine out of every ten households (89.7%) have at least one member who owns a cell phone (89.2% male & 90.4% female headed households). The results show that 42.5 percent of households had one member who had a working cell phone, just less than a third (30.6%) had two members who had a working cell phone; 14 and 7.1 percent had, respectively, three or four members with working cell phones, while 5.8 percent had five or more members with working cell phone.

Overall, an analysis of male and female housing conditions; access to water; energy and ownership of assets and energy suggest that over a long range, there is little difference between male and female headed households. Secondly, where such differences are discernible, they are in favour of male headed than female headed households.

3.6 Main economic activity of heads of households

In addition to household headship, the census also provided information on the economic activity of heads of households. Close to half (44.5%) of heads of households worked in non-seasonal paid employment during the year leading to the census; close to a fifth (17.2%) were students and about one in ten were either job seekers (10.4%) or home maker (11.6%). A discernibly higher percentage of male heads of households (47.9%) worked in non-seasonal paid employment during the year leading to the census compared to female heads of households (39.6%). In addition, female heads were less likely (44%) to have been working as employees paid in cash compared to their male counterparts (60%).(Table7)

Thus, as was the case with individual members of households, female heads of households are less likely to be involved in non-seasonal paid employment. This implies that, holding everything else constant, female heads of households are likely to have relatively limited economic resources to take care of their households compared to male headed households.

While the percentage of male and female job seekers were almost similar (10.3% males & 10.7% female heads of households); female heads of households were significantly more likely to be home makers (23.3%) compared to their male counterparts (13.3%).

4.0 Women Decision Making Positions

4.1 Women in the public service

Table 8 shows the number of men and women in decision making positions in the civil service (defined by salary bands D1; D2; E1; E2; F1; F2 and F0) in 2009, by ministry. The table also shows the number of females per 100 males within the respective ministries. Overall, there were 85 women for every 100 males in these positions, with certain ministries such as Finance and Development; Trade and Industry; Youth and Sports and Labour and Home Affairs registering ratios in excess of 100, indicating an excess of females than males in these positions. However, other ministries such as Works and Transport; Minerals and Energy and Communications; Science and Technology had considerably lower ratios (28; 37 and 57 females per 100 males, respectively). Most ministries had less than 5 directors, while the Ministry of Education and Ministry of Finance and Development Planning each had 25 and 10 directors, respectively. Of the 25 directors in the Ministry of Education, only

5 are women (25%), compared to 6 (60%) women directors at the Ministry of Finance and Development Planning.. The Ministry of State President has the highest number (10) of permanent secretaries, 30% of whom are women, followed by Finance and Development Planning with 5 permanent secretaries, only 1 of whom is a woman (25%). There were 29 officers at the level of permanent secretary; only 6 (21%) of whom are women. (Figures 5 & 6)

Figure 5: Number of Directors by Ministry and Sex, 2013

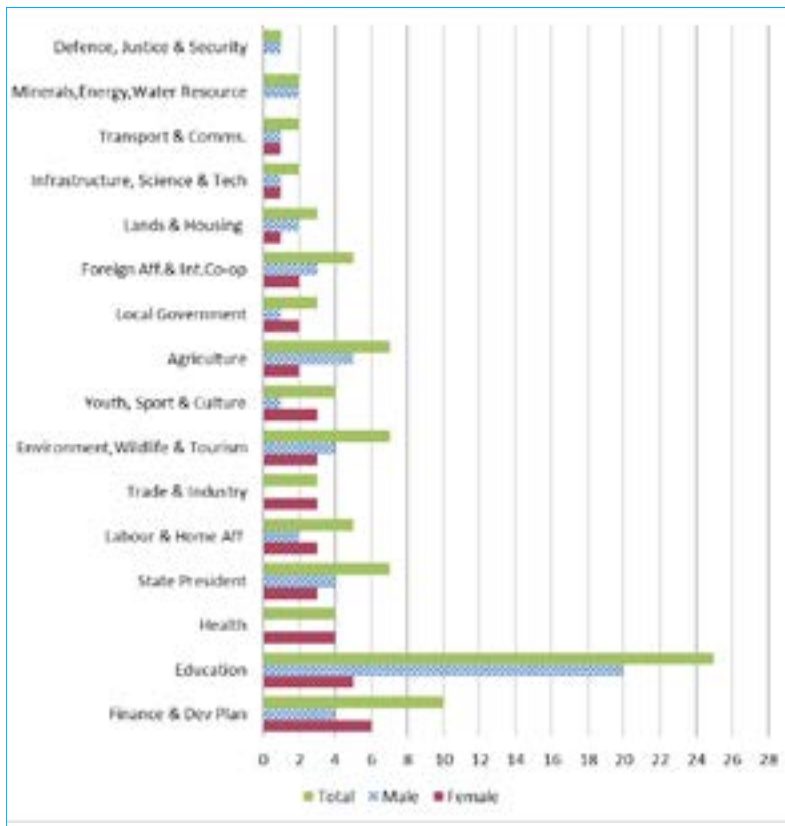
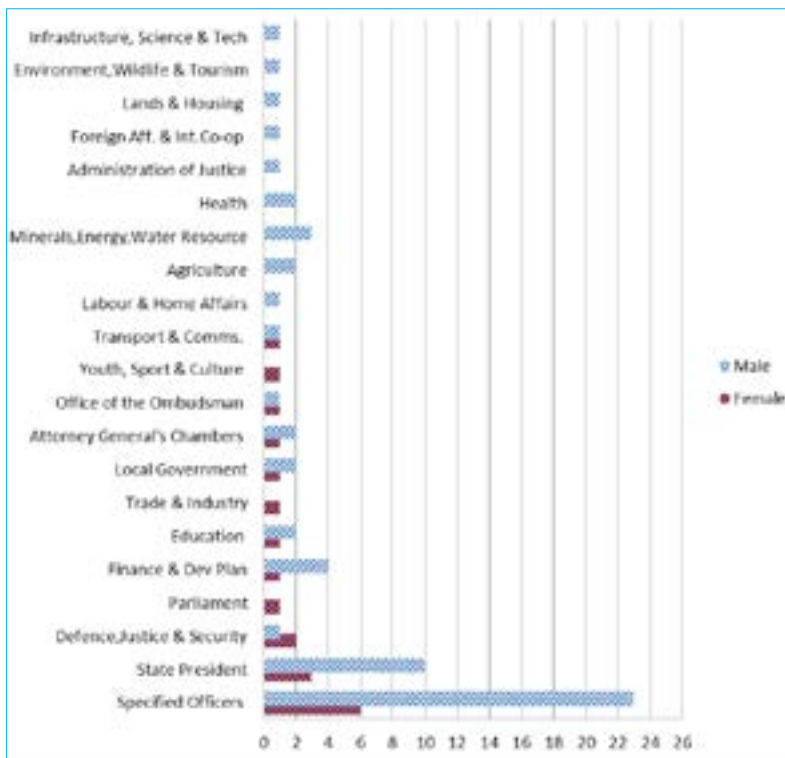


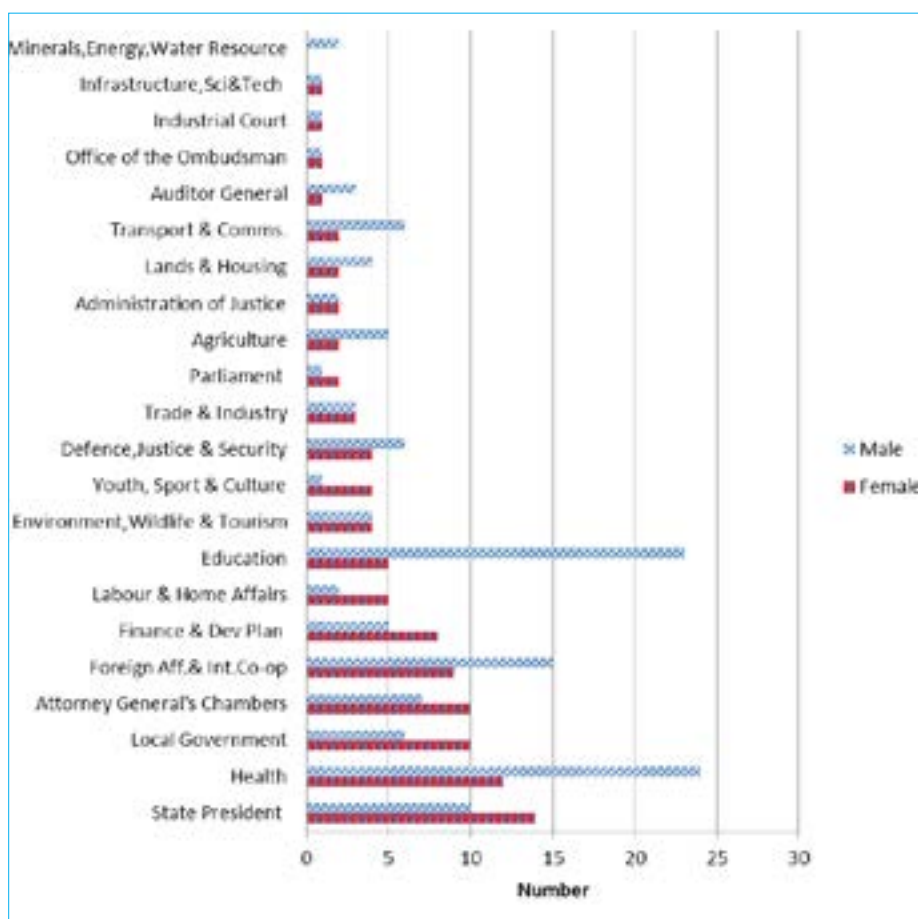
Figure 6: Number of Permanent Secretaries by Ministry and Sex



Deputy Permanent Secretaries are relatively evenly distributed by sex, with the exception of some ministries (Education, Youth and Sport) which do not have any female deputy permanent secretary, while ministries of Infrastructure, Science and Technology; Lands and Housing and the Ministry of Health do not have male Deputy Permanent Secretaries but only females.

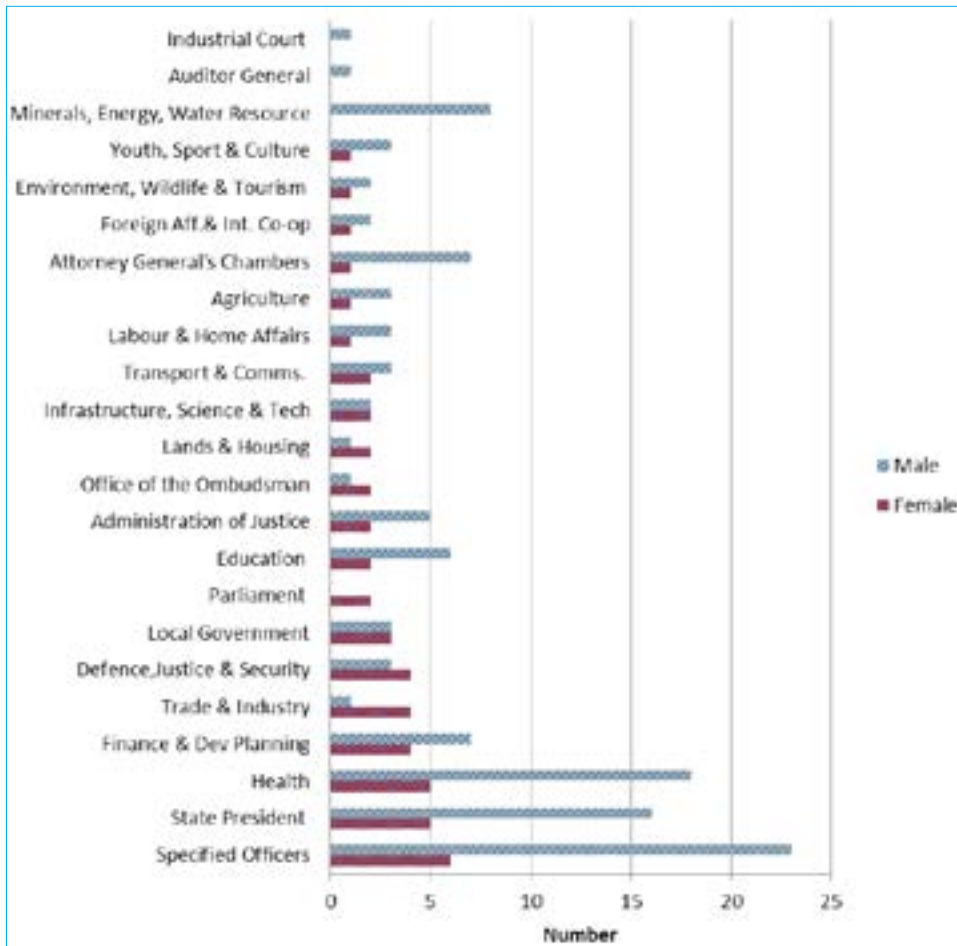
Figure 7 shows the distribution of employees who are at E1 salary band, by sex. These positions are for Directors of Government Departments including officers at Director Level though not designated Directors. Four ministries have the highest number of E1 employees, namely Health (36), State President (24), Education (28); Foreign Affairs (24). These are followed by Attorney General's Chambers (17) Ministries of Local Government (17), Finance and Development Planning (13) and Defence Justice and Security (10). Compared to other higher positions, the E1 positions show a fair distribution between men and women. In fact except in a few ministries, there are slightly more women in the E1 positions than men.

Figure 7: Number of Employees at E1 Scale by Ministry and Sex, 2013



F2 positions and higher are positions of public service employees at Deputy Permanent Secretary Level and above. Statistics show a discernible deficit of women in these positions, especially in ministries that have a considerable number of these positions such as State President; Health Trade and Industry. For example only 5 of the 21 F2 or higher positions at State President were held by women (24%); and 5 of the 23 positions at Health were held by women (22%). (Figure 8)

Figure 8: Number of Employees at F2 and above, by Ministry and Sex, 2013

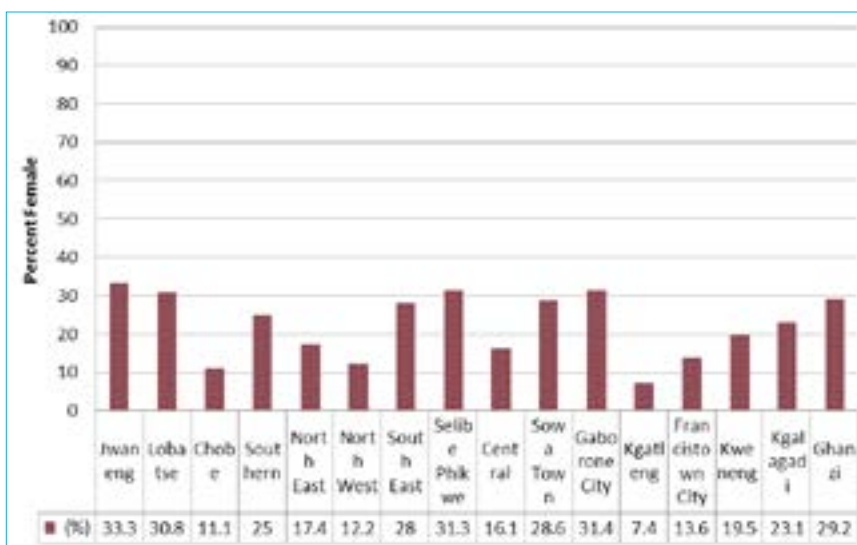


Source; WAD 201

4.2 Women in Local government

Table 9 shows the number of men and women within decision making positions in Botswana's local authorities. Overall, women accounted for 20.6% of all councillors nationally.

Figure 9: Percentage of Women Councillors by District and Sex, 2012

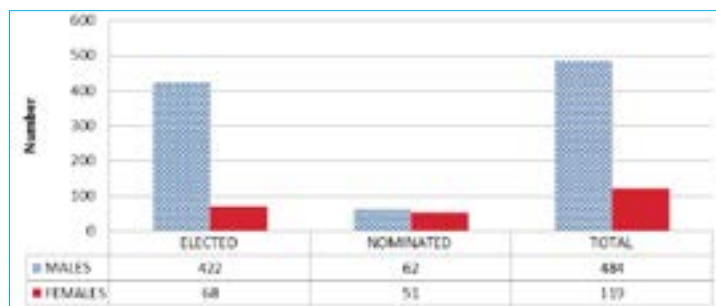


Source; WAD 201

Figure 9 shows that women accounted for 30% or slightly more of all councillors in Jwaneng, Lobatse, Selibe Phikwe and Gaborone councils; followed by Ghanzi District Council (29.2%); Sowa Town Authority (28.6%); South East District Council (28.0); Southern District Council (25.0) and Kgalagadi District Council (23.1%). Some of the districts with the lowest representation of women include Kgatleng (7.4%); Chobe (11.1%); North West (12.2%) and Francistown (13.6%).

Figure 10 shows the number of elected and nominated councillors nationally in 2012. Close to a fifth (19.7%) of all councillors in 2012 were female, including nominated councillors (119 female councillors out of 603 councillors in the country), while females accounted for only 16 percent of all elected councillors.

Figure 10: Number of Elected and Nominated Councillors by Sex, 2012

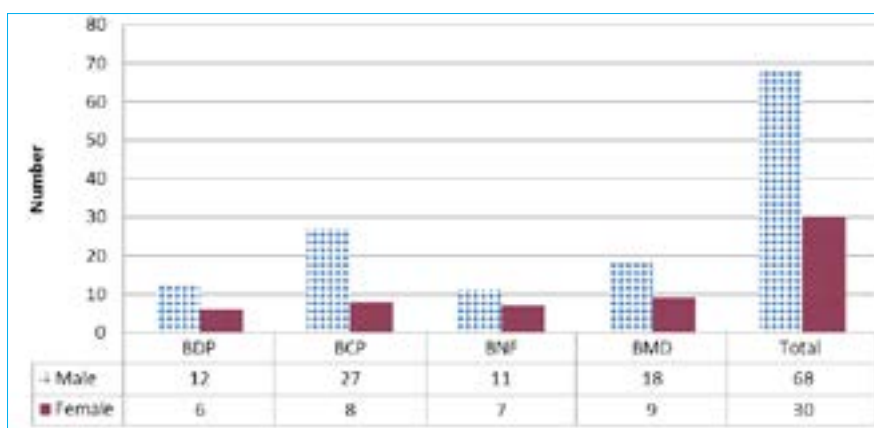


Source: WAD 2012

4.3 Women in Politics

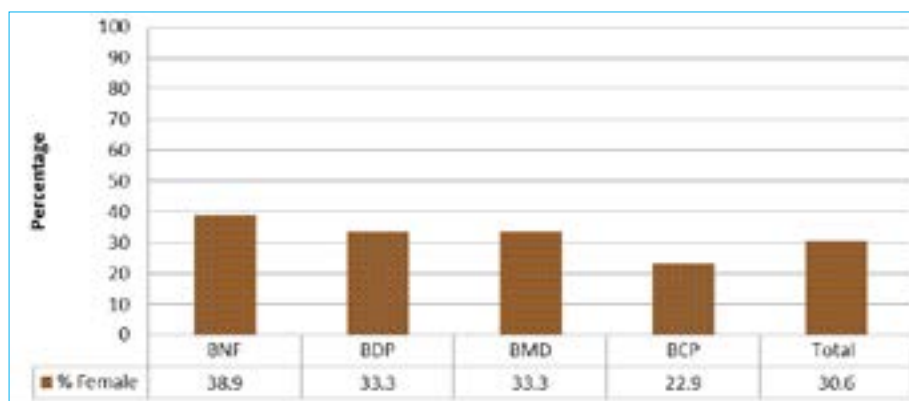
Figures 11 and 12 show the number and percentage, respectively, of women in decision making positions within four of Botswana's main political parties in 2012.

Figure 11: Number of Women in decision making positions in Political Parties, 2012



Source: WAD 2012

Figure 12: Percentage of Women in decision making positions in political parties



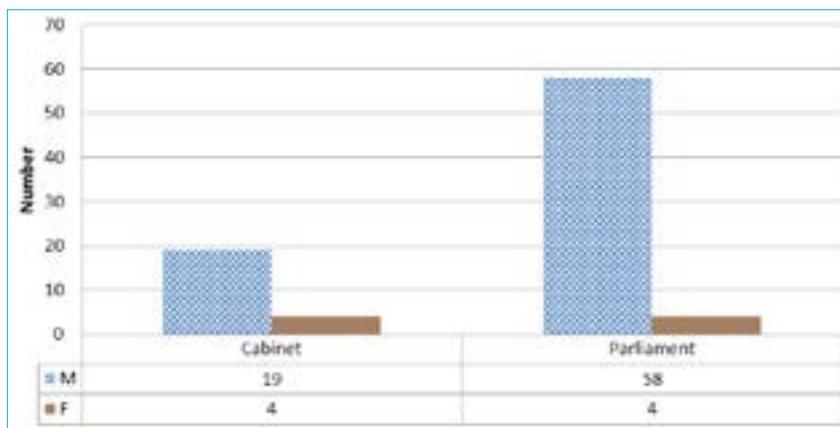
Source: WAD 2012

In 2012, women accounted for just under a third (30.6%) of all decision making positions within these four political parties, and that the political party with the highest percentage of women in decision making positions was the Botswana National Front (38.9%); followed by Botswana Democratic Party and Botswana Movement for Democracy (33% each) , and lastly the Botswana Congress Party (22.9%).

4.4 Women's Cabinet and Parliament

Figure 13 shows the number of men and women in both cabinet and parliament. Of the 23 cabinet posts, 4 (17.4%) were held by women while there were also 4 women members of parliament in the 62 member parliament (6.5%).

Figure 13: Number of Women in Cabinet and Parliament



Source: WAD 2012

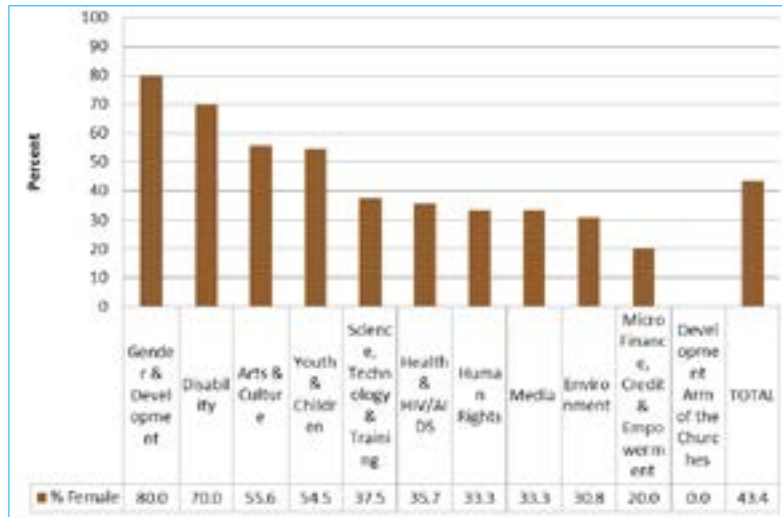
4.5 Women in the private sector

Table 10 shows the distribution of men and women in decision making positions in a number of private sector entities, broadly grouped. The table shows that women accounted for just over a fifth (21.3%) of decision making positions in the private sector in 2013, with over half of the decision making positions in Clubs (69%); Textiles at 50% and Media at 42%. Between a quarter and a third of decision making positions in Agriculture, Education; Financial Services, Education; Hotel and Tourism; Transport, Retail; Printing and Publishing; Real Estate and Health Care were held by women. Some of the sectors that have the lowest representation of women in decision making in the private sector include Information Technology (13.5%); Mining & Quarrying (13.3%); Manufacturing (12.6%); Construction (10.7%); Engineering (9.7%); Motor Trade (9.4%); Wholesaler (6.9%) and Telecommunications (0.0%).

4.6 Women in Non-governmental Organizations

Figure 14 presents the percentage of women in decision making positions within NGOs, presented in descending order. Non-Governmental Organizations have the highest percentage of women in decision making positions (43.4%) of all sectors. NGOs whose mandate and focus is on Gender and Development and Disability have the highest percentage of women in decision making positions (80 and 70 %, respectively). Other NGOs working in the areas of Arts and Culture (55.6%); Youth and Children (54.5%); Science and Technology (37.5%); HIV/AIDS (35.7%); Human Rights (33.3%) Media (33.3%) and Environment (30.8%) had discernible representation of women in decision making positions (Table 11).

Figure 14: Percentage of women on decision making positions in NGOs



Source: WAD 2012

5.0 Women in Economic Empowerment Programs

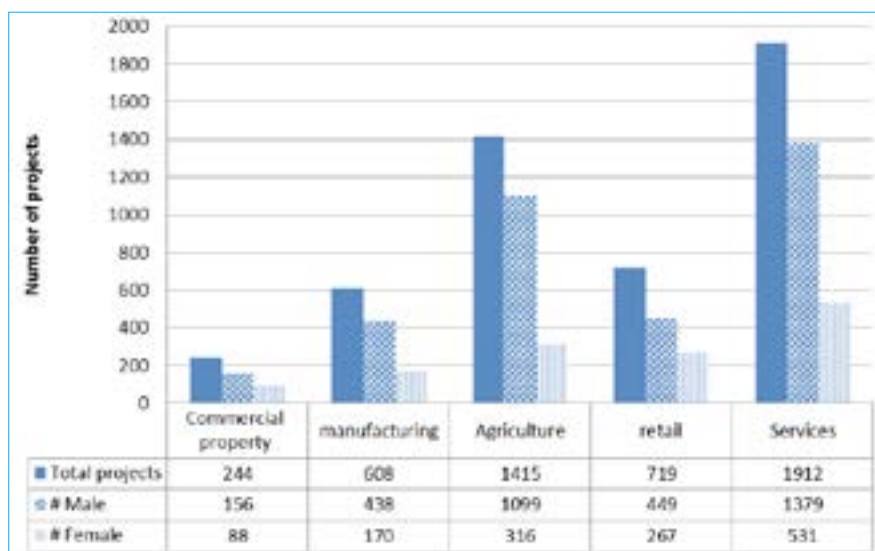
5.1 Access to the Citizen Entrepreneurial Development Agency

The Citizen Entrepreneurial Development Agency (CEDA) was established by the Government of the Republic of Botswana to provide financial and technical support for business development with a view to the promotion of viable and sustainable citizen owned business enterprises. Its establishment was a result of a recommendation by the 1999 National Conference on Citizen Economic Empowerment (NCCEE). The Agency seeks to address the need for coherent and holistic support for the development of small, medium and large scale enterprises through financial packages and funding for capital expenditure, stock or working capital in new and existing business ventures. CEDA also offers training and mentoring for new and seasoned entrepreneurs and business advisory services to entrepreneurs in various skills as identified through the needs assessment that is conducted during project monitoring.

The following section features information on the number and sex distribution of CEDA beneficiaries in 2012. Table 12 presents the number of CEDA funded projects in 2012 by type, location and sex of beneficiary. The table also shows Gender Parity Indexes (GPI) by type of project and location. The GPI measures the number of female beneficiaries per 100 male beneficiaries.

Figure 15 shows the number of beneficiaries by type of projects and sex. Services and agriculture were the most popular projects, followed by retail, manufacturing and commercial property. The chart shows that for all the types of projects funded by CEDA, there were significantly few women compared to male beneficiaries.

Figure 15: Number of CEDA funded projects by type and sex of beneficiary



The percentage of women beneficiaries was highest in retail (37.2) and commercial property (36.3%); followed by manufacturing, (28.0%) and Services (27.8) and is lowest in agriculture (22.3%). (See figure 16).

Figure 17 shows the gender parity index (GPI) of CEDA beneficiaries in 2012. The GPI is a quotient of the percentage of female to male beneficiaries, and shows the number of female beneficiaries per 100 male beneficiaries. Retail and commercial property has the highest GPIs (60 and 57 females per 100 males), followed by manufacturing and services (39 and 38 females per 100 beneficiaries, respectively).

Figure 16: Percentage of CEDA funded projects by type and sex of beneficiary

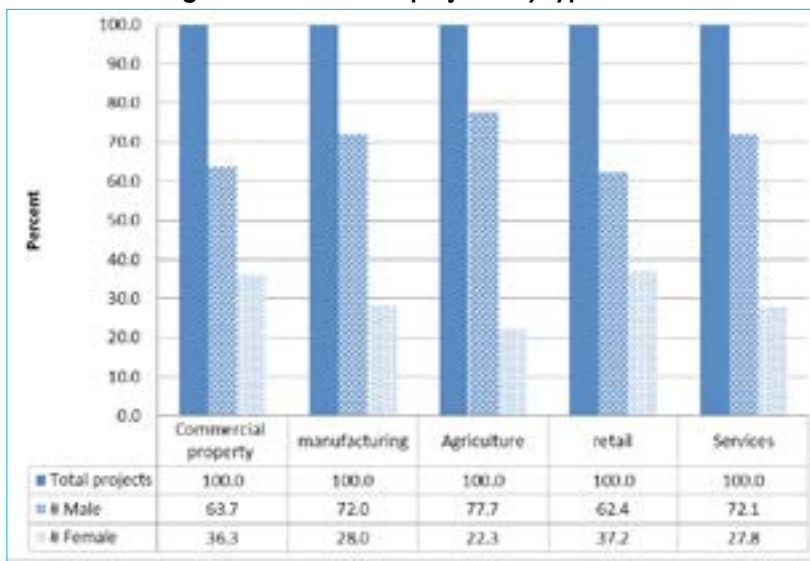
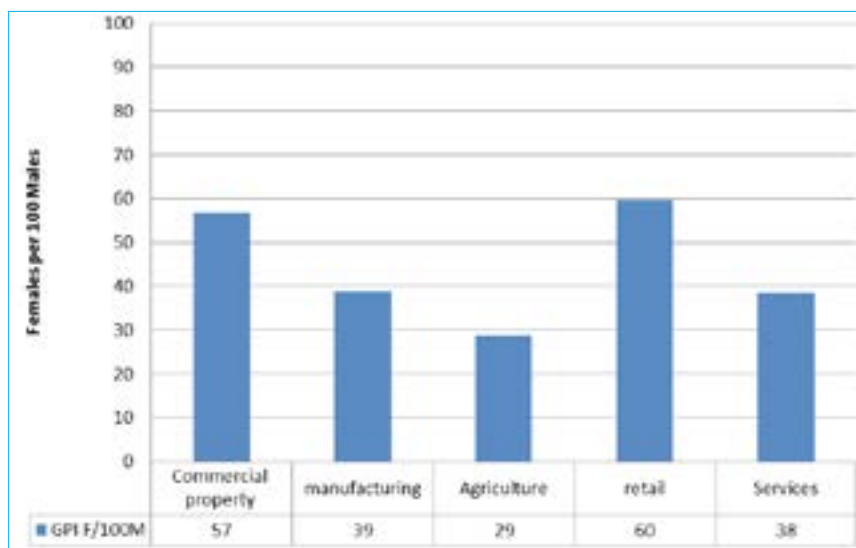


Figure 17: Number of Female CEDA beneficiaries per 100 Male beneficiaries



5.2 Access to land, housing, sanitation and energy

The following section presents brief results from an analysis of the 2011 Botswana Population and Housing Census on acquisition of land for farming, and housing according to the sex of the household head.

Figure 18: Percentage of land area held by women, by region and district

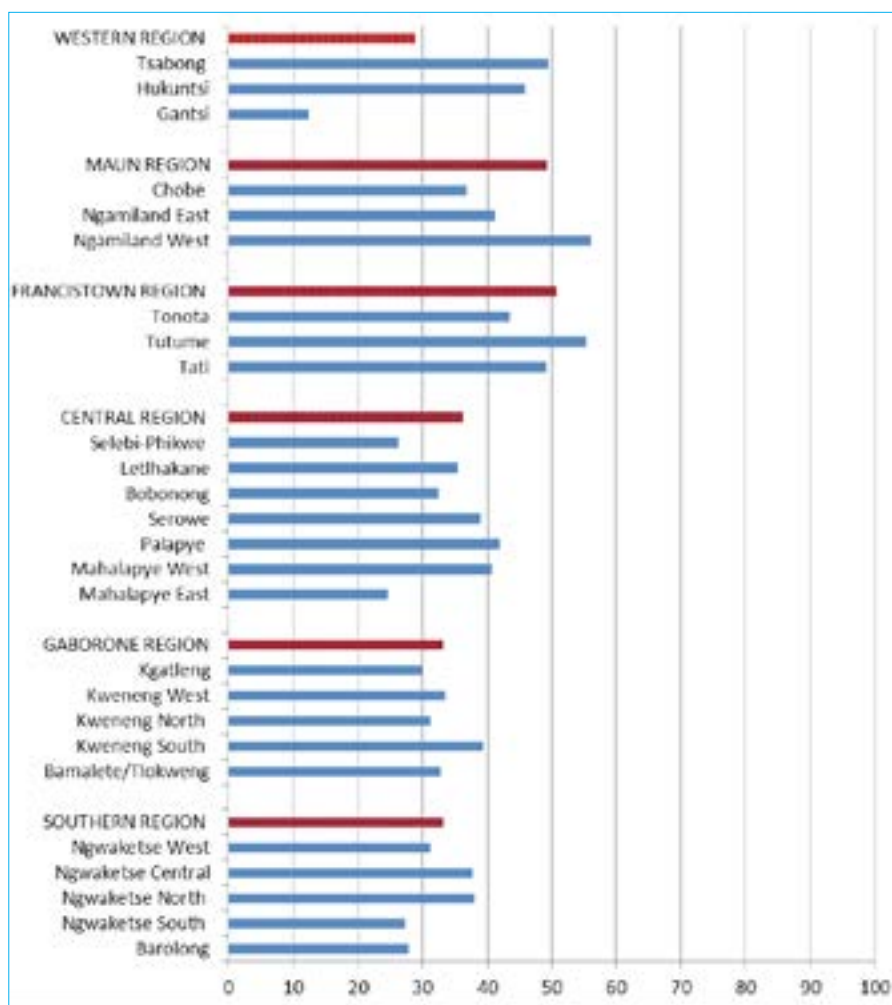
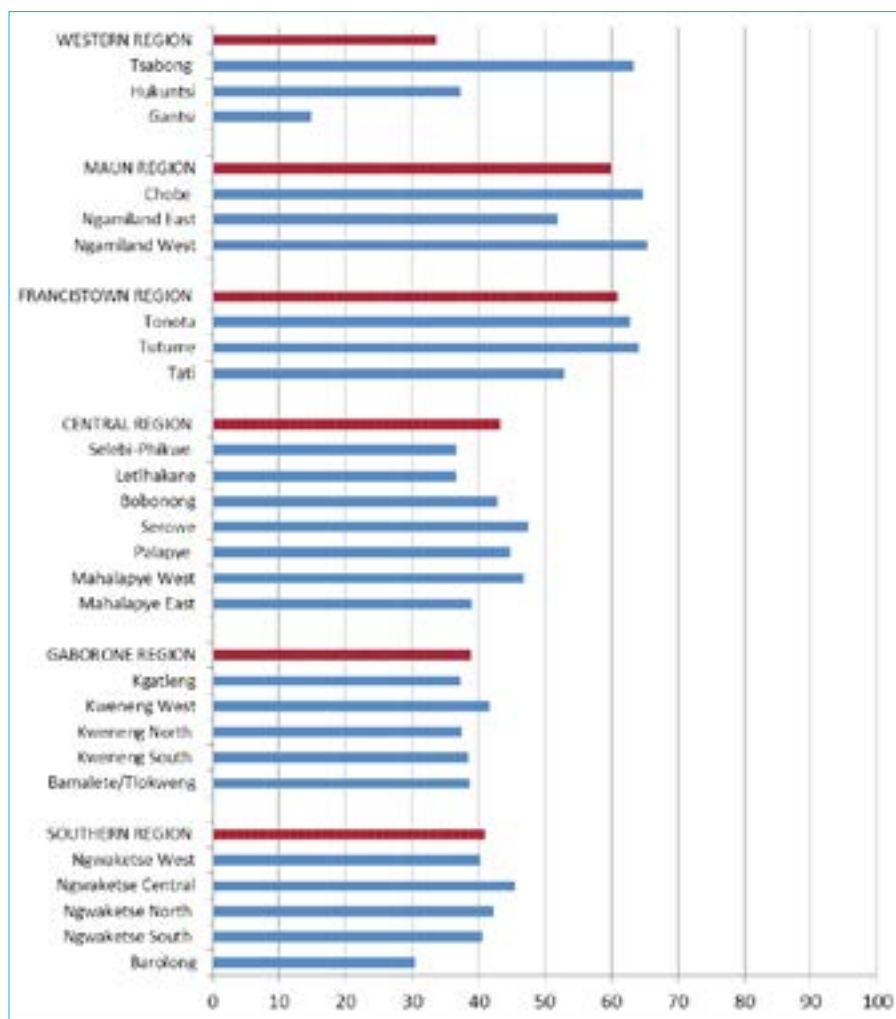


Figure 18 shows the percentage of land area held by women, by region. The figure shows that women hold about a third (30%) of the land area in most districts, with the exception of the Francistown region, where women hold over half (52%) the total land area. However, there is considerable variation land holding within each region. Women in districts such as Ngamiland West; Tutume; Tsabong and Tati hold almost half of the total land area or more, while districts such as Gantsi, Selibe Phikwe, Mahalapye East Ngwaketse South and Borolong , women own slightly over a quarter of the land area or less.

5.3 Access to land for farming

Figure 19 shows the percentage of farming land holdings owned by women. In most regions, women owned between a third and 40 percent of the farming land holdings, between, with the exception of Francistown and Maun where women own 50 percent or more of the farming land holdings. There is also considerable variation in the percentage of framing land holdings held by women with districts in some region such as Western and Maun regions. For example, while women own just over a third of farming land the Western region, this percentage is close to two thirds (63%) in Tsabong. Women also own almost two thirds of the farm holdings in Chobe; Ngamiland West, Tonota and Tutume

Figure 19: Percentage of farming land holdings owned by women, by region and district (farmers with land for ploughing)



5.4 Tenure of housing

Figure 20: Proportion of Female Headed Households by Tenure of Housing Unit, 2011

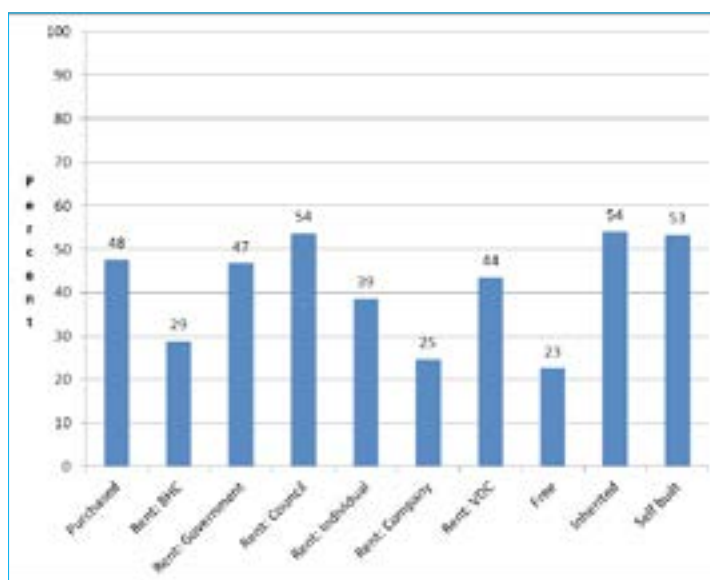


Figure 20 shows the percentage of female headed households according to type of housing tenure. The most common housing tenure were renting from council (54%) inheritance (54%) self-built (53%); purchased (48%) renting from government (47%) and renting from village development committees (44%).

6.0 Discussion

Gender equality and women's empowerment is one of the eight Millennium Development Goals (MDGs). Under this goal, gender equality and empowerment is to be facilitated through improvement in specific indicators on education, wage employment and political representation and participation. Specifically, through closing the gap between men and women in education at all levels; increasing women's share of wage employment in non-agricultural sector and increasing the proportion of seats held by women in national parliaments.

The Government of Botswana has committed itself to gender equality and the eradication of all types of discrimination against women and children, as evidenced by the number of international and regional protocol and instruments that Botswana has signed, as well as the number of legislation that have been amended to make them gender neutral. From the statistics presented in the report, there is evidence that some of these initiatives have had the expected effect. For example, while there are relative more males in decision making positions in the civil service and private sector, there are encouraging signs that women are also gaining prominence in these positions.

However, there is also evidence that gender inequalities persist in certain areas within the public and private sector, and even among national development and economic growth and empowerment programs and initiatives. For example, females are also seriously underrepresented in all the five major sectors of CEDA funding, namely commercial property, manufacturing, agriculture, retail and services. The fact that females are less likely to benefit from economic development programs such as CEDA increases their propensity to remain in poverty. Lack of data on performance of CEDA funded projects precludes analysis of the performance and sustainability of the few female CEDA beneficiaries, relative to their male counterparts. Females are also significantly less likely to own land in most districts in the country. With the exception of some regions and districts in the northern part of the country, where women hold close half of the land. Land is a very important resource in the development process, and while the contribution of agriculture to GDP has is small and declining, agriculture, especially small stock production and farming remain a mainstay of the country's rural economy. Given that females are likely to remain in rural area while men migrate to urban centres, it is important to ensure that females have access to land in order for the rural economy to be sustained. However, there are encouraging signs pointing towards near parity between men and women in terms of access to housing, ownership of residential property; access to energy, especially electricity; access to clean and safe water; sanitation and energy.

Areas such as politics; cabinet and local authorities such as district councils and traditional leadership have some of the lowest ratios of females to males, showing serious under representation of women in these bodies. It is likely that the cultural stereotype that perceives women as incapable of holding leadership positions is a likely contributory factor to the status quo. Botswana has attracted criticism for its decision not to sign and ratify the SADC Protocol on Gender and Development, and the low and fluctuating level of women's representation in political decision making is often cited as a direct result of this reluctance to ratify the protocol.

Although Botswana has committed itself to gender equality and non-discrimination, and indeed most evidence suggests that over time, there has been progress towards gender parity in many areas, the country does not have an explicit and comprehensive strategy or policy that guides stakeholders towards set goals and targets in as far as gender equality is concerned. Such a plan would provide guidance to stakeholders towards attainment of set national goals and targets, and also meaningfully engage men in efforts to attain gender equality and women's empowerment. In fact, a feature of Botswana's gender equality and empowerment programs and policies is the absence of any serious discourse on men and masculinities. (Mookodi G, Fuh D, 2004). Currently, the role of men in gender equality is at best not clear and at worst, they are perceived as adversaries to be overcome rather than partners. Traditionally, these programs have only featured from a biomedical point of view- they are featured only as partners of women, and a way to secure set desirable outcomes, usually for women and children, rather than as a clients and stakeholder in their own rights. While Botswana has experienced an emergence of men's organizations dedicated towards, among other things, gender equality, their efforts are uncoordinated and many lack clear guidance on how they can play a meaningful role in gender equality and women's empowerment. In order to fully realise the benefit of gender equality, there is need to adopt a gender discourse that also incorporates males and masculinities (Mookodi G, Fuh D, 2004). An explicit and comprehensive strategy on gender and development, that includes both genders groups would help provide guidance to stakeholders, including various civil society organizations and NGOs engaged in gender and development work, towards attainment of mutually agreed goals.

Appendix 1 Tables

Table 1: Population Background Characteristics by sex

	Male	Female	All
Citizenship			
Botswana	93.6	95.4	94.5
Foreign	6.4	4.6	5.5
Marital Status			
Married	18.8	17.9	18.3
Never married	58.1	53.5	55.7
Living Together	20.6	20.8	20.7
Union Dissolved	2.4	7.9	5.2
Ever Attended School			
Still at School	31.2	30.1	30.6
Left School	49.5	52.5	51
Never attended	19.3	17.4	18.3
Highest Level of Education			
Primary or less	37.6	37.6	37.6
Secondary	43	45.6	44.4
Technical/vocational	10.1	8.7	9.4
Tertiary /University	9.2	8.1	8.6
Place of residence			
Cities & Towns	21.9	21.5	21.7
Urban Villages	40.7	43.9	42.3
Rural Areas	37.4	34.6	35.9

Table 2: Percentage Age Distribution by Sex and Age Specific Sex Ratios

Age Group	Age Sex Distribution		Sex Ratio		
	Male	Female	total	M/100F	F/100M
0 - 4 years	12.2	11.3	11.7	102.3	97.8
5 - 9 years	11.0	10.3	10.7	101.8	98.2
10 - 14 years	10.6	9.9	10.3	101.5	98.5
15 - 19 years	10.6	10.2	10.4	99.0	101.1
20 - 24 years	9.9	10.0	9.9	94.3	106.0
25 - 29 years	10.3	10.3	10.3	94.9	105.4
30 - 34 years	8.6	8.3	8.4	98.2	101.8
35 - 39 years	6.9	6.5	6.7	102.5	97.6
40 - 44 years	4.9	4.9	4.9	96.5	103.6
45 - 49 years	3.8	4.3	4.1	85.4	117.2
50 - 54 years	3.0	3.5	3.3	81.2	123.1
55 - 59 years	2.5	2.9	2.7	82.1	121.8
60- 64 years	1.8	2.0	1.9	85.7	116.7
65 - 69 years	1.2	1.5	1.4	79.0	126.6
70 - 74 years	1.0	1.2	1.1	74.0	135.2
75 - 79 years	0.7	1.1	0.9	63.8	156.8
80 - 84 years	0.5	0.8	0.7	58.4	171.2
85+ years	0.5	0.9	0.7	51.6	194.0
Total	100.0	100.0	100.0	95.3	104.9

Table 3: Number of Women of Reproductive Ages, births and Age Specific Fertility and Total Fertility Rates, Botswana 2011

Age Group	WOMEN	BIRTHS	ASFR/1000
12 - 14 years	59867	42	1
15 - 19 years	105928	4134	39
20 - 24 years	103101	14186	138
25 - 29 years	106658	14597	137
30 - 34 years	86027	10029	117
35 - 39 years	66784	5989	90
40 - 44 years	50530	2254	45
45 - 49 years	44380	640	14
	623275	51871	
		TFR/1000	2897
		TFR/Woman	2.90

Table 4: Economic Activity by Sex, Botswana, 2011

	SEX OF RESPONDENT		
	Male	Female	All
Main economic activity since Independence Day			
Seasonal paid	6.8	5.6	6.2
Seasonal unpaid	2.8	3.4	3.1
Non-Seasonal-paid	40.1	28.4	34.0
Non Seasonal_unpaid	4.0	2.2	3.1
Job Seeker	11.1	11.2	11.2
Home Maker	8.4	23.7	16.3
Student	22.2	21.3	21.7
Retired	1.8	1.2	1.4
Sick	2.1	2.9	2.5
Prisoners	0.5	0.0	0.3
Other	0.2	0.1	0.2
Did any work for pay?			
Yes	51.0	36.2	43.3
No	49.0	63.8	56.7
If Not working, what did Do?			
Actively seeking	22.5	16.6	19.1
Home Work	23.9	44	35.6
Student	43.9	32.2	37.1
Retired	3.1	1.6	2.2
Sick	5.1	5.3	5.2
Other	1.5	0.3	0.8
Working as in past 7 days?			
Employee- paid I cash	80	81.9	80.8
Employee- pain in-kind	0.5	0.5	0.5
Self Employed (No employees)	6.7	9.4	7.9
Self-employed (employees)	4.0	2.2	3.2
Unpaid family helper	0.6	0.7	0.7
Cattle post/Lands	8.0	5.2	6.8
Other	0.2	0.1	0.1

Table 5: Household Characteristics by sex of Head of Household, Botswana 2011

SEX OF HEAD OF HOUSEHOLD			
	Male	Female	All
Marital Status			
Married	35.6	18.0	27.2
Never married	32.1	42.1	36.9
Living Together	27.9	22.2	25.1
Union Dissolved	4.4	17.7	10.7
Size of Household			
Three or less	66.5	52.4	59.8
4 or more	33.5	47.6	40.2
Type of House			
Traditional /mixed	21.4	25.1	23.2
Detached; Semi-detached	46.8	49.4	48
Flats/Townhouses	4.0	3.1	3.6
Rooms	24.1	21.5	22.9
Shacks 7 Movable	3.7	0.9	2.4
Housing Tenure			
Self-built / purchased	50.3	63.1	56.4
Rented	49.7	36.9	43.6
Number of Rooms			
1 Room	41.1	32.7	37.1
2 Rooms	24.0	27.0	25.4
3 Rooms	18.8	21.0	19.9
4-6 Rooms	14.6	17.5	16.0
7 Rooms & more	1.5	1.8	1.6
Material of construction of WALLS			
Conventional bricks	80.5	83.2	81.8
Mud & Other	19.5	16.8	18.2
Material of construction of FLOOR			
Cement	62.4	67.6	64.9
Floor Tiles	23.0	21.0	22.0
Mud &Other	14.6	11.4	13.1
Material of construction of ROOF			
Thatch / Straw	11.1	11.2	11.1
Roof tiles	13.4	12.4	12.9
Corrugated Iron	72.5	74.7	73.5
Asbestos &Other	3.0	1.7	2.4
Number of Orphans			
0 Orphans	93	80.1	86.9
1 Orphan	4.8	11.8	8.1
2 or more orphans	2.2	8.1	5.0

Table 6: Household Access to Water, energy, sanitation and Assets by Sex of Head of Household, Botswana 2011

SEX OF HEAD OF HOUSEHOLD			
	Male	Female	All
Source of Water Supply			
Piped – indoors	31.2	29.1	30.2
Piped – outdoors	36.9	43.2	39.9
Communal /neighbours	18.5	22.6	20.4
Other	13.4	5.1	9.5
Household Refuse Disposal			
Collected from home	46.9	42.7	44.9
Burning	20.1	17.9	19.0
Roadside collection	10.1	12.5	11.3
Rubbish Pit	23.0	26.8	24.8
Household Toilet facilities			
Own-flush	26.6	23.7	25.2
Own – VIP	1.6	2.1	1.8
Own Pit	19.7	28.1	23.7
Own –Dry compost	0.3	0.2	0.3
Shared-flush	9.0	8.2	8.6
Shared-VIP	1.5	1.4	1.4
Shared –pit	18.8	17.6	18.2
Shared- Compost	0.1	0.1	0.1
Communal/shared	5.0	6.6	5.9
None	17.4	12.0	14.8
Source of energy: LIGHTING			
Electricity	53.6	53.3	53.5
Paraffin	28.0	32.6	30.2
Candles	11.7	10.4	11.1
Wood/Gas / other	6.7	3.8	5.3
Source of energy: COOKING			
Electricity	18.9	16.9	18.0
Gas	39.4	36.9	38.2
Wood	39.1	44.3	41.6
Other	2.6	1.9	2.2
Source of energy: HEATING			
Electricity	18.1	15.3	16.8
Wood	45.5	50.0	47.7
Other	2.1	1.9	1.9
None	34.3	32.8	33.6
Ownership of ASSETS			
Car /Bakkie	7.8	4.5	6.3
Donkey cart / other	31.4	33.5	32.3
Refrigerator	60.9	62	61.4
Member of HH owns a working CELL PHONE			
Yes	89.2	90.4	89.7
No	10.8	9.6	10.3
Number of HH members who own a working CELL PHONE			
1 member	42.4	42.6	42.5
2 members	31.6	29.5	30.6
3 members	13.4	14.8	14.1
4 members	6.9	7.2	7.1
5+ members	5.7	5.9	5.8

**Table 7 Economic Activity of Heads of Households,
Botswana 2011**

SEX OF HEAD OF HOUSEHOLD			
	Male	Female	All
Main economic activity since Independence Day			
Seasonal paid	6.9	5.7	6.4
Seasonal unpaid	2.5	2.4	2.4
Non-Seasonal-paid	47.9	39.6	44.5
Non Seasonal_unpaid	4.9	2.4	3.9
Job Seeker	10.3	10.7	10.4
Home Maker	11.2	12.3	11.6
Student	13.3	23	17.2
Retired	1.3	1.1	1.2
Sick	1.6	2.8	2.1
Did any work for pay?			
Yes			
No			
If Not working, what did Do?			
Actively seeking	5.0	5.4	5.2
Home Work	5.7	24	14.3
Student	2.3	2.6	2.5
Retired	2.6	1.5	2.1
Sick	2.2	4.0	3.1
Working as in past 7 days?			
Employee- paid I cash	59.9	44	52.4
Employee- pain in-kind	0.3	0.3	0.3
Self Employed (No employees)	5.1	5.2	5.1
Self-employed (employees)	3.6	0.9	2.3
Unpaid family helper	0.3	0.3	0.3
Cattle post/Lands	6.7	3.2	5.0
Other			

Table 8: Females in decision making positions in the civil service & Gender Ratios, 2009

Ministry	Female	Male	Total	% Women	Gender Ratio Females per 100 males	Gender GAP
Agriculture	66	113	179	36.9	58	-26.3
Education	80	108	188	42.6	74	-14.9
State President	79	90	169	46.7	88	-6.5
Fin&Devt Planning	156	87	243	64.2	179	28.4
Trade & Industry	44	27	71	62.0	163	23.9
Local Government	74	79	153	48.4	94	-3.3
Works & Transport	19	67	86	22.1	28	-55.8
Minerals & Energy	21	57	78	26.9	37	-46.2
Health	182	213	395	46.1	85	-7.8
Foreign Affairs	33	42	75	44.0	79	-12
Lands & Housing	33	34	67	49.3	97	-1.5
Comm, Scie& Tech	38	67	105	36.2	57	-27.6
Env, W/life&Tourism	41	62	103	39.8	66	-20.4
Youth, Sports & Culture	25	13	38	65.8	192	31.6
Labour & Home Affairs	36	29	65	55.4	124	10.8
	927	1088	2015	46.0	85	-8

Source: MLHA, 2009

Table 9: Number of Councillors, mayors and deputy mayors by district and sex, 2012

DISTRICT	Mayor/ Chairperson		Deputy mayor / Chairperson		Councillors		% Female
	Male	Female	Male	Female	Male	Female	(%)
Jwaneng Town Council	1	0	1	0	6	3	33.3
Lobatse Town Council	0	1	0	1	7	6	30.8
Chobe District Council	1	0	1	0	8		11.1
Southern District Council	1	0	1	0	48	16	25.0
North East District	1	0	0	1	18	5	17.4
North West District	1	0	1	0	43	6	12.2
South East District	1	0	1	0	18	7	28.0
Selibe Phikwe Town Council	1	0	1	0	11	5	31.3
Central District Council	1	0	1	0	146	28	16.1
Sowa Town Authority	1	0	1	0	5	2	28.6
Gaborone City Council	1	0	0	1	24	11	31.4
Kgatleng District Council	1	0	1	0	25	2	7.4
Francistown City Council	1	0	0	1	19	3	13.6
Kweneng District Council	1	0	1	0	66	16	19.5
Kgalagadi District Council	1	0	1	0	20	6	23.1
Ghanzi District Council	1	0	0	1	17	7	29.2
TOTAL	15	1	-6.30%	11	482	125	607.0
GRAND % Female				5	-31.30%		-20.60%

Table 10: Number of men and women in decision making positions in selected private sector entities by sex, 2012

SECTOR	FEMALES	MALES	% Female
Associate clubs	9	4	69.2
Textiles	1	1	50.0
Media	9	12	42.9
Agriculture	9	18	33.3
Education	9	19	32.1
Financial Services	15	35	30.0
Hotel & Tourism	10	26	27.8
Transport	8	21	27.6
Retail	26	74	26.0
Printing & Publishing	5	15	25.0
Real Estate	4	12	25.0
Health Care	8	25	24.2
Professional Services	35	111	24.0
Petroleum & Products	3	12	20.0
Security	2	11	15.4
Information Technology	5	32	13.5
Mining & Quarrying	4	26	13.3
Manufacturing	12	83	12.6
Construction	6	50	10.7
Engineering	6	56	9.7
Motor Trade	3	29	9.4
Wholesaler	2	27	6.9
Telecommunications	0	2	0.0
Cleaning Services	0	6	0.0
TOTAL	191	707	21.3

Table 11: Number of men and women in decision making positions in Non-governmental Organizations

SECTOR	FEMALES	MALES	% Female
Gender & Development	4	1	80.0
Disability	7	3	70.0
Arts & Culture	5	4	55.6
Youth & Children	12	10	54.5
Science, Technology & Training	6	10	37.5
Health & HIV/AIDS	5	9	35.7
Human Rights	1	2	33.3
Media	1	2	33.3
Environment	4	9	30.8
Micro Finance, Credit & Empowerment	1	4	20.0
Development Arm of the Churches	0	6	0.0
TOTAL	46	60	43.4

Source WAD 2012

Table 12: CEDA funded projects by district, type and sex of beneficiary

Branch		Total projects	Percentage male	Percentage Female	Gender Parity Index, (F/100 M)
Gaborone Industrial	Commercial property	93	60.78	39.22	64.5
	manufacturing	150	79.8	20.2	25.3
	Agriculture	70	71.43	28.57	40
	retail	139	67.03	30.77	45.9
	Services	721	73.58	26.42	35.9
Francistown	Commercial property	23	71.43	28.57	40
	manufacturing	89	76	24	31.6
	Agriculture	131	69.44	30.56	44
	retail	78	57.69	42.31	73.3
	Services	251	72.73	27.27	37.5
Maun	Commercial property	29	66.67	33.33	50
	manufacturing	31	50	50	100
	Agriculture	90	73.02	26.98	36.9
	retail	59	62.79	37.21	59.3
	Services	163	67.47	32.53	48.2
Kanye	Commercial property	13	40	60	150
	manufacturing	66	69.7	30.3	43.5
	Agriculture	212	81.88	18.12	22.1
	retail	45	70.83	29.17	41.2
	Services	157	72.29	27.71	38.3
Serowe	Commercial property	5	75	25	33.3
	manufacturing	34	81.48	18.52	22.7
	Agriculture	76	83.05	16.95	20.4
	retail	26	77.78	22.22	28.6
	Services	62	71.43	28.57	40
Selibe-Phikwe	Commercial property	12	100	0	0
	manufacturing	46	53.85	46.15	85.7
	Agriculture	72	67.35	32.65	48.5
	retail	76	61.29	38.71	63.2
	Services	68	71.79	28.21	39.3
Tsabong	Commercial property	2	100	100	100
	manufacturing	10	60	40	66.7
	Agriculture	25	65	35	53.8
	retail	14	91.67	8.33	9.1
	Services	32	56.52	43.48	76.9

Table 12: CEDA funded projects by district, type and sex of beneficiary cont...

Branch		Total projects	Percentage male	Percentage Female	Gender Parity Index, (F/100 M)
Mahalapye	Commercial property	1	100	0	0
	manufacturing	16	80	20	25
	Agriculture	47	87.5	12.5	14.3
	retail	26	57.89	42.11	72.7
	Services	35	66.67	33.33	50
Mochudi	Commercial property	1	0	0	
	manufacturing	14	50	50	100
	Agriculture	38	63.64	36.36	57.1
	retail	61	58.33	41.67	71.4
	Services	20	76.92	23.08	30
Molepolole	Commercial property	19	60	40	66.7
	manufacturing	54	73.33	26.67	36.4
	Agriculture	303	78.69	21.31	27.1
	retail	73	51.11	48.89	95.7
	Services	117	72.22	25.93	35.9
Gantsi	Commercial property	1	0	0	
	manufacturing	3	50	50	100
	Agriculture	94	90.14	9.86	10.9
	retail	10	75	25	33.3
	Services	30	69.23	30.77	44.4
Letlhakane	Commercial property	9	80	20	25
	manufacturing	8	80	20	25
	Agriculture	41	86.21	13.79	16
	retail	20	80	20	25
	Services	66	68.57	31.43	45.8
Gaborone Broadhurst	Commercial property	20	50	50	100
	manufacturing	57	76.92	23.08	30
	Agriculture	93	59.62	40.38	67.7
	retail	49	52.63	47.37	90
	Services	123	73.15	26.85	36.7
Palapye	Commercial property	16	66.67	33.33	50
	manufacturing	30	63.64	36.36	57.1
	Agriculture	123	90.59	9.41	10.4
	retail	43	57.14	42.86	75
	Services	67	77.78	22.22	28.6

8.0 Reference

- Dow U and Kidd P. (1994). Women, Marriage and Inheritance. *Women and Law in Southern Africa* .
- Kalabamu F.T. (2001). Housing Delivery Systems in Botswana: The Inadequacy of Gender Neutral Policies. In R. A.T.(Ed), *African Women and Children: Crises and Response* (p. 205224). Praegar: Westport.
- Kalabamu F.T. (2004). Intergenerational Gender Perspectives on Property Inheritance in Botswana.
- Larson A. (1999). Gender System and gender contract: the case of Botswana. In M. D. Goodman S, *Feminist Intervention in Discourses on Gender and Development*. Lund: Lund University.
- Letamo G, Bainame K. (2013). Fertility Leves and Trends in Botswana. *2011 Botswana Population and Housing Census Dissemination* (p. 14). Gaborone: Statistics Botswana.
- M Buvinić and G Rao Gupta. (1997, January). Female-Headed Households and Female-Maintained Families: Are They Worth Targeting to Reduce Poverty in Developing Countries? *Gupta, Geeta Rao Vol. 45, No. 2* , pp. 259-280.
- Majelantle RG. (2013). Infant and Child Mortality Levels and Trends in Botswana. *Botswana 2011 Population and Housing Census Dissemination Workshop*. Gaborone: Statistics Botswana.
- Mookodi G, Fuh D. (2004, Vol 18 Issue 1). Finding the 'missing' male in gender discourses in Botswana. *Pula: Botswana Journal of African Studies Studies* , pp. 31-42.
- Morna C.L., Nyakujarah L.J. (2010). *SADC Gender Protocol 2010 BAROMETER*. Johannesburg: UKAiD, Friedrich Ebert Stiftung.
- S. Kossoudji & Mueller E,. (Vol. 31, No. 4, Jul., 1983). The Economic and Demographic Status of Female Headed Households . *Economic Development and Cultural Change* , 831-859.
- Scahaperi I. (1994). *A Handbook of Tswana Law and custom*. Gaborone & London: Botswana Society.
- Statistics Botswana. (2013). *Education Statistics Drawn from 2009/10 Botswana Core Welfare Indicators Suevey*. Gaborone: Statistics Botswana.
- UN. (2010). *Botswana: Millenium Development Goals Status Report 2010*. Gaborone: United Nations.
- Women's Affairs Department (Now Gender Affairs Department) (2012) *Draft Gender Baseline*, Gaborone, Botswana

GENDER DIMENSIONS OF THE 2011 POPULATION AND HOUSING CENSUS

By Shepherd Kereng Monyeki
Gender Affairs Department
Ministry of Labour and Home Affairs

Abstract: This paper presents the analysis and report on the gender dimensions of the 2011 Population and Housing Census (PHC) giving a specific focus on population growth dynamics, demographic dimensions, and marital status of the population, education, and trends of household headship, economic activity of heads of households and households' access to energy among others. It also compares some indicators of the 2001 PHC to those of 2011 and lastly, provides recommendations. The paper establishes that parity between male and female populations is almost reached. Also, parity between male and female headed households is almost reached and that child marriage in Botswana is high accounting for 0.7% of the population aged 12 up to 17 years.

1. Introduction

Gender inequalities have been an issue of concern over time and space. The reason being that whatever prevailing trends in development, gender implications of the development process are neglected (Hunt et al 2004). Not only do gender implications are neglected in the development process, but also in the legal environment. Selolwane in Edge and Lekorwe (1998) highlights that "In 1992 a Motswana woman successfully challenged the 1982 Citizenship Amendment Act which had denied women the right to pass their nationality onto their children if they were married to non-citizens". This is one of the examples of how omission of gender implications of whatever social, economic, political and cultural processes can limit social justice and cohesion. Haralambos and Holborne (2000:136) note that "Feminist sociologists have been mainly responsible for developing theories of gender inequality, yet there is little agreement about the causes of this inequality, nor about what actions should be taken to reduce or end it". However, discrimination, whether direct or indirect, and whether intended or unintended is one of the collectively identified causes of gender inequality, and that women, than men are found to be marginalised in different aspect of life. Having identified the common causes of gender inequality, different players have come up with common minimum action plans to reduce or end gender inequality. As such gender equality has gained attention across all spectrums of life, especially in this century.

A collective of countries converged and keep on converging in different places, times and forums to dialogue on gender equality with a particular emphasis on the empowerment of women. As such a plethora of international and national instruments including national constitutions have since been developed to pay attention to the challenges of gender inequality and discrimination as development challenges, especially discrimination against women. Also, implementation monitoring mechanisms including periodic reports are produced on different instruments. Some instruments developed to condemn discrimination and accelerate gender equality include the United Nations Human Rights Declaration, United Nations Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), International Labour Organisation Conventions, Beijing Platform for Action, Commonwealth Plan of Action, Southern African Development Committee (SADC) Declaration on Gender and Development, and others. Nationally Botswana has national policies, legislations, Vision 2016, National Development Plan (NDP10) and other development frameworks. These instruments explicitly or implicitly, and partly or wholly spell Botswana's commitment to the eradication of gender based discrimination an accelerate efforts to reach gender equality.

As the supreme law of the land, the Botswana Constitution has, although not absolutely, barred discrimination. In section 3 the Constitution states "Whereas every person in Botswana is entitled to the fundamental rights and freedoms of the individual, that is to say, the right, whatever his race, place of origin, political opinion, colour, creed or sex, but subject to respect for the rights and freedoms of others and for the public interest..." However the CEDAW Committee has expressed dissatisfaction that the Botswana constitution, and no piece of legislation, defines discrimination along the definition as provided by the Convention. In her efforts to eliminate discriminatory provisions of the law, Botswana has amended a number of legislations that discriminated against women, and enacted new ones. For example the Mines and Quarries Act was amended to allow women to work under ground in mines. Before women were not allowed to work under ground in mines. Also, the Penal Code was amended to make the offence of rape gender neutral. Before it was only men who could be charged with an offence of rape. The Abolition of Marital Power Act and the Domestic Violence Act were enacted to empower women on matters of legal and administrative status, and

protection against violence respectively. The constitutionality of the non-discrimination principle forbids that any piece of legislation which accords different treatment of men and women can be enacted.

In terms of policy frameworks, the national aspirations "Vision 2016", Rural Development Policy, Revised Population Policy, Revised National Youth Policy, National Culture Policy, Women and Development Policy, National Gender Programme Framework, Draft Gender and Development Policy, are some of the policy instruments recognizing gender consciousness as a key element of and in development process. The Vision 2016 Document for example states that "no citizen of Botswana will be discriminated against on the basis of gender, among others". The existence, implementation and monitoring of these instruments underpins the seriousness of Botswana to uproot gender inequality and discrimination, and to establish some form of equality in terms of access to and control of productive resources, and equality in social, economic, cultural and political life. However, equality deficits are observed in some areas. For example, whereas the representation of women in decision making positions is low, there are no deliberate efforts to increase their representation, especially in political governance (Gender Affairs Department 2013). Women's representation in trade union, non-governmental organisations, public service, parastatals and private sector is much better than in politics, and Botswana is the lowest in the SADC region on this accounts.

In order to monitor and evaluate gender equality in terms of access to and control of socio-economic and political opportunities as well as cultural life, strong monitoring institutional mechanisms should be in place. Statistics Botswana is one of the institutions that bear the mandated to provide gender disaggregated national statistics (Statistics Act 2010). Also, Gender Affairs Department exist as national gender machinery, coordinating the national gender programme including monitoring. Also, different scholars and organisations provide some form of monitoring of the implementation of the gender programme. This paper adds to the efforts to monitor gender programme and the extent of gender equality and inequality.

1.1 Objectives

This paper analyses the gender dimensions of the 2011 population and housing census. For this analysis population growth and distribution, marital status, education, heads of households' economic activities and access to energy are investigated. Specifically the objectives of this paper include;

- a. To analyse Botswana population growth patterns by gender.
- b. To analyse demographic backgrounds of the Botswana population, such as education, marriage, age, household headship and locality with a gender lens.
- c. To analyse the economic activities of heads of households by sex, comparing with the 2001 PHC results
- d. To investigate access to energy by both male and female headed households.

2. Literature review.

Gender, especially gender equality has attracted a plethora of research and authorship, especially by feminists, and lately by development analysts. However, a shift has emerged as gender got embraced within national and international development frameworks, and as such non feminist analysts got into the fray of writing and discussing gender and development. Sociologists, Political Scientists, Economists, Theologians, Labour Organisations, and Human Rights Activists, Development Planners and of late Environmental Scientists and others discuss gender and development within their fields. Hunt et al 2004 observes that in the years immediately after the Second World War, when the concept of development evolved, issues of gender equity were not even considered relevant to economic development of Third World Countries. Today , after much debate about approaches to development, after significant advances made during the United Nations Decade for Women (1975-1985), and following a period of crisis, debt and adjustment in the 1980s and 1990s, the challenge of making development gender-equitable remains a significant one. As such gender equality remains a feature for every nation.

The term gender was initially used by feminist theorists to encompass alleged sex differences that are socially and culturally produced (Zack et al, 2004). Patrick Hopkin in Zack et al (2004) notes that " categories of gender in different ways produce multiplicity of other categories in a society, affecting or determining labour, reproduction associated responsibilities, child bearing roles, distribution of political power, economic status, sexual practises, use of language, spirituality and religious beliefs and many more". Unequal allocation of responsibilities and opportunities have proved to have had yielded undesired outcome, which is gender inequality where by mostly women are excluded from benefits coming with development or modernity. Research also show that globally women account for higher percentage of the poor, unemployed, victims of violence, maternal mortality due to inadequate or inaccessible health facilities, women are also victims of ill-health especially HIV/AIDS, and others. On the other hand, men are victims of suicide, accidents, including

industrial accidents; most imprisoned population due to crime, and has little attention in terms of health programmes.

The above suits the definition of gender inequality, which is “Unequal treatment of males and females” (ILO Convention 100 & 111 and CEDAW). This emanates from the pre-determined sex differences and role stereotyping, which are mainly culturally defined (ibid, Haralambos and Holborn 2000). In raising the issues of gender inequality, early writers, activists and development planners focused on women in development, as opposed to gender and development approach (Janet hunt, 2004 and Gender Affairs Department 2012). The reason for exclusion of men when addressing gender equality issues is that research and development planners have relied on history rather than evaluating transition since inception of efforts to reverse inequality. As such men became victims of non-evaluation. Hunt (2004) writing from a women in development approach further notes that “The consequences of gender inequality is that women are vulnerable to poverty than men, especially as a result of widowhood, separation or divorce, and the consequence of loss of access to productive assets”. While literature is deficient on men and gender equality, it generally shows that while men are also subjects of inequality, women are the most affected social group.

Give that it is not enough to just say women are the most affected social group without testing the validity of the statement, especially testing whether that statement stands the test of time, or that it has been overtaken by events and facts. The non-measurement (systematic) and slack provision and implementation of solutions to persisting gender inequality problem may lead to de-development where gains made suffer indirect reversal, or concentration on one social group at the exclusion of another. Botswana has persistently measured and addressed the gender inequality through periodic international and national reports. Surveys like Labour Force surveys, Botswana Core-welfare Indicator Survey, Literacy Surveys, Vision 2016 Surveys, Gender Based Violence Surveys, Botswana AIDS Impact Surveys, Informal Sector Surveys, Agriculture Surveys, Demographic Surveys, Census, and others monitors gender equality. Also, periodic reports like SADC Gender Protocol Report, CEDAW Report, Commonwealth Report, and Convention on the Status of Women Reports, and others, also provide monitoring of gender equality. Of late the African Gender and Development Index (AGDI) and the National Baseline Study on Gender and Development were incepted as additional tools to monitor and evaluate the implementation of gender and development programmes in Botswana. AGDI for instance, shows that Botswana's Gender Status Index (GSI) stands at 0.74 towards gender parity (Gender Affairs Department 2012). One of the visible challenges is that while parity in terms of enrolment to primary and secondary education is reached, the high rates of dropout among boys than girls are worrisome (CSO 2010. Education statistics).

3. Methodology

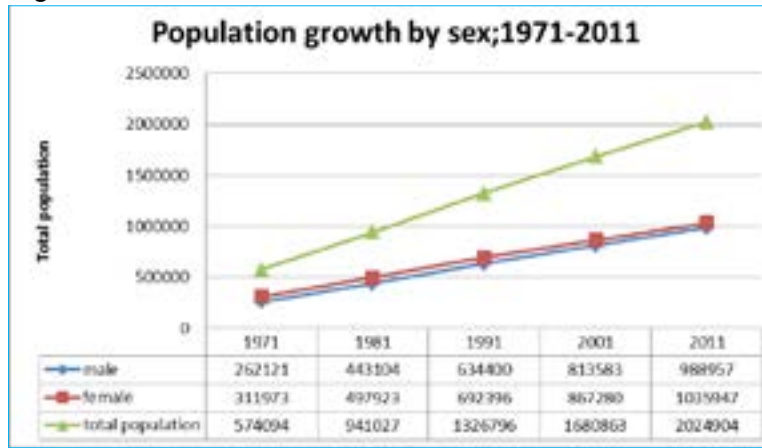
To measure the extent of gender equality or inequality, data was obtained from the 2011 PHC in the SPSS format and analyzed. Simple statistics (percentages and absolute figures) are used to shed light on a number of indicators such as population size, population growth, population distribution, marital status, education, household economic activities and household energy use. In analyzing and interpreting the data, attention was also drawn to the existing national policy and legislative frameworks. Tables and graphs are used to summarize and interpret the finding. The paper also provides research and policy recommendations.

4. Gender Dimensions of Population Growth.

Botswana's population is growing with a diminishing growth rate. It has declined from 4.6 percent between 1971 and 1981 to 1.9 percent between 2001 and 2011. Considering the rate at which the population was growing prior to and since 1971, the current rate (1.9 %) is the lowest and worrisome of all the population growth rates that Botswana ever had.

A number of factors can be attributed to this declining population growth rate, among these are the increased literacy rate, the HIV/AIDS pandemic, the ever increasing infant mortality and, declining and low fertility rate. The latter can also be attributed to predominant youthful population which is largely professional or schooling, and high cost of living. As opposed to the direction that the National Population Policy gave, wherein the total fertility rate was to be reduced, the Revised Population Policy redirects attention to “appropriately manage fertility to avoid its decline to below replacement”. This is a reversal of the previous approach which was informed by the then situation where population growth rate and fertility rate in particular, were high. The decline in population growth rate and fertility are a cause for concern. As there is desire for clear policy position for population growth to be higher than now, there is need to consider the gender dimensions, and focus planning.

Figure 1



Whereas the population grows at a diminishing growth rate, female population has always outnumbered men in all census periods (figure 1 and table A1). However, a close look at the pattern of population growth reveals that the growth of male population counters the female population dominance. That is, the margin between male and female population size is gradually narrowing down as the population grows, having been narrowed down from a margin of 8.6% between 1971 and 1981 to a margin of 2.4% between 2001 and 2011. Figure 2 and 3 show that the percentage gap between male and female populations had become narrow over the census periods and that the ratio of male to female population has almost reached equilibrium.

Figure 2

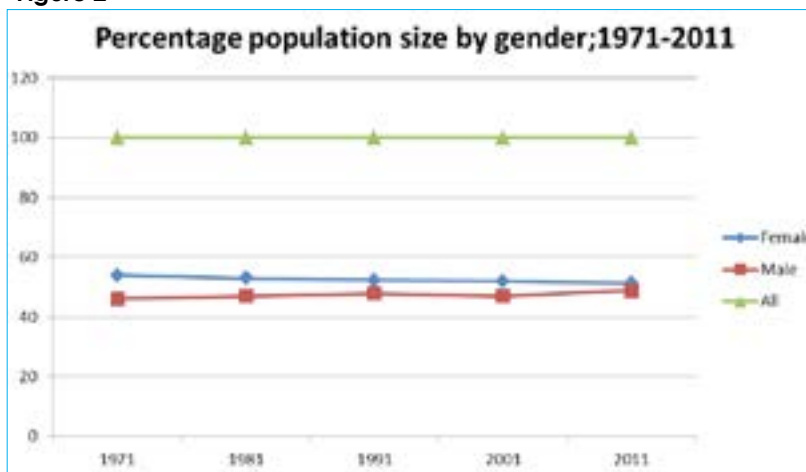
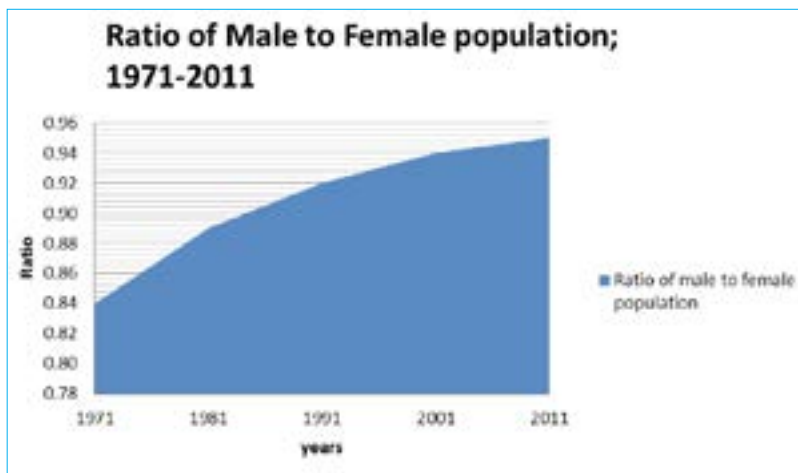


Figure 3



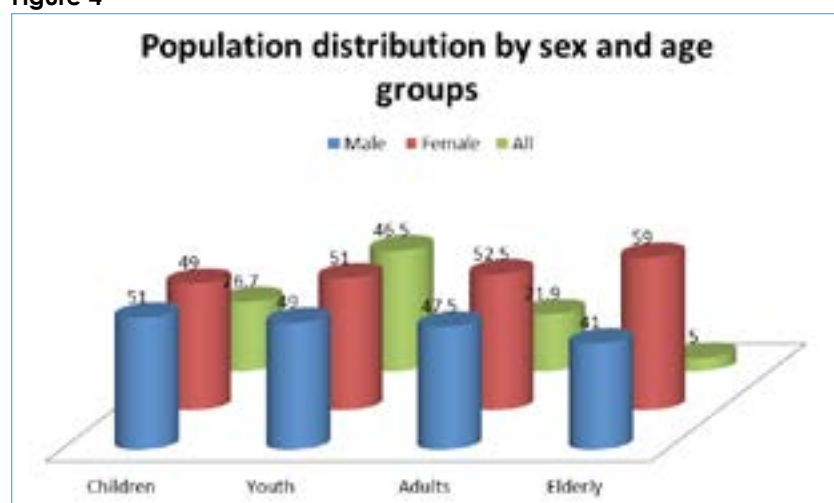
The rate at which the gap between male and female population narrows down alone calls for special dispensation for the growing male population. Also, issues and challenges affecting males should be systematically identified and addressed. However, caution has to be applied lest gains made in bridging gaps between women and men is reversed by overlooking the unresolved social equality issues affecting women in the process of addressing men's issues. The National Population Policy (NPP) which had since been reviewed has a special focus on male population but the Revised National Population Policy (RNPP) is silent on issue affecting the male population, or is inexplicit. Given this gap and the promising gender parity on population size, policy direction for male population is inevitably imperative.

Males usually play a key role in production and reproduction decisions, exercising power in nearly every sphere of life including decisions regarding the size of families and the use of contraceptives, however, family planning and health programmes are almost exclusively directed at women (NPP). Also, major issues affecting males include inadequate programme strategies, limited counseling services as well as cultural barriers. Research has shown that more men than women are victims of suicide are perpetrators of violence (especially violence against women), account for higher percentage of prison population, are normally absent fathers on matters of child care, and have low health seeking behaviour among others. All these situations need clear policy directions. Of late Botswana is infiltrated with advertisements for products claiming to address men's health problems, especially sexual reproductive problems. Newspaper reports have captured stories of men having lost partners due to sexual lie deficiencies. Also, some informal or traditional health practitioners have cashed from desperate men who had health problems.

2.1 Population distribution and composition.

For purposes of this paper, population cohort from zero to the age 11 are defined as Children, population cohort of the ages ranging from 12 to 35 are defined as Youth while the Elderly cohort is defined in line with the old age pension guideline (65 years and above) and Adults are defined in line with the Revised National Youth Policy (12 years to 35 years). The previous definition of youth as averred by the National Youth Policy and definitions contained in other instruments are noted, but are not adopted for this paper.

Figure 4



Botswana population is highly youthful (47%) with higher female population (50.7%) and child packed population (27%) with male population outnumbering the female population with a margin of 1.2 % (Figure 5 and Table A2). A peculiar situation which presents itself is that male children population is higher than the female children population, accounting for 50.6 percent. This situation is a persistent and as such need close monitoring. It may also partly account for the ever decreasing gap between male and female populations, where male population is catching up with the female population. A situation where male population would overtake the female population cannot be easily dismissed under the current pattern of population growth. Therefore, if unchecked this situation may, in decades to come, reverse the population disparity tide to the predominance of male population, especially if the current socio-economic and political milieus persist. Some of the situations that may be giving impetus to the reversal of the tide include high maternal mortality rates, high female mortality due to HIV/AIDS, violence against women (intimate partner murder) and backstreet or unsafe abortions which mainly affect females.

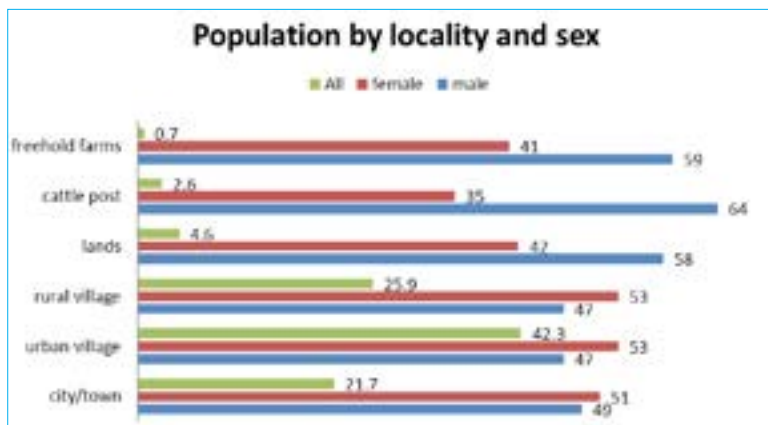
Except for the children's cohort the percentage female population is higher in all the age groups such as youth, adults and the elderly, accounting for 50.7%, 52.5% and 58.7% respectively, a situation that have prevailed in all censuses. Having a high youthful population is an advantage when employment opportunities exist, but it is a challenge when unemployment is high and opportunities are slim. Unemployment, especially

youth unemployment is a challenge that Botswana continues to face over the years. "There is a challenge to reduce unemployment which is particularly high amongst the youth, especially females" (Vision Council; 1997). The 2009/10 Botswana Core Welfare Indicator Survey (BCWIS) also reveals that unemployment rate stands at 17.8 percent, and is high among the youth, especially females. High unemployment rate among the youth, and the resulting poverty can be held accountable for social ills such as crime and drug abuse among males, including ever skyrocketing detention of males in prisons, and prostitution and backstreet abortions among females, among others.

2.2 The Population and its locality

Botswana population is concentrated in villages (both urban "42.3%" and rural "25.9 %") accounting for 68.2 % (Figure 6 and Table A3). Similarly, the population is concentrated in the developed or service centred localities such as cities or towns (21.7%) and urban villages (42.3%), accounting for 64%. Women account for a higher percentage populations in cities or towns, and villages while men account for higher percentages in all areas which are far from amenities such as health services, safe drinking water, schools and electricity. Specifically men account for 57.8%, 65.4%, 59.4%, 61.5%, and 65% at lands, cattle posts, freehold farms, mixture of lands and cattle posts and camp or other localities respectively. These localities which are male dominated are traditionally known for productive economic activities, particularly within the agricultural sector.

Figure 5

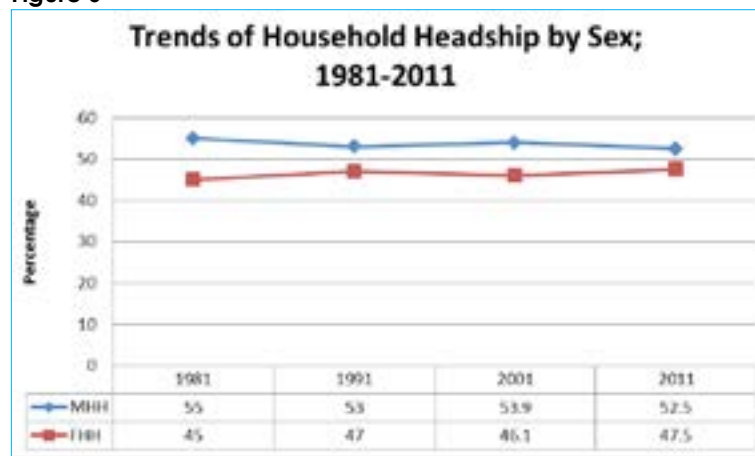


Females account for high percentage (53%) of the rural population. The rural communities usually lack access to amenities compared to cities and towns. This lack of amenities has been a push factor on rural to urban migration. Studies have shown that females, especially in rural areas are subjects of low standards of living and poverty. CEDAW which Botswana is party to, requires the State to among others, take into consideration the special needs and challenges of women in the rural areas. This Convention required Botswana to extend adequate health care facilities, including information, counselling and services in family planning and adequate living conditions, particularly in relation to housing, sanitation, electricity, water supply among others to rural communities where women are.

2.3 Household Headship by Sex

Previous Census reports show that Male Headed Households (MHH) has always been predominant over Female Headed Households (FHH). However, like the closure of population gap between men and women, an increase in FHH is noted from 45% in 1981 to 47.5% in 2011 (Figure 7). In 2011, the proportion of MHH in Botswana accounts for 52.5% against female's 47.5%. Investigated further by locality, FHH in Botswana's rural villages account for 57.9%. This is a further increase from 48.4% in 1981 to 49.9% in 1991 respectably (NPP). This increase in the proportion of FHH may in part be a reflection of changes in marriage patterns.

Figure 6



Source National Population Policy and Revised National Population Policy.

Researches have shown that FHH lack or have limited access to productive resources and economic opportunities compared to MHH. This makes FHH prone to social challenges such as poverty, lack of progression in education, lack of access to justice, victims of violence, especially violence against women among others.

3 Marital Status of the Population

Marriage and family life are highly esteemed in the Botswana society. They are important for social cohesion which is dependent on primary socialisation of children, which is also dependent on strong family system. To keep the family strong, there is need for a comprehensive family policy. However, the percentage of married persons in Botswana is declining. 17% of males and 17.9% of women were reported married in 2001 in contrast to 44.4% and 41.5% respectively in 1981 (Revised National Population Policy). These changes in marital status of the population are indicative of significant changes in social relations and family structures. The Vision 2016 Document re-emphasises the importance of marriage and family unit in Botswana's social structure. It states that "The emphasis on strong family unit will encourage responsible parenting and the institution of marriage. It will provide the social function for the eradication of problems such as high incidences of teenage pregnancies, adultery, prostitution, street children and the spread of HIV". While marriage is declining, the never married and cohabiting populations are increasing.

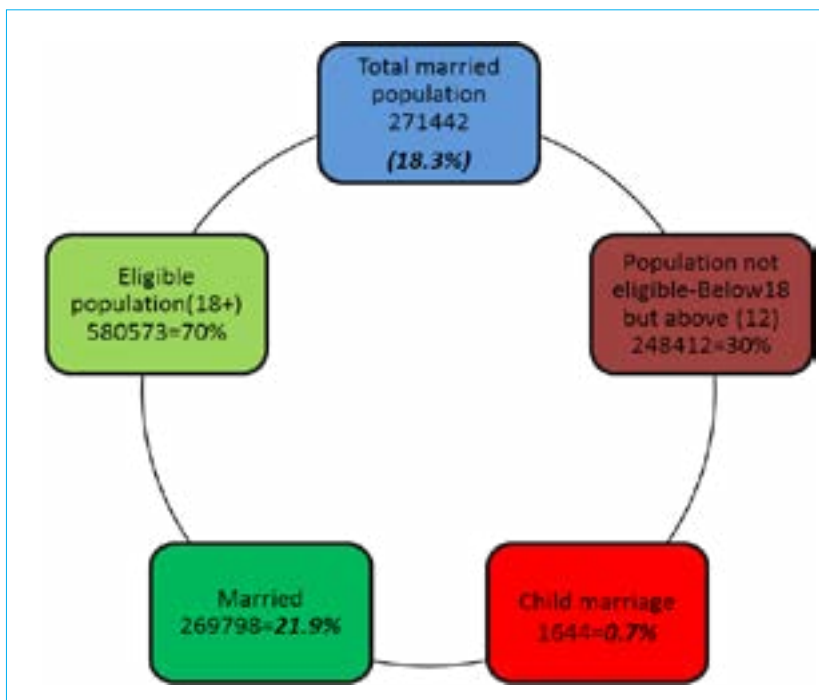
In 2011, married male population increased to 18.8% from 17.1% in 2001, and female married population was retained at the 2001's 17.9%, making an overall 18.3% of the married population. The proportion of never married male population increased from 51.7% in 2001 to 58.1% in 2011. Before this, a decline from 54.8% in 1991 to 51.7% in 2001 was observed. Also, the proportion of never married among females increased from 46.5% in 2001 to 53.5% in 2011. To deal with the declining marriage, and growing singlehood, Botswana urgently needs a comprehensive and simple family policy.

- Re-examination of the analysis of marital status of the population.

The previous census reports have analyzed marriage by including persons below 18 years old to those over 18 years old. This approach overlooks the prevailing legal and policy environments on marriage and is not helpful in measuring defaulters in the implementation of these instruments. The Marriage Act of 2002 (section 15) and Children's Act of 2010 forbid marriage of children under the age of 18, while the Penal code also forbids sexual intercourse with girls under the age of 16. Studies, Police reports and National Education Statistics have shown that these instruments are contravened. For example, school dropouts due to pregnancy, especially among primary and lower secondary schools, and defilement of girls under the age of 16 exist at alarming rates in Botswana. Also, child marriages are reported in some areas in Botswana. Given the existence of these social pathologies, this paper suggests that when analyzing marital status of the population, attention should be paid to these frameworks. It has proven obvious that a wholesale analysis of marital status of the population without paying attention to the prevailing frameworks naturally obscures the extent of deviance towards legislative and policy frameworks. For example, identifying the child marriages and the extent thereof has not been undertaken over the years while data is readily available. This paper would serve as a baseline for the extent of child marriages in Botswana. Child marriages are likely to be effected and exist under the customary legal system than the common law system because the former is not tightly regulated. However, this paper does not seek to imply that all cases of child marriage exclusively facilitated and exist within the customary law system.

In analyzing the marital status of the population, two groups were identified; population under 18 years and over 18 years respectively. Those married persons below 18 years old are defined as child marriage while those over 18 are defined as persons of marriageable age or eligible for marriage. As such Figure 8 highlights the extent of marriage under this approach.

Figure 7 . Extent of marriage among the eligible and non-eligible populations



An overall 18.3 % of the population is married (Diagram 1 and Table A4). However, when disaggregated by eligibility wherein child marriage is filtered, we find that 21.9% of the 70% eligible population is married. We also find that 0.7% of ineligible (child) population is married.

3.1 Marital status of population above 18 years (Eligible population).

Table 4 show that close to half of the population is never married (47.2%), a quarter is in cohabitation relationships (24.6%), and just below a quarter is in married (21.9%). Widowed, divorced and separated populations account for lower percentages (4.6%, 1.2% and 0.5% respectively).

When marital status is analyzed through a wholesale approach, a lower proportion is yielded (18.3%) but when it is disaggregated by eligibility on the basis of prevailing policy and legal instruments, the proportion of the married population stands at 21.9%.

Table 4, Marital status of population above 18 years old.

Marital status	N	(%) Male	(%)Female	(%) Total
Married	269798	22.7	21.2	21.9
Single	582188	49.6	45	47.2
Cohabiting	303018	24.7	24.5	24.6
Separated	6596	0.5	0.6	0.5
Divorced	14317	0.9	1.4	1.2
Widowed	56815	1.6	7.3	4.6
All	1232732	47.8	52.2	100

23 % of the male population and 21 % of the female population above 18 years old is in marriage relationship compared to 17.1 and 17.9% respectively in 2001. However, an increase in marriage cannot be claimed due to methodological differences employed in analysis. Men account for half of the never married population (49.5%) and a quarter of cohabiting population (24.7%) while women account for 45% and 24.5% respectively.

More women than men had failing or failed marriages accounting for 0.6% in separation and 1.4 in divorce populations compared to men's 0.5% and 0.9 % respectively. Widowhood is more in female populations that in male populations accounting for 7.3% compared to 1.6% among men of ages above 18.

3.2 Underage marriage

By setting a minimum age of marriage above 18 years old, the Marriage Act was setting a tone of forbidding child marriages in line with article 16 of CEDAW. Notwithstanding the fact that the Marriage Act forbid marriage of minors, and that the Penal code prohibits sexual relations with younger persons under the age of 16, marriages of young girls, and sexual relations with such have been reported in Botswana and are verified by the census data. Botswana police reports show increasing cases of defilement. It has been observed that child marriages take effect through the customary law system. This legal system is recognised by the Botswana constitution (section 15), Marriage Act and the Abolition of Marital Power Act among others.

Census data shows that a total of 1644 children are in marriage relationships, 3748 in cohabitation, 2 divorced, 2 in separation and 4 widowed against 242810 children below the age of 17 in Botswana. 60.1 % of the married children are of the age group 12 to 15, much higher than those of age group 16 to 17. Also, those in cohabiting relationships are concentrated within the age group 16 to 17. Children who are in separation and widowhood account for 100% of the age group 12 to 15. Disaggregated further by the 26 Census districts, Kweneng East (13.6%) and Gaborone (11.1%) districts have higher percentages of children who are in marriage relationships while Ngwaketse West (0.1%) has the least percentage of children in marriage relationships (Table A6).

Table 5 Underage marriage

Marital status	N	12-15 olds	16-17 olds	All
Married	1644	60.1	39.9	0.7
Single/ never married	242810	66	34	97.8
Living Together	3748	41	59	1.5
Separated	2	100	0	0.0
Divorced	2	50	50	0.0
Widowed	4	100	0	0.0

At 12 to 15 years old, children are expected to be at primary schools, and at 16 and 17 years they should be at lower secondary schools. Botswana laws forbid sexual debut with girls of ages less than 16.

Institutions tasked with implementing defilement legislations would have a difficult work to do under these circumstances.

4. Education

Botswana has a free education for all for the first 10 years. Moreover, government sponsors Botswana students to further their studies at universities, colleges and brigades. Botswana has made great strides in achieving Education for All (EFA) goals and the Millennium Development Goal (MDG) on education (Gender Affairs Department 2012). The overall literacy rates for females are significantly higher than that of males in the 15-24 years old age groups revealing a score of 1.03 (ibid). Moreover, the GSI results on Enrolment in Early Childhood and Primary Education indicate that parity has been reached (ibid).

Table 7 shows that 18.3 percent of the population has never been to school among which a higher percentage is males (51.3%). Notwithstanding this, approximately 72 percent of the population have been to school, of which 30.6 % (46.6% males & 50.4% females) are still attending school and 51% (47.2% males & 52.8% females) having left school. The latter may mean two possibilities, that one went to school and completed or that one went to school and did not complete.

Table 7. Population's school attendance by sex

School attendance	N	(%) Male	(%) Female	(%) Total
Still attending	587338	46.6	50.4	30.6
Left school	979474	47.2	52.8	51
Never attended school	351926	51.3	48.7	18.3
All	1918738	934339	984399	100

Table 8 shows that children account for almost half of percentage of the population which has never been to school, with more males (51.1%) than females (48.9%) who have never been to school. Adults account for 27% of the population which has never been to school (52.6% male & 47.4% females). Also, 16% of the population which has never been to school is accounted for by the elderly (44.4% male & 55.6% female). Lastly, youth account for 8% of the population which has never been to school (62.2% males & 37.8% females). Males account for higher percentage of the population which has never been to school across all age groups.

**Table 8 Population which has never been to school by age
(N=.351926)**

	N	(%) Male	(%)Female	(%) Total
Children	172408	51.1	48.9	49
Youth	28210	62.2	37.8	8
Adults	95085	52.6	47.4	27
Elderly	56223	44.4	55.6	16

5. Economic Activity of Heads of Households

The economy is the most crucial institution for human societies, and a backbone of governments, families, households and other social institutions. Botswana was at one point among the poorest of the poor economies but later experienced growth in revenues, particularly from diamond. She experienced high economic growth and is now categorized as the middle income country. However, Botswana faces challenges of unemployment rate and poverty among others. These challenges are high among females and female headed households than males and male headed households.

National population policy reveals that "In spite of the high economic growth and improvement in some social and economic indicators, the distribution of income in the country remains unequal". Also, research shows that there are income differentials by gender and rural-urban residence, with rural areas and FHH receiving less. While poverty affects a wide spectrum of population, it is high among FHH who constitute over half of households in rural areas, and whose proportion has been increasing (ibid). The BCWIS indicates that average unemployment rate was estimated at 17.8 percent. There is a challenge to reduce unemployment which is particularly high amongst the youth, especially females. In analyzing the economic activity of heads of households, they (heads of households) are divided into two groups; the economically active and the economically inactive.

5.1 Economic activities of the economically active heads of households by sex

Table 9 shows that 74.6 % of the economically active Heads of Households are employed compared to 75.8% during the 2001 population census. This presented a deficit in employment of Heads of Households. Within these inter-censuses, a percentage increase in employment of FHH is noted from 36.7% in 2001 to 39.5% in 2011. Self-employment among Heads of Households did not suffer any percentage change as it stood at 10.6% in both census periods. However, a percentage decrease among FHH is observed having declined from 44.1% in 2001 to 38.3% in 2011. There has also been a percentage decrease in the unpaid family helpers from 0.7% in 2001 to 0.4 % in 2011. However, an increase in FHH doing as unpaid family helpers is observed from 40% in 2001 to 44.8% in 2011. Moreover, a percentage increase is observed among heads of households who work in their own lands or cattle posts accounting for 4.4% in 2001 and 7.1% in 2011, with FHH having increased from 21.5% to 29.6%. A decrease in percentage of Heads of Households who are actively seeking employment is observed between the two censuses (9.1% in 2001 and 7.3% in 2011). While there has been this decrease in Heads of Households actively seeking employment, a percentage increase is observed among the FHH of household from 49% in 2001 to 49.2% in 2011.

Table 9. Economically active Heads of Household by sex.(2011; comparison with 2001)

Economic activity	2011				2001			
	N	Male	Female	All	N	Male	Female	All
Employed	283478	60.5	39.5	74.6	183826	63.3	36.7	75.8
Self Employed	40244	61.7	38.3	10.6	25844	55.9	44.1	10.6
Unpaid family helper	1526	55.2	44.8	0.4	1748	60	40	0.7
Working at own lands/cattle post	27047	70.4	29.6	7.1	10731	78.5	21.5	4.4
Actively seeking work	27891	50.8	49.2	7.3	22242	51	49	9.1
Unknown	-	-	-	-	119	49.6	50.4	0.1

5.2 Economic activities of the economically inactive heads of households

An investigation of the economically inactive heads of households shows a mixture of improvement and decline in different indicators in the inter-censuses (2011 and 2001). For example, Table 9 shows that 80% of heads of households are engaged in home work, making an increase from the 2001's 74.8%. However, a violent percentage decrease among FHH is observed from 70.4% in 2001 to 39.5% in 2011 census. There has also been a decrease in heads of households who are students from 9% in 2001 to 0.5% in 2011, and 42.8% to 41.5% FHH in the same period. Lastly, a percentage increase is observed among the retired heads of households from 6.8% in 2001 to 7.9% in 2011 coupled with FHH increase from 34.9 to 47.3 in the same period. A percentage decrease among the sick heads of households from 9.2% in 2001 to 3.6% in 2011, however a sharp percentage increase is observed among male heads of households who are sick from 46.5% in 2001 to 81.4% in 2011. This might also be accountable for low life expectancy among males and perhaps the increase in female headed households.

Table 10. Economically inactive heads of households by sex (2011 comparison with 2001)

Economic Activity	2011				2001			
	N	Male	Female	All	N	Male	Female	All
Home work	281846	60.5	39.5	80	106614	29.6	70.4	74.8
Student	1632	58.5	41.5	0.5	12785	57.2	42.8	9
Retired	27682	52.7	47.3	7.9	9609	65.1	34.9	6.8
Sick	12562	81.4	18.6	3.6	13179	46.5	53.5	9.2
Other	1526	55.2	44.8	0.4	271	66.4	33.6	0.2
Unknown	27047	70.4	29.6	7.7	163	38	62	0.1

5.3 Access to energy sources by sex of head of households.

There are 550917 households in Botswana with MHH accounting for a higher percentage (52.5%) than FHH (47.5%). Table 11 shows that a higher percentage of households use wood for cooking (41.7%) with more FHH (50.6%) using wood. 38.3% of households use gas for cooking among which 54.1% is MHH. MHH account for higher percentages of households which are using gas and electricity for cooking. In other words, the modern energy sources which require a certain level of economic wellbeing is largely accessed by MHH while FHH mainly resort to the traditional energy source (wood) which does not require much economic wellbeing, but more time, distance and energy to collect. In the era of climate change, and discouragement of the use of wood for fire, women are more likely to lack means of energy for cooking.

In terms of lighting, just over half (53.2%) of households in Botswana use grid electricity for lighting, close to a quarter (30%) use paraffin, 11% use candle and 3.6% use wood for lighting. For all the energy sources, women's use account for 47% or less except in using paraffin for lighting.

Table 12 Access to energy source by sex of head of household

Source of energy	N	Male	Female	All
Energy for cooking				
Electricity (grid)	98005	55.3	44.7	18
Gas (LPG)	208747	54.1	45.9	38.3
Wood	226925	49.4	50.6	41.7
Others	10899	61.4	38.6	2
Energy for lighting				
Electricity (grid)	293330	52.6	47.4	53.2
Petrol	830	70.8	29.2	0.2
Diesel	4226	85.6	14.4	0.8
Solar power	2784	66	34	0.5
Gas(LPG)	1533	53.9	46.1	0.3
Bio Gas	117	53	47	0
Wood	19626	63.2	36.8	3.6
Paraffin	165386	48.6	51.4	30
Candle	60663	55.4	44.6	11
Other	2421	66.9	33.1	0.4

5.4 Access to drinking water by sex of heads of households

In terms of access to drinking water, 70.1% of families have pipe in their yards (51%males&49% females). Also, 20.4% (47.5%male headed & 52.5% female headed) households access drinking water through communal taps or neighbours taps. A cumulative 90.5% of households in Botswana have access to clean drinking water while 9.5% (74.5%male headed & 25.5% female headed) households use unsafe water.

Table12. Access to drinking water by sex of heads of households

Access to safe water		Male	Female	All
Pipe in yard	386239	51	49	70.1
Tap nearby (communal or neighbour's)	112460	47.5	52.5	20.4
Other	52218	74.5	25.5	9.5

6. Discussions and Conclusions

Botswana has strong commitment to gender and development as exemplified by the existing international gender instruments which she is party to, including the national gender instruments. Also, StatisticsBotswana and other stakeholders, including Gender Affairs Departmentcontinue to collected gender or sex disaggregated data, as has always been the case in different undertaken national surveys. These surveys are important for monitoring gender equality. Also, Botswana, through Gender Affairs Department, continues to develop and submit periodic gender and development reports to different international bodies. Also, Botswana has a gender sensitive legal environment which also continues to improve. Pieces of legislation which discriminated against both men and women have been amended and new ones enacted. However, inequality still persist in some areas of socio-economic, cultural and political development. For example, low representation of women in public and political life, child marriages, non-attendance of school especially by children and the youth, lack of explicit male specific policies leading to men abuse by unregulated informal health practitioners, unemployment and poverty among females and others, are some of the challenges that Botswana face and has deal with. Female headed households continue to depend on environment for energy, and community taps or neighbours taps to access clean water. A paradox was observed where a percentage decrease was observed among sick heads of households from 9.2% in 2001 to 3.6% in 2011 coupled with an increase among men from 46.5% in 2001 to 81.4% in 2011.

7. Recommendation

The recommendations are drawn after paying attention to issues identified in the paper.

- Given the rate at which male population grows, the closure of population gap between men and women, and limited policy emphasis on men, there should be measures to address men's issues, including health issues, especially men's reproductive health. Also, informal health practitioners and advertisement for health products should be regulated.
- Given the rural women population size, the persisting rural urban migrations, and the problems of maternal mortality, it is important to have more health services in rural villages and create more economic opportunities in rural areas.
- Given the background of high youth population, it is important for Government not only to strengthen the existing youth economic empowerment programmes, (especially by making them youth friendly and responsive) but also to create more employment opportunities. These efforts should however, not be left to one player (Government) but should be borne by all economic players and thinkers.
- Analysis of Census or other national surveys should pay attention to the prevailing national instruments (policy and laws), and the approach taken by this paper should be a baseline.
- Botswana urgently needs a comprehensive and simple family policy which will among other things affect transfer policies and child care assistance.
- There is need to encourage more men to marry by way of regulating cultural practices such as bogadi which is considered one of the hindrances to marriage.
- Children should be protected against child marriage by way of offering public education on children's rights and defilement law and enforcement of the law. This should involve traditional authorities, religious leaders and other players.

Reference

1. Constitution of Botswana
2. Kristine Adams and Andrew Byrnes (1999) Gender equality and the justice, using the international human rights standards to promote the human rights of women and the girl child at the national level, United Kingdom.
3. Naomi Zack, Laurie Shrage, Crispin Sartwell (2004) Race, Class, Gender and Sexuality; The big question , UK; Patrick D Hopkins; Gender treachery; homophobia, masculinity and threatened identities.
4. United Nations Convention on the Elimination of all forms of Discrimination Against Women.
5. Joe Remeyi, John McKay and Janet Hunt (2004) Key issues in development; gender and development, New York.
6. Vision 2016 Document
7. National Gender Programme Framework
8. Marriage Act of 2002
9. <http://unstats.un.org/unsd/demographic/products/dyb/dybcensusdata.htm>
10. http://censusindia.gov.in/Census_And_You/gender_composition.aspx
11. Women's Affairs Department (2000) Botswana Country Report on the implementation of SADC Declaration on gender and development- the addendum o the prevention and eradication of violence against women and children, Gaborone.
12. Gender Affairs Department (2012) African Gender and Development Index, Gaborone.
13. Gender Affairs Department (2012) Biannual report on decision making, Gaborone.

Table A1. Patterns of population growth by sex-1971 to 2011.

	1971	1981	1991	2001	2011
Enumerated population	574094	941027	1326796	1680863	2024904
Male	262121	443104	634400	813583	988957
Female	311973	497923	692396	867280	1035947
% Male	45.7	47	47.8	48	48.8
% Female	54.3	53	52.2	52	51.2
% Gender difference	8.6	6	4.4	4	2.4

Source; 2001 census

Table A 2. population distribution by age and sex.

Variable	N	(%) Male	(%)Female	(%) Total
Children(0-11)	539832	50.6	49.4	26.7
Youth (12-35)	941371	49.3	50.7	46.5
Adults (36-64)	442829	47.5	52.5	21.9
Elderly (65+)	100872	41.3	58.7	5
ALL	2024904	48.8	51.2	100

Table A3. population by sex and locality

City/town	440108	49.3	50.7	21.7
Urban village	857179	47	53	42.3
Rural village	523687	46.8	53.2	25.9
Lands	92776	57.8	42.2	4.6
Cattle post	52849	65.4	34.6	2.6
Freehold farms	15170	59.4	40.6	0.7
Mixture of lands and cattle posts	20203	61.5	38.5	1
Camp or other locality	22932	65	35	1.1
All	2024904	48.8	51.2	100

Table 6 A2 Under age marriage by district

District	N	Percent
Kweneng East	224	13.6
Gaborone	183	11.1
Central Tutume	167	10.2
Central Serowe Palapye	130	7.9
Francistown	115	7.0
Central Mahalapye	86	5.2
Ngwaketse	82	5.0
Kgatleng	76	4.6
Ngamiland East	72	4.4
Central Boteti	67	4.1
South East	60	3.6
Central Bobonong	58	3.5
North East	56	3.4
Ngamiland West	52	3.2
Selebi_Phikwe	46	2.8
Barolong	42	2.6
Lobatse	23	1.4
Ghanzi	23	1.4
Kweneng West	21	1.3
Chobe	16	1.0
Orapa	11	0.7
Kgalagadi South	12	0.7
Jwaneng	8	0.5
Sowa Town	7	0.4
Kgalagadi North	6	0.4
Ngwaketse West	1	0.1
Total	1644	100

PRINCIPAL SOURCES OF WATER SUPPLY IN HOUSING UNITS

By W.M. Thupeng, Dr. L. Mokgathe and Prof. N. Forcheh
Department of Statistics
University of Botswana

Abstract: Botswana is endowed with valuable natural resources and an environment that can potentially sustain the country's development processes and people into the future. However, the country has scarce water resources, which could have a major, impact on development in the second driest country in sub-Saharan after Namibia. The Government of Botswana, in its decision making processes in water resources management, is guided mainly by the country's Vision 2016 that aims at, among others, harnessing the scarce water resources in a way that ensures an adequate supply of safe drinking water that is affordable and accessible to all its citizens. This chapter presents a descriptive analysis of the principal source of water supply in the households in Botswana based on data obtained from the 2011 Population and Housing Census. It describes the level of accessibility to different sources of water supply in different types of settlement, which are urban and rural areas that include lands, cattle posts and farms. The chapter also addresses the related issue of access to basic on-site sanitation facilities. Furthermore, to measure progress at national level since the 2001 Population and Housing Census, relevant indicators in the water sector are considered and compared to targets set by the Millennium Development Goals (MDGs) and those for Sub-Saharan Africa. Integrated water resources planning and management is a very complex issue which, in general, involves the joint consideration of water supply, social, socio-economic, economic and environmental issues. Therefore, to complement the descriptive analysis mentioned above, we propose the use of a method based on an environmental assessment tool called the Driving Force-Pressure-State-Impact-Response (DPSIR) conceptual framework to assess the interactions amongst water supply, social, socio-economic, economic and environmental issues.

1. Introduction

Botswana is endowed with valuable natural resources and an environment that can potentially sustain the country's development processes and people into the future. The country is semi-arid and characterized by unevenly distributed rainfalls that at best can be described as highly erratic. The western parts of the country are predominantly sandy with very low rainfalls, while the extreme southern parts of Botswana comparatively receive slightly higher amounts of rainfalls. The absence of major Rivers, discount any prospects of constructing sustainable water catchment dams in these parts of the country. Meanwhile the eastern corridor that extends from Lobatse to Ramokgwebana, and the northern parts of Botswana are relatively well endowed with big rivers, but because of highly variant amounts of rains that take place only in summer, the inflow of these rivers is only seasonal. Compounding the situation are the extreme summer temperature conditions that renders Botswana a dry country hence drinking water is viewed as a scarce and precious commodity. In order to alleviate this precarious water situation in Botswana, Government has embarked on strategic measures that mitigate against water shortages in Botswana. Currently there exist eight dams that supply households in urban, semi-urban and rural areas with potable water through Water Utilities Corporation. The water is cleaned and reticulated into households for domestic use, through water supply pipes located indoors, outdoors and communal standpipes. The rest of the country is dependent predominantly on untreated water drawn from wells, boreholes and rivers.

This chapter presents a descriptive analysis of the principal source of water supply in the households in Botswana based on data obtained from the 2011 Population and Housing Census. It describes the level of accessibility to different sources of water supply in different types of settlement, which are urban and rural areas that include lands, cattle posts and farms. The analysis is confined to domestic water supply. Also addressed in the chapter is the related issue of access to improved on-site sanitation. Further, to assess the cause-effect relationships amongst water supply, social, socio-economic, economic and environmental issues, we propose the use of a method based on an environmental assessment tool called the Driving Force-Pressure-State-Impact-Response (DPSIR) conceptual framework. The DPSIR framework was proposed by the European Environmental Agency (EEA, 1999). The idea of the framework was originally derived from social studies but, was later used widely internationally for organising systems of indicators in the context of environment and, recently, sustainable development. For example, Jacobo Feas Vazquez (2003) used the DPSIR as a methodology for policy analysis in water resources management while Thupeng et al. (2011) used it to assess the use of forest resources in Germany. Thupeng and Forcheh (2011) used the DPSIR conceptual framework to study the availability and quality of data on water statistics by assessing the changes in water consumption in 17 major villages of in Botswana. Forcheh and Thupeng (2011) further employed the framework to assess the situation of water resources in Botswana. A full description of the components of the conceptual framework and its application

to water supply management are discussed in section 4.

To put issues into perspective, a brief discussion of the broad policy objectives guiding the Government of Botswana in its decision-making processes in water resources management are discussed in the following section.

2. Policy Objectives

The National Water Master Plan calls for the urgent need to give attention to the use of water in Botswana and to establish the sustainable level of withdrawal from the country's water resources for domestic, industrial and personal needs. The Government of Botswana, in its decision making processes in water resources management, is guided mainly by the country's Vision 2016 that aims at, among others, harnessing the scarce water resources in a way that ensures an adequate supply of safe drinking water that is affordable and accessible to all its citizens. Vision 2016 articulates Botswana's long-term development aspirations and provides a broad framework for development. The development process is guided by six-year National Development Plans (NDPs). The NDPs are guided by Vision 2016 and, since the year 2000, the Millennium Development Goals (MDGs). See Botswana Millennium Development Goals Status Report 2010.

Within the water sector, there are three subsectors, namely, water, sanitation and hygiene. Each one of these is important in its own right, and should not be subsumed within the others. We focus on access to safe drinking water and improved sanitation facility. The MDG relating to drinking-water and sanitation is MDG 7: Ensure environmental sustainability whose Target 7c is to "Halve by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation". Access to drinking-water and to basic sanitation is measured by the MDG indicators: Proportion of population using an improved drinking-water source and Proportion of population using an improved sanitation facility. These indicators and targets have been adapted by Vision 2016 under Pillar 3:A Compassionate, Just and Caring Nation, to local circumstances to create meaningful ownership. According to Vision 2016 Botswana Performance Report of 2009, the Botswana standards for safe water sources include piped water, borehole and well while improved on-site sanitation facilities include flush toilet and ventilated pit latrine.

It must be noted that any decision related to water resources management is undertaken within the framework of policy. In effort to achieve the MDG and Vision 2016 Pillar relating to safe drinking-water and improved on-site sanitation, the Government of Botswana has come up with various policies and set up various institutions. Such institutions have a variety of functions involving planning, development and delivery of water to all citizens. This integrated water resources planning and management is a very complex issue which, in general, involves the joint consideration of water supply, social, socio-economic, economic and environmental issues as a way to address what is essentially a problem of water supply. As a result, to measure progress at national level since the 2001 Population and Housing Census, the abovementioned indicators in the water sector are calculated and compared to targets set by the Millennium Development Goals (MDGs) and Vision 2016 and those for Sub-Saharan Africa. Globally, most of the MDG targets have a deadline of 2015, using 1990 as the baseline against which progress is gauged.

3. Analysis

3.1 Trends in Water Sources by Location

Table 1: Number of households by Water Supply and Region for the years 1991, 2001 and 2011 in Botswana

	Region											
	Towns and Urban villages			Rural Villages			Localities			Total		
	1991	2001	2011	1991	2001	2011	1991	2001	2011	1991	2001	2011
Piped or tapped	145,106	230,273	354,876	63,249	100,997	119,108	4,378	23,655	24,745	212,733	354,925	498,729
Bouser/Tanker	-	194	976	-	962	1,053	-	2,529	4,254	-	3,685	6,283
Well	-	93	44	-	271	150	11,487	6,874	4,906	11,487	7,238	5,100
Borehole	-	128	328	-	474	613	20,759	20,202	26,096	20,759	20,804	27,037
Other	-	4,069	1,352	-	2,695	844	31,230	11,290	10,967	31,230	18,054	13,797
Total	145,106	234,757	357,576	63,249	105,399	121,768	67,854	64,550	71,602	276,209	404,706	550,946

Tables 1 and 2 show that in 1991, out of the 276,209 households in Botswana, the percentage of those located in either urban or semi-urban areas and having access to improved water through piped-water indoor, piped-water outdoor or drawing piped-water from a neighbour or communal standpipes, stood at 53%. Those households in rural villages and having access to improved water was 23% while only 2% were located in lands area, cattle posts, freehold farms or other rural areas outside rural villages. This yielded a total of 77% of all households having access to improved water, nationally. In 2001, of the 404,706 households in Botswana, the percentage having access to safe drinking water and living in either urban or urban villages

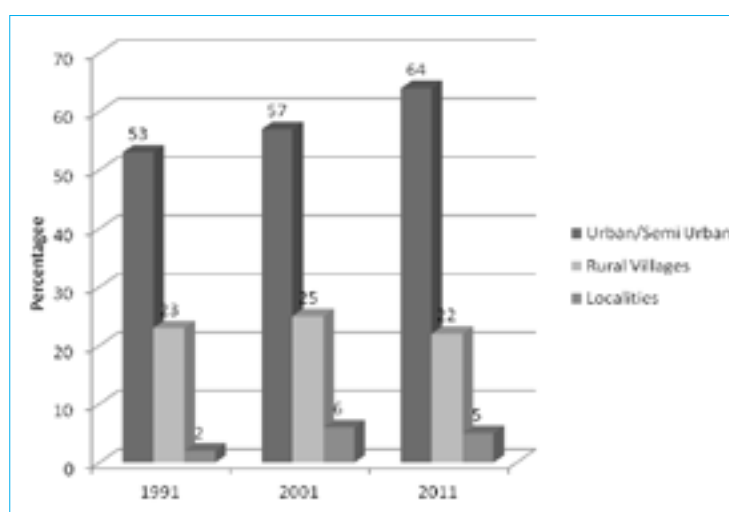
had risen to 57%. Similarly there was improvement to rural households, with one-in-four households living in rural villages and having access to safe drinking water, while those in rural localities rose to 6%. This yielded 31%, which is a combined percentage of households living in rural areas and having access to safe drinking water. The figures in Table 2 indicate a drop in the proportion of rural households having access to clean drinking water from 5.8% in 2001 to 4.5% in 2011. The drop, however, does not imply that certain households retrogressed to unimproved water sources. Instead, it can be attributed to a huge increase in the number of households that were located in rural villages in 2001, like Mmopane, but, were subsequently transformed into urban villages in 2011.

Table 2: Percentage distribution of households by Water Supply and Region for the years 1991, 2001 and 2011 in Botswana

	Number of households											
	Towns and Urban villages			Rural Villages			Localities			Total		
	1991	2001	2011	1991	2001	2011	1991	2001	2011	1991	2001	2011
Piped or tapped	52.5	56.9	64.4	22.9	25	21.6	1.6	5.8	4.5	77	87.7	90.5
Bouser/Tanker	-	-	0.2	-	0.2	0.2	-	0.6	0.8	-	0.9	1.1
Well	-	-	0.0	-	0.1	0.0	4.2	1.7	0.9	4.2	1.8	0.9
Borehole	-	-	0.1	-	0.1	0.1	7.5	5.0	4.7	7.5	5.1	4.9
Other	-	1.0		-	0.7	0.2	11.3	2.8	2.0	11.3	4.5	2.5
Total	52.5	58	64.9	22.9	26.0	22.1	24.6	15.9	13.0	100.0	100.0	100.0

Furthermore, Table 2 shows that a total of 88% of the households had access to safe drinking water in 2001. By 2011, the percentage of all households in Botswana with access to clean drinking water had exceeded the 90% mark, at 91%, with 64% located in urban and semi-urban areas, 22% in rural villages and 5% in rural localities (see Figure 1).

Figure 1: Percentage distribution of households with access to safe drinking water (Piped indoor/piped outdoor/ community standpipe) by Region for the years 1991, 2001 and 2011 in Botswana.



3.2 Gender Differential on Improved Water Access

There is evidence of gender differences in the percentages of households headed by males and females, types of safe water indicators depicted by different types of piped-water and unimproved drinking water and area of residence. (Table 3). It is apparent that there is no significant differences in percentages in urban centres, with 55% of male-headed against 54% of female-headed households that have access to piped-water indoors. There is a 2% difference between male and female headed households having access to piped-water outdoors in urban areas while there is no percentage difference among different gender-headed households accessing piped water from neighbours and communal taps. Meanwhile in urban villages, the percentage of male headed households accessing safe drinking water from piped-water indoors is 31% against 29% amongst female-headed ones. A statistically significant percentage (29%) of female-headed households in rural areas that drink water from piped-water outdoors exceeds that of male-headed (21%).

Table 3: Percentage distribution of households with access to safe drinking water (Piped indoor/piped outdoor/ community standpipe) by Region and Gender in Botswana

		Safe Water Indicator				
		Piped indoor	Piped outdoor	Neighbour / Communal tap	Unimproved	Total
Urban	Male	54.90%	36.00%	8.20%	0.90%	100.0
	Female	53.80%	38.10%	7.50%	0.50%	100.0
Semi-urban	Male	31.40%	53.90%	13.90%	0.90%	100.0
	Female	28.30%	56.90%	14.10%	0.60%	100.0
Rural	Male	12.30%	20.90%	31.10%	35.80%	100.0
	Female	13.60%	29.30%	43.30%	13.80%	100.0

There seem to be impediments among female-headed households reticulating water into their compounds in rural areas especially in rural villages and lands, possibly attributable to prohibitive drilling and reticulation fees entailed. Even though 86% of female-headed households have access to safe drinking water, 43% of these households draw water from either their neighbours or communal standpipes. This compares with 31% of male-headed households having similar access. Interestingly, Table 3 also shows that 36% of male-headed compared to 14% of female-headed households in rural areas use unimproved water sources, mainly in the form of wells, boreholes and river/streams at the cattle post and lands.

3.3 Disparities in Improved Water Supply by District

Table 4: Percentage of households by principal sources of water supply and district

District	Safe water indicator					Total Percent
	Piped indoors Percent	Piped outdoors Percent	Neighbours or communal tap Percent	Improved Source Percent	Unimproved Percent	
Kgalagadi North	20.1	45.2	23.2	88.5	11.5	100.0
Kgalagadi South	24.3	39.4	21.7	85.4	14.6	100.0
CKGR	47.6	4.8	4.8	57.1	42.9	100.0
Ghanzi	22.5	32.7	28.1	83.3	16.7	100.0
Okavango Delta	10.5	42.1	4.3	56.9	43.1	100.0
Chobe	29.4	50.7	16.4	96.5	3.5	100.0
Ngamiland West	12.5	21.1	51	84.6	15.4	100.0
Ngamiland East	22.6	36.9	23.8	83.2	16.8	100.0
North East	27.2	45.2	20.9	93.4	6.6	100.0
Central Tutume	17.0	30.2	37.1	84.2	15.8	100.0
Central Boteti	15.9	37.5	26.4	79.8	20.2	100.0
Central Bobonong	17.1	38.6	23.3	79.0	21.0	100.0
Central Mahalapye	19.0	36.0	31.9	87.0	13.0	100.0
Central Serowe Palapye	22.5	41.6	22.2	86.3	13.7	100.0
Kgatleng	26.9	52.5	7.6	87.0	13.0	100.0
Kweneng West	15.0	16.5	47.2	78.7	21.3	100.0
Kweneng East	23.2	51.7	18.8	93.7	6.3	100.0
South East	40.9	51.0	3.8	95.7	4.3	100.0
Ngwaketse West	16.1	33.9	33.0	83.0	17.0	100.0
Barolong	17.1	30.3	43.5	90.9	9.1	100.0
Ngwaketse	17.1	45.1	25.0	87.2	12.8	100.0

Table 4: Percentage of households by principal sources of water supply and district cont...

District	Safe water indicator					Total Percent
	Piped indoors Percent	Piped outdoors Percent	Neighbours or communal tap Percent	Improved Source Percent	Unimproved Percent	
All Rural						
Sowa Town	91.5	6.0	1.8	99.3	0.7	100.0
Jwaneng	67.8	23.2	0.6	91.6	8.4	100.0
Orapa	95.5	4.3	0.2	100.0	0.0	100.0
Selebi-Phikwe	45.2	47.4	7.2	99.8	0.2	100.0
Lobatse	41.9	41.6	16.4	99.9	0.1	100.0
Francistown	44.3	48.8	6.6	99.7	0.3	100.0
Gaborone	58.7	32.1	8.6	99.4	0.6	100.0
Total Urban	54.4	36.9	7.9	99.2	0.8	100.0
National	30.2	39.9	20.4	90.5	9.5	100.0

Source: 2011 Census

Availability of safe drinking water is expected to vary across all districts of Botswana in view of its varying degree of scarcity. The problem is further compounded by the vastness of the country such that it becomes prohibitive to reticulate water from areas well-endowed with water resources like Chobe to far flung semi-arid districts like Kgalagadi and Ghanzi. One feasible option is therefore to provide the population with underground treated water. Table 4 contains percentages of households by principal sources of water supply and district from the 2011 Population and Housing Census. The initial mandate of the Water Utilities Corporation was to provide water in urban areas. This mandate has been successfully achieved with more than 99% of households in all urban centres, except Jwaneng (91.6%), enjoying access to improved water sources. The rural areas of Central Kgalagadi game Reserve and Okavango Delta are the two areas that have the least percentage of households having access to improved water source at 57% each. It is important to understand that the two areas are very sparsely populated and that the movement of humans in these areas is highly controlled. Kweneng West with a fully-fledged sub-district status is an area with the least percentage of household having access to improved water at 79%. Only 31% of these households have tap water within the compound. The rest of the households (47%) in the sub-district have access to clean drinking water supplied through communal standpipes. This is a 6% improvement when compared to 2001 where 73% of households had access to improved water sources. The next worse-off districts are Bobonong and Boteti sub-districts, in that order, in the vast Central District, with 79% and 80% of households with access to clean drinking water, respectively. This is a drastic improvement of 21% for both sub-districts, when compared to ten years ago. One sub-district that has witnessed vast improvements in safe drinking water accessibility is Ngamiland East, whereby in 2001 just 52% of households had access to improved water supply but has achieved an 83% mark over ten years.

3.4 Socio-demographic Factors influencing availability of water

Table 5: Bivariate associations between main sources of water and socio-demographic factors

Main source of water		Safe water indicator				Total
		Piped indoors	Piped outdoors	Neighbours or communal tap	Unimproved	
E09 Tenure of housing unit	Self-built	17.1	40.1	29.8	13	100.0
	Rent individual	27.8	60.6	10.8	0.8	100.0
	Job related-free	54.3	15	6.8	23.9	100.0
	Rent Central Government	91.3	6.1	1.2	1.4	100.0
	Free: Inheritance	14.5	47.6	32.6	5.3	100.0
	Purchased	82.5	8.7	4.4	4.4	100.0
	Rent: Company	89.4	8.1	1.3	1.3	100.0
	Rent: BHC	94.5	5.1	0.3	0.1	100.0
	Rent: Local institution	91.4	5.8	1.3	1.5	100.0
	Rent: VDC	31.5	44.2	22.4	1.9	100.0
	Donated	8.1	25.5	60.3	6.2	100.0
	Do not know	24.3	30.4	22	23.3	100.0
E08 Type of housing unit	Traditional	2	11.9	48.2	37.9	100
	Mixed	10.9	45.7	31.9	11.5	100.0
	Detached	47	39.1	11.8	2.1	100.0
	Semi_detached	69.5	22.8	5.8	1.9	100.0
	Town House/Terraced	71.4	23.1	4.7	0.8	100.0
	Flats, Apartment	97.9	1.5	0.4	0.3	100.0
	Part of Commercial building	34	34.3	18.3	13.4	100.0
	Movable	7.4	22.8	17.4	52.3	100.0
	Shack	1.7	14.5	26.8	57	100.0
	Rooms	10	64.8	20.9	4.3	100.0
Locality type Major Grouping	City/Town	54.4	36.9	7.9	0.8	100.0
	Urban Village	29.8	55.5	14	0.8	100.0
	Rural	12.9	24.8	36.7	25.6	100.0

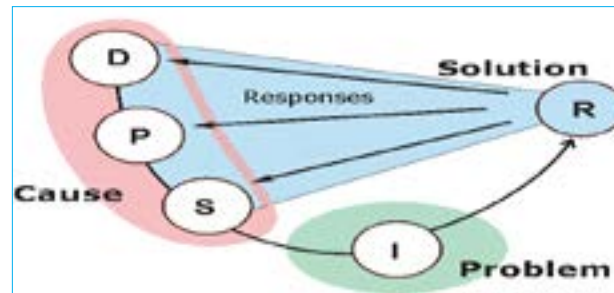
Ownership of the housing unit seems to determine the availability of safe drinking-water, with BHC and Government owned housing units having the highest proportion of inhabitants with safe drinking water. However, the situation is different when it comes to individually owned housing units, where donated, inherited and self-built housing units have 8%, 15% and 17% access to safe drinking-water, respectively.

4. The DPSIR Conceptual framework for Availability of Water

As indicated before, the DPSIR conceptual framework was originally developed by the European Environment Agency (EEA) and The Statistical Office of the European Communities (Eurostat) as a tool for organising systems of indicators for measuring environmental change and sustainable development. The framework was formerly developed by the OECD (1993) in the PSR (Pressure-State_Response) form and is based on a concept of causality: human activities exert pressures on the environment and change its quality and the quantity of natural resources. Society responds to these changes through environmental, general economic and sector policies. The latter form a feedback loop to pressures through human activities (OECD 1993; EEA 1999). See Figure 2. In this chapter, the framework is used to highlight relationships between human activity and water use or availability.

Water scarcity is either the lack of enough water (quantity) or lack of access to safe water (quality).

Figure 2: Decision-Making within the DPSIR framework



The DPSIR conceptual framework distinguishes five broad components:

Driving forces are underlying factors influencing environmental change such as population growth, human demand for water and treatment and, recently, climate change. These driving forces lead to pressures on the environment. Specifically, Botswana's ever growing population is driving domestic demand for water and accelerates exploitation of water resources through abstraction. Rural – urban migration also increases pressure on human demand for water and sanitation facilities. Another important driving force is climate change. In Botswana, climate change is expected to have wide-ranging negative effects on key sectors such as water, agriculture, food security and human health. Botswana is especially exposed because of its fragile and arid environment. Already, increased intensity and frequency of extreme weather events like droughts and floods have been observed and are hindering progress towards the realisation of the goals and aspirations of the Vision 2016 and tenth National Development Plan (NDP10).

Pressures describe the variables which directly cause (or may cause) environmental problems such as exploitation of water resources. The pressures, in turn, affect the state of the environment. In the case of the water sector in Botswana the pressures include increased domestic demand for water, accelerated water abstraction, prolonged droughts, which are a result of increasingly unreliable and low rainfall. These lead to unusually low levels of water in the wells, boreholes and dams, especially in the southern parts of the country. These pressures lead directly to water scarcity.

State shows the current condition of the environment. Traditionally, in the water sector the state is assessed by studying the situation of water availability and water quality in a given country or locality. The World Health Organisation (WHO) produces international norms on water quality and human health in the form of guidelines that are used as the basis for regulation and standard setting in support of public health in developing and developed countries world-wide. For purposes of this report, however, we focus on the water availability as water quality is assessed by measuring a complex array of variables that the Population and Housing Census does not cover.

From the descriptive analysis above, a total of 88% of the households in Botswana had access to safe drinking water in 2001. By 2011, the percentage of all households in Botswana with access to safe drinking water had exceeded the 90% mark, at 91%, with 64% located in urban and semi-urban areas, 22% in rural villages and 5% in rural localities. However, to appreciate Botswana's progress as a country towards the Millennium Development Goal on access to safe drinking-water, an indication of the proportion of the total population that has access to different principal water sources is needed. A summary of this information is contained in Table 6.

Table 6: Proportion of population by district and principal source of water supply in 2011 and 2001

District	Piped		Well		Borehole		Other	
	2011	2001	2011	2001	2011	2001	2011	2001
Urban Cities/Towns								
Gaborone	99.4	99.8	0.0	0.0	0.0	0.0	0.5	0.2
Francistown	99.7	99.4	0.0	0.0	0.1	0.0	0.1	0.6
Lobatse	99.9	99.9	0.0	0.0	0.1	0.0	0.0	0.1
Selibe-Phikwe	99.8	98.4	0.0	0.0	0.1	0.0	0.0	1.6
Orapa	100.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Jwaneng	91.6	99.5	0.0	0.0	0.0	0.0	8.4	0.5
Sowa Town	99.3	100.0	0.0	0.0	0.4	0.0	0.3	0.0
Total Town/City	99.2	99.5	0.0	0.0	0.1	0.0	0.7	0.5
Urban and Rural Villages								
Ngwaketse	87.2	84.1	0.6	1.3	6.5	5.5	5.7	9.0
Barolong	90.9	84.3	0.5	1.1	5.8	7.4	2.8	7.2
Ngwaketse West	83.0	91.8	0.2	0.6	7.7	3.0	9.2	4.7
South East	95.7	95.5	0.1	0.1	2.0	1.3	2.2	3.1
Kweneng East	93.7	90.1	0.7	1.3	2.6	2.5	3.0	6.2
Kweneng West	78.7	77.8	0.7	1.3	16.2	17.6	4.4	3.3
Kgatleng	87.0	89.8	1.3	1.2	8.1	4.6	3.6	4.4
Central Serowe Palapye	86.3	83.2	1.3	2.7	8.6	9.4	3.9	4.6
Central Mahalapye	87.0	86.3	1.1	2.2	8.9	7.1	3.0	4.4
Central Bobonong	79.0	73.7	3.8	6.3	11.0	8.4	6.2	11.6
Central Boteti	79.8	68.8	4.1	9.8	10.8	16.7	5.3	4.7
Central Tutume	84.2	78.8	3.2	5.2	7.1	8.2	5.5	7.8
North East	93.4	89.7	0.2	1.1	1.4	1.0	5.1	8.2
Ngamiland East	83.2	78.7	0.5	3.2	5.7	10.2	10.6	7.9
Ngamilaland West	84.6	71.8	2.2	4.3	2.9	5.1	10.3	18.9
Chobe	96.5	89.1	0.1	1.1	2.0	5.5	1.4	4.3
Okavango Delta	56.9	27.2	0.3	0.1	1.5	0.8	41.2	72.0
Ghanzi	83.3	72.6	0.2	0.8	14.3	18.3	2.2	8.3
Central Kgalagadi Game Reserve (CKGR)	57.1	43.3	23.8	0.0	0.0	0.0	19.0	56.7
Kgalagadi South	85.4	85.8	0.3	0.1	9.1	4.6	5.2	9.5
Kgalagadi North	88.5	82.5	0.1	0.4	5.2	11.2	6.3	5.9
Total Others	87.5	83.5	1.2	2.6	6.6	7.0	4.7	6.9
Total National	90.5	87.1	0.9	2.0	4.9	5.5	3.6	5.5

At a national level, a comparison of the results for the 2001 and 2011 Censuses in Table 6 shows that Botswana has made great progress towards the Millennium Development Goal on access to safe drinking water. The country has 99.9% coverage and has actually crossed the MDG target of 88% by 2015. At this pace, the country has also crossed the 75% target set for the Sub-Saharan Africa region, which is far ahead of the region's just 63% of safe drinking water coverage. In fact, on this score, Botswana is in the same league with developed countries, which collectively stand at 99% coverage (World Health Organization/UNICEF, 2013. Progress on sanitation and drinking-water-2013 update). Also, see United Nations Millennium Development Report 2012.

Table 7 Sanitation facilities by Type of locality – 2011 census

Type of sanitation facility	Urban and Rural			
	City/Town	Urban Village	Rural	Total
	Percent	Percent	Percent	Percent
Improved – flush/VIP or owned PIT	71.8	70.2	43.5	61.3
Unimproved - Shared Pit or compost	26.8	21	9.1	18.3
Unimproved - Other	0.7	5.7	9	5.6
Open defecation	0.6	3.1	38.3	14.8
Total	100.0	100.0	100.0	100.0

Results contained in Table 7 show that by 2011, the percentage of the population in Botswana who gained access to a latrine, flush toilet or other improved sanitation facility is 61.3%. Thus, Botswana's progress towards the MDG goal on access to an improved sanitation facility by far surpasses the Sub-Saharan Africa regional coverage of only 30%. However, the disparities are apparent among rural residents (about 44%) than either semi-urban villages or urban areas, where the improved sanitation coverage is above 70%.

Table 8: Inter Census trends in sanitation facilities - 2001 to 2011

Type of sanitation facility	2001	2011	2001	2011
Owned Flush	83887	139062	20.7	25.2
Communal/shared Flush	3348	48704	0.8	8.8
Total Flush	87235	187766	21.6	34.1
Owned-Other	176223	140492	43.5	25.5
Communal/shared Other	47061	138418	11.6	25.1
Open defecation	94187	84272	23.3	15.3
Total	404706	550948	100	100

It must be noted that the classifications of sanitation facilities for the 2001 and 2011 Population and Housing Censuses were different, thus, constraining comparison between the two time periods. In the present analysis, we have assumed that the classification "flush toilet" is an improved sanitation facility, whether owned or shared, hence making feasible comparison between 2001 and 2011 Census data. Results contained in Table 8 show that from 2001 to 2011, the percentage of the population in Botswana who have access to a flush toilet increased from 21.6 % to 34.1 %. Another interesting observation, is that the proportion of other owned facilities (VIP and pit latrine) declined from about 44% in 2001 to about 26% in 2011. This could be attributable to increased availability of sewage systems in urban and large villages.

Impact describe the ultimate effects of changes of state, which may have impact on human health, ecosystems, biodiversity, economic and social status: water scarcity and social welfare.

Response refers to the reaction or efforts of society, Government, public institutions, local communities and others to undesired impacts of human activities or natural disasters on the environment in order to prevent, mitigate or adapt to changes in the environment. Within the context of this chapter, the response refers to Botswana Government policies, strategies and challenges it is facing in its effort to meet the targets set by the Millennium Development Goals (MDGs) and Vision 2016: To "Halve by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation".

As indicated before, Botswana has made great strides towards the Millennium Development Goals on access to safe drinking water and access to an improved sanitation facility. However, the greatest threat to Botswana's progress remains water scarcity. With no perennial rivers under its full control (save the tail-end of the Okavango), a drought-prone environment, and dam evaporation rates accelerating with global warming, Botswana has perilously few water resources to meet ordinary demand and support economic growth (Nyandoro, 2012). This means that policies and strategies that can secure water service delivery, significantly reduce wastage and optimise water use are needed.

Over the years, Botswana Government has set up a number of institutions with various responsibilities in planning, development and delivery of water to all its citizens, including those living in small and remote settlements. Responsible for policy in the water sector is the Ministry of Minerals, Energy and Water Resources. In particular, the Department of Water Resources within the ministry is responsible for national planning and carrying out development work in districts. Botswana's water policy is based on the 1991 Botswana National Water Master Plan (NWMP), with recommendations for reform made in a 2006 review. The NWMP covers water resource monitoring and management, and water project feasibility studies and implementation. And, in another effort to improve planning, management and service delivery in the water sector, the review of the Botswana National Water Master Plan (NWMP) in 2005-2006 recommended a major restructuring of the water sector (WUC, 2011), including the separation of water resources management from water service delivery. The recommendation of the 2006 review led to a Water Sector Reforms Project which is being implemented in a phase approach, from May 2009 to 2014. Within the terms of this project, the Water Resources Council advises the Minister of Minerals, Energy and Water Resources, monitors and allocates water resources between users, and develops policy for managing water resources. Thus by 2015, the Department of Water Affairs will be responsible only for water resources planning and management, including construction of dams. The Water

Utilities Corporation will be responsible for service delivery of water and wastewater services which entails providing potable water to all cities, towns and villages in Botswana as well as for waste water services.

Prior to the 2009 reforms, the Department of Water Affairs was responsible for protection of surface water resources from pollution and aquatic weeds and for administering the water legislation. District Councils were responsible for the operation and maintenance of water schemes in medium villages and smaller settlements. These schemes were constructed by the Department of Water Affairs and would then, on completion, be handed over to the respective district councils. The Water Utilities Corporation, on the other hand, was charged with supplying water to the 5 towns and 2 cities of Botswana, as well as supplying the Department of Water Affairs and district councils with bulk water for further distribution to the remaining areas in the country. Also, the Water Utilities Corporation were and still are responsible for Botswana's 6 major dams, namely, Gaborone, Bokaa, Nnywane, Shashe, Letsibogo and Ntimbale as well as for getting water from the Molatedi Dam in South Africa (which Botswana also gets water from).

For over 38 years, communal standpipes have been the main source of household water especially in the rural areas of Botswana. The excessive amount of water wastage from this water source, mainly through excessive use and leakages, has been a major concern of government in recent years. As a result, the government decided to install prepaid water meters in major villages and rural communities across the country in an attempt to reduce wastage of water. The Water Utilities Corporation charges are based on monthly usage and aim to recover production and transport costs.

Further to address the problem of water scarcity in Botswana, on March 01, 2013, the Government of Botswana, through the Ministry of Minerals, Energy and water Resources, signed a Memorandum of Understanding (MoU) with Lesotho and South Africa which put in place a framework for the feasibility study to determine the possibility of water transfer from the Senqu River in Lesotho to Botswana. The three countries, together with Namibia, are members of the Orange-Senqu Commission (ORASECOM) and, therefore, all have water rights to the river. (The ORASECOM treaty, originally signed in 1986, was formalized in 2000 to promote shared and sustainable development of resources of the Orange-Senqu River by the four countries that form the basin of the river.)

Most recently, as the effects of climate change become apparent, and are expected to worsen in many parts of the world, the Government of Botswana has started taking necessary steps that will ensure that these effects do not adversely impact on its development programmes. To this end, on August 28, 2013, the Botswana Government convened an inception workshop to initiate a stakeholder-focused process for the development of a National Climate Change Policy and Comprehensive Strategy and Action Plan (NCCSAP) in Gaborone. At the inception workshop, government emphasized its commitment in safeguarding the lives of Botswana through a holistic approach to addressing the challenges that climate change poses.

Despite the above-enumerated Government policies and strategies to manage water resources, the problem of water scarcity in Botswana continues to worsen. Following unsatisfactory 2012/2013 rainy season, dam levels have gone down below unprecedented levels, with some of the Water Utilities Corporation's dams in the south completely dry. The problem is so acute that the Water Utilities Corporation has been compelled to introduce water rationing in the Gaborone and Greater Gaborone (which stretches from Mochudi to Goodhope) areas in an effort to reduce water usage and preserve the little water that is left in the country's dams. According to the WUC, these areas will have no water 6 to 8 hours for at least 3 times a week. The corporation came to this desperate decision after realizing that Bokaa Dam, which supplies Mochudi and surrounding villages, would dry up in less than a week, making it the second dam to dry up in the southern part of the country in the 2012/2013 rainy season after Nnywane, which supplies the town of Lobatse.

5. Conclusions and Recommendations

5.1 The analysis of the 2011 Population and Housing Census, compared with those of 2001, show a significant improvement in accomplishing the Millennium Development Goal and Vision 2016 target of "Halving by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation.

5.2 The disparities are apparent among rural residents (about 44%) than either semi-urban villages or urban areas, where the improved sanitation coverage is above 70%.

References

Botswana (2010). Botswana Millennium Development Goals Status Report 2010.

Botswana (1997). Vision 2016. A Framework for a Long Term Vision for Botswana. Presidential Task Group for a Long Term Vision for Botswana.

Central Statistics Office of Botswana. 2011 Population and Housing Census.

Central Statistics Office of Botswana. 2001 Population and Housing Census.

Forcheh, N. and Thupeng, W.M..The Situation of Water Resources in Botswana. The 58th Session of the international Statistical Institute, 21st-26th August, 2011, Dublin, Ireland.

Jacobo Feas Vazquez (2003). A methodology for policy analysis in water resources management. EAERE FEEM VIU European Summer School. *Fondazione Eni Enrico Mattei, Italy.*

Ministry of Finance and Development Planning. National Development Plan 10 (2008/2009-2015/2016).

Nyandoro, M. The Future of Water in Botswana. Public Forum on Water organized by The Botswana Society in association with Livingstone Kolobeng College. Gaborone. 31st May, 2012.

Thupeng, W.M. and N. Forcheh. Availability and Quality of Data on Water Statistics in Botswana. Statistical Indicators for Environmental Policy in Africa 2011 –A Blended Learning Training Course. Bonn, Germany. 3rd August, 2011

Thupeng, W.M., Neto, J., Kabende, A. and Ginidza, C. Assessing change of forest resources in Germany. Statistical Indicators for Environmental Policy in Africa 2011 –A Blended Learning Training Course. Bonn, Germany. 12th August, 2011.

Vision Council (2009). Vision 2016 Botswana Performance Report.

World Health Organization/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (2013). Progress on sanitation and drinking-water – 2013 update. World Health Organization and UNICEF.

United Nations Department of Economic and Social Affairs (2012). Millennium Development Report 2012.

Appendix

Definition: Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.

For the Botswana data we interpret this to mean all

Improved toilets are all flush and VIP toilets and owned pit toilets; Unimproved shared toilets comprised of both shared Pit latrine and dry compost toilets. These are excluded from improved toilets on the basis of inadequate access. Other unimproved toilets correspond to neighbour or communal pit latrine or dry compost, while open defecation correspond to no toilet facility.

```
RECODE E15_TOILET (11 THRU 13, 21, 22, 31, 32, 41, 42 = 1) (23, 24 = 2) (14, 33, 34, 43,  
44 = 3) (50=4) INTO Sanitation_fac.
```

```
EXECUTE.
```

```
VARIABLE LABELS
```

```
Sanitation_fac
```

```
Type of sanitation facility.
```

```
VALUE LABELS
```

```
Sanitation_fac
```

```
1 'Improved - flush or owned VIP/PIT'
```

```
2 'Unimproved - Shared Pit or compost'
```

```
3 'Unimproved - Other'
```

```
4 'Open defecation'.
```

WASTE COLLECTION AND DISPOSAL IN CENSUS DISTRICTS (2011 CENSUS)

BY Boat Modukanele
UNDP/UNEP POVERTY ENVIRONMENT INITIATIVE

Abstract: The 2011 census results show that a total of 191,061 households or 34.68% of the total households in Botswana receive a regular waste collection service. This can be interpreted as the level of satisfaction with the waste collection service provided by the government's waste management sector. The level of regular waste collection as per the 2011 census is an increase of 5.35% from level recorded during the 2001 census (29.29 %). Of the households that receive a regular waste collection 56.46% resides in cities and towns while the rest are in urban and rural areas of the country. Some households reported receiving a collection service albeit it being irregular or in other words not reliable. 10.22% of the households reported receiving an irregular waste collection service. This proportion has increased compared to the 2001 census when 7.12% reported receiving an irregular service.

Introduction

Waste can be considered to be any material that is discarded because it has served its purpose or is no longer useful to the owner or generator. Industrial waste is usually the by-product or end product of materials from large-scale production factories or industries. They are often considered hazardous and can be toxic to both human being and the environment. Domestic or household wastes are wastes originating from domestic activities such as those emanating from house hold food preparation, production, consumption and the general upkeep of the household. This could include garbage from unwanted food items, paper, cleaning materials and other unwanted household items.

Human activities create waste be it during industrial production processes or household activities, and it is the way that the waste is handled, stored, collected and disposed which can pose a risk to both the environment and human health. Lack or inadequate waste collection and disposal systems can lead to indiscriminate waste disposal in the streets, open spaces or drains which could contribute to the problem of flooding, breeding of insects and rodent vectors which could lead to the spread of diseases. For a long time a focus has been on the collection of waste rather on the whole chain of activities related to the handling treatment and disposal of waste. However, over the past ten years the government of Botswana has invested in the development of sanitary landfills for the safe disposal and management of different types of waste. These sanitary landfills are mainly in urban centers as this are the places with a high population concentrations and hence a higher waste production.

Institutional Arrangements

There is a need for proper defined institutional arrangement within government in order to have an efficient waste management system. The government of Botswana has put in place structures that have a defined role in terms of their responsibilities within the waste management systems. At the central government the Department of Waste Management and Pollution Control within the Ministry of Environment Wildlife and Tourism is responsible for all legal and policy issues regarding waste collection, disposal and management of disposal sites. The department provides overall guidance on how the participation of non-state actors such as private sector and the informal sector can be managed while the detailed contract agreements are the responsibility of the contracting local authority. The responsibility for waste collection from households and management of the disposal facilities is the responsibility of the Ministry of Local Government and Rural development through the local authorities

Department of Waste Management and Pollution Control

The Department of Waste Management and Pollution Control (DSWM), formerly the Department of Sanitation and Waste Management, is the Central Government responsible party for all matters relating to sanitation and waste management. The department is responsible for oversight for the implementation of the waste management strategy and the enforcement of the Waste Management Act 1998. The department provides technical support and budgetary assistance especially with the development of waste management facilities to the local authorities to enable them to provide a sustainable service to the nation.

The Ministry of Local Government and Rural Development

The Ministry of Local Government and Rural Development through the district and town councils is responsible for the day to day running of the waste management systems in Botswana. The local authorities can either carry out the collection themselves or they can contract the private sector in order to improve productivity and be able to cover areas they may not be able to attend to with their limited collection fleet and manpower.

Policy and Legal Framework

Waste Management Strategy

The Botswana Waste Management Strategy is a policy document that was established in 1998 in an effort to implement the aims and objectives of Agenda 21 of the Rio Summit. The strategy embodies the following principles whose basic premise is to minimize environmental pollution:

- **Principle of prevention** – environmental pollution must be minimized as far as possible and measures should be taken before damage occurs.
- **Polluter pays principle** – cost of preventing, eliminating or even transporting and treatment of waste must be borne by the waste generator.
- **Principle of co-operation** – cooperation among all stakeholders is necessary in order to solve environmental problems.

In addition to the above principles, the strategy has adopted the internationally accepted Waste Management Hierarchy of Reduction, Reuse and Recycling. These principles are the cardinal points of waste management in the country and therefore they are a foundation upon which all other tools of waste management are built. The main objectives of the strategy are inter-alia:

- Minimizing and reducing wastes in industry, commerce and households;
- Maximizing environmentally sound waste reuse and recycling; and
- Promoting environmentally sound waste collection, treatment and disposal.

Waste Management Act 1998

Based on Botswana's Waste Management Strategy, a Waste Management Act was formulated and promulgated in 1998. This act was set up as the legal framework to strengthen, implement and support the Strategy. The act provided for the establishment of an independent Department of Sanitation and Waste Management. This waste management legal framework is of utmost importance for any waste-related program to achieve its objectives. This is because in many instances individuals and organizations will only comply with or implement strategies and programs if they are legally binding. For instance, countries that are leading the way in the recycling of waste are those where a law requiring recycling exists. The legal framework should be coupled with a strong enforcement effort. In the case of Botswana, the legal framework exists; what is very much lacking is the enforcement.

Vision 2016

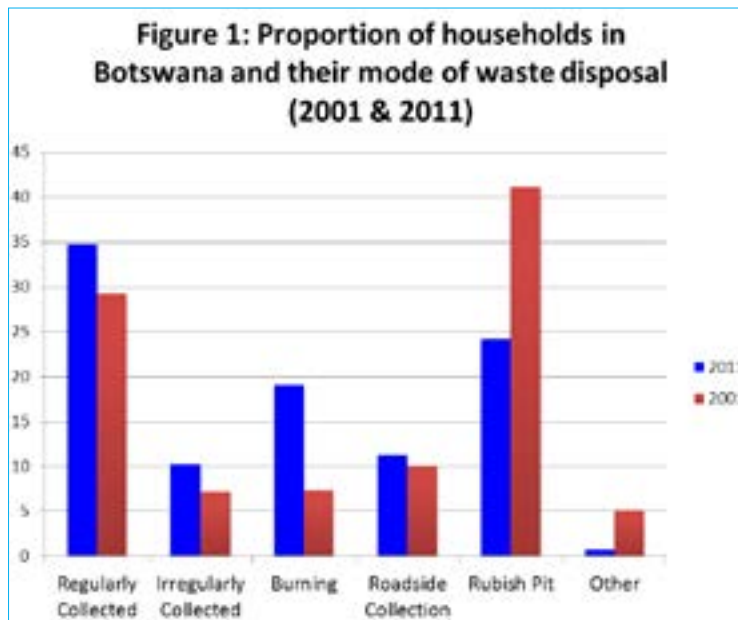
Vision 2016 states that by the year 2016, Botswana will have taken strong measures to limit the pollution that would otherwise have resulted from poor environmental management. Proper waste management can contribute positively towards achieving Vision 2016. However, at the current levels of waste management this will be difficult. It is also noted that Vision 2016 has got no household-based targets and therefore it would be difficult to measure the extent to which the Vision goals would have been realized.

Households and their mode of waste disposal

The 2011 census results show that a total of 191,061 households or 34.68% of the total households in Botswana receive a regular waste collection service. This can be interpreted as the level of satisfaction with the waste collection service provided by the government's waste management sector. The level of regular waste collection as per the 2011 census is an increase of 5.35% from level recorded during the 2001 census (29.29%) Of the households that receive a regular waste collection 56.46% resides in cities and towns while the rest are in urban and rural areas of the country. Some households reported receiving a collection service albeit it being irregular or in other words not reliable. 10.22% of the households reported receiving an irregular waste collection service. This proportion has increased compared to the 2001 census when 7.12% reported

receiving an irregular service. When considering both regular and irregular waste collection, a total of 44.5% of households in Botswana receive some form of waste collection while 55.5% does not receive any waste collection service at all.

Figure 1 below shows the comparison of waste disposal by households during the 2001 and 2011 census. The figure shows that there was significant decline in the use of rubbish pit (41.19% in 2001 and 24.09% in 2011). However, there has been an increase in burning as a mode of waste disposal from 7.33% in 2001 to 19.05% of households in 2011



Waste collection in Cities and Towns

Figure 2 shows the percentage of households within cities and towns in Botswana and the mode of waste disposal. A total of 76.14% of households living in cities and towns receive a regular waste collection service. This is a decline from 80.47% as reported during the 2001 census. Selibe Phikwe and Orapa receive the highest regular waste collection service of 94.78% and 94.59% respectively. Selibe Phikwe regular waste collection service has significantly increased from 2001 census (79.93%). Sowa Town has declined in the regular waste collection service from 98.98% in 2001 census to 74.73% during the 2011 census.

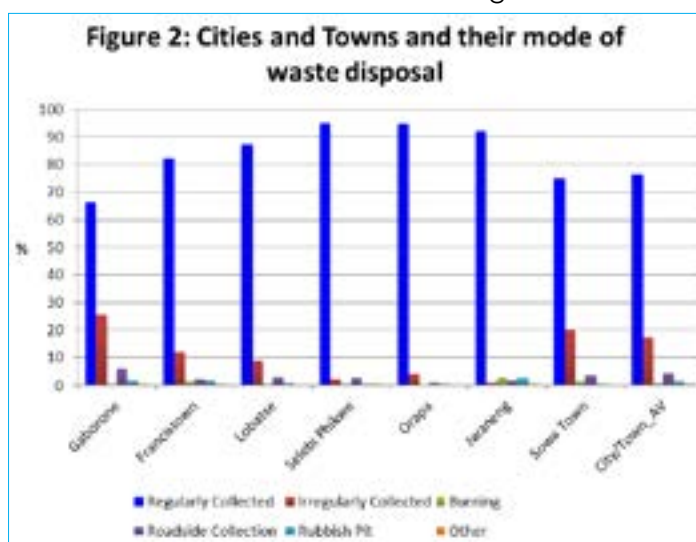
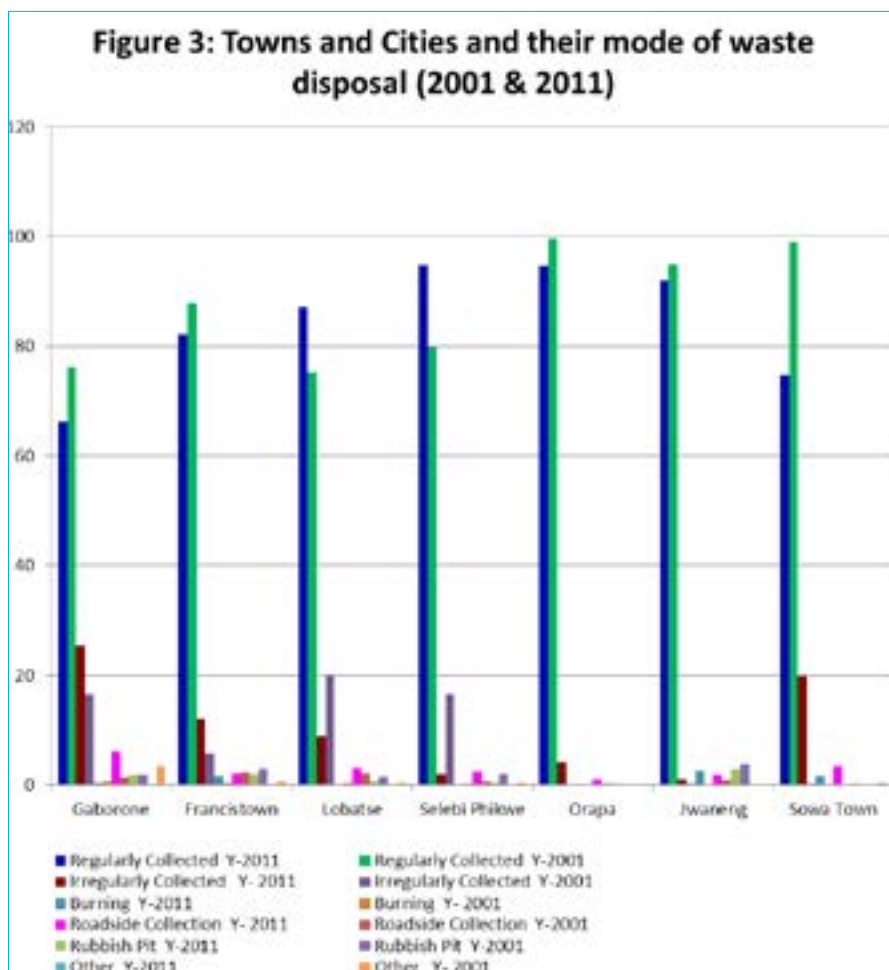


Figure 3 below shows the proportion of households in cities and towns and their mode of waste disposal during the 2001 and 2011 census. As the graph shows there has been a decline in some places in terms of regular waste collection, notably in Sowa Town. An irregular or unreliable waste collection service can have a negative impact on both the economy of the town/city and the pose a public health risk to the people living in those areas. There can be incidences of increased illegal dumping of waste in public areas and drainage systems, which can end up blocking the systems and contributing to flooding during rainy season and become breeding ground for insects and rodent disease causing vectors. Lack of waste collection can also affect the aesthetics of the city/town and make it less competitive cause as a place for doing business especially in sector such as tourism.

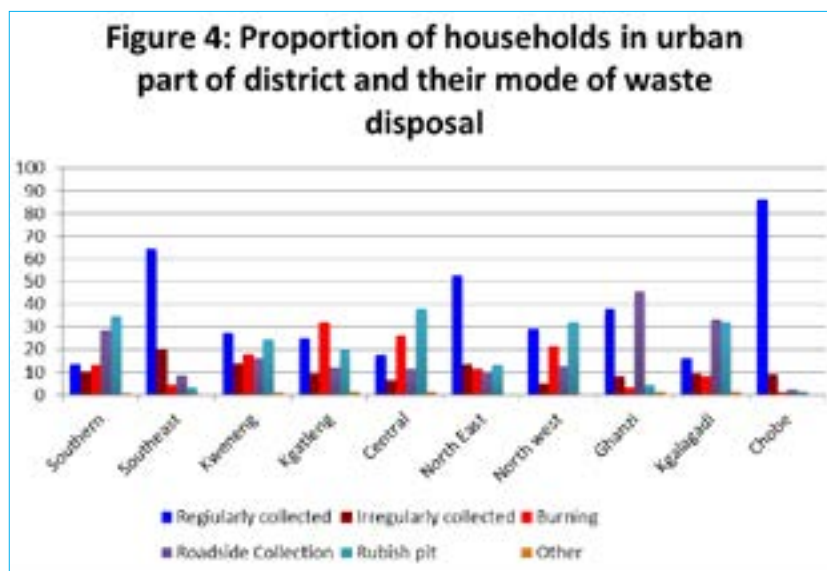


Waste collection in Census Urban Settlements

Census urban settlements are classified as those settlements that have a population of over 5000 and over 75% of its economically active population is engaged in non-agricultural activities. Therefore all towns and cities are classified as urban settlements, while some census districts have both urban and rural settlements. For the purposes of this analysis, towns and cities have been dealt with separately and this section will only deal with urban settlements in census districts. The town and cities are governed by the township act which dictates that resident must pay rates to the council which covers the compelled to collect household waste from all residential plots while in district councils plot owners have to pay a fee to the council before waste can be collected. Therefore the system in urban areas outside of the cities and towns is based on the willingness of the households to pay for the service. The challenge with such a system is that it can lead to indiscriminate waste disposal and pose both a health risk and an environmental problem, as there is no control on how waste is disposed.

Table 3 shows the proportion of households in urban part of census districts and that use of a given mode of waste disposal. 46.14% of all urban households receive a regular waste collection service while 12.95% receive an irregular service. There is no significant difference between the 2001 and 2011 census results in terms of waste collection. The 2001 census results showed a regular collection service of 45.96% and an irregular service of 10.24%. Therefore this can be interpreted as meaning that level of service provision in terms of waste collection hasn't improved in urban areas.

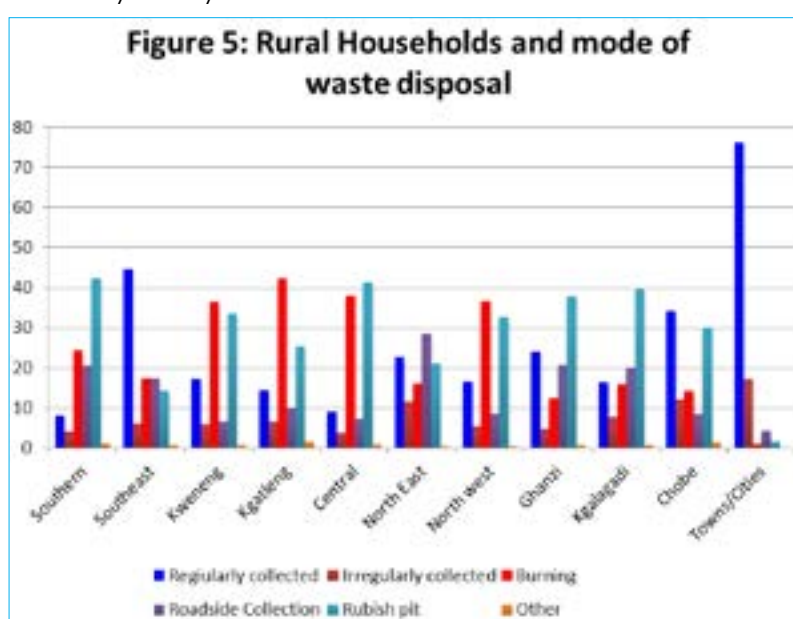
Chobe district has the highest regular collection service of the urban part of the census districts areas at 86.08% followed by South East at 64.20%. North East follows the two districts with a regular waste collection service of 52.42%. Figure 4 shows that for urban parts of the census districts, the most common mode of waste disposal is roadside collection, rubbish pit and burning respectively. It is important to note that roadside collection contribute to indiscriminate dumping as waste is often left uncollected for a longtime and both domestic and wild animals can have access to it and scatter it all over the place. Regular collection is lowest in the Central and Kgalegadi districts at 15.91% and 17.39% respectively.



Waste Collection by Census Rural Settlements

Table 5 shows that a total of 13.41% of rural households receive a regular waste collection service while 5.17% receive an irregular collection service. The most dominant mode of waste disposal for rural households is burying waste in a rubbish pit followed by burning at 36.44% and 32.39% respectively. There is a very small increase in the proportion of rural households receiving regular collection in 2011 as compared to the 2001 census with 6.27% in 2001 while 2011 is 13.49%. There has been an increase in the proportion of households who burn their waste from 9.87% in 2001 to 32.39% in 2011. There has been a decline in the proportion of households burying their waste from 57.86 in 2001 to 36.44% in 2011. The two method of waste disposal even though they are dominant are also very problematic because they pose a risk to both human health and the environment. Burying waste can contribute to environmental pollution especially pollution of ground water system of which a majority of rural villages depend on for both domestic and livestock purposes.

The results of the 2011 census show that in rural areas there is very little or no waste collection service provided. There could be a number of possible reasons for the low collection service in rural households one of them being that the rural areas are far from each other and the cost of having collection vehicles travel to those areas makes it unsustainable especially during time of economic downturn. This problem offers an opportunity for the local authorities to engage small scale contractors who use local transportation systems such as donkey carts to collect waste from households to a safe waste disposal site or to a central place where the collection truck can pick up all the waste without having to go through the whole village where sometimes the roads are not conducive for use by heavy vehicles.



Waste management is still a challenge for Botswana. The 2011 census results show that only 34.68% of the households in Botswana receive a regular waste collection service. Even though it is an improvement from 29.929% during the 2001 census, it is still an unsatisfactory level of service considering that during NDP 9 government has invested a lot of resources into developing sanitary landfills to improve the waste management systems and protect both the environment and human health. Most of the urban villages have sanitary landfills and if the waste collection is less than 50% of the households, this means that the facilities are underutilized and as such the tax payer is not getting value for their money invested.

The local authorities might be facing some challenges that impact on their ability to provide a sustainable waste collection service in their entire jurisdiction. Some of the challenges encountered include the following:

1. High operating costs of the waste collection fleet
2. The lack of willingness to pay for the waste collection service in urban and rural areas outside of towns and cities
3. The use of inappropriate technology for waste collection that can lead to long periods of breakdown
4. Non or lack of engagement of non-state actors (private sector, NGOs and small scale contractors) in the waste collection and management system

Recommendations:

1. The Ministry of Local government and Rural Development should carry out regular customer satisfaction surveys focusing on waste collection to determine people perception of the level of service being provided and then be able to use it to improve the service.
2. The Ministry of Local Government and Rural Development through the local authorities' should develop a standardized data collection on waste management that could be used for monitoring and reference.
3. Local authorities should increase the use of non-state actors including small scale contractors, youth groups and NGOs in the waste collection system

Conclusion

The results of the waste data from the 2011 shows that more households who stay in cities and towns receive a waste collection service while those who resides in urban areas and rural settlements receive very little waste collection service. However, the results show that there has been a decline on the waste collection service reported in the 2011 census results as compared to the 2001 results (80.47% in 2001 and 76.14% in 2011). A decline in the waste collection service in towns and cities is not very good because this are places that have a high production of waste due to their economic activities and lack of proper waste management can lead pollution of the environment and pose a risk to public health.

References

1. Botswana Government (1997) Botswana's Waste management strategy
2. Botswana Government (1998) Waste Management Act
3. Modukanele B(2003) Mode of waste collection and disposal in census districts
4. UNHABITAT (2010) Collection of Municipal Solid Waste in Developing Countries
5. Zurbrugg Christian (2003) Solid Waste Management in Developing Countries
6. Zurbrugg Christian (2002) Urban Solid Waste Management in Lo-Income Countries of Asia: How to cope with the Garbage Crisis

Table 1: Proportion of households in Botswana that use a given method of waste disposal-2011 Census

District-Urban+Rural	Refuse disposal						Total	Total Households-2011 Census
	Regularly collected	Irregularly collected	Burning	Roadside collection	Rubbish pit	Other (NEC)		
Gaborone	66.21	25.45	0.45	6.04	1.81	0.04	100.00	74963
Francistown	82.21	12.06	1.59	2.16	1.88	0.09	100.00	31297
Lobatse	87.19	8.87	0.18	3.07	0.68	0.00	100.00	9214
Selebi_Pikwe	94.78	2.02	0.20	2.52	0.46	0.02	100.00	16059
Orapa	94.59	4.19	0.00	0.94	0.27	0.00	100.00	3292
Jwaneng	91.97	0.98	2.54	1.78	2.71	0.02	100.00	5940
Sowa Town	74.73	19.82	1.6	3.53	0.34	0.00	100.00	1191
Cities/Towns	76.14	17.21	0.74	4.28	1.59	0.04	100.00	141956
Ngwaketse	9.63	7.38	19.37	22.51	39.91	1.20	100.00	31479
Barolong	11.49	4.99	16.25	30.25	36.58	0.44	100.00	13757
Ngwaketse West	16.01	10.24	22.39	17.95	33.31	0.11	100.00	3555
Southern	10.62	6.91	18.71	24.36	38.49	0.91	100.00	48791
South East	60.79	17.63	6.50	9.97	4.86	0.24	100.00	23991
Kweneng East	24.67	12.25	22.62	13.83	25.61	1.01	100.00	68328
Kweneng West	21.56	5.98	28.43	8.40	35.25	0.38	100.00	12231
Kweneng	24.2	11.3	23.5	13.01	27.07	0.91	100.00	104550
Kgatleng	20.16	8.07	36.77	11.03	22.47	1.50	100.00	24913
Central Serowe Palapye	17.33	5.58	29.27	13.09	33.52	1.21	100.00	46185
Central Mahalapye	10.42	5.29	30.42	4.88	48.04	0.95	100.00	29794
Central Bobonong	13.63	4.70	30.16	8.34	41.22	1.95	100.00	19155
Central Boteti	15.52	5.83	42.53	6.05	29.3	0.77	100.00	14110
Central Tutume	7.95	3.78	34.98	8.65	43.53	1.11	100.00	38352
Central	12.84	4.96	32.37	8.99	39.65	1.18	100.00	147596
North East	29.76	12.05	14.8	23.9	19.05	0.44	100.00	15865
Ngamiland East	19.74	3.22	28.98	14.36	33.36	0.34	100.00	21736
Ngamiland West	7.95	4.75	40.14	7.46	39.41	0.30	100.00	13164
Chobe	56.82	10.65	8.27	5.76	17.62	0.88	100.00	6828
Okavango Delta	54.81	10.38	22.14	3.51	9.16	0.00	100.00	655
North West	22.59	5.00	29.00	10.66	32.33	0.41	100.00	42383
Ghanzi	28.67	5.95	8.97	29.43	26.09	0.90	100.00	11353
CKGR	52.38	0.00	38.1	0.00	4.76	4.76	100.00	21
Ghanzi	28.71	5.93	9.02	29.37	26.05	0.91	100.00	11374
Kgalagadi South	17.42	10.62	11.65	21.56	37.46	1.29	100.00	7956
Kgalagadi North	14.15	5.05	12.9	33.02	34.37	0.51	100.00	5542
Kgalagadi	16.08	8.33	12.16	26.26	36.19	0.97	100.00	13498
Total-2011 Census	34.68	10.22	19.05	11.26	24.09	0.71	100.00	550926
Total-2001 Census	29.29	7.12	7.33	10.02	41.19	5.05	100.00	404706

Table 2: Proportion of households using each mode of waste disposal in Botswana-2011 Census

District-Urban+Rural	Refuse disposal						Total
	Regulary collected	Irregularly collected	Burning	Roadside collection	Rubbish pit	Other (NEC)	
Gaborone	25.98	33.88	0.32	7.30	1.02	0.74	13.61
Francistown	13.47	6.71	0.48	1.09	0.44	0.74	5.68
Lobatse	4.20	1.45	0.02	0.46	0.05	0.00	1.67
Selebi_Pikwe	7.97	0.58	0.03	0.65	0.06	0.08	2.91
Orapa	1.63	0.25	0.00	0.05	0.01	0.00	0.60
Jwaneng	2.86	0.10	0.14	0.17	0.12	0.03	1.08
Sowa Town	0.47	0.42	0.02	0.07	0.00	0.00	0.22
Cities/Towns	56.57	43.38	1.01	9.78	1.70	1.59	25.77
Ngwaketse	1.59	4.12	5.81	11.42	9.47	9.73	5.71
Barolong	0.83	1.22	2.13	6.71	3.79	1.54	2.50
Ngwaketse West	0.30	0.65	0.76	1.03	0.89	0.10	0.65
Southern	2.71	5.99	8.70	19.16	14.15	11.37	8.86
South East	7.63	7.51	1.49	3.86	0.88	1.49	4.35
Kweneng East	8.82	14.87	14.73	15.24	13.19	17.68	12.40
Kweneng West	1.38	1.30	3.31	1.66	3.25	1.21	2.22
Kweneng	10.20	16.17	18.05	16.89	16.43	18.89	14.62
Kgatleng	2.63	3.57	8.73	4.43	4.22	9.60	4.52
Central Serowe Palapye	4.19	4.57	12.88	9.75	11.67	14.29	8.38
Central Mahalapye	1.63	2.80	8.64	2.34	10.79	7.24	5.41
Central Bobonong	1.37	1.60	5.51	2.58	5.95	9.60	3.48
Central Botefi	1.15	1.46	5.72	1.38	3.12	2.77	2.56
Central Tutume	1.60	2.58	12.78	5.35	12.58	10.96	6.96
Central	9.92	13.01	45.53	21.39	44.10	44.86	26.79
North East	2.47	3.39	2.24	6.11	2.28	1.80	2.88
Ngamiland East	2.25	1.24	6.00	5.03	5.46	1.87	3.95
Ngamiland West	0.55	1.11	5.04	1.58	3.91	1.00	2.39
Chobe	2.03	1.29	0.54	0.63	0.91	1.54	1.24
Okavango Delta	0.19	0.12	0.14	0.04	0.05	0.00	0.12
North West	5.01	3.77	11.72	7.29	10.33	4.41	7.69
Ghanzi	1.70	1.20	0.97	5.38	2.23	2.62	2.06
CKGR	0.01	0.00	0.01	0.00	0.00	0.03	0.00
Ghanzi	1.71	1.20	0.98	5.38	2.23	2.64	2.06
Kgalagadi South	0.73	1.50	0.88	2.76	2.25	2.64	1.44
Kgalagadi North	0.41	0.50	0.68	2.95	1.44	0.72	1.01
Kgalagadi	1.14	2.00	1.56	5.71	3.68	3.36	2.45
Total-2011 census	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Households-2011 Census	191060	56299	104925	62045	132700	3897	550926

Table 3: Proportion of households in the urban part of each district that use a given method of waste disposal-2011 Census

District-Urban	Refuse disposal						Total	Total Households-2011 Census
	Regularly collected	Irregularly collected	Total Households	Roadside collection	Rubbish pit	Other (NEC)		
Gaborone	66.21	25.45	0.45	6.04	1.81	0.04	100.00	74963
Francistown	82.21	12.06	1.59	2.16	1.88	0.09	100.00	31297
Lobatse	87.19	8.87	0.18	3.07	0.68	0.00	100.00	9214
Selebi_Pikwe	94.78	2.02	0.20	2.52	0.46	0.02	100.00	16059
Orapa	94.59	4.19	0.00	0.94	0.27	0.00	100.00	3292
Jwaneng	91.97	0.98	2.54	1.78	2.71	0.02	100.00	5940
Sowa Town	74.73	19.82	1.60	3.53	0.34	0.00	100.00	1191
Cities/Towns	76.14	17.21	0.74	4.28	1.59	0.04	100.00	141956
Ngwaketse	12.16	9.93	12.76	29.55	34.78	0.82	100.00	18202
Barolong	14.57	8.02	10.94	26.84	38.15	1.48	100.00	2642
Ngwaketse West	20.35	12.58	14.88	22.54	29.58	0.07	100.00	2782
Southern	13.40	10.03	12.80	28.42	34.54	0.80	100.00	23626
South East	64.20	20.03	4.25	8.43	2.92	0.17	100.00	19860
Kweneng East	27.16	13.85	18.40	15.73	23.81	1.05	100.00	54702
Kweneng West	29.45	7.05	5.56	17.38	40.32	0.24	100.00	1674
Kweneng	27.23	13.65	18.02	15.78	24.30	1.02	100.00	56376
Kgatleng	25.07	9.37	32.14	11.94	20.07	1.40	100.00	13425
Central Serowe Palapye	22.86	7.26	19.48	16.74	32.00	1.66	100.00	24389
Central Mahalapye	16.13	5.87	26.86	4.97	44.74	1.43	100.00	12768
Central Bobonong	12.92	6.57	26.16	12.91	38.08	3.36	100.00	8630
Central Boteti	21.17	6.32	37.93	6.62	27.19	0.77	100.00	7057
Central Tutume	10.27	4.67	29.49	8.78	46.08	0.71	100.00	14790
Central	17.39	6.24	25.84	11.23	37.76	1.53	100.00	67634
North East	52.42	13.44	11.30	9.60	12.97	0.26	100.00	3823
Ngamiland East	21.75	3.75	21.87	16.51	35.78	0.35	100.00	14107
Ngamiland West	10.57	4.43	34.54	6.55	43.56	0.35	100.00	3434
Chobe	86.08	8.87	0.77	2.41	1.54	0.33	100.00	2988
Okavango Delta	1.86	4.97	47.20	14.29	31.68	0.00	100.00	161
North West	29.03	4.61	21.12	12.80	32.09	0.34	100.00	20690
Ghanzi	37.70	8.08	3.12	45.19	4.43	1.48	100.00	3974
Kgalagadi South	16.77	13.21	9.02	33.01	25.60	2.40	100.00	2672
Kgalagadi North	15.27	5.99	7.29	33.97	37.06	0.43	100.00	3524
Kgalagadi	15.91	9.10	8.04	33.55	32.12	1.28	100.00	6196
Total-2011 Census	46.14	12.95	11.83	11.03	17.41	0.64	100.00	357560
Total-2001 Census	45.96	10.26	5.49	6.18	29.13	2.98	100.00	234757

Table 4: Proportion of households using each mode of waste collection that falls in a given district (urban)-2011 Census

Refuse disposal							
District-Urban	Regularly collected	Irregularly collected	Burning	Roadside collection	Rubbish pit	Other (NEC)	Total
Gaborone	30.08	41.20	0.80	11.48	2.19	1.26	20.97
Francistown	15.60	8.15	1.18	1.71	0.94	1.26	8.75
Lobatse	4.87	1.76	0.04	0.72	0.10	0.00	2.58
Selebi_Pikwe	9.23	0.70	0.08	1.02	0.12	0.13	4.49
Orapa	1.89	0.30	0.00	0.08	0.01	0.00	0.92
Jwaneng	3.31	0.13	0.36	0.27	0.26	0.04	1.66
Sowa Town	0.54	0.51	0.04	0.11	0.01	0.00	0.33
Cities/Towns	65.52	52.75	2.50	15.39	3.63	2.69	39.70
Ngwaketse	1.34	3.90	5.49	13.64	10.17	6.46	5.09
Barolong	0.23	0.46	0.68	1.80	1.62	1.69	0.74
Ngwaketse West	0.34	0.76	0.98	1.59	1.32	0.09	0.78
Southern	1.92	5.12	7.15	17.02	13.11	8.24	6.61
South East	7.73	8.59	2.00	4.25	0.93	1.47	5.55
Kweneng East	9.01	16.36	23.79	21.81	20.93	24.80	15.30
Kweneng West	0.30	0.25	0.22	0.74	1.08	0.17	0.47
Kweneng	9.31	16.62	24.01	22.55	22.02	24.98	15.77
Kgatleng	2.04	2.72	10.20	4.06	4.33	8.15	3.75
Central Serowe Palapye	3.38	3.82	11.23	10.35	12.54	17.61	6.82
Central Mahalapye	1.25	1.62	8.11	1.61	9.18	7.89	3.57
Central Bobonong	0.68	1.22	5.34	2.82	5.28	12.58	2.41
Central Boteti	0.91	0.96	6.33	1.18	3.08	2.34	1.97
Central Tutume	0.92	1.49	10.31	3.29	10.95	4.55	4.14
Central	7.13	9.12	41.32	19.26	41.03	44.97	18.92
North East	1.21	1.11	1.02	0.93	0.80	0.43	1.07
Ngamiland East	1.86	1.14	7.29	5.90	8.11	2.12	3.95
Ngamiland West	0.22	0.33	2.80	0.57	2.40	0.52	0.96
Chobe	1.56	0.57	0.05	0.18	0.07	0.43	0.84
Okavango Delta	0.00	0.02	0.18	0.06	0.08	0.00	0.05
North West	3.64	2.06	10.33	6.72	10.67	3.08	5.79
Ghanzi	0.91	0.69	0.29	4.55	0.28	2.56	1.11
Kgalagadi South	0.27	0.76	0.57	2.24	1.10	2.78	0.75
Kgalagadi North	0.33	0.46	0.61	3.03	2.10	0.65	0.99
Kgalagadi	0.60	1.22	1.18	5.27	3.20	3.43	1.73
Total-2011 census	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Households-2011 Census	164972	46301	42302	39445	62234	2306	357560

Table 5: Proportion of households in the rural part of each district that use a given method of waste disposal-2011 Census

Refuse disposal								Total Households-2011 Census
District-Rural	Regularly collected	Irregularly collected	Burning	Roadside collection	Rubbish pit	Other (NEC)	Total	
Ngwaketse	6.16	3.87	28.45	12.85	46.94	1.73	100.00	13277
Barolong	10.76	4.26	17.52	31.07	36.20	0.19	100.00	11115
Ngwaketse West	0.39	1.81	49.42	1.42	46.70	0.26	100.00	773
Southern	8.02	3.98	24.26	20.54	42.19	1.01	100.00	25165
South East	44.42	6.12	17.28	17.36	14.23	0.58	100.00	4131
Kweneng East	14.69	5.83	39.58	6.24	32.81	0.86	100.00	13626
Kweneng West	20.31	5.82	32.05	6.97	34.44	0.41	100.00	10557
Kweneng	17.14	5.82	36.29	6.56	33.52	0.66	100.00	24183
Kgatleng	14.42	6.55	42.17	9.97	25.26	1.62	100.00	11488
Central Serowe Palapye	11.14	3.69	40.22	9.02	35.23	0.69	100.00	21796
Central Mahalapye	6.14	4.86	33.09	4.81	50.51	0.59	100.00	17026
Central Bobonong	14.20	3.17	33.43	4.60	43.79	0.80	100.00	10525
Central Boteti	9.87	5.35	47.13	5.49	31.41	0.77	100.00	7053
Central Tutume	6.49	3.23	38.42	8.57	41.92	1.37	100.00	23562
Central	9.00	3.88	37.89	7.10	41.25	0.89	100.00	79962
North East	22.56	11.60	15.91	28.44	20.98	0.50	100.00	12042
Ngamiland East	16.03	2.24	42.13	10.39	28.89	0.31	100.00	7629
Ngamiland West	7.02	4.86	42.12	7.78	37.94	0.28	100.00	9730
Chobe	34.06	12.03	14.11	8.36	30.13	1.30	100.00	3840
Okavango Delta	72.06	12.15	13.97	0.00	1.82	0.00	100.00	494
North West	16.46	5.38	36.52	8.62	32.55	0.47	100.00	21693
Ghanzi	23.81	4.80	12.12	20.94	37.76	0.58	100.00	7379
CKGR	52.38	0.00	38.10	0.00	4.76	4.76	100.00	21
Ghanzi	23.89	4.78	12.19	20.88	37.66	0.59	100.00	7400
Kgalagadi South	17.75	9.31	12.98	15.76	43.45	0.74	100.00	5284
Kgalagadi North	12.19	3.42	22.70	31.37	29.68	0.64	100.00	2018
Kgalagadi	16.21	7.68	15.67	20.08	39.65	0.71	100.00	7302
Total-2011 Census	13.49	5.17	32.39	11.69	36.44	0.82	100.00	193366
Total-2001 Census	6.27	2.8	9.87	15.33	57.86	7.87	100.00	169949

Table 6: Proportion of households using each mode of waste collection that falls in a given district (rural)-2011 Census

District-Rural	Refuse disposal						Total
	Regularly collected	Irregularly collected	Burning	Roadside collection	Rubbish pit	Other (NEC)	
Ngwaketse	3.14	5.14	6.03	7.55	8.84	14.46	6.87
Barolong	4.58	4.74	3.11	15.28	5.71	1.32	5.75
Ngwaketse West	0.01	0.14	0.61	0.05	0.51	0.13	0.40
Southern	7.73	10.02	9.75	22.88	15.07	15.90	13.01
South East	7.03	2.53	1.14	3.17	0.83	1.51	2.14
Kweneng East	7.67	7.94	8.61	3.76	6.34	7.35	7.05
Kweneng West	8.22	6.14	5.40	3.26	5.16	2.70	5.46
Kweneng	15.89	14.08	14.02	7.02	11.50	10.06	12.51
Kgatleng	6.35	7.53	7.74	5.07	4.12	11.69	5.94
Central Serowe Palapye	9.31	8.05	14.00	8.69	10.90	9.49	11.27
Central Mahalapye	4.01	8.27	9.00	3.62	12.20	6.29	8.81
Central Bobonong	5.73	3.34	5.62	2.14	6.54	5.28	5.44
Central Boteti	2.67	3.77	5.31	1.71	3.14	3.39	3.65
Central Tutume	5.86	7.61	14.45	8.94	14.02	20.24	12.19
Central	27.58	31.05	48.38	25.11	46.80	44.69	41.35
North East	10.41	13.97	3.06	15.15	3.59	3.77	6.23
Ngamiland East	4.69	1.71	5.13	3.51	3.13	1.51	3.95
Ngamiland West	2.62	4.73	6.54	3.35	5.24	1.70	5.03
Chobe	5.01	4.62	0.87	1.42	1.64	3.14	1.99
Okavango Delta	1.36	0.60	0.11	0.00	0.01	0.00	0.26
North West	13.68	11.66	12.65	8.28	10.02	6.35	11.22
Ghanzi	6.73	3.54	1.43	6.84	3.95	2.70	3.82
CKGR	0.04	0.00	0.01	0.00	0.00	0.06	0.01
Ghanzi	6.78	3.54	1.44	6.84	3.96	2.77	3.83
Kgalagadi South	3.60	4.92	1.10	3.69	3.26	2.45	2.73
Kgalagadi North	0.94	0.69	0.73	2.80	0.85	0.82	1.04
Kgalagadi	4.54	5.61	1.83	6.49	4.11	3.27	3.78
Total-2011 census	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Households-2011 Census	26088	9998	62623	22600	70466	1591	193366

PREVALENCE AND PATTERNS OF ICT PENETRATION ESPECIALLY INTERNET AND MOBILE PHONES IN BOTSWANA

By **Motsholathebe Bowelo & Dr. Serai Daniel Rakgoasi**
 Department Population Studies
 University of Botswana

Introduction

The aim of this paper is to examine and explore the prevalence and patterns of Information and communication technology (ICT) in Botswana. ICT can help developing countries tackle a wide range of health, social and economic problems. By improving access to information and by enabling communication, ICT can play a role in reaching Millennium Development Goals such as the elimination of extreme poverty, combating serious disease, and achieving universal primary education and gender equality. However, the biggest challenge is that ICT is often out of reach of the poor especially those in rural areas.

ICT is seen as a means of achieving many MDG goals. One target specifically relates to ICT aiming 'to make the benefits of ICT available to all'. Even Vision 2016 as a national blueprint of the Botswana government articulates the long-term economic goals for the country including strategies to meet them. The long-term vision is that Botswana will enter the information age on an equal footing with other nations. The country will seek and acquire the best available information technology and become a regional leader in the production and dissemination of information. One of the Pillars of Botswana's Vision 2016 is that of an Informed and Educated Nation. Two of the key areas of this pillar are related to an informed and ICT literate society. ICT is also a major focus of the country's economic agenda, the National Development Plan. Significant investment has of late been made in upgrading Botswana's communications networks to facilitate new technologies. Furthermore, during the year 2002, Botswana established a government ministry dedicated to ICT, named the Ministry of Communications, Science and Technology which is to coordinate and promote technology development in the country.

Radio, television and print media are vital in many developing countries. In recent years 'new' ICT, such as mobile phones and the internet (and associated applications such as 'VOIP', transmitting telephone calls over the internet) have become available to growing numbers worldwide. The most rapid growth is in mobile phone usage. According to the UK Parliamentary Office of Science and Technology post note (2006), total (fixed and mobile) telephone access in developing countries increased from 2% in 1991 to 31% in 2004. The note further alluded that internet usage has also grown rapidly: from 0.03% of developing country inhabitants in 1994 to 6.7% in 2004. However, there are wide disparities between citizens and ICT is still out of reach of many groups due to factors such as lack of appropriate products, cost, technical skills, language, limited human resources and lack of robust regulatory framework for ICT.

According to Adu&lfeoma (2013), only 5 percent of the population of Botswana has access to internet, and there is also considerable disparity in terms of urban and rural access to ICT services. Other challenges mentioned included the relatively high cost of PCs, the lack of electricity in many rural locations, and high charges for Internet usage. In addition, ICT is still not widely exploited by business in Botswana, although it is used extensively in the retail and mining sectors within foreign-owned companies. Other scholars argue that Botswana's ICT sector itself is small and generally focused on local market opportunities. (Shafika Isaacs 2009). Despite the above mentioned challenges, ITC is the buzz word in every nation and as it evolved at a rapid pace, there is need for reliable data and indicators to measure ICT readiness, access, use and impact on the society (WSIS, 2005). This makes it important to understand and document the levels and patterns of access to IT in Botswana, and other factors that may impede or facilitate improved access to IT. By examining access to IT within the context of household characteristics, including household headship, this analysis will also shed light on how far Botswana has come to reach Millennium Development Goal, in particular goal number three, on promoting gender equality, at least in as far as access to IT is concerned.

Methods

The paper uses primary data from the 2011 Botswana Population and Housing Census to explore levels and patterns of ICT penetration in Botswana. The prevalence rates are calculated as the number of people using ICT, divided by the number of those who ever used these ICT equipment. Levels and patterns of access to information technology by analyzing the percentage of population with access to information technology such as computers and computer networks; cell phones and electronic social media, and relating these two key socio demographic background variables such as age, sex, education, residence and household headship and size of household. ICT in this paper comprises information technology industries (computer and laptop) telecommunications industries (telephone, internet and mobile phone and the broadcast media (television and radio). The household is the unit of analysis in trying to measure household ICT access and individual use.

Indicators

The Botswana National Population Census and Housing of 2011 included questions that can be used to produce a harmonized set of indicators to measure access and use of ICTs. The following are the indicators that were derived from the questions:

- Proportion of households with a radio and other ICT equipment
- Proportion of households with a TV and other ICT equipment
- Proportion of households with a fixed telephone and other ICT equipment
- Proportion of households with a cellular telephone
- Proportion of households with both a fixed and cellular telephone
- Proportion of households with internet access at home
- Proportion of households with access to internet from any source

The aforementioned indicators were grouped into three adopted from South African Social Attitudes Survey (SASAS), which is a nationally representative, repeated cross-sectional survey that has been conducted annually by the Human Sciences Research Council (HSRC) since 2003

1. Access to telephonic communications in the household
2. Computers and the internet in the household
3. Access to various forms of public/private telecommunications service centres

Composite indicators were developed to capture household access to ITC at private level as well as public provision of ITC. The composite indicator on private ITC access was derived from proportions who have: access to landline and other ICT equipment (i.e. no/proportion of households with access to main telephone lines), number/proportion of households with access to mobile telephone, access to computer (no. of households with access to personal computers), and access to internet (no. of households with internet access)

Composite indicator Public access to internet was derived from proportions who have internet access from workplace, schools (primary, secondary and other institutions), Internet café, Cellular phone internet, post office and library. The values are added then divided by 4 to get the composite indicators.

Results

Household Ownership and Access to ICT household access and individual use

The census questionnaire had 4 questions relating to ICT equipment. There were three questions on household access and one on individual use. Table 1 shows that when heads of household were asked "Does any member of this household own any of the following in a working condition, out of the 550941 households who reported ownership of listed ICT equipment, almost 60 percent owned television and other ICT equipment, 24.4 percent owned a radio and other ICT equipment, 14.6 percent were owners of a fixed landline in their house with other ICT equipment and the least members of households (1.3 %) were owning a computer (either desktop or laptop).

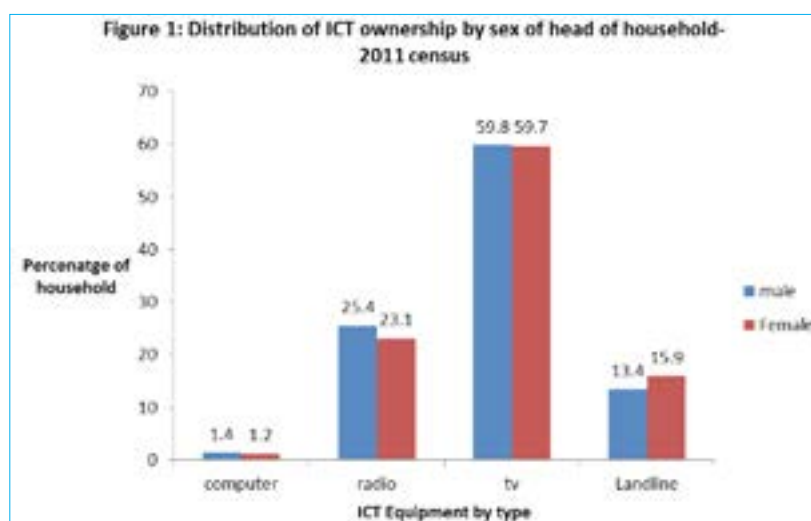
The table further shows that, when asked where members of the household access internet from, heads of household reported that 69.2 % of households do not have access, 11.3 % were accessing internet through the use of mobile phones, 8.5 % had their access point either at home or work, 5.7 % at internet café and the remaining were accessing at various places such as library, schools, etc.

Regarding the ownership of a working cellular phone, almost 90 percent of households in Botswana had a member with a working cellular phone and only 10.3 did not own a cellular phone at the time of the census. The use of mobile telephone is very high. Almost 43 % of households with one member owned a working cellular phone, followed by household with two members at 30.6 % and those with 3 or more members were sharing the remaining balance.

Table 1: Frequency Distribution on ownership and Household access of ICT

Ownership of ICT		
Television	245084	59.8
Radio	99976	24.4
Landline Telephone	59652	14.6
Computers(Desktop/Laptop)	5261	1.3
Total	409973	100
Access to Internet		
No access	381068	69.2
Cellular Phone	62010	11.3
Home or Work	46617	8.5
Internet café	31257	5.7
Other institutions(library, schools,etc)	29977	5.3
Total	550929	100
Ownership of working cellular phone		
Yes	494365	89.7
No	56577	10.3
Total	550942	100
No. of Household members owning a cell phone		
1 member	210236	42.5
2 members	151239	30.6
3 members	69489	14.1
4 or more members	63401	12.9

Figure 1 shows ownership of ICT equipment by sex of household headship in 2011. The results show that 29.3 % of households owned a fixed telephone landline with other ICT equipment, of which 15.9 % were female, headed and 13.4 % were male headed. Almost an equal proportion of male and female headed households owned a television and other ICT equipment (60%). In general terms, a slightly higher proportion of male headed households were owning computers (1.4 % versus 1.2%) and radio and other ICT equipment(25.4 % versus 23.1%) with the exception of fixed landline and other ICT equipment, telephones at female headed households were slightly higher (15.9% versus 13.4%)

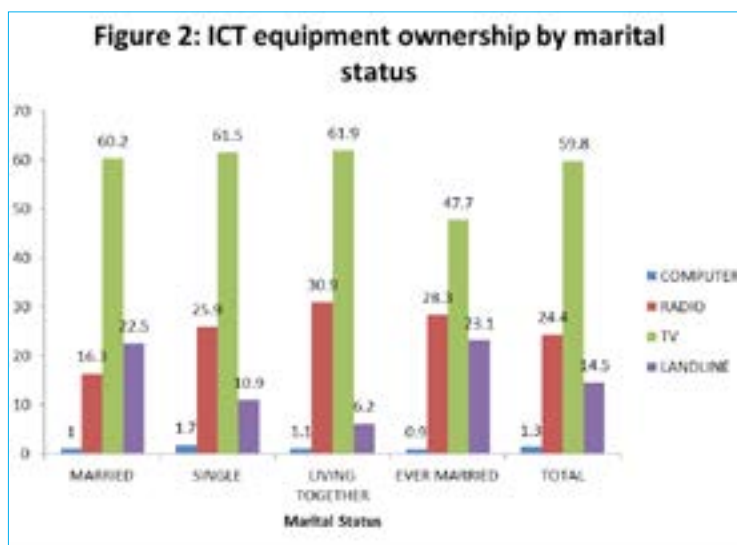


Note: ICT Equipment by Type-

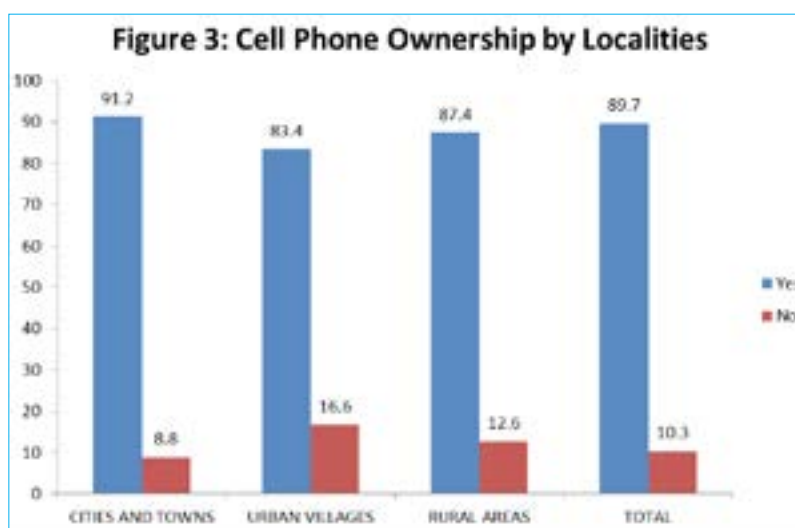
Radio means radio and other ICT equipment
 TV means TV and other ICT equipment
 Landline means landline and other ICT equipment

ICT ownership by Marital Status and Localities

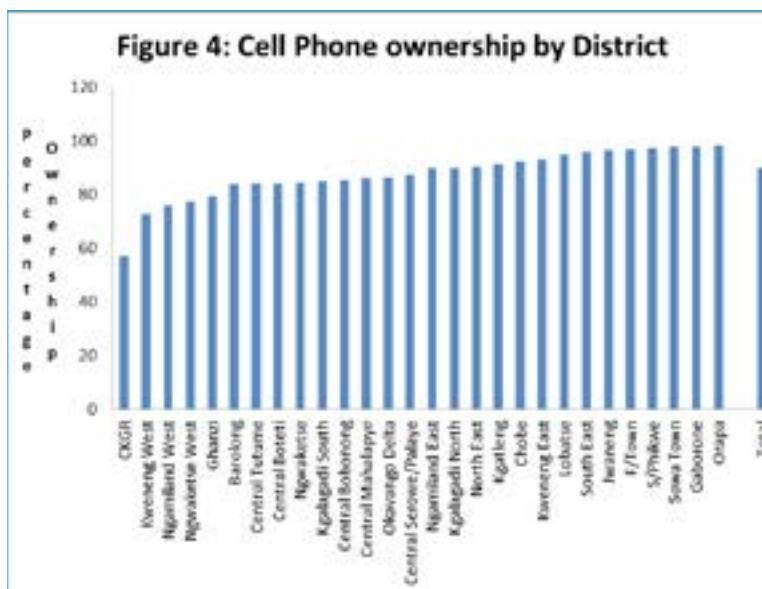
Figure 2, shows that in terms of ICT equipment ownership by marital status, there were no major differences as almost an equal proportion of married at 60 %, single at nearly 62 % and living together at nearly 62% were owners of television and other ICT equipment except for the ever married where a slightly lower proportion of them reported to own a television and other ICT equipment at the time of the census. A slightly higher proportion of the living together were owners of radio and other ICT equipment, followed by the ever married at 28.3%, then the single at almost 26 % and lastly the married group at 16.3 %. An almost equal proportion of ever married (23.1%) and married (22.5%) owned a fixed telephone at home with other ICT equipment, whereas a slighter greater share of the singles (10.9%) owned a landline and other ICT equipment than the living together at 6.2 %. Only around 1% on average were owners of computers regardless of marital status.



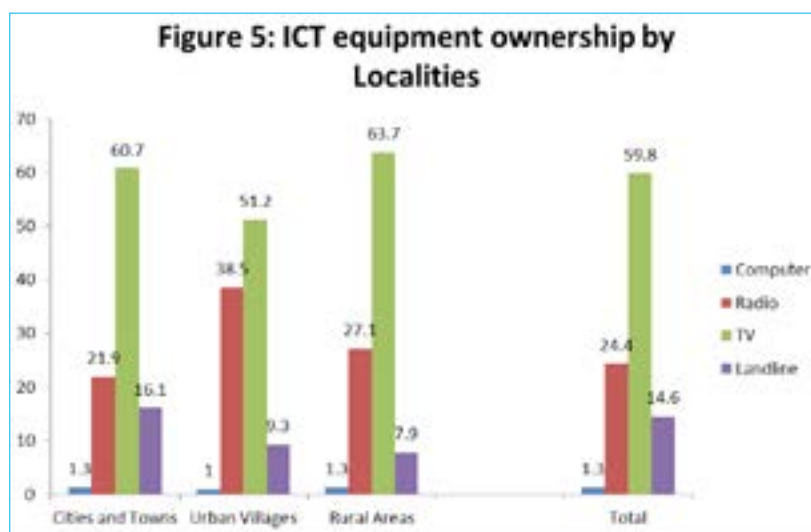
Regarding the extent of mobile phone coverage in relation to locations, either cities/towns, urban villages and rural areas, the results shows that, overall coverage is above 80 %.(See Figure 3). Cities and town had a higher proportion of mobile users at almost 91 %, followed by rural dwellers at almost 85 % and the urban dwellers at 83 %.



It is interesting to note that over 80 % of residents in majority of administrative districts owned a working cellular phone (see figure 4). This ranges from almost 84 % from Barolong to 98% in Orapa. There are some districts hovering from 57 % to 79% as indicated in figure 4. Special mentioned in this category is CKGR where 57 % of residents reported to own a working cellular phone at the time of the census

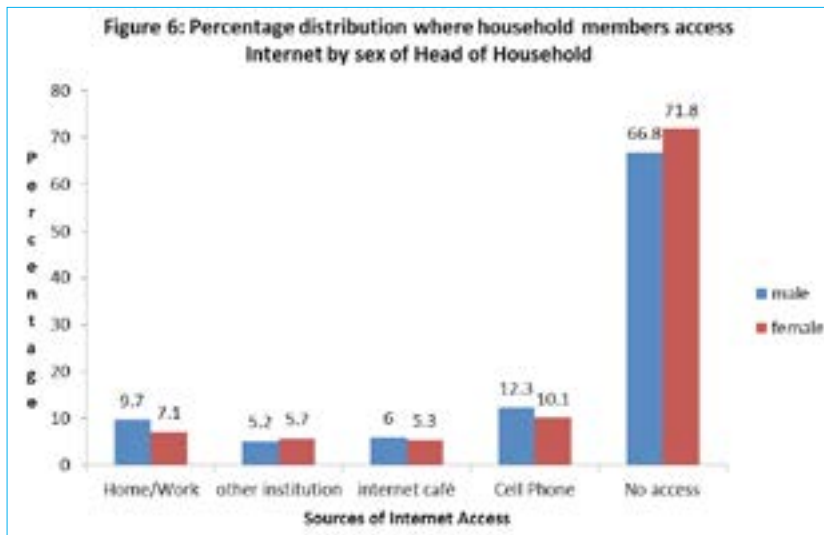


The proportion of individuals who reported ownership of ICT equipment by localities is presented in Figure 5. In terms of the location, an almost equal proportion of cities/town (nearly 61%) and rural areas dwellers (almost 64%) were owning a television and other ICT equipment in comparison to other urban villages (51%), where a slightly lower proportion were owning a television and other ICT equipment. The same argument holds where location seems not to matter as an almost equal proportion of residents owned a computer (1.3%). A fixed telephone (landline and other ICT equipment) appears to be owned by more people in cities/towns (16%), followed by urban dwellers (9.3%) then lastly rural area dwellers at 7.9%. Radio and other ICT equipment seems to be the preferred owned ICT equipment in urban areas (nearly 39%), followed by rural areas (27%) and a slightly lower proportion of cities/town dwellers at nearly 22%.



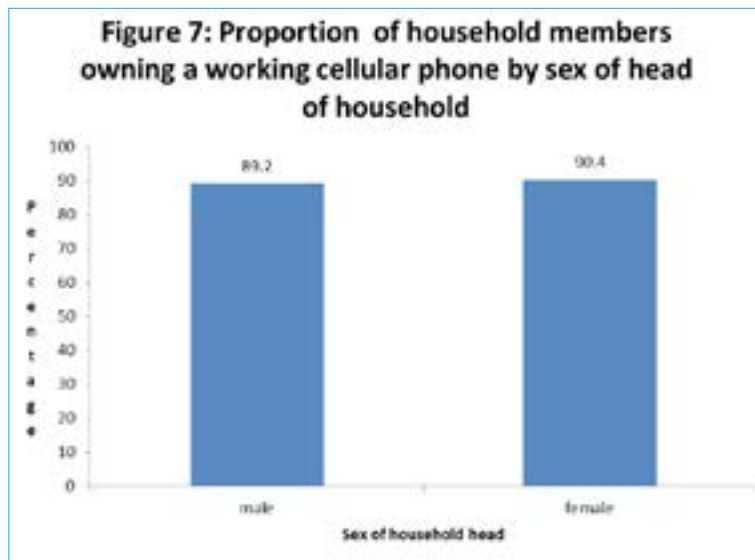
Access to Internet

The percentage of male and female household heads who reported that household members are accessing internet from different sources is presented below in figure 6. The results indicate that on average a slightly higher proportion of males are accessing internet from different sources except at other institutions that include schools, library and others. However, slightly higher proportions (71.8%) of females do not have access from any other sources compared to 66.8% of males.

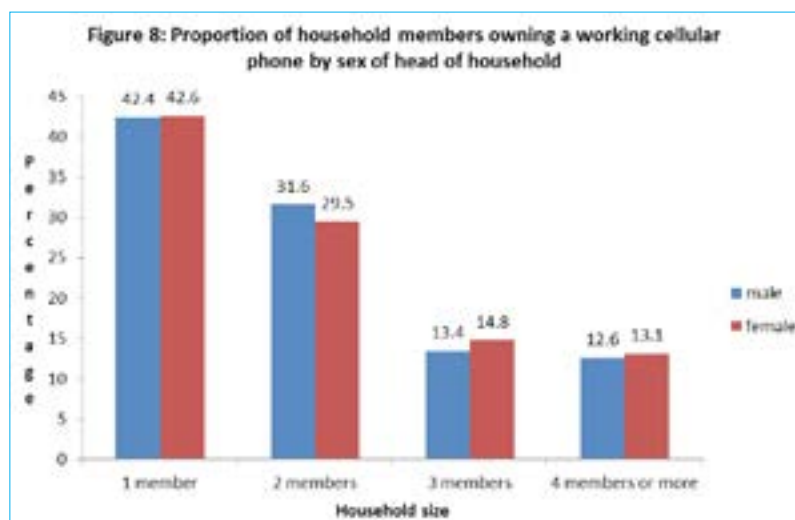


Ownership of cellular phone/ mobile phone

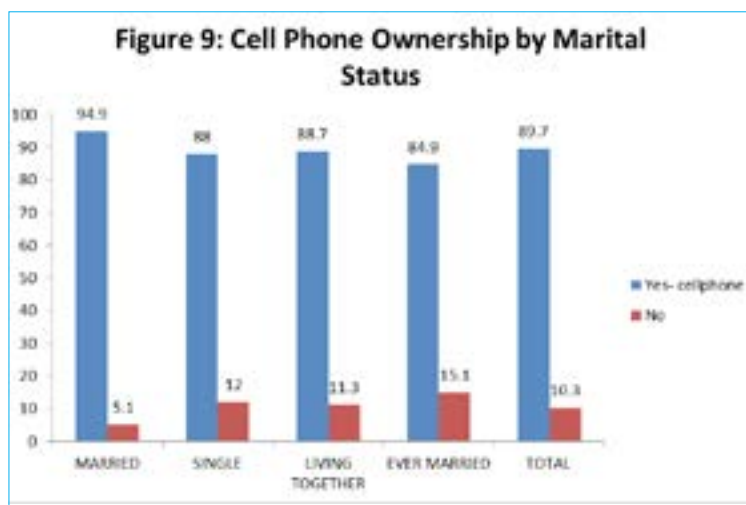
Figure 7 presents the proportion of household members owning a working cellular phone by sex of head of household. The results clearly indicate an almost equal proportion of males and females owning a working cellular phone. A slightly less proportion of female (9.6%) do not own a working cellular phone in comparison to 10.8% of males.



When relating the ownership of a working cellular phone to the household size, the results show that an almost equal proportion of males (42.4%) and females (42.6%) in single headed household own a cellular phone. Where there are three or more members in a household, the proportion of female owning a working cellular phone is slightly more than that of males as revealed in figure 8.



In relation to the extent of mobile phone coverage in relation to marital status, either married, single, living together and ever married(separated, divorced or widowed), the results in figure 9 shows that, overall coverage is above 80 %. Those who reported themselves as married had a higher proportion of mobile users/ ownership at almost 95 %, followed by those living together at almost 89 %, then those never married or single at 88 % and lastly the ever married at 85 %.



It is interesting to note that over 80 % of citizens in majority of age groups owned a working cellular phone (see figure 10). This ranges from almost 81 % from age group 70-74 to 93.6 % for the age group 35-39. There are some age groups hovering from 58.6 % to 78.5% as indicated in figure 10. Special mentioned in this category is the age group 5-9 where 35.8 % of them owned a working cellular phone at the time of the census. When relating the ownership of a working cellular phone to the sex as seen in figure 11, the results shows that almost at all age group except 5-9 and 85 and above, slightly higher proportions of females compared to their male counterparts owned cellular phones.

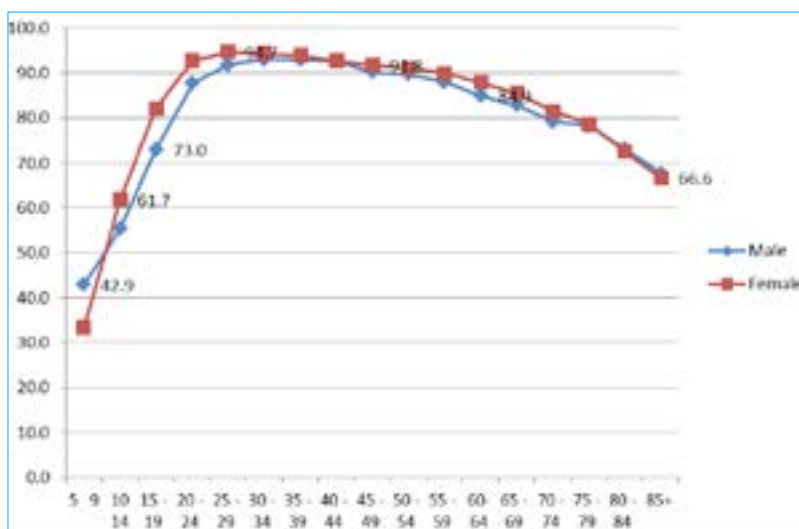
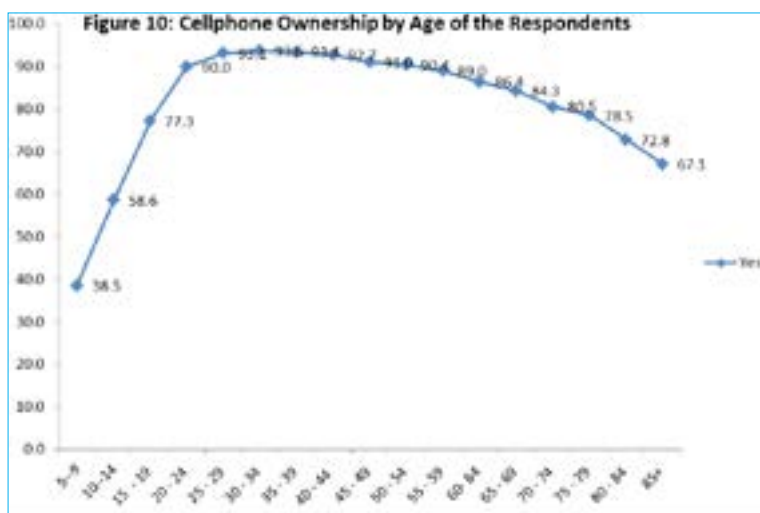


Figure 11: Cell Phone ownership by age and sex

Composite Indicators

In relation to the composite indicators, the results show that 34.15 of households in Botswana have private access to ICT while only 7.7 % of household are accessing internet through public outlets.

Discussion and Conclusion

This paper investigated the prevalence and patterns of ICT use Botswana in particular measuring household ICT ownership, access and use at individual levels. In terms of ownership of ICT, television and other ICT equipment and radio and other ICT equipment, which ownership maybe at household or individual level are the commonly owned assets while computer in respect of desktop at home or laptop are the least owned type of ICT equipment. Considering the gender differences, the results reveal an almost equal proportion of households owned television and other ICT equipment, while a slightly higher proportion of females owned fixed telephone landline and other ICT equipment while slightly higher men owned radio and other ICT equipment. The results further demonstrated that cell phone ownership by sex, localities, either cities/town, urban villages or rural areas does not matter. However cities and town have a slightly higher ownership of cell phone than rural areas. The same argument holds when considering ICT ownership by localities where there is a slightly difference between ownership of television and other ICT equipment in cities/town s and rural areas though rural areas have a slight higher proportion. Radio and other ICT equipment are dominantly owned by urban villages' dwellers while there is no great difference according to ownership of computers. Landline telephones and other ICT equipment are dominant in cities and towns. Regarding household members access to internet, a large proportion of household's members had no access to internet. Even though no significant test was conducted, men access to the internet was slightly higher at home/work, internet café and through cellular phone but less against women at other institutions that includes schools, library and others.

The results have further shown that the use of cellular phones in Botswana is very high and there was no gender differences as an almost equal proportion of male and females owned a working cellular phone. The distribution of mobile phones is equally spread between males and females as even those who reported not owning a cellular phone, there was no gender difference. However, the results showed that when considering ownership of the working cellular according to household size, there is no gender difference in situation where both sexes are heads in one singled headed household. Where there are two members in the household, a slightly higher proportion of males owned cellular phones but where there are three members or more, a slightly higher proportion of females are owners of cellular phones. The results further demonstrated that cell phone ownership by marital, either married, single, living together and ever married does not matter. However married people have a slightly higher ownership of cell phone than the others in particular the ever married. The same argument holds when considering ICT ownership by marital status where there is a slightly difference between ownership of television and other ICT equipment for the single, living together and married though those married have a slightly lower proportion. Radio and other ICT equipment are dominantly owned by singles while there is no great difference according to ownership of computers. Landline telephones and other ICT equipment are dominant for the married.

In conclusion, the results have revealed that television and other ICT equipment and radio and other ICT equipment are the most widely used medium of ICT, mobile phone usage is widespread with an almost equal proportion between males and females, only minute proportion of men and women own computers and have internet use at home or work. Cellular phone are commonly used to access internet and only a relatively few proportions of households members are able to access the internet at public access points such as schools and privately owned internet cafés. In a few scenarios women owned a working cellular phone where the size of the household is more than two members. It is assumed that the higher proportions of persons who are using mobile phones own the devices.

In summary the core indicators on ICT access and Use by Households and Individuals measured in Botswana using the 2011 Population and Housing Census is as follows:

Table 3: 2011 Population and Housing Census – ICT Indicators

Indicators	Value
Proportion of households with a radio	24.4
Proportion of households with a television	59.8
Proportion of households with telephone	
Fixed	14.6
Mobile	89.7
Proportion of households with a computer	1.3
Proportion of households with internet access at home/work	8.5
Proportion of households with members owning a cell phone	89.7
Male	89.2
Female	90.2

References:

Shafikalsaacs (2007), ICT in Education in Botswana, Survey of ICT and Education in Africa- Botswana Country Report,

EMMANUEL OLUSOLA.ADU and EZE, R. IFEOMA (2013), THE TEACHERS AND THE USE OF ICT FOR PROFESSIONAL DEVELOPMENT *The Use of ICT for Professional Development. A Paper presented at "International Conference on ICT for Africa 2013, February 20 -23, Harare, Zimbabwe"*

Statistics Botswana, (2013), Botswana ICT 2012 Statistics Stats Brief

UK POST (2006) **ICT IN DEVELOPING COUNTRIES**, United Kingdom Parliamentary Office on Science and Technology newsletter, March 2006, No. 261: available www.parliament.uk/parliamentary_offices/post/pubs2006.cfm

WSIS (2005). A paper presented at Thematic Meeting on measuring the information Society, Geneva, 7-9 February 2005

HOUSEHOLD ENERGY USE FOR LIGHTING, COOKING AND HEATING IN BOTSWANA: THE 2011 POPULATION AND HOUSING CENSUS PERSPECTIVES

By Dr. Ravendra Singh, UNDP & Statistics Botswana
Dr. V. K. Dwivedi, University of Botswana

Abstract: This paper presents a descriptive analysis of the energy sources used in Botswana for household lighting, cooking and space heating based on the results from Botswana's 2011 Population and Housing Census. The main source of energy for household lighting in Botswana during 2001 in both urban and rural areas was paraffin; however, the situation has changed in 2011 in the urban area, where electricity has taken over as a major source of energy for lighting, whereas in the rural areas, the paraffin still remained the main source of lighting. The electricity was used for lighting in about 69 percent households in urban areas and in about 24 percent households in rural areas, whereas the share of paraffin has reduced to 21 percent & 46 percent respectively during 2011 compared to 49 percent and 59 percent during 2001. Nationally, the electricity used for household lighting by 53 percent of the households, whereas the paraffin and candles used in about 30 percent and 11 percent of the households for lighting. The principal energy sources found to be used for cooking in Botswana in both 2001 and 2011 censuses were wood and gas; the former dominating at the national level as well as in rural areas. The large number of households in rural areas over 77 percent was found to be using wood as main energy source for cooking during 2001 and 2011 censuses. There has been no reduction in the fuel wood users for cooking both in rural and urban areas, despite increase in use of gas and electricity. The dominant energy source used by households for space heating is wood (47.66 percent), followed by electricity (16.75 percent). However, the proportion of households that use wood for space heating varies significantly between rural (78.08 percent) and urban (31.21 percent) areas since the later can afford to use conventional energy sources like electricity (22.47 percent). The relationship between energy sources used by a household and the household size and tenureship of their housing unit(s) as well as the trend in energy use are also discussed. The paper also gives policy implications for improving the clean sources of energy for use by households.

1.0 Introduction:

1.1 Background

Energy and fuel use are important for the welfare of households. Using an energy source for lighting and cooking is essential to human life and part of what first defined the human race as separate from animals in pre-historic times. Energy is also an essential ingredient in the production and provision of all goods and services and therefore in the economic development process. Energy has become indispensable as it has gone beyond merely enhancing the provision of basic needs (food and warmth) to contributing in numerous ways to the much higher quality of life, human beings enjoy today.

To this day, many people remain dependent on traditional biomass fuels for cooking and on inefficient and costly sources for light such as candles and kerosene. Improving access to modern energy sources – electricity for light and appliances and clean cooking technologies – is an important development goal; it is complementary with other goals of development such as improving health and education. Use of biomass is not in itself a cause for concern. However, when resources are harvested unsustainably and energy conversion technologies are inefficient, there are serious adverse consequences for health, the environment and economic development.

The energy consumption is expected to continue to increase in the next few decades along with the economic growth and rising per capita income. According to the International Energy Agency (IEA), China, South Asia, East Asia, Latin America, Africa and West Asia will account for 68 percent of the increase in world energy demand between 1997 and 2020. Member countries of the Organization for Economic Cooperation and Development (OECD) currently use 54 percent of the world's energy; this is expected to decline to 44 percent by 2020 while that of developing countries may rise to 45 percent from its current 34 percent. Botswana also going to experience vast growth in use of energy not only at household level but also for economic development.

The UN Millennium Project (2005) has emphasized that close links exist between energy and all the Millennium Development Goals (MDGs). Modern energy services help reduce poverty and can play a critical role in improving educational opportunities for children, empowering women and promoting gender equality. Inefficient combustion of fuel-wood exacerbates respiratory illnesses and other diseases. Fuel substitution and improved stove efficiencies would help alleviate the environmental damage of biomass use.

The use of clean cooking fuels can also have positive effects on the external environment by reducing outdoor air pollution from venting of kitchen smoke as well as by combating forest degradation; collection of wood for firewood or charcoal production (ESMAP, 2001; Heltberg, 2001). Household energy use today is therefore as important as ever.

The main use of energy in households in developing countries is for cooking, followed by heating and lighting. Because of geography and climate, household space and water heating needs are small in many countries. Households generally use a combination of energy sources for cooking that can be categorized as traditional (such as dung, agricultural residues and fuel wood), intermediate (such as charcoal and kerosene) or modern (such as LPG, biogas, ethanol gel, plant oils, dimethyl ether (DME) and electricity). Electricity is mainly used for lighting and small appliances, rather than cooking and represents a small share of total household consumption in energy terms. Both traditional and modern energy sources are used in Botswana. The former are all locally produced and include wood, cow dung and crop waste. The later, some of which are imported, include electricity, gas, biogas, solar, petroleum products and candle.

1.2 Data Collection

During the Population and Housing Census, each household in the country was asked to choose the energy source that is most commonly used for household lighting, cooking and space heating. In posing the questions, it was acknowledged that the household might be using more than one energy source for an activity but that the principal energy source that is used for the activity was the one to be reported.

Furthermore, it is mentioned that during 2001 Census, paraffin/candles was added as a distinct category of the energy source for household lighting, distinguishable from the related two categories of paraffin and candles in which only the one named is dominant, however, during 2011 Census, this category was removed as during 2001 census, only 5 percent of households have reported using this combined category. However, two other categories viz. Petrol & diesel were added for data collection during population Census 2011. An additional category on Bio-gas was also added for heating.

2.0 Analysis and Discussion of Results

2.1 Sources of Energy Used for Lighting

The use of energy source for lighting is a good indicator of the level of uptake of the energy source at household level. This is because household lighting is less energy intensive (and therefore less expensive) than cooking/space heating; hence more households can afford to use even the expensive energy sources for lighting than for cooking/space heating. Table 1 provides information on the proportion of households that use each energy source for lighting in urban or rural areas. It is observed from Table 1 that the dominant source of energy for household lighting in Botswana during 2001 in both urban and rural areas was paraffin, however, the situation has changed in 2011 in the urban area, now electricity has taken over as a major source of energy for lighting, whereas in the rural areas, the paraffin was still the main source of lighting. The electricity was used for lighting in about 69 percent households in urban areas and in about 24 percent households in rural areas, where the share of paraffin has reduced to 21 percent & 46 percent respectively during 2011 compared to 49 percent and 59 percent during 2001. It is also observed from Table 1 that electricity used for household lighting by 53 percent of the households nationally, whereas the paraffin and candles used in about 30 percent and 11 percent of the households for lighting.

An district-wise analysis (Table 2) of source of energy for lighting reveals that among the urban districts, the mining districts of Orapa (99 percent) followed by Sowa Town (94 percent) have the highest user of electricity for lighting by households, whereas the lowest use of electricity for lighting was reported from the districts of Lobatse (57 percent), Francistown (68 percent) and Selebi-Phikwe (69 percent). While the use of electricity for lighting among the rural districts were reported to be quite poor except in South East, the districts of Southern (37 percent), Ghanzi (38 percent), Kgalegadi (39 percent) and Central (42 percent) were among the poorest in this regard. The dominant source for energy for lighting was paraffin and candles in all these districts.

Further the use of electricity for lighting was quite common among the housing types like Detached, Semi-detached, Town House/Terraced, Flats/Apartments, Part of Commercial building and Rooms, whereas in

the house type of Traditional, Mixed, Movable and Shacks, the dominant use of paraffin and candles were reported for lighting (Table 2(a)).

2.2 Sources of Energy Used for Household Cooking

The UN Millennium Project has adopted a target of reducing by 50 percent the number of households using biomass as their primary cooking fuel by 2015. The recommendation related to energy for cooking is the following:

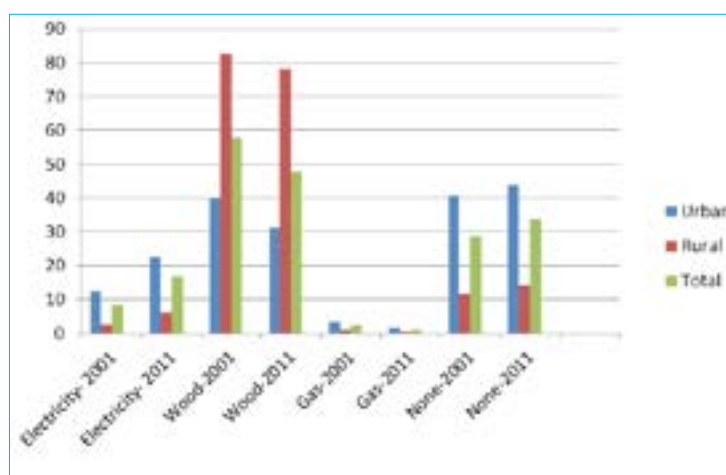
Enable the use of modern fuels for 50 percent of those who at present use traditional biomass for cooking. In addition, support (a) efforts to develop and adopt the use of improved cook stoves, (b) measures to reduce the adverse health impacts from cooking with biomass, and (c) measures to increase sustainable biomass production.

Table 3 provides information on the percentage of all households in urban or rural areas that use each energy source for cooking. The principal energy sources used for cooking in Botswana in both 2001 and 2011 censuses were wood and gas; the former dominating at the national level as well as in rural areas. The use of wood as energy source for cooking in rural areas remained almost the same and quite high, which was over 77 percent during the both censuses with marginal increase in use of electricity and slight reduction in use of LPG gas. While in the urban areas, the use of gas for cooking in the households was reduced from 57.65 percent in 2001 to 50.81 percent in 2011, while the use of electricity has increased significantly from 7.6 percent in 2001 to 23.56 percent during 2011. Further, there were still about same (22 percent) number of households in the urban areas using wood as main energy source for cooking during both the censuses.

Table 4 presents the district-wise use of energy sources for cooking during 2011 census. The analysis of the data shows that among the urban districts, Sowa Town use the electricity (72 percent) as the dominant source of energy, followed by Gaborone (32 percent), whereas use of Gas for cooking is highest in Orapa (81 percent) followed by Jwaneng (78 percent). The use of fuel wood for cooking was reported high from the districts of Francistown and Selebi-Phikwe, both over 14 percent. The position among the rural districts is quite different, where the dominant source of energy for cooking was reported to be fuel wood, except in South East district (15.38 percent), the use of fuel wood for cooking by households varied from about 40 percent to over 60 percent, the highest being in the Central district (64.15 percent) followed by Kgalagadi, North East and Southern districts. After the fuel wood, the gas and electricity were other main sources of energy for cooking in almost all districts.

2.3 Source of Energy Used for Household Heating

Table 5 provides data on the percentage of all households in urban or rural areas that use each energy source for heating. Botswana as a whole, the dominant energy source used by households for space heating is wood (47.66 percent), followed by electricity (16.75 percent). Wood is consistently the dominant source of energy used for heating irrespective of the location (rural or urban) of the household. The proportion of households that use wood for space heating, however, varies significantly between rural (78.08 percent) and urban (31.21 percent) areas since the later can afford to use modern energy sources like electricity (22.47 percent). On comparison of data collected from two censuses, it may be seen that the share of electricity used for heating has increased, while there is reduction of fuel wood for heating purposes during 2011 both

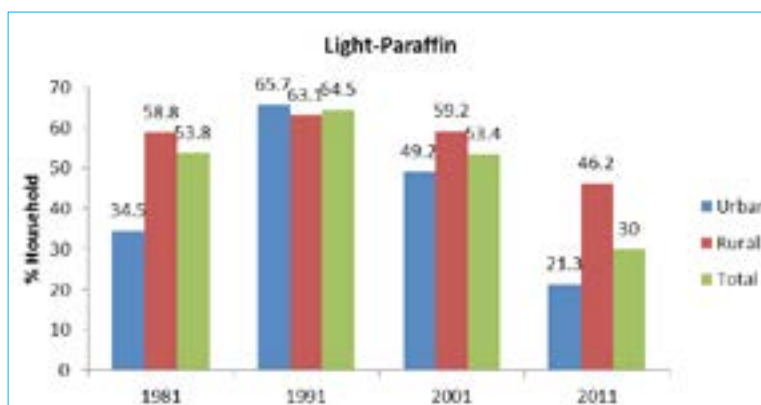
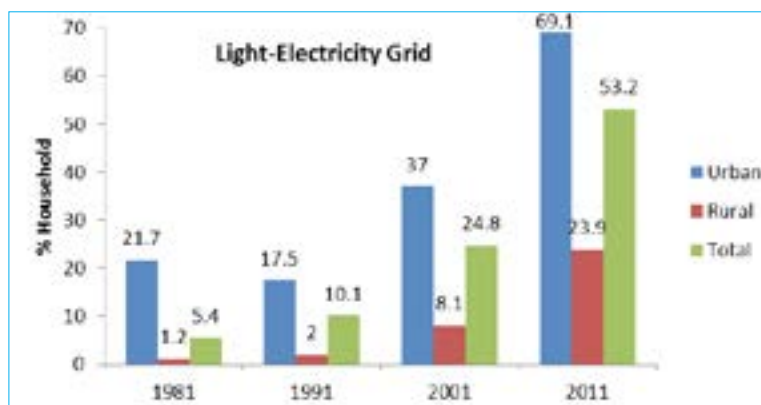


Nationally, 33.60 percent of the households never carry out space heating in their dwellings, a situation that is more prevalent in urban areas (43.97 percent) than in rural areas (14.43 percent). This observation can be attributed to the fact that wood, the prevalent source of energy for space heating is more abundant in rural areas than in urban parts of the country. Additionally, most urban dwellings are of good quality and hence protect the occupants from weather elements more effectively than the majority of rural dwellings.

Table 5(a) provides district-wide information on the proportional distribution of all households that use each energy source for space heating. On the basis of individual energy sources that are used for space heating in households, over 84 percent of households in Orapa district use electricity as the main source of space heating, which is highest among all the districts in the country. The use of wood for heating is very negligible (0.14 percent), the lowest in the country. There were few households (about 14 percent), who were not heating their houses in this district. On the other hand, the majority of the households in the rural areas were using traditional energy sources for space heating except South East district, the use of fuel wood for heating by households varied from about 47 percent to over 70 percent, the highest being in the Kgalagadi district (70 percent) followed by Central (67.26 percent), Southern (64.99 percent) and Ghanzi (63.75 percent) districts. After the fuel wood, the electricity was the other main source of energy for heating.

2.4 Trend in the Proportion of Households Using Various Energy Sources for Lighting and Cooking

Table 6 gives the trend in the proportion of households using different energy sources for lighting from 1981 to 2011. The use of electricity for lighting has increased nationally from 5.4 percent in 1981 to 24.84 percent in 2001 and now 53.24 percent in 2011. The same measure increased from 21.7 percent to 69.13 percent and from 1.2 percent to 23.87 percent for urban and rural parts of the country, respectively, in the same period. The change in electricity use by households over the last 20 years has been increased significantly in both urban and rural areas, where the proportion of households using electricity for lighting rose from 17.5 percent to 69.13 percent and 2 percent to 23.87 percent respectively between 1991 and 2011. On the other hand, the use of wood for lighting in households has dropped at the national level with the proportion of households decreasing from 24.5 percent in 1981 to 3.56 percent in 2011. The proportions for gas and paraffin, the other energy sources commonly used for lighting in Botswana's households, showed an increase in 1991 but had dropped back in 2001 and further reduced in 2011. The proportion of households that use candles in the rural parts of the country has increased from 8.1 percent in 1981 to 10.9 percent in 2001 and now to 16.25 percent in 2011. In the rural areas, the paraffin is still a dominant source of energy for lighting.



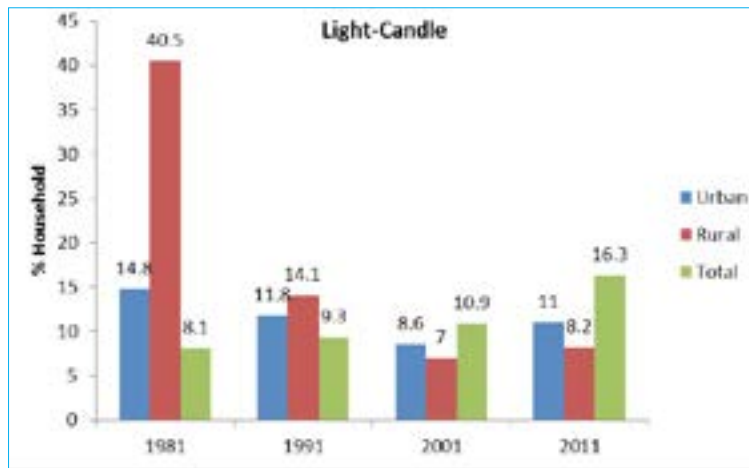
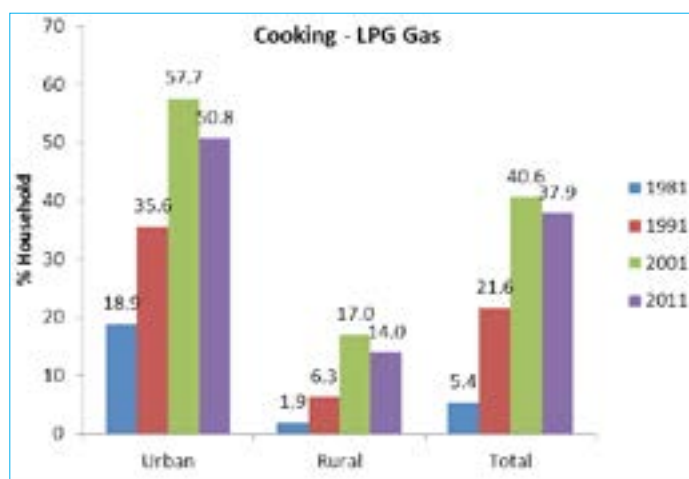
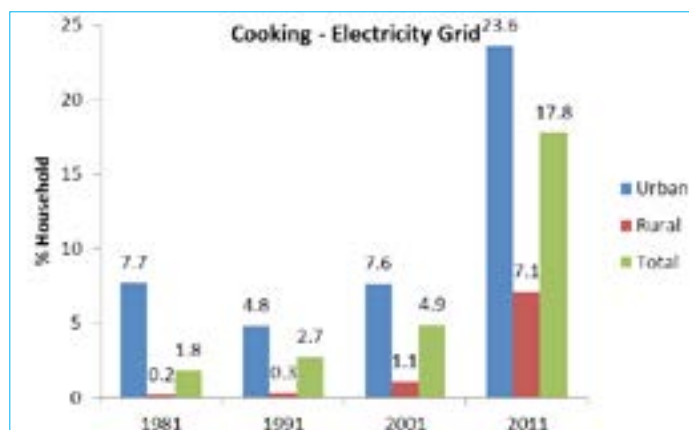
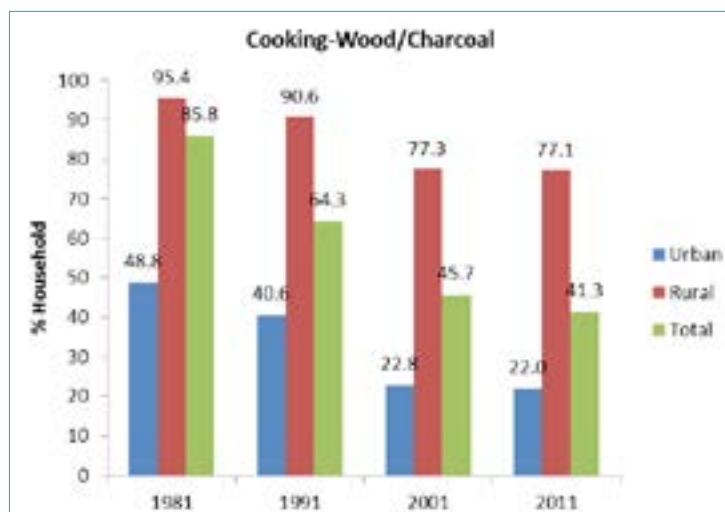


Table 7 provides the data in the proportion of households using different energy sources for cooking as collected from population and housing censuses conducted from 1981 to 2011. The proportion of households that use electricity for cooking has risen nationally from 1.8 percent in 1981 to 17.79 percent in 2011. The relatively small increase when compared with the same proportions for lighting can be attributed to the high cost of electricity and the fact that cooking is much more energy intensive than lighting. However, the increase in uptake of modern energy for cooking purposes is evidenced by the fact that the proportion of households that use gas for cooking rose significantly between 1981 and 2001 at the national level from 5.4 percent to 40.6 percent, as well as in both urban and rural locations from 18.9 percent to 57.7 percent and from 1.9 percent to 17.0 percent, respectively, in the same period. However, between 2001 and 2011, there has not been any increase in the proportion of gas for cooking nationally, but surprisingly, the use of gas for cooking has reduced not only nationally but also in urban areas. It shows that not much effort have been made for promotion of gas as a clean source of energy for cooking. The use of fuel wood for cooking has dropped from 85.8 percent in 1981 to 45.72 percent in 2001 at the national level; however, the corresponding decrease between 2001 and 2011 was quite small to 41.19 percent. There has been almost no reduction in use of wood for cooking in rural areas, which is still over 77 percent.





2.5 Household Size and Choice of Energy Sources

The choice of energy sources depends on the many factors; one of them is the size of the households. Therefore, an analysis of the population and housing census, 2011 was made to see the relationship between household size and the choice of energy sources. Tables 8(a), 8(b) and 8(c) provide the data on the proportion of all households in each household-size group that uses each principal energy source for lighting, cooking & heating respectively. It is observed from the table that the sources of energy predominantly used for lighting vary with the size of the household. In the smaller size households up to 5 members except single member household, the use of electricity for lighting increases, thereafter, the proportion of households using electricity for lighting reduces with increase in the size of the households and the use of paraffin and candles for lighting increases.

The position is similar in case of use of energy for cooking, the smaller sized households (1 to 5 persons) predominantly used gas & electricity for cooking while larger sized households used wood, the "cheaper" energy source. Larger the size of households, the use of wood increases and the use of electricity and gas reduces. This difference can be attributed to the fact that more energy is used in cooking than in lighting, hence larger-sized households, which cook more food and hence use more energy for cooking, are by necessity forced to use the cheaper energy source.

It is to note that the proportion of households using wood for space heating increases with household size, from 40 percent for one-person households to 81 percent for households with 16 or more members). This is mainly because space heating is energy intensive, and hence the larger the size of households, the fewer the affordable alternatives to wood that are available to the household. Due to the same reasons, the proportion of households that use electricity – the second most prevalent energy source that is used for space heating – decreases as the household size increases from 16.67% for one-person households to 3.15 percent for households with 16 or more members. Further, the households, who don't use any energy for heating decreases with the size of households.

A number of variables are shown to affect fuel choice and fuel switching: household expenditures, education, urbanization, electrification status, and water source: these variables all have a significant impact on the choice between modern and traditional solid fuels. Household size, in contrast, is found to increase the use of all energy sources – it matters for fuel choice but not for switching (World Bank, 2003).

2.6 Tenureship and Choice of Energy Sources

Table 9(a) provides the data on proportion of households for each tenureship category that uses a given energy source for lighting. The use of electricity is highest among households which have been obtained their housing units freely from employers (96.40 percent), through purchases (87.86 percent), or are renting from BHC (93.43 percent), Government (90.72 percent), and local institutions/Councils (88.66 percent). On the other hand, households that acquire their housing units by building, inheriting or renting from VDC or individuals; mostly use paraffin for lighting. It is apparent that the determining factor here is affordability of the cost of electrifying the house, rather than the cost of using electricity for lighting.

Table 9(b) provides the data on proportion of households for each tenureship category that uses a given energy source for cooking. It is observed that gas and electricity is mainly used for cooking in rented, purchased and free housing units whereas wood is mainly used in inherited, self-built or donated houses.

Table 9(c) provides the data on proportion of households for each tenureship category that uses a given energy source for space heating. On this aspect, the main source of energy used for space heating is wood for housing units of types like self-built, inheritance, VDC and donated, whereas the houses rented from BHC, Government, Councils and companies – which predominantly use electricity for space heating. Again, it appears that the main factor in the choice of the energy source used for space heating is affordability.

3.0 Conclusions

The analysis of data obtained from population and housing census, 2011 has given quite interesting results. The use of electricity in Botswana's households has been increasing from last 20 years. Nationally, the electricity was used for household lighting by 53 percent of the households, whereas the paraffin and candles were used in about 30 percent and 11 percent of the households for lighting. The situation required to be improved in the rural areas, where only about 24 percent households have access to electricity.

The position about the clean energy source for cooking between 2001 and 2011 has not been quite satisfactory, although the use of electricity has increased, the use of gas (LPG) has declined. The main reason could be the supply constraints, which need to be tackled. The use of solar energy is also quite poor, although there is plenty of sun-shine which could be exploited beneficially. On the other hand, the use of wood as an energy source has been on a consistent decline since the 1981 census, though it is still quite high in the rural areas specially for cooking. Urban and better-off households are more likely to use modern fuels; rural and low-income households more often rely on firewood. The general pattern therefore appears to be one of an increase in the uptake of conventional energy sources and a decrease in the uptake of traditional energy sources, particularly wood. These are welcome developments particularly in view of fears over the unsustainable use of wood resources for energy sources.

4.0 Policy Implications

Household energy use is a critical, yet complex, topic. Fuel and electricity pricing is politically sensitive and important for poverty. The urban poor generally are the most exposed to energy price fluctuations; they often consume a mix of electricity, wood, charcoal, and kerosene. In the rural areas, biomass and kerosene often feature heavily. Policy interventions targeting cooking fuels and cooking practices are now being motivated due to concerns regarding indoor air pollution. Indoor air pollution has been estimated by the WHO (2002) to be the world's 4th largest killer. Policies to reduce indoor air pollution focus on either inducing a healthier fuel choice or on making biomass use cleaner and safer, for example through improved stoves or better ventilation in the cooking area.

The government action is required to promote clean sources of energy and in meeting the lighting and cooking-fuel targets. On the supply side, Botswana doesn't have self-sufficiency in the production of electricity as well as LPG gas, it depends on the import from South Africa as well as from other countries. Many times due to resource & supply constraints, the Government is not able to full-fill the needs of the people. Pricing these products could be another area, which need Government to subsidize these products especially in the remote rural areas. It is also difficult to establish a commercially viable LPG distribution network in the face of low population density, poor roads, and low LPG uptake and consumption among those who require LPG. The absence of economies of scale in catering to rural domestic consumers is one of the main factors hindering LPG access. Demand-side barriers include low per-capita incomes, lack of awareness of the benefits of alternative fuels, inappropriate stove designs and simple force of habit. Moreover, even where LPG widely available, many poor households would not be able to afford the required capital investments. The start-up cost of buying a stove and paying a deposit for a fuel cylinder could be a serious barrier for many households. Improving the way biomass is supplied and used for cooking is an important way of reducing its harmful effects. This can be achieved either through transformation of biomass into less polluting forms or through improved stoves and better ventilation. Adding chimneys to stoves is the most effective improvement to be made from the point of view of health. Charcoal and agricultural residue briquettes have higher energy content than fuel wood and so reduce the amount of fuel needed.

Regulatory reforms can improve the affordability, availability and safety of a range of cooking fuels and technologies. Governments can also support cleaner cooking by developing national databases which include information on the population to be served, potential fuels, stoves, the infrastructure and potential providers, together with cost analyses and estimates of the ability and willingness to pay, as a function of income. Botswana has a large reserve of coal, which can help in producing electricity, through the setting

up of coal based power plants in partnership with private sector. Long-term commitments are needed from development partners to scale up energy investments, transfer knowledge and deploy financing instruments, which will leverage private capital.

Botswana has an abundance of solar energy which is environment friendly. The country receives over 3200 hours of sunshine a year, with infrequent completely cloudy days. Thus, Botswana has a tremendous potential for solar energy that must be exploited – particularly in rural communities that are not catered for by the national electric power grid. It is observed that there has been almost no improvement in coverage of solar energy. The Vision 2016 expressed the goal of developing Botswana as a centre of excellence for solar energy technology. This goal needs to be pursued to accelerate the uptake of solar power in households.

The NDP 10 have envisaged a number of Energy Sector policies and strategies, which will have the main effect of making electricity, gas, coal, solar and other conventional energy sources more accessible and affordable to households in Botswana, and thus increase the proportions of households using these energy sources. Furthermore, the successful execution of these policies and strategies will cause a reduction in the percentage of households in Botswana that use wood fuel and other traditional energy sources for lighting, cooking and/or space heating. It will mitigate the unsustainable use of Botswana's woodlands for energy purposes.

References

1. Botswana Power Corporation, Annual Report 2010
2. ESMAP. 2001. "Sustainable woodfuel supplies from the dry tropical woodlands". ESMAP Technical paper 13, June, Washington DC.
3. Heltberg, Rasmus. 2001. "Determinants and Impact of Local Institutions for Common Resource Management". Environment and Development Economics, vol. 6(2), p.183-208.
4. IEA (International Energy Agency). 2002. World Energy Outlook 2002. Paris.
5. Ministry of Finance and Development Planning, 2003, National Development Plan 10 (2003/04 – 2008/09).
6. Ministry of Minerals, Energy and Water Resources, Energy Affairs Division, Annual Report, 2010
7. Presidential Task Group for a Long Term Vision for Botswana, 1997, Long Term Vision for Botswana Towards Prosperity for All.
8. Sarah E. A. Kabaija, 2003. "Sources of energy used in households in Botswana for lighting, cooking and space heating", paper presented in the Population & Housing Census dissemination Seminar.
9. World Bank, 2003. "Household Fuel and Energy Use in Developing Countries - A Multi-Country Study

Table 1: Proportion of all Households in Urban and Rural by Principal Energy Source for Lighting

Principal fuel-Lighting	Locality type					
	Urban		Rural		Total	
	2011	2001	2011	2001	2011	2001
Electricity	69.13	36.97	23.87	8.08	53.24	24.84
Petrol	0.12		0.21		0.15	
Diesel	0.04		2.12		0.77	
Solar power	0.17	0.11	1.12	0.4	0.51	0.23
Gas (LPG)	0.33	0.69	0.19	0.35	0.28	0.55
Bio gas	0.02	0.05	0.02	0.05	0.02	0.05
Wood	0.57	0.57	9.09	12.48	3.56	5.57
Paraffin	21.26	49.22	46.21	59.17	30.02	53.4
Candle	8.18	6.98	16.25	10.9	11.01	8.62
Other (NEC)	0.18	5.41	0.92	8.57	0.44	6.74
Households	357542	234757	193374	169949	550916	404706

Table 2: Proportion of All Households in the District by Principal Energy Source Used for Lighting

District	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Candle	Other (NEC)	Households
Gaborone	74.15	0.14	0.05	0.12	0.37	0.02	0.05	19.03	5.96	0.11	74963
Francistown	68.74	0.12	0.02	0.14	0.34	0.03	0.13	17.09	13.3	0.09	31298
Lobatse	56.71	0.27	0.05	0.09	0.31	0.01	0.15	33.25	9.06	0.09	9214
Selebi_Pikwe	68.09	0.08	0.01	0.07	0.21	0.01	0.08	23.86	7.49	0.1	16059
Orapa	98.94	0	0	0.21	0.64	0	0.03	0.09	0	0.09	3292
Jwaneng	70.49	0.1	0.02	0.07	0.52	0.02	0.1	21.16	7.37	0.15	5940
Sowa Town	94.29	0.08	0.08	0.08	0	0.08	0.25	3.11	1.76	0.25	1191
Urban Districts	71.73	0.13	0.04	0.12	0.35	0.02	0.08	19.59	7.84	0.1	141957
Southern	37.1	0.17	0.9	0.71	0.22	0.01	4.71	40.73	15.25	0.21	48794
South East	78.13	0.14	0.04	0.12	0.28	0.02	0.41	13.83	6.73	0.3	23993
Kweneng	52	0.2	0.25	0.5	0.34	0.03	5.56	31.2	9.55	0.37	80561
Kgatleng	56.57	0.16	0.16	0.62	0.26	0.03	1.42	32.68	7.67	0.41	24917
Central	42.17	0.13	1.31	0.55	0.23	0.02	5.77	38.72	10.5	0.6	147603
North East	51.59	0.22	0.2	0.69	0.21	0.02	1.47	29.21	16.14	0.26	15865
North West	43.98	0.16	1.49	0.89	0.21	0.02	4.05	28.42	19.5	1.29	42385
Ghanzi	38.8	0.15	5.15	1.91	0.36	0.01	8.62	29.05	14.68	1.27	11375
Kgalagadi	38.57	0.13	2.22	1.22	0.18	0.01	6.17	29.51	21.39	0.6	13498
Rural Districts	46.83	0.16	1.02	0.64	0.25	0.02	4.77	33.64	12.11	0.56	408991
Total	53.24	0.15	0.77	0.51	0.28	0.02	3.56	30.02	11.01	0.44	550948

Table 2(a): Proportion of all Households by type of housing unit and Principal Energy Source for Lighting

Type of housing unit	Principal fuel - Lighting										Total Households
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Candle	Other (NEC)	
Traditional	3.05	0.09	2.34	0.62	0.15	0.02	19.39	53.2	20.01	1.13	72650
Mixed	33.06	0.14	0.79	0.53	0.22	0.01	2.87	48.68	13.23	0.46	55117
Detached	71.27	0.15	0.21	0.48	0.3	0.02	0.47	20.1	6.81	0.21	239214
Semi_detached	83.04	0.14	0.28	0.87	0.33	0.02	0.24	11.32	3.54	0.21	25193
Town House/Terraced	85.34	0.16	0.06	0.36	0.33	0.05	0.2	9.82	3.41	0.26	10515
Flats, Apartment	98.88	0.05	0.01	0.07	0.11	0	0.04	0.44	0.23	0.18	8418
Part of Commercial building	55.81	0.51	1.52	3.41	0.51	0.13	3.03	19.82	14.39	0.88	792
Movable	18.45	0.93	7.6	1.89	0.41	0.05	9.82	31.46	24.06	5.32	3869
Shack	4.41	0.17	7.9	1.09	0.22	0.05	15.71	40.24	28.18	2.03	9203
Rooms	49.73	0.18	0.39	0.35	0.34	0.02	0.71	34.01	14.01	0.29	125945
Total	53.24	0.15	0.77	0.51	0.28	0.02	3.56	30.02	11.01	0.44	550916

Table 3: Proportion of all Households in Urban and Rural by Principal Energy Source for Cooking

Principal fuel-cooking	Residence Type					
	Urban		Rural		Total	
	2011	2001	2011	2001	2011	2001
Electricity	23.56	7.6	7.12	1.08	17.79	4.86
Petrol	0.07		0.06		0.06	
Diesel	0.08		0.1		0.09	
Solar power	0.09	0.28	0.06	0.08	0.08	0.19
Gas (LPG)	50.81	57.65	14	17.01	37.89	40.59
Bio gas	1.17	0.66	0.45	0.44	0.92	0.57
Wood	21.81	22.81	77.03	77.28	41.19	45.68
Paraffin	2.1	10.47	0.85	3.47	1.67	7.53
Cow dung	0.04	0.02	0.14	0.23	0.07	0.11
Coal	0.04	0.12	0.03	0.11	0.04	0.12
Crop waste	0.02	0.1	0.01	0.06	0.02	0.08
Charcoal	0.16	0.02	0.08	0.06	0.13	0.04
Other (NEC)	0.05	0.26	0.06	0.19	0.05	0.23
Households	357542	234 757	193374	169 949	550916	404 706

Table 4: Proportion of All Households in the District by Principal Energy Source Used for Cooking

District	Principal fuel Cooking												Total	
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Crop waste	Charcoal		Other (NEC)
Gaborone	32.28	0.07	0.11	0.09	61.45	0.76	1.79	3.17	0.02	0.05	0.01	0.18	0.02	74957
Francistown	22.16	0.05	0.06	0.05	59.08	1.49	14.06	2.79	0.04	0.03	0.01	0.14	0.05	31297
Lobatse	16.91	0.05	0.05	0.21	68.12	0.62	7.65	6.13	0.02	0.03	0.02	0.13	0.04	9214
Selebi_Pikwe	27.79	0.03	0.03	0.04	55.02	1.61	14.31	0.89	0.02	0.03	0.02	0.17	0.04	16058
Orapa	18.77	0.00	0.21	0.03	80.53	0.21	0.06	0.06	0.00	0.03	0.03	0.03	0.03	3292
Jwaneng	12.79	0.02	0.05	0.24	77.71	0.64	5.45	2.96	0.03	0.03	0.02	0.05	0.00	5940
Sowa Town	71.96	0.08	0.25	0.00	22.00	0.08	5.46	0.00	0.00	0.08	0.08	0.00	0.00	1191
Urban Districts	27.75	0.05	0.09	0.09	61.43	0.98	6.43	2.91	0.02	0.04	0.02	0.16	0.03	141949
Southern	12.18	0.06	0.07	0.08	26.08	0.8	58.79	1.25	0.51	0.02	0.01	0.13	0.02	48793
South East	25.31	0.14	0.10	0.06	54.62	2.24	15.38	1.69	0.03	0.03	0.02	0.30	0.08	23990
Kweneng	13.89	0.10	0.07	0.11	43.88	1.00	38.26	2.40	0.03	0.04	0.02	0.14	0.05	80548
Kgatleng	18.55	0.04	0.06	0.09	34.84	0.99	43.68	1.51	0.01	0.04	0.02	0.12	0.04	24915
Central	12.85	0.05	0.08	0.06	21.11	0.64	64.15	0.81	0.03	0.03	0.02	0.10	0.06	147598
North East	15.65	0.04	0.06	0.02	23.11	0.52	59.84	0.53	0.04	0.04	0.03	0.06	0.06	15865
North West	14.70	0.06	0.18	0.06	24.11	1.08	58.82	0.66	0.05	0.06	0.02	0.12	0.07	42385
Ghanzi	14.18	0.04	0.16	0.11	27.53	0.83	56.18	0.68	0.04	0.04	0.04	0.11	0.07	11375
Kgalagadi	11.09	0.02	0.12	0.06	26.05	0.81	60.91	0.63	0.05	0.01	0.00	0.06	0.19	13498
Rural Districts	14.33	0.07	0.09	0.07	29.72	0.09	53.25	1.23	0.09	0.04	0.02	0.12	0.06	408967
Total	17.79	0.06	0.09	0.08	37.89	0.92	41.19	1.67	0.07	0.04	0.02	0.13	0.05	550916

Table 5: Proportion of all Households in Urban and Rural by Principal Energy Source for Heating

Principal fuel -Heating	Residence Type				Total	
	Urban		Rural			
	2011	2001	2011	2001	2011	2001
Electricity	22.47	12.54	6.18	2.44	16.75	8.30
Petrol	0.10		0.07		0.09	
Diesel	0.02		0.04		0.03	
Solar power	0.13	0.15	0.14	0.14	0.14	0.14
Gas (LPG)	1.37	3.35	0.38	0.98	1.02	2.36
Bio gas	0.06		0.05		0.06	
Wood	31.21	39.86	78.08	82.67	47.66	57.84
Paraffin	0.24	1.97	0.3	1.29	0.26	1.69
Cow dung	0.02	0.06	0.1	0.29	0.05	0.16
Coal	0.15	0.17	0.11	0.08	0.13	0.13
Charcoal	0.19	0.16	0.08	0.13	0.15	0.15
None	43.97	40.7	14.43	11.51	33.6	28.44
Other(NEC)	0.07	1.03	0.03	0.47	0.06	0.79
Households	357542	234 757	193375	169 949	550917	404 706

Table 5a: Proportion of All Households in the District by Principal Energy Source Used for Heating

Principal fuel Heating

District	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Char coal	None	Other (NEC)	Total
Gaborone	35.73	0.11	0.02	0.09	2.34	0.08	9.87	0.32	0.01	0.15	0.23	51.04	0.02	74957
Francistown	19.65	0.04	0.00	0.09	1.19	0.03	21.81	0.17	0.01	0.14	0.18	56.67	0.01	31297
Lobatse	24.71	0.09	0.01	0.03	1.88	0.05	21.92	0.66	0.01	0.13	0.1	50.34	0.07	9214
Selebi_Pikwe	21.58	0.04	0.02	0.06	1.39	0.06	26.38	0.11	0.01	0.12	0.12	50.08	0.02	16058
Orapa	84.14	0.06	0.00	0.03	1.09	0.00	0.18	0.03	0.00	0.00	0.00	14.43	0.03	3292
Jwaneng	44.06	0.07	0.02	0.17	1.4	0.03	13.22	0.07	0.02	0.15	0.07	40.74	0.00	5940
Sowa Town	27.79	0.00	0.00	0.08	0.34	0.25	17.88	0.00	0.00	0.08	0.17	53.32	0.08	1191
Urban Districts	31.27	0.08	0.01	0.09	1.87	0.06	15.14	0.26	0.01	0.14	0.18	50.86	0.02	141949
Southern	12.40	0.07	0.09	0.21	0.69	0.05	64.99	0.30	0.34	0.14	0.15	20.55	0.03	48793
South East	23.17	0.24	0.03	0.15	1.43	0.09	28.58	0.19	0.03	0.25	0.09	45.73	0.03	23990
Kweneng	14.11	0.12	0.02	0.10	1.23	0.05	47.29	0.32	0.02	0.12	0.15	36.37	0.09	80548
Kgatleng	15.89	0.10	0.04	0.19	0.90	0.08	50.23	0.29	0.04	0.21	0.19	31.8	0.05	24915
Central	8.87	0.06	0.03	0.16	0.40	0.04	67.26	0.23	0.02	0.12	0.13	22.62	0.07	147599
North East	12.4	0.14	0.02	0.14	0.73	0.09	61.57	0.42	0.04	0.05	0.23	24.13	0.01	15865
North West	8.12	0.09	0.03	0.14	0.57	0.07	61.75	0.18	0.02	0.14	0.13	28.66	0.10	42385
Ghanzi	7.48	0.15	0.04	0.20	0.57	0.08	63.75	0.15	0.04	0.14	0.12	27.25	0.03	11375
Kgalagadi	12.05	0.03	0.02	0.19	0.55	0.04	70.00	0.16	0.01	0.04	0.13	16.66	0.13	13498
Rural Districts	11.71	0.09	0.03	0.15	0.73	0.05	58.95	0.25	0.06	0.13	0.14	27.61	0.07	408968
Total	16.75	0.09	0.03	0.14	1.02	0.06	47.66	0.26	0.05	0.13	0.15	33.6	0.06	550917

Table 6: Percentage Distribution of Households by Principal Source of Energy Source Used for Lighting in 1981, 1991, 2001, 2011

Energy Source	1981			1991			2001			2011		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Number of Households	135966	34966	70262	276209	145106	131103	404706	234757	169949	550918	357542	193376
Percentage of Households	100	20.5	79.5	100	52.5	47.5	100	58	42	100	64.9	35.1
Electricity	5.4	21.7	1.2	10.1	17.5	2	24.8	37	8.1	53.24	69.13	23.87
Petrol										0.15	0.12	0.21
Diesel										0.77	0.04	2.12
Solar	-	-	-	-	-	-	0.2	0.1	0.4	0.51	0.17	1.12
Gas (LPG)	0.6	1.4	0.4	0.8	1.2	0.3	0.5	0.7	0.4	0.28	0.33	0.19
Biogas	-	-	-	-	-	-	0.1	0.1	0.1	0.02	0.02	0.02
Wood	24.5	1.4	30.5	11.4	0.8	23.1	5.6	0.6	12.5	3.56	0.57	9.09
Paraffin	53.8	34.5	58.8	64.5	65.7	63.1	53.4	49.2	59.2	30.02	21.26	46.21
Candle	14.8	40.5	8.1	11.8	14.1	9.3	8.6	7	10.9	11.01	8.18	16.25
Paraffin/Candle	-	-	-	-	-	-	6	5.2	7.1			
Other	0.8	0.5	0.9	1.4	0.7	2.1	0.6	0.1	1.3	0.44	0.18	0.92
Not Stated	-	-	-	-	-	-	0.1	0.1	0.2			

Table 7: Percentage Distribution of Households by Principal Source of Energy Source Used for Cooking in 1981, 1991, 2001 & 2011

Energy Source	1981			1991			2001			2011		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Number of Households	135966	34966	7262	276 209	145 106	131 103	404 706	234 757	169 949	550 945	357 542	193 376
Percentage of Households	100	20.5	79.5	100	52.5	47.5	100	58.01	41.99	100	64.9	35.1
Electricity	1.8	7.7	0.2	2.7	4.8	0.3	4.86	7.6	1.08	17.79	23.56	7.12
Petrol										0.06	0.07	0.06
Diesel										0.09	0.08	0.1
Solar	-	-	-	-	-	-	0.19	0.28	0.08	0.08	0.09	0.06
Gas (LPG)	5.4	18.9	1.9	21.6	35.6	6.3	40.59	57.65	17.01	37.89	50.81	14
Bio-gas	-	-	-	-	-	-	0.57	0.66	0.44	0.92	1.17	0.45
Wood/charcoal	85.8	48.8	95.4	64.3	40.6	90.6	45.72	22.83	77.34	41.19	21.81	77.03
Paraffin	6.4	23.3	2	10.7	18.2	2.5	7.53	10.47	3.47	1.67	2.1	0.85
Cow dung	-	-	-	-	-	-	0.11	0.02	0.23	0.07	0.04	0.14
Coal	0.3	1.1	0.1	0.1	0.1	0.5	0.12	0.12	0.11	0.04	0.04	0.03
Crop Waste	-	-	-	-	-	-	0.08	0.1	0.06	0.02	0.02	0.01
Charcoal										0.13	0.16	0.08
Other	0.2	0.1	0.2	0.5	0.6	-	0.11	0.12	0.09	0.05	0.05	0.06
Not Stated	-	-	-	-	-	-	0.12	0.14	0.1			

Table 8(a): Percentage distribution of Households by household size and by Principal Energy Source Used for Lighting

Household size	Principal fuel - Lighting										Households
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Candle	Other (NEC)	
1	51.4	0.17	1.29	0.8	0.31	0.02	3.84	29.11	12.44	0.62	152938
2	54.96	0.13	0.87	0.5	0.3	0.02	3.44	28.26	11.07	0.45	99443
3	57.57	0.15	0.61	0.48	0.29	0.02	3.01	27.7	9.75	0.40	77152
4	58.06	0.15	0.48	0.38	0.3	0.02	3.07	28.29	8.94	0.32	65047
5	55.6	0.15	0.41	0.35	0.21	0.01	3.26	30.37	9.27	0.37	49717
6	52.1	0.14	0.4	0.28	0.25	0.02	3.62	32.87	10.02	0.30	35096
7	48.61	0.18	0.38	0.24	0.2	0.03	3.67	34.93	11.44	0.31	23381
8	46.06	0.1	0.3	0.24	0.14	0.01	4.09	36.76	11.98	0.32	15604
9	42.93	0.15	0.42	0.2	0.22	0.04	4.4	38.07	13.26	0.31	10842
10	40.77	0.11	0.4	0.24	0.23	0.04	5.02	39.29	13.7	0.21	8242
11-15	40.74	0.22	0.3	0.22	0.21	0.03	5.13	38.05	14.69	0.41	11474
16+	36.75	0.00	0.45	0.15	0.2	0.00	6.75	36.95	18.45	0.30	2000

Table 8(b): Percentage distribution of Households by household size and by Principal Energy Source Used for Cooking

Household size	Principal fuel - Cooking												Households	
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Crop waste	Charcoal		Other (NEC)
1	18.69	0.07	0.12	0.09	42.08	1.07	34.95	2.57	0.06	0.03	0.02	0.15	0.10	152938
2	18.38	0.07	0.11	0.09	44.65	1.07	32.93	2.38	0.06	0.05	0.02	0.14	0.05	99443
3	19.78	0.05	0.10	0.09	41.91	0.95	35.35	1.50	0.06	0.03	0.02	0.13	0.03	77152
4	19.99	0.07	0.07	0.07	38.8	0.91	38.79	1.02	0.08	0.03	0.02	0.12	0.02	65047
5	18.78	0.07	0.06	0.05	34.19	0.76	45.05	0.74	0.10	0.03	0.01	0.12	0.03	49717
6	16.61	0.05	0.06	0.09	29.73	0.76	51.73	0.67	0.08	0.05	0.02	0.12	0.02	35096
7	13.83	0.05	0.05	0.05	25.91	0.68	58.52	0.65	0.09	0.05	0.02	0.09	0.03	23381
8	11.82	0.05	0.07	0.04	22.35	0.52	64.09	0.74	0.09	0.02	0.03	0.13	0.04	15604
9	10.07	0.03	0.02	0.03	19.07	0.58	69.22	0.68	0.12	0.01	0.00	0.13	0.04	10842
10	8.00	0.05	0.05	0.08	17.47	0.42	73.04	0.52	0.13	0.02	0.01	0.17	0.02	8242
11-15	6.95	0.06	0.06	0.04	14.62	0.29	77.07	0.54	0.17	0.03	0.00	0.15	0.01	11474
16+	4.35	0.20	0.00	0.00	12.7	0.45	81.65	0.25	0.15	0.05	0.00	0.20	0.00	2000

Table 8 (c): Percentage distribution of Households by household size and by Principal Energy Source Used for Heating

Household size	Principal fuel - Heating												Households	
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Charcoal	None		Other (NEC)
1	16.67	0.09	0.04	0.13	1.09	0.07	40.25	0.29	0.03	0.12	0.12	41.05	0.06	152938
2	17.37	0.11	0.03	0.14	1.20	0.06	39.64	0.3	0.05	0.14	0.14	40.76	0.05	99443
3	19.74	0.12	0.02	0.15	1.19	0.06	42.7	0.24	0.04	0.13	0.15	35.41	0.06	77152
4	20.6	0.08	0.03	0.15	1.08	0.06	46.66	0.22	0.06	0.13	0.18	30.69	0.06	65047
5	18.86	0.07	0.02	0.13	0.96	0.05	52.86	0.21	0.07	0.12	0.20	26.37	0.07	49717
6	15.67	0.09	0.03	0.14	0.83	0.04	58.96	0.28	0.06	0.16	0.19	23.52	0.03	35096
7	11.8	0.09	0.02	0.12	0.61	0.03	65.05	0.24	0.06	0.13	0.19	21.61	0.04	23381
8	9.15	0.08	0.02	0.11	0.62	0.03	70.48	0.17	0.06	0.21	0.22	18.83	0.02	15604
9	7.00	0.06	0.02	0.11	0.46	0.04	74.51	0.23	0.06	0.18	0.12	17.19	0.04	10842
10	6.07	0.10	0.04	0.11	0.46	0.04	77.04	0.21	0.06	0.12	0.18	15.55	0.02	8242
11-15	4.42	0.09	0.03	0.14	0.40	0.01	79.04	0.23	0.07	0.18	0.17	15.23	0.01	11474
16+	3.15	0.05	0.00	0.00	0.20	0.00	81.65	0.10	0.15	0.40	0.15	14.00	0.15	2000

Table 9 (a): Percentage distribution of Households by housing tenure and by Principal Energy Source Used for Lighting

Tenure of housing unit	Principal fuel - Lighting										Households
	Electricity	Petrol	Diesel	Solar power	Gas (LPG)	Bio gas	Wood	Paraffin	Candle	Other (NEC)	
Self- built	39.04	0.15	0.77	0.42	0.22	0.02	5.75	40.51	12.63	0.48	290545
Rent individual	67.77	0.13	0.05	0.19	0.38	0.03	0.21	21.4	9.68	0.17	139409
Job related-free	61.96	0.30	3.65	1.26	0.30	0.02	4.28	15.96	11.26	1.04	46334
Rent Central Government	90.72	0.03	0.46	1.68	0.28	0.01	0.12	4.75	1.76	0.17	21802
Free: Inheritance	34.75	0.17	0.35	0.41	0.25	0.01	1.70	41.15	20.75	0.46	11482
Purchased	87.86	0.13	0.38	0.25	0.34	0.02	0.87	6.64	2.76	0.74	8503
Rent: Company	96.4	0.05	0.03	0.10	0.37	0.02	0.14	1.68	1.07	0.15	10946
Rent: BHC	93.43	0.08	0.00	0.03	0.28	0.00	0.02	4.93	1.14	0.10	6165
Rent: Local institution	88.66	0.08	0.04	2.59	0.38	0.01	0.12	5.41	2.50	0.21	7602
Rent: VDC	38.84	0.22	0.17	1.20	0.53	0.03	0.59	42.67	15.27	0.48	3576
Donated	13.5	0.54	0.37	0.40	0.10	0.00	6.71	42.85	33.81	1.72	2964
Do not know	38.94	0.76	1.95	1.07	0.88	0.00	6.11	28.29	19.97	2.02	1587
Total	53.24	0.15	0.77	0.51	0.28	0.02	3.56	30.02	11.01	0.44	550915

Table 9(b): Percentage distribution of Households by housing tenure and by Principal Energy Source Used for Cooking

Tenure of housing unit	Electricity					Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Crop waste	Char-coal	Other (NEC)	House holds
	Grid	Petrol	Diesel	Solar power	Total Electricity										
Self-built	11.04	0.06	0.05	0.06	11.21	22.37	0.67	64.63	0.82	0.10	0.03	0.01	0.12	0.04	290544
Rent individual	20.25	0.09	0.10	0.09	20.53	65.54	1.44	7.91	4.26	0.04	0.03	0.02	0.18	0.07	139409
Job related-free	26.37	0.06	0.18	0.10	26.72	36.52	0.71	35.05	0.75	0.04	0.05	0.03	0.11	0.04	46333
Rent Central Government	37.26	0.05	0.35	0.11	37.78	57.94	1.39	2.50	0.11	0.02	0.06	0.05	0.13	0.03	21802
Free: Inheritance	11.32	0.02	0.06	0.06	11.46	33.1	0.70	51.88	2.18	0.30	0.07	0.00	0.12	0.19	11482
Purchased	46.23	0.06	0.07	0.08	46.44	43.3	0.73	9.1	0.21	0.04	0.06	0.00	0.11	0.01	8503
Rent: Company	49.52	0.02	0.09	0.08	49.71	46.52	0.60	2.79	0.15	0.00	0.05	0.03	0.15	0.02	10946
Rent: BHC	48.65	0.02	0.15	0.15	48.95	48.86	0.88	0.97	0.13	0.00	0.10	0.02	0.10	0.00	6165
Rent: Local institution	36.87	0.11	0.16	0.09	37.23	59.06	1.22	1.92	0.33	0.01	0.05	0.07	0.11	0.00	7602
Rent: VDC	14.6	0.08	0.20	0.17	15.04	56.54	2.6	24.05	1.09	0.06	0.11	0.03	0.31	0.17	3576
Donated	3.58	0.13	0.03	0.20	3.95	9.99	0.40	81.21	3.88	0.17	0.1	0.03	0.17	0.10	2964
Do not know	16.19	0.13	0.06	0.06	16.45	27.1	0.69	53.06	2.14	0.19	0.13	0.00	0.13	0.13	1587
Total	17.79	0.06	0.09	0.08	18.02	37.89	0.92	41.19	1.67	0.07	0.04	0.02	0.13	0.05	550913

Table 9(c): Percentage distribution of Households by housing tenure and by Principal Energy Source Used for Heating

Tenure of housing unit	Electricity					Gas (LPG)	Bio gas	Wood	Paraffin	Cow dung	Coal	Char coal	None	Other (NEC)	House holds
	Grid	Petrol	Diesel	Solar power	Total Electricity										
Self-built	8.86	0.08	0.02	0.13	9.09	0.59	0.05	70.52	0.28	0.07	0.13	0.15	19.08	0.05	290545
Rent individual	17.09	0.12	0.01	0.09	17.31	1.68	0.06	17.38	0.32	0.02	0.13	0.16	62.87	0.08	139409
Job related-free	30.54	0.09	0.05	0.16	30.84	0.98	0.06	37.87	0.14	0.01	0.13	0.13	29.82	0.02	46333
Rent Central Government	41.45	0.07	0.17	0.40	42.08	1.51	0.07	7.01	0.04	0.01	0.12	0.14	48.95	0.06	21802
Free: Inheritance	8.12	0.04	0.01	0.14	8.31	0.76	0.02	59.77	0.36	0.18	0.21	0.25	30.08	0.06	11482
Purchased	55.72	0.09	0.06	0.20	56.07	2.7	0.13	14.04	0.13	0.02	0.31	0.31	26.23	0.06	8503
Rent: Company	63.59	0.09	0.01	0.06	63.76	1.16	0.05	6.89	0.04	0.03	0.11	0.15	27.79	0.04	10946
Rent: BHC	49.08	0.02	0.02	0.05	49.16	2.03	0.05	6.88	0.06	0.02	0.15	0.08	41.56	0.02	6165
Rent: Local institution	41.75	0.07	0.00	0.54	42.36	1.71	0.05	6.97	0.04	0.01	0.14	0.12	48.55	0.04	7602
Rent: VDC	12.84	0.14	0.06	0.22	13.26	1.20	0.06	39.65	0.62	0.03	0.11	0.28	44.77	0.03	3576
Donated	2.73	0.10	0.00	0.17	3.00	0.30	0.10	78.95	0.44	0.10	0.13	0.17	16.73	0.07	2964
Do not know	11.72	0.06	0.06	0.13	11.97	1.39	0.00	55.26	0.19	0.06	0.19	0.19	30.56	0.19	1587
Total	16.75	0.09	0.03	0.14	17.01	1.02	0.06	47.66	0.26	0.05	0.13	0.15	33.6	0.06	550914

LEVELS AND PATTERNS OF CHILD LABOUR AND CHILD WORK IN BOTSWANA

By G. Kgosidintsi & Dr. S.D Rakgoasi
Population Studies Department
University of Botswana

Abstract: Using the 2011 Botswana Population and Housing Census, this paper investigates the levels and patterns of child labour and child work in Botswana. Child labour undermines human capital development and future earnings; reinforces the vicious cycle of poverty, and runs counter to Botswana Vision 2016 of being “An educated and informed nation” (Okurut & Yinusa, 2009).

The results show that only 2.1 percent of children aged 12 to 17 were involved in some kind of employment. However, the percentage of children involved in child labour is highest among children heading households/ children who were spouses of heads of household, children who were not related to head of households, children who ever been in unions, children who were affiliated to other non-Christian religions and orphaned children, children residing in Kweneng West District, Ngwaketse West District, and Ghanzi District; Children predominantly speaking Zezulu/Shona, Ndebele, Sesarwa; Children who left school and those who never attended school.

Introduction and Background

This paper investigates the levels and patterns of child labour and child work in Botswana. Determining the level and patterns of child labour is important because Child labour is harmful to the child, is economically exploitative, hazardous, interferes with the child's education, or harmful to the child's health or physical, mental, spiritual, moral or social development (Government of Botswana, 2006). In addition, child labour undermines human capital development and future earnings; reinforces the vicious cycle of poverty, and runs counter to Botswana Vision 2016 of being “An educated and informed nation”(Okurut & Yinusa, 2009).

Child Labour in Botswana

Recent evidence show that about 72.4 percent of school going children (7-17 years) were engaged in schooling only, 21.2 percent were involved in labour market activities as well as schooling, 2.6 percent were involved in working only, while 4 percent were not working and not schooling (Okurut & Yinusa, 2009). Furthermore, analysis of the Botswana AIDS Impact survey II and III indicate that there has been a decline in economically active children aged 12-17 from 3.2 percent in 2004 to 1.8 in 2008. Although incidences of child labour seem to be declining, there is still a great deal of urban-rural disparities. Hazardous work done by children in Botswana include collecting water and wood over long distances, livestock guarding, working in shebeens, working on the streets and working in agriculture (Government of Botswana, 2006).

In many countries, as is the case in Botswana, national laws and policies exist to protect the rights of children. However, the enforcement, implementation and monitoring of these various instruments remains a major constraint (University of Botswana & UNICEF, 2012)

Orphan hood and child labour

According to a 2005 Child Indicators Survey, children of school going ages who were not attending school, heading households or orphaned are most vulnerable to child labour (ILO & Government of Botswana, 2006). An orphan crisis has intensely developed in Africa largely due to the HIV/AIDS epidemic. Recent Demographic and Health Surveys (DHS) indicate that in Uganda, Malawi, Mozambique, Zambia, and Zimbabwe, nearly 15 percent of all children under the age of 15 had lost one or both parents and more than 20 percent of 15 year old children in these countries are orphans (Guarcello, Lyon, Rosati, & Valdivia, 2004).

The largest increases in orphanhood will be evidenced in countries with the highest HIV prevalence rates like Botswana, Lesotho and Swaziland. In countries with mature epidemics, like Uganda, HIV prevalence may have declined or stabilized in part due to high mortality rate, consequently, the percentage of children orphaned may be high even though HIV prevalence has declined (Guarcello, Lyon, Rosati, & Valdivia, 2004). As the HIV epidemic matures in Botswana, like in Uganda, there will be an increase in the percent of children who are orphaned. With increased number of orphans, there will newer challenges to the government of Botswana in trying to expand its safety net or social programmes to these potentially vulnerable children. In fact, the number of orphans in Botswana has increased tremendously in recent years due to the high

and increasing HIV and AIDS casualties, from 21,109 in 1999 to 42,000 in 2003, (Ministry of Local Government, 2004). It is estimated that about 15 percent of children aged 12-17 years old in Botswana have been said to be orphaned and that 6 percent of the orphaned children are economically active (ILO & Government of Botswana, 2006).

Botswana is currently implementing a number of programs aimed at mitigating the impact of orphan hood on children who have lost one or both parents. One such program is the Orphan Care program. First implemented in 1999, this program aims to alleviate some of the challenges that the orphaned are facing by providing food baskets, psychological counseling and to facilitating the waiving of school fees for orphans children.

Methodology

Data

The study uses data from the 2011 Botswana Population and Housing Census. The 2011 Botswana Population and Housing Census is the fifth in a series of post-independence national population and housing censuses conducted in Botswana since 1971.

The dependent variable in the study is child's labour or child participation in formal employment. It is measures using responses to a question on whether the child did any type of work for pay, profit or home use for at least 1 hour in the 7 days preceding the census.

A number of independent covariates were investigated, including sex of respondent, age, school enrolment, education level, marital status, religion; relationship to head of household and orphanhood. Orphanhood was measured as a composite index comprising responses to two questions on the survival status of the child's biological father or mother, and shows whether the child is a maternal or paternal orphan; double orphan or not being an orphan. Frequencies were used to find out emerging trends in child labour and cross tabulations were also used to identify determinants of child labour. IBM SPSS (version 19) was used to run all the analysis in this report.

Table 1 Distribution of Background Characteristics

	Numbers	Percent
Sex of Respondent		
Male	124640	50.1
Female	123933	49.9
Age of Respondent		
12	39890	16
13	40363	16.2
14	39800	16
15	42915	17.3
16	43149	17.4
17	42456	17.1
Highest level of Education		
Primary	100086	40.8
Secondary	145298	89.2
Respondents' Religious Affiliation		
Christian	200945	81.1
Other None-Christian	8064	3.3
No Religion	38677	15.6
Marital Status		
Married	1696	0.7
Never Married	242498	97.6
Living Together	3793	1.5
Marriage dissolved	367	0.1
Place of Residence		
Cities and towns	123651	49.7
Urban Villages	99827	40.2
Rural	25097	10.1
Relationship to head of household		
Head/Spouse	6028	2.8
Child/Grand Child	158970	75.7
Brother/Sister	15480	7.1
Other Relatives	33361	15.3
Not Related	4116	1.9
Do any type of work in the past 7 days		
No	243221	97.9
Yes	5151	2.1
Orphan hood		
Both parents alive	167786	70.8
Father only alive	13744	5.8
Mother only alive	41206	17.4
None alive	14411	6.1

Table 1 above shows the distribution of the sampled population by background characteristics. The table indicates that: half were males (50.1 percent); two fifths (40.8 percent) had primary education; four fifths were Christians (81.1 percent); almost all have never been married (97.6 percent). The table further shows that half resided in cities and towns (49.7 percent) while 40.2 percent resided in urban villages and only 10.1 percent resided in rural villages. Two point eight percent were reported to either be the head or spouse of the head of household. Just under a tenth (6.1 percent) was reported to have no parents alive while under one fifth (17.4 percent) had lost their fathers and 5.8 had lost only their mothers. Only 2.1 percent did some kind of work for pay, profit, or home use for at least one hour in the past 7 days preceding the census.

Figure 1: What did the individual do if they were not working?

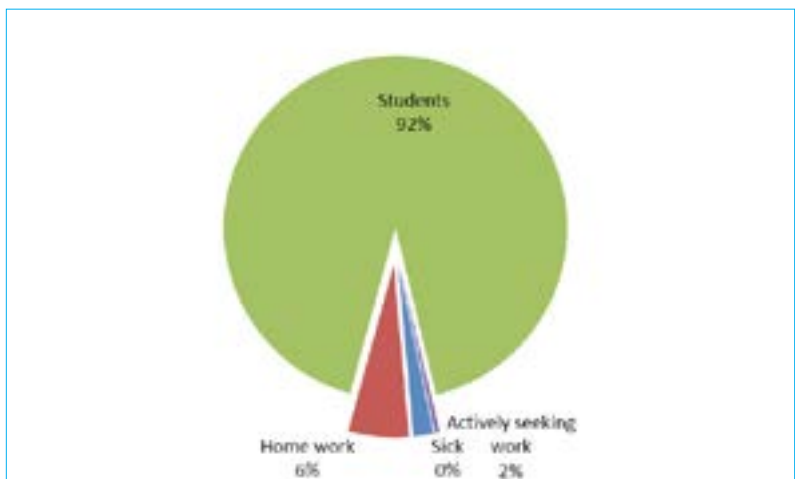


Figure 1 above indicates various activities that one was doing if they were not working. Majority of individuals were students (92 percent) while 6 percent were engaged in homework, 0.5 percent were reported to be sick and 2 percent were actively seeking employment.

Figure 2: What has the individual doing in the past 7 days?

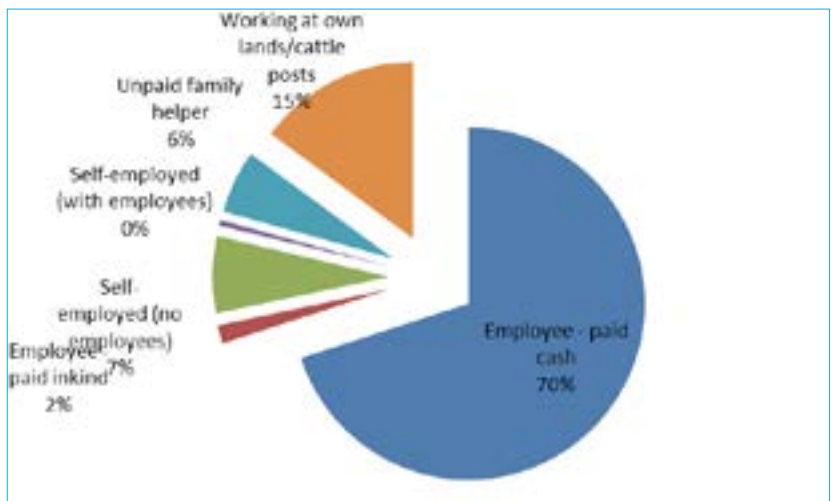


Figure 2 above indicate types of work children were engaged in. Under 3 quarters (70 percent) were paid in cash while 2 percent were paid in kind, 15 percent were working at own lands/cattle posts, 6 percent were unpaid family helpers, 7 percent were self-employed with no employees and 0.5 percent were self-employed with employees.

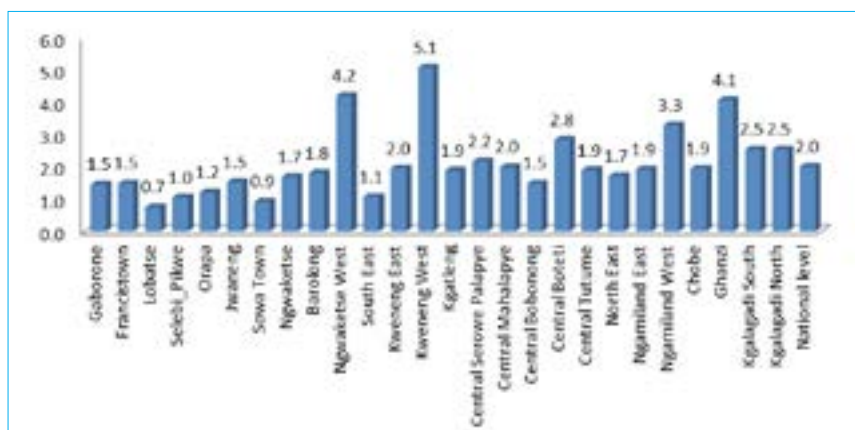
Table 2: Do any type of work by Background Characteristics

Do any type of work in the past 7 days		
	Yes	No
Sex of Respondent		
Male	2.9	97.1
Female	1.2	97.9
Age of Respondent		
12	0.6	99.4
13	0.9	99.1
14	1.1	98.9
15	1.8	98.2
16	2.7	97.3
17	5.1	94.9
Highest level of Education		
Primary	2.1	97.9
Secondary	1.6	98.4
Respondents' Religious Affiliation		
Christian	1.6	98.4
Other Non-Christian	5.9	94.1
No Religion	3.6	96.4
Marital Status		
Married	10.8	89.2
Never Married	1.8	98.2
Living Together	12	88
Marriage dissolved	10.9	89.1
Place of Residence		
Cities and towns	1.1	98.9
Urban Villages	1.4	98.6
Rural	9.6	90.4
Relationship to head of household		
Head/Spouse	23.3	76.7
Child/Grand Child	1.1	98.9
Brother/Sister	2.7	97.3
Other Relatives	2.3	97.3
Not Related	16.9	97.7
Orphan hood		
Both parents alive	1.8	98.2
Father only alive	2.9	97.1
Mother only alive	2.6	97.4
None alive	3.5	96.5
Total	2.1	97.9

Table 2 above indicates involvement in economic activity cross tabulated by background characteristics. The table indicates that 2.1 percent of children aged 12 to 17 did some kind of work in the past 7 days prior to the census for pay, profit, or home use for at least 1 hour. The table shows that a higher percentage of males were involved in work (2.9 percent) compared to females (1.2 percent). The percent of children aged 12 to 17 involved in some kind of work increase gradually from 0.6 percent for children aged 12 years to 5.1 percent for children aged 17 years. A slightly higher proportion of children with primary education were involved in work compared to 1.6 percent of children with secondary education. A very small percent of children who were still at school (0.2 percent) reported to have been involved in some kind of work compared to a fifth (22.0 percent) of children who had left school and a quarter (24.5 percent) of children who had never attended school. A higher percent of other non-Christian religions (5.9 percent) were engaged in work compared to 3.6 percent who subscribed to no religion and 1.6 percent of Christians. A much smaller percent of children who have never been married (1.8 percent) were involved in some kind of work compared to over a tenth of children who are married (10.8 percent), Living together (12.0 percent), and those whose marriage have been dissolved (10.9 percent).

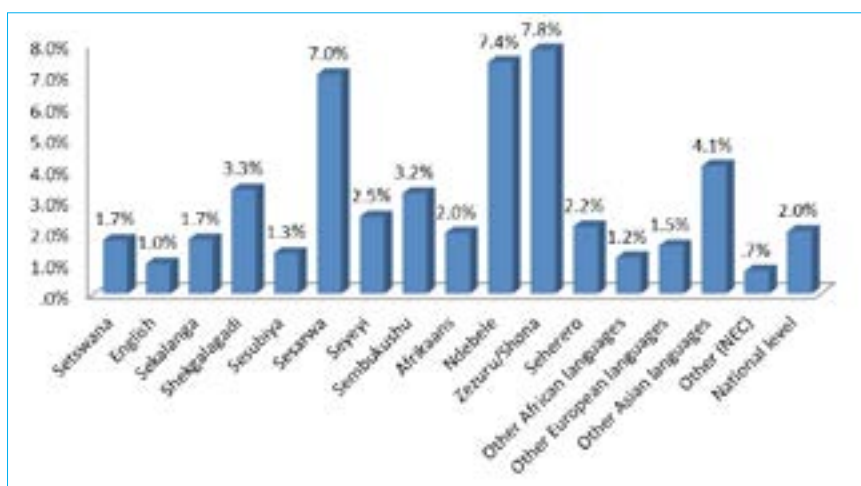
A greater percent of children who resided in rural villages (9.6 percent) were reported to have done some kind of work for pay, profit or home compared to over 1 percent of children residing in cities and town (1.1 percent) and urban villages (1.4 percent). About one fifth of children who were reported to be head of household or spouse of head of household (23.3 percent) and children who are not related to the household head (16.9 percent) were reported to be involved in some kind of work compared to less than 3 percent of children/grandchildren of head of household head (1.1 percent), brother/sister to the household head (2.7 percent) and children who were related to the head of household in some other way (2.3 percent). The table shows that a higher percent of children who had lost both their parents (3.5 percent) were involved in work followed by children who had lost one parent (2.9 percent paternal orphans and 2.6 percent maternal orphans) and who had both parents (1.8 percent).

Figure 3: Child Labour by District



The chart above indicates the distribution of child labour by district. The chart indicates that at the national level only two (2) percent of children have been subjected to child labour. However there seen to be differences by districts with Kweneng West recording the highest percent of children involved in child labour (5.1 percent) followed by Ngwaketse West by 4.2 percent and Ghanzi by 4.1 percent. On the other hand, Lobatse recorded the lowest percentages of child labour with less than 1 percent of the children (0.7 percent) followed by Sowa Town (0.9 percent) and Selibe Phikwe (1.0 percent). For the remaining districts, percentages of child labour ranges from 1.1 percent to 2.5 percent.

Figure 4: Child labour by Main language spoken



The bar chart above shows distributions of child labour by main language spoken at home. The chart shows that two percent of children in Botswana were subjected to child labour. The chart further shows that children who speak predominantly Zezuru/Shona (7.8 percent), Ndebele (7.4 percent) and Sesarwa (7.0 percent) had the highest proportions of children who reported that they had worked for pay in the past seven days prior to the census. Conversely a smaller proportion of children who speak mainly English (1.0 percent), other African Languages (1.2 percent), Sesubiya (1.3 percent), Other European Languages (1.5 percent), and Sekalaka (1.7 percent) were reported to have worked for pay in the last seven days prior to the census.

UNEMPLOYMENT AND THE ATTRIBUTES OF THE UNEMPLOYED

By Prof. Brothers Wilright Malema
Department of Economics
University of Botswana

Introduction

From being one of the poorest economies in the world to one of the richest in a predominantly poverty stricken Sub Saharan Africa, Botswana has defied odds to become an upper middle economy within forty years of independence. This was driven largely by the mining sector in particular diamonds in which the country has been second to the Russian Federation in terms of diamond production (Hope, Sr K. R. 1996). This phenomenal performance, if at all it is, needs to be construed within the proper developmental economic context. It is within this developmental context that we will be able to place Botswana's economic record into relevant economic perspective.

Botswana had been one of the poorest economies in the world at independence in 1966 and agriculture which was largely subsistence, accounted for 40 percent of Gross Domestic Product (GDP). The share of the sector dropped substantially and has been oscillating between 1.8 and 2.9 percentage points of GDP in the decade ending in 2012. The drop in the share of Agriculture to total GDP could be construed in two fronts. Firstly it could be a result of the sector's failure to cope with the growth rate of the economy in particular, the mining sector in particular diamonds, whose revenue generation was significantly higher than that for agricultural products. This is even more profound in view of the non-commercialization of agriculture. The other reason which might in part explain this development is the failure by government to transform the agricultural sector through effective and efficient policy interventions.

It is important to differentiate between livestock farming and arable farming in our pursuit to better understand the dynamics surrounding the agricultural sector. Livestock farming, particularly cattle farming has been a major foreign income earner for the country coming second after minerals for most part of post-independence Botswana. However, this agricultural sub-sector just like mining is not labour intensive and could not be a significant source of employment creation. Notwithstanding its marginal employment generation capacity, the sector could have helped in employment creation if most of the by-products associated with beef production were utilized to the optimum. However, the country's emphasis seems to have been on beef production with little or no attention on by products such as leather and others. This beef sub-sector has been well nurtured by government over the years and has done generally well. The recent corruptive tendencies within Botswana Meat Commission might be the major blemish to the beef industry since its establishment and may undermine its existence and thereby the livelihood of many Batswana.

The arable sub-sector has not contributed significantly to our economy as has done the livestock subsector. A number of factors are most likely to be instrumental to such a scenario. Whereas the government has come up with programmes to propel the sub-sector forward over years, the expected yields seem to have been frequently futile. A number of initiatives have been implemented by the government such as Arable Lands Development programme (ALDEP), Accelerated Rainfed Arable Programme (ARAP) and lately the Integrated Support Programme for Arable Agriculture Development (ISPAAD) programme which is more of a marginal improvement of the now defunct and substandard ARAP initiative.

The major undoing for most of these programmes was their failure to address the problems besetting agriculture, which has predominantly been the drought. Lack of adequate water is more profound for the arable sub-sector than the Livestock sub-sector. The programmes in particular ARAP and ISPAAD used substantial amounts of money with the latter being more significantly expensive. However, it is economically not rational to invest so heavily in an environment in which the probability of success hovers around zero. The fact that Botswana is a drought prone country calls for the identification of water sources for an improved likelihood of increased yields in arable farming through the use of irrigation. The provision of underground water though also expensive will in all likelihoods enhance the potential for increased yields for the arable sub-sector.

Irrigation will increase the success rate of government initiatives aimed at enhancing the agricultural production in particular the arable sub-sector. The country is so well endowed with massive rivers which flow every year and could be dammed as has recently been done with most of them. The water from the dam could then be used for irrigation purposes so as to ensure improved success rates of the arable agricultural sub sector.

The failure to transform the rural traditional subsistence agriculture to a modern commercialized agricultural sector defies the Arthur Lewis structural transformation model of economic development. This model was very influential in the 1960s and was in part a historical account of what the Most Developed Countries experienced in their industrialization transition. Such a transition had an inherently inbuilt mechanism of employment creation (Todaro & Smith, 2009). A failure on our part to harness the rural economy as we were carried over by the capital intensive mining industry explains the current social ills that the country is facing. We experienced economic growth rates which were far above the economy's labour absorptive capacity. This resulted in unemployment and the concurrent problems of inequality and poverty. While a notable degree of poverty reduction has been noted recently, such a rate at 19.3 currently is quite high for a country which for most part of the post-independence era basked in the glory of phenomenal economic growth. While we were able to register enviable economic growth rates, the basis upon which this outstanding growth was based needs proper understanding. It was a product primarily of the mining sector and the fact that we started off with a marginal GDP as the denominator, meant that any marginal increases to our national income were bound to translate into significant rates.

This impressive growth rates did not translate at least at the same rate to the betterment of national welfare as reflected by the high levels of poverty, inequality and unemployment which has the potential to destabilize the political economy (Hope, Sr K. R. 1996). Since the paper is on unemployment, even though the other two economic evils are equally important and related to unemployment, it is the latter which is of great interest at the moment. We therefore shift our focus solely on unemployment and occasionally make reference to inequality and poverty.

Unemployment

Unemployment is a serious problem in Botswana whose rates have been fluctuating from a low of 10.2 percent in 1981 to a high of 25.3 percent in 1984. The rates have been fluctuating since then and by 1994 unemployment was 21 percent as attested to by Table 1 below. These are national rates which are not segregated into any particular attributes like sex, area or any other considerations.

Table 1: Unemployment Rates

Year	Unemployment Rate (%)
1981	10.2
1984	25.3
1985	19.9
1986	16.0
1987	12.7
1991	13.9
1993	19.5 [*]
1994	21.0 [*]
2007	23.8
2008	17.5
2010	17.5
2011	17.8

Source: Hope, Sr K. R. 1996, 58
Note: * Projections

Botswana men have generally enjoyed high levels of education than their female counterparts and this has culminated in relatively lower unemployment rates for males (Hope, Sr K. R. 1996). However, the author goes on to argue that even in cases where females were better educated than males, there seemed to be indications that they encountered barriers to labour force entry. Females were less represented in the formal

sector and over represented in the informal sector at 36 and 75 percentage points respectively according to Jefferis (1993: cf Hope, Sr K. R. 1996).

There has been a notable migration from the rural subsistence agriculture, a factor that has significantly brought down the sector's employment contribution to the labour force from 33 percent in 1984 to 15 percent in 1991 (Hope, Sr 1996). This share dropped to a further 10 percent of the labour force by 1996 (Jefferis & Kelly 2007). The authors note that it is believed in some quarters that if this migration had not taken place, national unemployment would have been zero and it would have not reached the double rates for which it is currently known for. We are of the view that the basis of this belief defies all manner of economic understanding and is not in consonance with the dynamics underlying the historical economic development process. He concludes by pointing out that rapid economic growth would not guarantee sufficient job creation. The decline in the agricultural sector has had adverse consequences both in terms of income generation and employment generation (Jefferis & Kelly 2007 & Curry, Jr, 1987).

The problem of unemployment has been identified as the primary determinant of poverty in Botswana even though there are some other factors which are instrumental in the high poverty levels experienced in the country albeit within a declining poverty trend (Jefferis & Kelly 2007). The authors attribute the unemployment problem to among other things, the decline in the agricultural sector and the economy's inability to generate adequate employment opportunities both within the formal and informal sectors. It has also been noted that there is a positive correlation between land and cattle ownership and the poor often seek to sustain themselves by seeking wage employment from large farm operators and by migrating to urban areas in search of employment in Mines both in Botswana and South Africa (Curry, Jr, 1987, 74). The author points out that in spite of Botswana's achievements, the job seekers remain unemployed, thereby leading to poverty and waste. The failure by our economy to generate employment opportunities both within the public and private sectors has been recently reiterated by the President (Malema 2013)

Analysis

This analysis seeks to investigate the unemployment observed within our labour force and how such could be analyzed across various socio-economic attributes. This we considered instrumental in getting to understand the nature of unemployment and its attributes with the hope that such might help in informing the enactment/inertia of relevant, effective and efficient policy interventions. The analysis of the data has been entirely based on tabulations.

School Attendance

Education plays a central role in one's probability to secure employment. It is therefore important that we analyse the nation's performance in this regard. Table 1 below seeks to determine the country's level of participation in school attendance. We have a total of 1 336 413 people whose school attendance is given. We note that 50.91 percent have left school whereas 30.53 percent are still attending. This gives a total of 82.44 percent of the respondents who have ever attended school. However, 18.26 percent of the respondents have never been to school whereas the educational status of 0.30 percent of the respondents is unknown. It is unfortunate that the variable that sought the highest educational level had at the time of writing this paper been unavailable for use.

Table 2: School Attendance

School Attendance	Frequency	Percent
Still at School	587,291	30.53
Left School	979 398	50.91
Never	351 239	18.26
Not Stated	5 776	0.3
Total	1, 336,413	100.0

Areas of Educational Expertise

This has been one of most challenging areas when it comes to the analysis of fields of study. This emanates from the 170 classification of educational areas of expertise that have been recorded in the study. To try to simplify the analysis it was resolved to look at the areas in which most of the training has been undertaken. To do that we looked at the programs or areas of education, which accounted for at least one percent of the total graduates? Using the criterion we arrived at 30 areas of expertise which were the most popular amongst the 170 that have been recorded. These are given by table 3 below.

The most popular area of expertise is Accounting and Auditing which has been done by 8.59 percent of total respondents. Of all those who did this program 62.76 percent of them have worked for at least an hour in the seven days prior to the interview. The next most popular area of expertise is primary teachers training at 5.52 percent. This area has a high rate of those who worked for at least an hour at 81 percent. The least popular of the 30 areas was Electrician programs which were done by 0.98 percent of respondents of which 65.52 percent of them have worked. The police works programs were marginally more popular than the defence force programs at 2.41 percent and 2.21 percent respectively. However, in terms of the employment absorption capacity, the defence force programs were marginally ahead of the police force programs at 99.34 percent and 98.05 percent respectively. These are just a few of the programs for which the employment levels have been considerably high. It could also be that in the case of these two programs, the trainees could be trained whilst under the employ of both the military and the police services. The rest of the programs could also be interpreted in like manner, where the fourth column reflects the popularity of the program whereas the last column captures the percentage of those who have worked. However, that the people worked in their areas of expertise is assumed and this may give an incorrect indication of the employment potential of the programs.

Table 3: Field of Education for Tertiary Graduates and work done for at least an hour

Education	Worked	Total	% of total	% working
Accountancy/Auditing	13274	21151	8.59	62.76
Primary Teachers Training	11092	13589	5.52	81.62
Business/Commercial	6088	10481	4.25	58.09
Computer Science Pro	5144	10420	4.23	49.37
Secondary Teachers T	8295	10179	4.13	81.49
Typing/Shorthand/Sec	6314	9933	4.03	63.57
Radio/Electronics/Co	2979	6661	2.7	44.72
Masonry and Bricklaying	3796	6272	2.55	60.52
Basic Nursing Programme	4617	6219	2.52	74.24
Other Humanities Courses	3628	6028	2.45	60.19
Police Work Programs	5826	5942	2.41	98.05
Defence Force Programs	5412	5448	2.21	99.34
Labour Studies, Including Personnel Ad	3126	4984	2.02	62.72
Motor Mechanics	3263	4878	1.98	66.89
Carpentry/ Joinery Programs	2644	4633	1.88	57.07
Management, General	2777	4455	1.81	62.33
Marketing/Sales Courses	2534	4166	1.69	60.83
Electrical Engineering	2489	3510	1.42	70.91
Mechanical Engineering	2531	3387	1.38	74.73
Tailoring/ Textile Trades	1673	3317	1.35	50.44
Tourist Trade Programs	1369	3286	1.33	41.66
Other Natural Sciences	1623	3222	1.31	50.37
Social welfare/ Social Work Programs	1857	3126	1.27	59.4
Public Administration	2072	3068	1.25	67.54
Advanced Nursing including Midwives	2302	2980	1.21	77.25
Other (Professional)	1904	2 915	1.18	65.32
Civil Engineering	2266	2 906	1.18	77.98
Business machine operation	1658	2 854	1.16	58.09
Other Teacher/Training	1795	2 738	1.11	65.56
Electrician Programs	1582	2 411	0.98	65.62
Not Stated	3121	6347	2.58	49.17
Others		64807	26.31	
Total		246322	100	

Activities done by the population since Independence

There is an indication that of the 1 484 943 respondents, more than half a million were engaged in non-seasonal paid activities. They accounted for 33.96 percent of all the respondents followed by students at 21.67 percent. The seasonal paid respondents amounted to 6.19 percent, thus making total paid employees account for 40.15 percent of total respondents. Job seekers amounted to 11.15 percent of all respondents. This does not reflect the unemployment rate since it is denominated by all the respondents of which some were outside the labour force. Once all this is adjusted for the unemployment rate could then be calculated which will be in excess of 11.15 percent.

Table 4: Type of Activities done since independence by the Population

Activities by Population	Freq.	Percent
Non_seasonal _ Paid	504,284	33.96
Student	321,716	21.67
Home maker	241,857	16.29
Job seeker	165,589	11.15
Seasonal _ Paid	91,978	6.19
Seasonal _ Unpaid	46,113	3.11
Non_seasonal _ Unpaid	45,991	3.1
Sick	37,208	2.51
Retired	22,045	1.48
Not stated	4,104	0.28
Prisoners	3,927	0.26
Other (NEC)	131	0.01
Total	1,484,943	100

Labour Force (18years +) participation since Independence by type of work

Of 605 765 members of the labour force, 90.52 percent of them have at some point been to school with only 9.44 percent having never gone to school. The employees who were paid in cash were 82.43 percent of the population. On the basis of these alone, one could estimate the unemployment rate at 17.57 percent. However, we do have some other categories, which though not being a part of the employed were engaged in some activities which appears quite challenging to classify as unemployed or employed. Those who were self-employed with no employees and the ones who were working in their cattle posts or lands were 7.86 percent and 5.25 percent of the labour force

Table 5: Labour Force (18 years +) participation since Independence by type of work

Working as during the past 7 days	Labour Force (18 years +)			Total
	Left School	Never attended	Not Stated	
Employee_Cash	460,885 (76.08)	38,264 (6.32)	194 (0.03)	499,343 (82.43)
Employee_Inkind	2,346 (0.39)	732 (0.12)	2 (0)	3,080 (0.51)
Self-employed (no employees)	41,708 (6.89)	5,885 (0.97)	17 (0)	47,610 (7.86)
Self-employed with employees	18,557 (3.06)	934 (0.15)	12 (0)	19,503 (3.22)
Unpaid family helper	3,166 (0.52)	608 (0.10)	1 (0)	3,775 (0.62)
Working at own lands/cattle post	21,089 (3.48)	10,684 (1.76)	5 (0)	31,778 (5.25)
Not Stated	568 (0.09)	87 (0.01)	21 (0)	676 (0.11)
Total	548,319 (90.52)	57,194 (9.44)	252 (0.04)	605,765 (100)

Employment distribution by Industry

The subsistence agricultural industry employs the majority of the employed as it, accounts for 12.69 percent of the employed. It is followed by Central government and Local government at 10.78 percent and 7.11 percent respectively. When these two arms of government are summed together, they contribute 17.89 percent to total employment thus making the government sector the majority employer in the economy. Construction employs 6.14 percent followed by retail trade at 4.62 percent. The rest of the distributions are as shown in table 6 below.

Table 6: Main Product, Activity or Service engaged in at work in the past 7 days

Industry	Freq.	Percent
Traditional or Subsistence agriculture	82,144	12.69
Central Government Administration (S)	69,739	10.78
Local Government Administration (S)	46,038	7.11
Construction of Buildings and Houses -	39,718	6.14
Retail trade through informal outlets:	29,914	4.62
Private households with employed person	28,938	4.47
Primary education (including pre-primary)	21,583	3.34
Secondary education	19,469	3.01
Security Organizations	19,146	2.96
Business activities not elsewhere class	18,869	2.92
Human health activities (Hospitals etc.	18,736	2.9
Retail stores specializing in goods exc	15,635	2.42
Maintenance and repair of motor vehicle	11,197	1.73
Non-specialized retail trade e.g. Gener	11,123	1.72
Building installation work - Plumbing,	9,965	1.54
Other services activities (including dr	9,148	1.41
Copper/Nickel mining	7,858	1.21
Retail stores specializing in food, bev	7,488	1.16
Diamond mining	7,401	1.14
Hotels and other short stay accommodation	7,085	1.09
Construction/Civil Engineering - Roads,	6,771	1.05
Clothing and other wearing apparel (inc	6,706	1.04
Taxis/Combis sole or small operators on	6,461	1
Restaurants, cafes and canteens	6,061	0.94
Note Stated	6,815	1.05
Others	132,924	20.54
Total	647,149	100

Activities of the unemployed labour force

The table below gives a summary of the statistics for those who were reported as not working at the time of the survey. Since the labour force estimation is based on those aged between 17 years and 65 years exclusive, the presence of the information on students may be a reflection of the inconsistencies in our data. It may also reflect cases of either part-time students or workers or/and both, in which workers are also students

Table 7: Activities of the Unemployment

Activities of the Unemployed	Labour Force (18 years +)			Total
	Left School	Never attended	Not Stated	
Actively seeking work	142,442 (33.41)	9,181 (2.15)	52 (0.01)	151,675 (35.58)
Home work	195,654 (45.89)	43,738 (10.26)	77 (0.02)	239,469 (56.17)
Students	1,310 (0.31)	60 (0.01)	7 (0)	1,377 (0.32)
Retired	7,492 (1.76)	1,609 (0.38)	9 (0)	9,110 (2.14)
Sick	12,732 (2.99)	7,802 (1.83)	53 (0.01)	20,587 (4.83)
Other (NEC)	3,064 (0.72)	933 (0.22)	8 (0)	4,005 (0.94)
Not Stated	111 (0.03)	9 (0)	4 (0)	124 (0.03)
Total	362,805 (85.1)	63,332 (14.85)	210 (0.05)	426,347 (100)

The unemployed

The unemployed are often referred to as the part of the labour force, which is not working. They are considered to be those who are actively seeking employment. Knowing who they are is quite important in guiding effective and relevant policy formulation. The reduction of the unemployment rate through employment creation rather than discouragement is key in fighting the three evils of poverty, unemployment and inequality. It is therefore our intention to make a concerted effort in trying to microscopically interrogate the nature and attributes of unemployment in Botswana. This part of the paper is geared towards dissecting the unemployment attributes as a betterment of our understanding of the unemployment phenomenon.

Sex Distribution of the unemployed

The response to the question which sought to find out the number of those actively seeking employment availed a total of 157 654 respondents. Of these respondents, 48.97 percent of them were males and the remaining 51.03 percent were females. Students are normally excluded from the labour force. However, the above figures included 2 434 respondents who were still going to school. Given that strictly speaking such are not considered to be part of the labour force we effectively had 155 220 respondents once the appropriate adjustments were made. The latter being the numerical that we have since used in the rest of the analysis. Upon using this new figure we realise that 50.99 percent were females and the remaining 49.01 percent were males.

Table 8: Sex Distribution of the Unemployed

Sex of Respondents	Numbers	Percentage
Male	76,070	49.01
Female	79,150	50.99
Total	155,220	100

Geographical distribution of the unemployed by sex

The geographical distribution is divided into the urban areas, which comprises cities and towns only and not urban villages contrary to common practice and rural areas otherwise. The table below shows that 21.53 percent of the respondents were in urban centres of which 54.24 were females representing 11.68 percent of all the unemployed and 45.76 percent were males representing 9.85 percent of all the unemployed.

The remaining 78.47 percent of respondents are in rural areas and 50.01 percent of all the rural respondents were females while the remaining 49.99 were males. The rural distribution by sex is almost equal for both the males and females at almost 50 percent.

The disaggregated data shows that Kweneng East had the highest unemployment rate at 14.38 percent followed by Gaborone at 10.35 percent, with Serowe/Palapye coming third at 7.99 percent. In all cities and towns, the majority of the unemployed were females, while in rural areas the results are mixed.

Table 9: Unemployment distribution by Area and Sex

Area	Sex of Respondents		Total
	Male	Female	
Urban	15,272 (9.85)	18,101 (11.68)	33,373 (21.53)
Rural	60,696 (39.16)	60,941 (39.31)	121,637 (78.47)
Total	75,968 (49.01)	79,042 (50.99)	155,010 (100)

() percentage of total job seekers

Unemployment by marital status and sex

The never married had the highest rate of the unemployed at 66.36 percent and this marital classification is the only one for which males were in the majority. The cohabitants and the married constituted 24.63 and 7.49 percentage points of the unemployed respectively. In both cases unemployment was more amongst females than males.

Table 10: Unemployment by marital status and sex

Marital status	Active Job Seekers by Sex		Total
	Male	Female	
Married	4,548 (2.93)	7,073 (4.56)	11,621 (7.49)
Never Married	55,469 (35.74)	47,533 (30.62)	103,002 (66.36)
Living together	15,215 (9.8)	23,012 (14.83)	38,227 (24.63)
Separated	241 (0.16)	323 (0.21)	564 (0.36)
Divorced	274 (0.18)	418 (0.27)	692 (0.45)
Widowed	315 (0.2)	789 (0.51)	1,104 (0.71)
Not Stated	8 (0.01)	2 (0)	10 (0.01)
Total	76,070 (49.01)	79,150 (50.99)	155,220 (100)

() percentage of total job seekers

Unemployment distribution by age and sex

The greatest constituency of the unemployed was the 20-24 age group at 29.93 percent of all the unemployed followed by the age group 25-29 at 24.76 percent. In total the youth whose upper age limit in this case is 34 accounted for 79.7 percent of the unemployed. Females were the most dominant of the youth age groups save for the 15 – 19 in which more males were unemployed. However, for all the non-youth age groups more males were unemployed relative to females

Table 11: Unemployment distribution by age and sex

Age Groups of Respondents	Sex of the Respondents		Total
	Male	Female	
15-19	8,266 (5.33)	7,820 (5.04)	16,086 (10.36)
20-24	21,890 (14.10)	24,566 (15.83)	46,456 (29.93)
25-29	17,923 (11.55)	20,508 (13.21)	38,431 (24.76)
30-34	10,807 (6.96)	1,936 (7.69)	22,743 (14.65)
35-39	7,023 (4.52)	6,754 (4.35)	13,777 (8.88)
40-44	4,010 (2.58)	3,347 (2.16)	7,357 (4.74)
45-49	2,819 (1.82)	2,177 (1.40)	4,996 (3.22)
50-54	1,692 (1.09)	1,076 (0.69)	2,768 (1.78)
55-59	1,054 (0.68)	651 (0.42)	1,705 (1.1)
60-64	586 (0.38)	315 (0.20)	901 (0.58)
Total	76,070 (49.01)	79,150 (50.99)	155,220 (100)

() percentage of total job seekers

Unemployment by expertise and sex

The table below gives the ranking of the most popular tertiary programmes of the unemployed. There were in all 20 661 unemployed respondents who had done tertiary studies. We have picked the programs which have at least 400 graduates and they were 14 in total. Accounting/Auditing stands out as the most popular programme not only amongst the unemployed but rather the overall labour force. Of all the unemployed tertiary graduates 8.73 percent of them were in this field, of which 67.55 percent were females. The other most popular programs or areas of expertise were Computer Science programs, typing/shorthand and business/commercial at 7.14 percent, 6.36 percent and 5.33 percent respectively. All this popular programs have been dominated by females. It is therefore not surprising that 54.94 of the unemployed with tertiary education are females.

It is also worth noting that the tertiary graduates accounted for only 13.31 percent of those who were actively seeking employment at the time of the census. It could be therefore concluded that the remaining 96.69 percent of the respondents are therefore not tertiary graduates.

Table 12: Unemployment by expertise and sex

Area of Education	Sex of the Respondents		Total
	Male	Female	
Accountancy/Auditing	585	1,218	1,803
Computer Science Pro	683	793	1,476
Typing/Shorthand/Sec	110	1,203	1,313
Business/Commercial	363	738	1,101
Masonry and Bricklay	786	132	918
Radio/Electronics/Co	447	466	913
Not Stated	401	369	770
Carpentry/Joinery Pr	610	151	761
Tourist Trade Progra	224	509	733
Labour Studies, Incl	135	364	499
Motor Mechanics	424	68	492
Marketing/Sales Cour	214	269	483
Business machine ope	133	326	459
Tailoring/Textile Tr	41	409	450
Management, General	147	274	421
Others	4 006	4 063	8 069
TOTAL	9 309	11 352	20 661

Discussions

As has been discussed previously, the problems of unemployment in Botswana along with the concomitant evils of poverty and inequality may be deep rooted in the country's economic structure. Botswana's economy has been largely driven by the capital intensive mining sector which has culminated in a narrow economic base in which the economy has not been diversified (Malema 2012). Livestock farming has also been instrumental as a foreign income earner both before and after independence and just like mining its labour intensity is largely suspect. These main drivers of the economy are not major employers and much as they have fundamentally influenced economic growth, they have not been instrumental in helping in job creation opportunities.

The way to employment creation has been to diversify the economy. The government has made economic diversification one of its priority areas and for more than three decades, their initiatives seem not to have borne fruits (Malema 2012). The promotion of foreign direct investment (FDI) which has been one of the vehicles through which the government intended to diversify the economy has not been as beneficial as would have been expected. The FDI inflows in the country have tended to be biased largely towards the mining sector

from which the government intended to diversify away from (Malema 2008). On the basis of this inflow into mining, it could be concluded that the attraction of FDI into this sector is a result of some resource(s) which the country has. Indeed ownership of a resource is one of the determinants of FDI attraction. The other determinant is the availability of the market, which Botswana cannot boast of, unless we consider the broader Southern African Development Community to which we happen to be centrally located. A number of considerations are important in determining the inflows of FDI and we have not done well in attracting significant FDI to non-mining sector. The role of FDI in economic diversification is on the basis of the FDI flows very bleak in the facilitation of the attainment of a broad based economy for Botswana. In light of this observation it could be concluded that the pursuit of FDI as a means to economic diversification is not likely to bear fruit and in the absence of robust alternative measures, unemployment, poverty and inequality may remain. This has serious implications for economic policy designed for employment creation.

Recommendations

The recommendations are a product of the economic environment prevalent within the country's economy. Firstly, in the absence of substantive FDI inflow into the country, we are of the view that the government should take a significant role in productive investment in our economy beyond the investments in physical and social infrastructure. The role of Botswana Development Corporation should be intensified and government should demonstrate unequivocal commitment in ensuring that interruptions as has happened with Fygiene Glass project in Palapye are kept at the minimum. The elimination of corruptive tendencies which have tended to destroy the glass project and blemish Botswana Meat Commission are economic undesirables, which if left unattended to will render this initiative counterproductive and costly. In the absence of corruption it holds the keys to economic diversification with great potential for employment generation. The government political will to uproot corruption is key to the success of this recommendation.

Secondly, there is a need for the agricultural sector to be revamped. The continued importation of large quantities of our food stuffs from in particular South Africa, is an indication of the availability of a local food market that we can tap into. The government should divert the heavy investments she has made into agriculture, in particular through the integrated support programme for arable agriculture development (ISPAAD), into initiatives with a high propensity of availing yields by addressing the water challenges faced by the arable agricultural sector. The sector may not require any excessive expertise than that which could be locally sourced.

Thirdly and very much related to the second recommendation is for government to consider allowing the importation of farm labour from our neighbours, in particular Zimbabwe. This is important for the success of the agricultural sector as Botswana are generally considered averse to working in farms. They could then work in food processing factories.

Lastly, we do suggest that stakeholders and experts frequent meetings be convened for the sharing of ideas as to what would be best to addressing the problems of unemployment. It is in the meetings of great minds that the best measures for employment creation initiatives could be identified.

Conclusions

In this paper we used primarily the question which sought information on those who were actively seeking employment at the time of the census. This became the number for the unemployed. On the basis of it we were able to discover that the youth aged 15-34 were faced with serious unemployment problem. They amounted to almost 80 percent of the unemployed at 79.7 percent.

Unemployment was also a major challenge in the rural areas with 78.47 percent of those actively seeking employment resident in rural areas. Whereas in the urban areas women seemed to be more affected by unemployment, the sex distribution was almost even in rural areas.

Employment and education are expected to be closely related. It is unfortunate that with the exception of the tertiary graduates, the educational attainment of the remaining 86.69 percent their educational distribution remains unknown. This is a serious shortcoming in view of the fact that educational is a major primary determinant of employment.

References

Curry, Jr, R. L. 1987. Poverty and Mass Unemployment in Mineral-rich Botswana. *American Journal of Economics and Sociology*, Vol 46, No. 1

Hope, Sr K. R. 1996. Growth, Unemployment and Poverty in Botswana. *Journal of Contemporary African Studies*, Vol. 14, No. 1, 53 - 67

Jefferis K. R. & Kelly T. F. 2007. Botswana: Poverty amid plenty. *Oxford Agrarian Studies*, Vol. 27, No 2, 211 - 231

Malema B. W. 2013. Politicians rule and misrule and in the Process determine our Fate. *The Telegraph*. Wednesday August, 21.

Malema B. W. 2012. Botswana's formal economic structure as a possible source of poverty: Are there any policies out of this economic impasse? *Pula: Botswana Journal of African Studies*- Special Issue on Botswana Economy 26(1), 51-69.

Malema B. W. 2008. 'Botswana's International Investment Position: The role of Direct

Foreign Investment'. *Asian-African Journal of Economics and Econometrics*, Vol. 8, No. 1: p.45-54

Todaro, M. P. & Smith, S. C., 2009. *Economic Development*, 10th Edition. Pearson Education Limited, England

ECONOMIC ACTIVITY IN BOTSWANA

By **M. Malepa and B. Komane**
Statistics Botswana

Abstract: The aim of the paper is to provide the information on the economic activity of people in Botswana captured during the 2011 Population and Housing Census (PHC), and construct a profile of the labour force that can be used in the formulation of human resource development policies to address challenges of the labour market. There are three (3) categories into which the the population targeted under economic activity could be grouped to analyse the supply and demand of labour in the market; the Employed, the Unemployed and Not Economically Active population.

Statistics on the Economically Active Population include the size of its components (employment, unemployment and not economically active) and its socio-demographic characteristics, such as age, sex, geographical location, educational attainment etc. These are analysed to give profiles of the employed and unemployed population. The job market is analysed through the various jobs, occupation, industry, and economic sector in which the employed population is participating.

1.0 Introduction

The 2011 Population and Housing Census (PHC) collected information on economic activity for population aged 12 years and over. The economic activity information classifies the population into three (3) categories, being the employed, unemployed and not economically active.

The employed population refers to those individuals who did engage in an activity of economic value either for payment in any form or for no pay in the past seven (7) days, while the unemployed population refers to those persons who were not working in the past seven (7) days but were active job seekers (visiting firms, making applications etc. The economically inactive population includes persons who were not engaged in activities of economic value. Included in this category are the retired, students, the sick and homemakers. The employed and unemployed together form the labour force, which gives a measure of the number of persons providing and ready to supply labour for the production of goods and services at a given point in time.

Information on labour force and economic activity is needed for measuring the extent of the availability of human resources and the prevailing labour market structure of the economy. The information provides the basis for designing policies on human resource and economic development planning.

1.1 Objective

The objective of the paper is to present the size and profile of the labour force available and the labour market demand structure. Employment and unemployment measures will be analysed to give a picture of the labour market. In the process, analysis of the current prevailing economic activities available to absorb the labour force will be presented, and contrasted with the profile of the labour force.

1.2 Data collection

During the 2011 Population and Housing Census, questions on economic activity were administered to persons aged 12 years and above. The questions sought to establish the usual economic activities of individuals, which is the long term economic activity (activities for the last twelve months), followed by questions on the current economic activity. This paper will be concentrating on the current economic activities, which are activities done in short reference period, being the past seven days.

The International Labour Organisation (ILO) convention no. 138 stipulates that minimum age for employment should not be less than 15 years. However countries with less developed economic or educational infrastructure may set the minimum age at 14 years. Botswana has set employment minimum age at 14 years (Employment Act Chapter 47:01). The Botswana Employment Act, Section 107 (2) states that "A child who has attained the age of 14 years and is not attending school may be employed on light work not harmful to his health and development". In addition, the country has ratified the ILO convention no. 182 on eliminating the worst forms of child labour. In view of the foregoing, the analyses in this paper will be confined to the population aged 15 years and over.

2. Analysis and Discussion of the Results

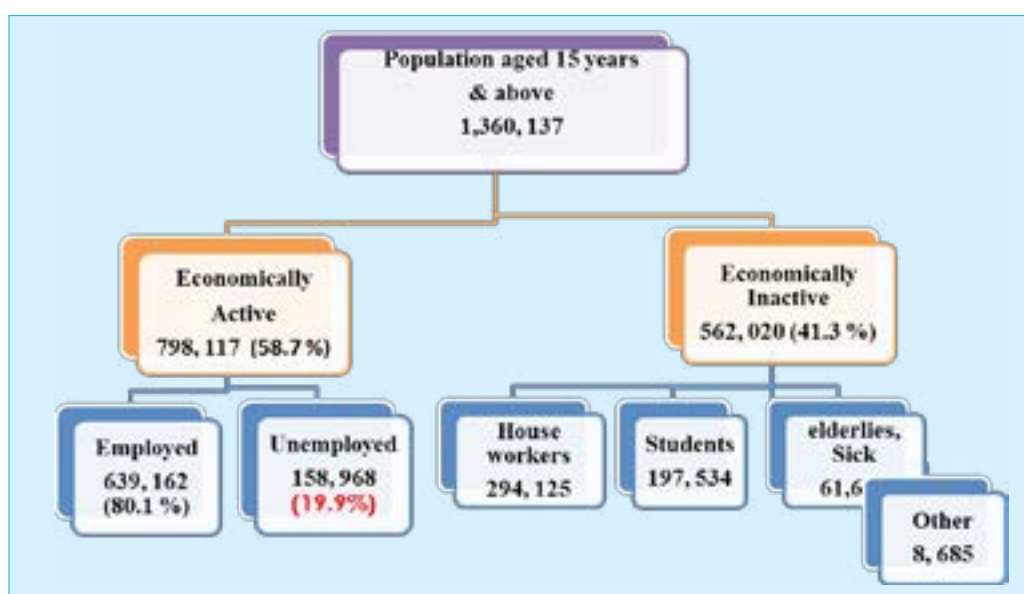
This chapter analyses the target population to derive indicators relevant to the labour market. It gives a profile of the labour force taking into account issues of disaggregation by topics of interest such as sex, age, education, training and geographical location.

2.1 Population Aged 15 Years and Above

Diagram 1 presents information on the population 15 years and above divided into currently economically active and currently economically inactive. The currently economically active population comprises of persons aged 15 years and above who were either employed or job seekers in the past seven days prior to the census interview date. This is the population which is referred to as the labour force. The economically inactive population includes all persons not classified as either employed or job seekers in the past seven days before the census enumeration. These are students, retired persons, sick and homemakers and others not elsewhere classified.

The enumerated population of persons aged 15 years and above consisted of 798, 117 (58.7 percent) economically active (labour force) and 562, 020 (41.3 percent) economically inactive population. Amongst the labour force (economically active) 639,149 (80.1 percent) were employed and 158, 968 (19.9 percent) were the unemployed (actively seeking work).

Diagram 1: Population Aged 15 years and above



2.2 Labour Force by Sex

The 798, 117 persons constituting the labour force consisted of 439, 707 (55.1 percent) of males and 358, 410 (44.9 %) females. The male unemployment rate was 17.7 percent, while that for females was 22.6. The results thus show that males contribute more to the labour force compared to women. This is despite the fact that there are more females (52 percent) in the population aged 15 years and above, from which the labour force is drawn. The reason for fewer female participation rate in the labour force could be partially explained by the number of females who constitute the economically inactive (Diagram 4), which has 348, 755 economically inactive females, of which 213, 481 (61.2 percent) are engaged in housework. This contrasts with 37.8 percent of economically inactive males who are engaged in housework.

Diagram 2: Economically Active Population Aged 15 years and above by sex

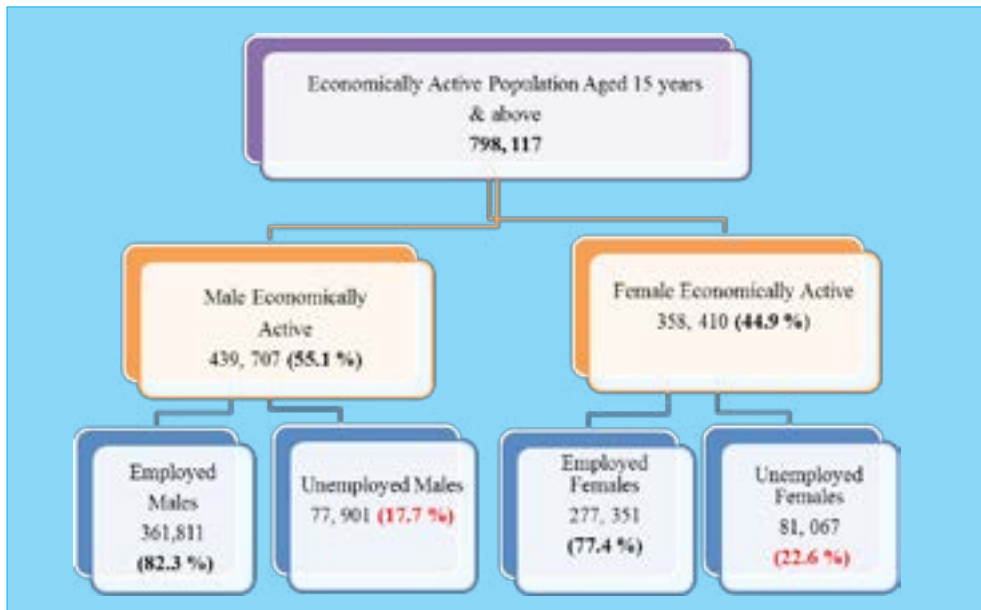


Figure 1 shows total Labour Force Participation Rates (LFPR) by age group between male and females from 2011 PHC. The LFPR reflects the extent to which a country's working age group is economically active. For both sexes, participation rate in economic activity is high for young adults, and then gradually declines at older ages. The figure shows that participation rates for males were higher than their female counterparts for all age groups. The lower participation rate in PHC for 15 to 19 years olds may be in line with their involvement in education activities. In general, labour force participation rates are higher for the youth age groups, aged 20 to 34. This is the age group that has high unemployment rates.

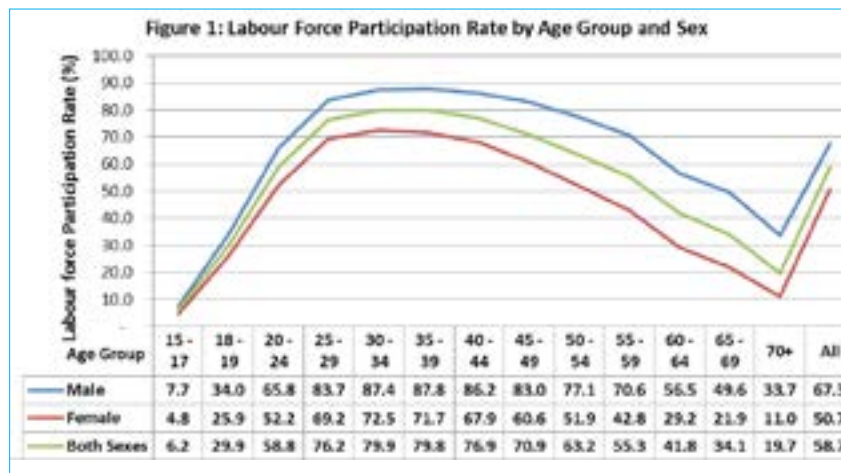
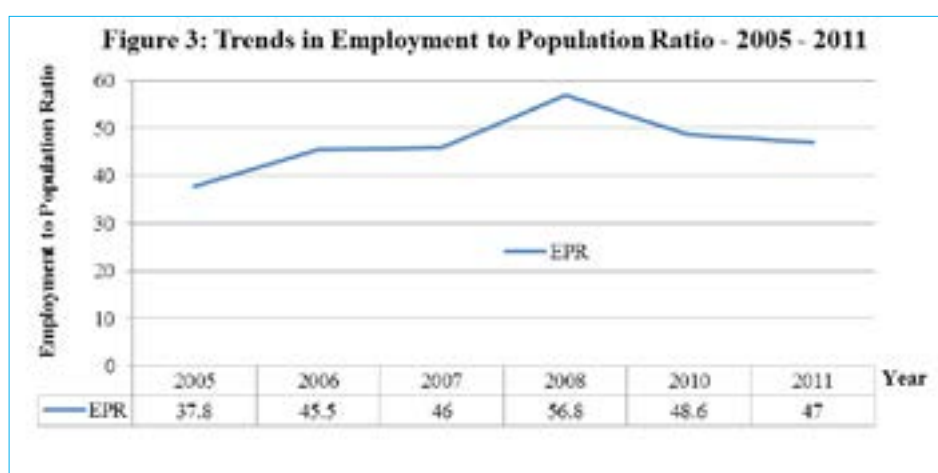
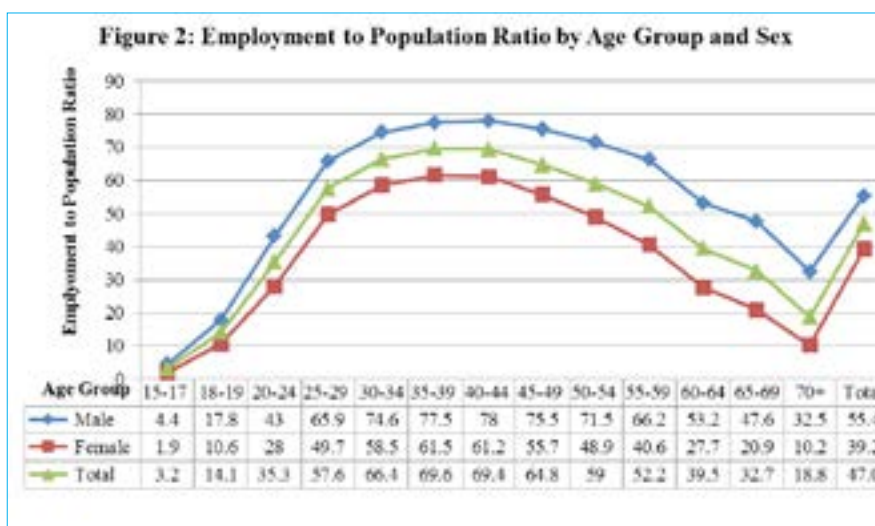


Figure 2 shows Employment to Population Ratio (EPR) of the labour force by age group for 2011 PHC. The Employment to Population Ratio, sometimes called Employment Rate reflects the extent to which the growth of a country's economy is able to create employment for the growing population. In short EPR is an important indicator of the ability of the economy to provide employment to its growing population. A decline in EPR is considered as an indication of population growth with less employment, or an indication of economic slowdown. The figure shows that, just like the LFPR the ratio for males were higher than their female counterparts from the onset.

Figure 3 gives trends in the EPR from 2005 to 2011. The highest EPR was observed in 2008 at 56.8. The trend averaged 47 percent over the period, suggesting stagnation in employment creation.



3. Currently employed

Employed persons or population can be described as all persons in the working age group who during a specified short reference period did some work either for payment in cash or in kind (paid employees) or who were in self-employment for profit or family gain as well as persons temporarily absent from these activities but definitely going to return to them (e.g. on leave or sick). Some work was defined as one hour or more in the reference seven days. It should be noted that any economic work took precedence over all other activities. The employment statistics analysis was based on those who were aged 15 years and over.

3.1 Currently Employed by Industry

Currently employed persons totaled 642,065 of which 363,742 were males and 278,331 (43.3 percent) females. The main industrial employers were Agriculture (15.3 percent), Wholesale and Retail Trade (13.6 percent), Public Administration (10.9 percent), Construction (9.3 percent), and Education (7.8 percent). Foreign Missions were the least with 730 employees representing 0.1 percent of the total employment. This is depicted by figure 4 and shown in Table 5.

Females are increasingly dominating in most industries, the largest being Hotels and Restaurants at 68.4 percent followed by Private Households with 89.1 percent. Females in Education, Finance, Wholesale and Retail Trade & Health employment all accounted for more than 60 percent each. Males dominated in industries such as Construction (90.7 percent) followed by Mining (87.1 percent). Significant numbers of males were also recorded in industries such as Transport and Communication (76.4 percent), Agriculture (75.6 percent), Water & Electricity (73.6 percent) and Real Estate (61.4 percent).

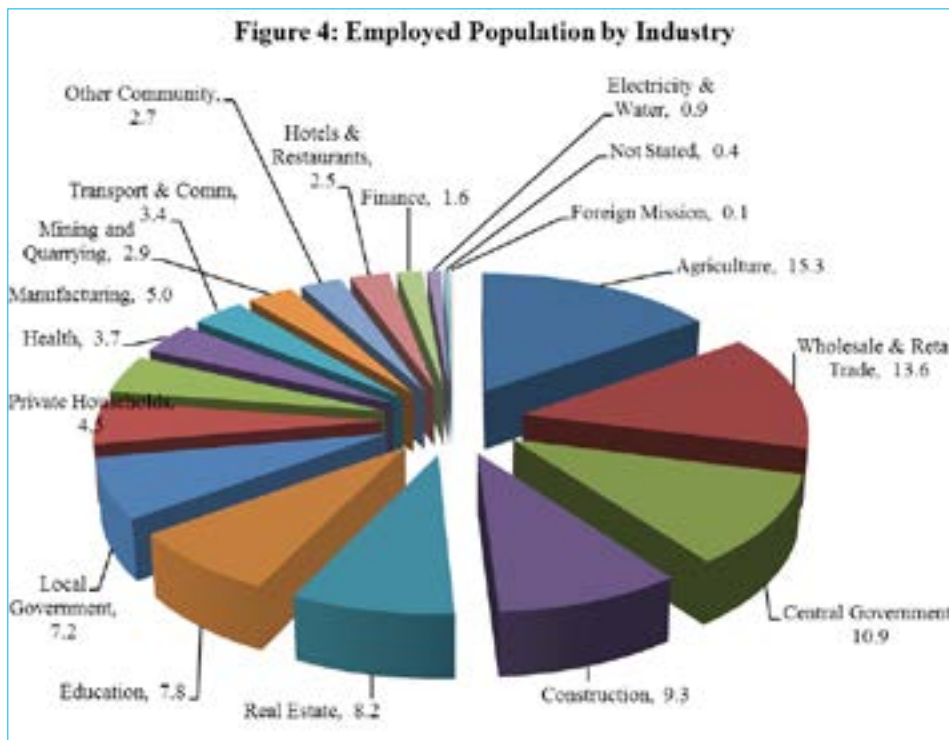


Table 6 shows the Employed population by Industry Citizenship and Sex. Out of the 642,065 employed population 58,657 (9.1 percent) were non-citizen. The industry which have employed a significant number of non-citizen employees is the construction industry, constituting 20.9 percent (12,254 persons), followed by Wholesale & Retail Trade with 14.6 percent (8,588) and then came Agriculture with 13.1 percent (7,685)

The majority of persons (37.9 percent) were employed in urban villages, followed by Cities/towns with 30.7 percent. Rural villages constituted 17.3 percent of the employed persons. Agriculture dominated the rural employment by 56.1 percent and stood at 30.0 percent of the total employment. In urban Villages, most of the persons (19.1 percent) were employed under Retail Trade industry, followed by Public Administration with 15.0 percent. Retail Trade recorded the highest (17.5 percent) number of employees in Towns/Cities, followed by Public Administration with 13.4 percent (Table 11).

Table 12 shows the distribution of the employed population by District, Citizenship and Sex. The data indicates that majority (30.9 percent) of employed Non-Citizen Population was in Gaborone, followed by Kweneng East with (13.4 percent) and Francistown District ranked third with 9.5 percent.

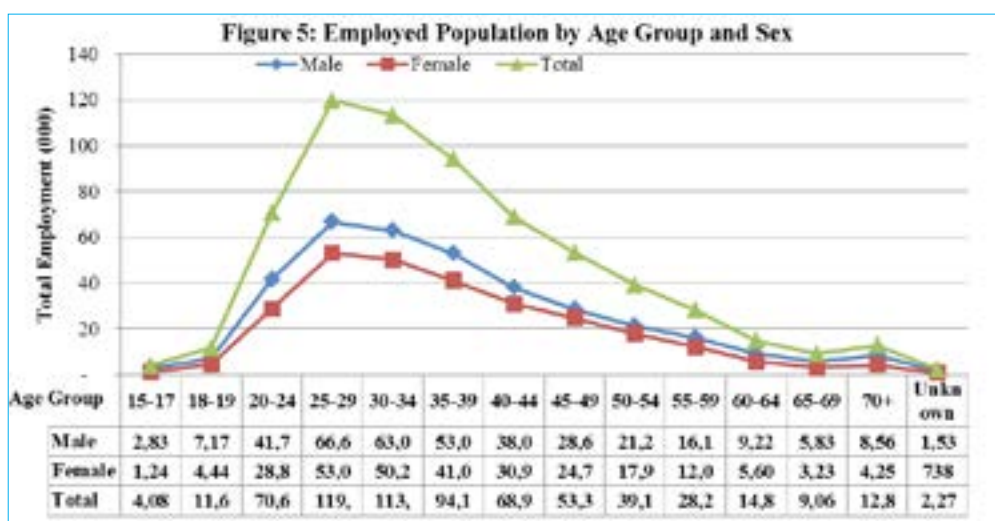
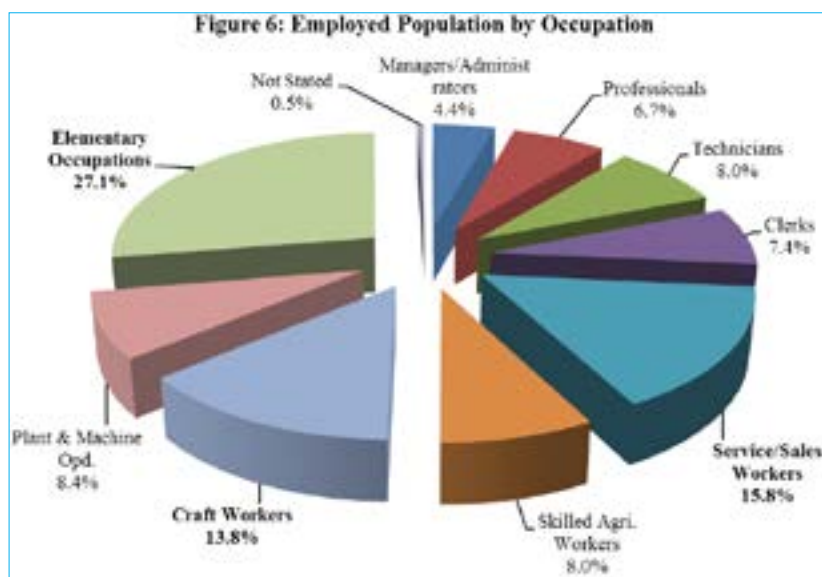


Figure 5 shows that employed population is concentrated in the ages 20 to 44 years and gradually decline towards the ages of 60 years and upward. This may be attributed mainly due to that when people get old they leave and retire from labour market. Figure shows that the age pattern of employment for men and women is very similar. The male curve is above the female curve, reflecting the higher employment of men at all ages.

3.2 Currently Employed by Occupation

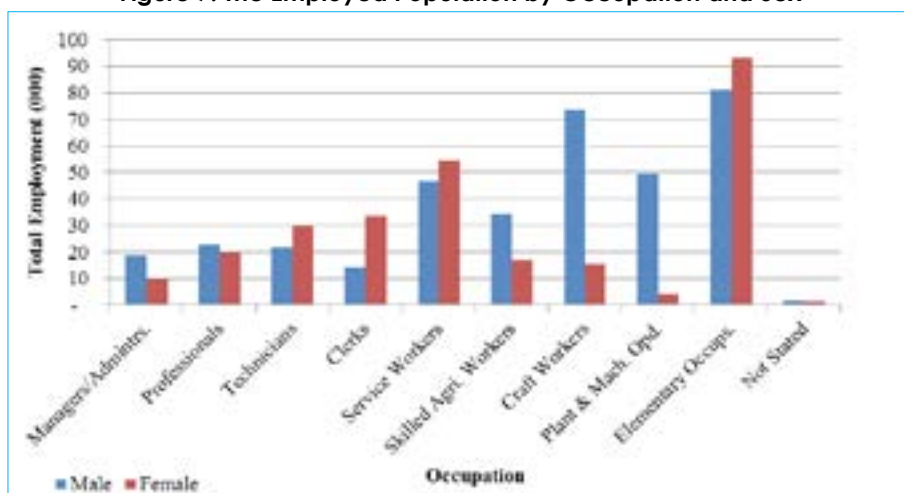
The most common occupations were elementary occupation accounting for 27.1 percent followed by Services/Sales workers and Craft workers with 15.8 and 13.8 percent of the total employment respectively. The majority of Elementary Occupations were in the Agricultural industry, (26.3 percent), (see table 6). Elementary occupations were prevalent in Kweneng East district with 11.5 percent followed by Gaborone and central Serowe Palapye district with 11.0 percent and 9.4 percent respectively. As expected, the majority of managers and professionals were found in Cities/Towns.



The female dominated occupations were Clerical (70.7 percent), Technicians (57.7 percent), Services & Sales workers (54.0 percent) and elementary occupations (53.4 percent). The high number of females in the technical/Associate Professionals is due to the large number of female nurses and teachers (Table 8).

The Employed population by Occupation, Citizenship and Sex is shown in Table 9. A large proportion of Non-Citizens were in the Elementary Occupations with 16,415 persons (28.0 percent), followed by Craft Workers with 14,219 persons (24.2 percent) while Professionals Workers came third recording 7,114 persons (12.1 percent).

Figure 7: The Employed Population by Occupation and Sex



3.3 Currently Employed by Status of Employment

Table 4 depicts employed population by employment status and district. The table indicates that majority (17.1 percent) of employed population was in Gaborone, followed by Kweneng East with (12.7 percent) and Serowe Palapye at 7.6 percent.

Figure 8 shows that 80.8 percent of the employed population worked for paid employment, followed by 7.9 percent of people who were working in their businesses which have employees. Those working in their cattle posts and lands accounted for 6.9 percent of the total employed..

Employment status by sex is shown in figure 9, the figure shows that female are leading in the category which have people working in their own businesses which have employees.

Figure 8: The Employed Population by Employment Status

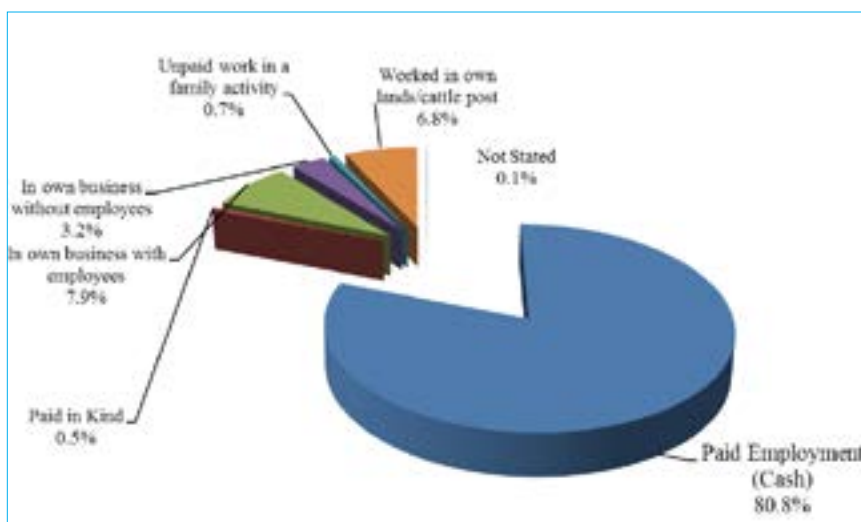
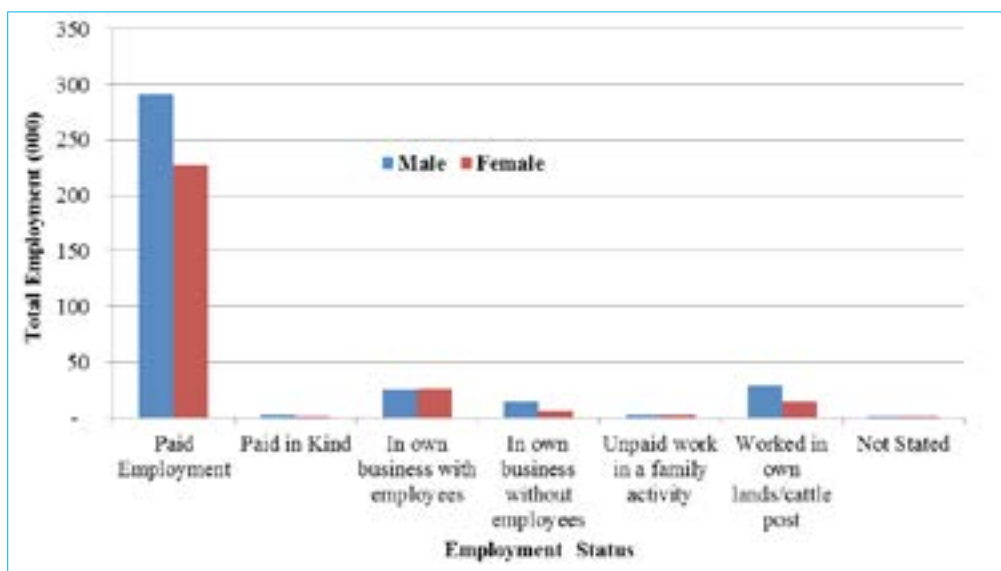


Figure 9: The Employed Population by Employment Status and Sex



3.4 Currently Employed by Education and Training

Those individuals who completed junior secondary dominated the currently employed with 26.1 percent, followed by primary and senior secondary completers with 17.9 percent and 15.2 percent respectively. The employed who never attended school accounted for 10.9 percent. (See Table 15)

3.5 Profile of the Employed Population the Labour Market

- The employed population is largely youthful, with persons aged 20 to 34 years accounting for 47.5 percent of the total employed population.
- Over 41.3 percent of the employed populations have completed some secondary schooling (26.1 Junior & 15.2 Senior).
- The Majority (80.8 percent) are in paid employment.
- The most prevalent occupations among the employed were Elementary Occupations (27.1 %), Services/Sales (15.8 %) and Craft workers (13.8 %), which together accounted for 57 percent of the employed population.

- Agriculture, Wholesale & Retail and Central Government are the largest employers of the employed labour force, with 15.3, 13.6 and 10.9 percent respectively.
- Government (Central and Local) is the largest employer with 18.1 percent

4. Currently Unemployed Population

Unemployed persons were those individuals who did not do any work in the reference period (last 7 days) either for payment in cash or kind or who were not in self-employment for profit or family gain and actively looking for a job in the past 30 days. This excludes individuals who were temporarily absent from the above-mentioned activities and were definitely going to return to them.

The 2011 Population & Housing Census overall unemployment rate was 19.9 percent, higher than the 19.6 percent during the 2001 Census. The most affected age groups are the 15-19 and the 20-24: recording unemployment rates of 52.7 and 40.1 percent respectively.

4.1 Currently unemployed

The 2011 PHC information on Unemployed population by age group and sex is presented in Table 12. The total unemployed population was 159,455 out of which 81,190 (50.8 percent) were females while 78,265 were males. Unemployment was more prevalent among the age group, 18– 19 years, which constituted 52.7 percent, followed by age group 15 – 17 with 49.1 percent. The person aged 15-34 years accounted for 28.3 percent of the total unemployed during the 2011 Population and Housing Census. Most of the unemployed were found in urban villages centers (49.5 percent). This could be due to migration of the population from rural areas to the urban villages for better opportunities. (See Table 17).

As already stated above, the majority of the unemployed were women, contributing 81,190 or 50.8 percent of the total unemployment. The most affected female age group was youth 15 –29, which recorded 38.1 percent. The unemployed were more concentrated in cities and urban villages than rural areas. Overall, there were 113,122 (70.9 percent) unemployed persons in urban areas, and most of these were aged between 18 and 34 years.

Unemployed population by district and sex is shown in Table 13. Central Boteti had the largest proportion of unemployment (27.3 percent). Ngamiland East district followed with 26.5 percent and North East came third with 25.9 percent. There were more unemployed females than males in most of the districts. Females had slightly the largest proportion (50.9 percent) of the unemployed while males accounted for 49.1 percent of the unemployed population, even though the difference is not so much but the unemployment rate for females is 22.6 percent while for males is 17.7 percent.

Table 18 shows the Unemployed population by Age Group, Citizenship and Sex. Out of the 159,455 unemployed population 6,217 (3.9 percent) were non-citizen, therefore 96.1 percent were Citizens. The pattern of unemployment for Non-Citizen by age group is just the same as for Citizens. Unemployment is high for the ages 15 to 34, just like among the citizens.

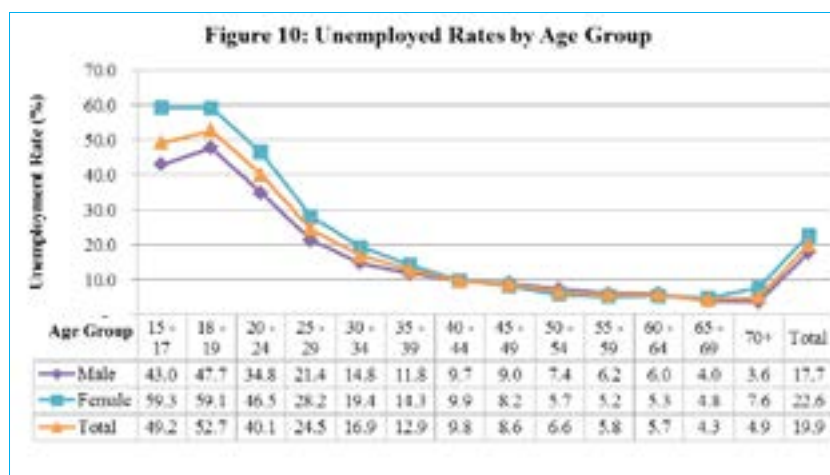
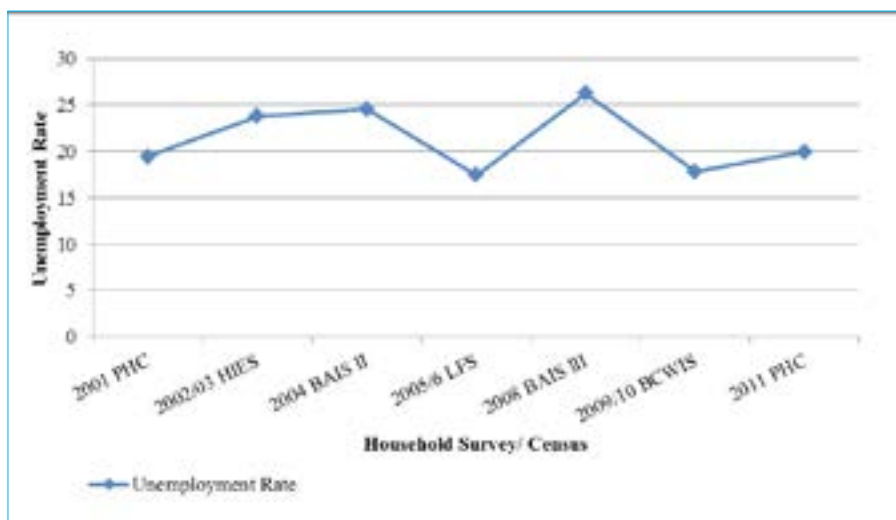


Figure 10 shows that the age pattern of unemployment for men and women is very similar. For both sexes unemployment is a problem particularly for young people, with over 70 percent being less than 35 years old. Table 3 presents comparison of unemployment rates by age group and sex for 2001 and 2011. The table shows that unemployment is a growing problem for males and females, with female numbers showing the highest increase in the period. Unemployment for both men and women increased in the period 2001 to 2011.

Unemployment rate by District, Citizenship and Sex is depicted in table 19. The highest Unemployment rate for Non-Citizen was recorded at Central Botefi District with 14.5 percent, followed by North East District with 14.1 percent and then followed Ngwaketse West District recording 13.7 percent unemployment rate.

Figure 11 shows unemployment rates from 2001 to 2011. The figure shows that from 2003 to 2004 unemployment went up and then decreases in 2006, rises again in 2008 then went down in 2010, also this is shown in Table 3.

Figure 11: The Unemployment Trends, 2001 to 2011



4.2 Currently Unemployed by Education Level

Those individuals who completed junior secondary dominated the currently unemployed with 39.9 percent, followed by secondary and primary completers with 23.7 and 14.4 percent respectively. The unemployed who never attended school accounted for 6.4 percent.

Persons who completed non-formal education, and are currently unemployed constituted 0.3 percent of the total unemployed.

The majority (81,191) of the currently unemployed were women, with 41.3 percent having completed junior secondary school only. Females who have done senior secondary constituted 25.4 percent, while those who completed primary contributed 12.5 percent of all currently unemployed females.

4.3 Currently unemployed by Training Level

Among the currently unemployed population, 84.8 percent had no training at all, 6.6 percent were certificate holders, 4.0 percent had diplomas and 3.1 percent were degree graduates.

The majority (58.0 percent) of unemployed University diploma holders were females while among Brigade diploma holders were males (54.3 percent). The certificate holders' unemployed females were higher (55.4 percent) than males.

4.4 Profile of the Unemployed Population

The unemployed population is largely made up of the untrained persons, who constitute 16.8 percent of the total labour force. This is to say, out of the 19.9 percent unemployment rate, 16.8 percentage points is contributed by the untrained labour force. Of this 16.8 percent, 7.9 percentage points emanates from those who did junior certificate, 4.7 percent senior secondary school, and 1.3 percentage points is from those who never attended school.

Unemployment is more prevalent among the youth aged 20 to 34 years. The group accounts for 51.5 percent of the labour force.

5. Summary Conclusions

The labour force is predominantly untrained, with 74 percent of the economically active population having no training. The percentage of untrained labour force in 2001 was 67.6 percent

The labour force has been increasing over the years, from 558, 753 in 2001 to 803, 129 in 2011 (12 years and over).

The unemployment rates have been fluctuating as observed from the surveys and censuses, with the lowest estimate of 17.5 from the 2005/06 Labour force Survey and the highest being 26.2 percent from the Botswana Aids Impact Survey III of 2008.

Agriculture remains the largest employer at 15.3 percent of the employed population. In 2001, agriculture industry accounted for 12.3 percent of the employed.

Government (Central & Local) was the largest employer with 18.1 percent in 2011, while in 2001 was 15.6 percent.

Overall, the labour market scenario was more or less the same in 2011 as it was in 2001.

Rerenceses:

1. Labour Statistics 2001 (CSO)
2. Labour Force Survey 2005/06

Diagram 3: Male Population Aged 15 years and above

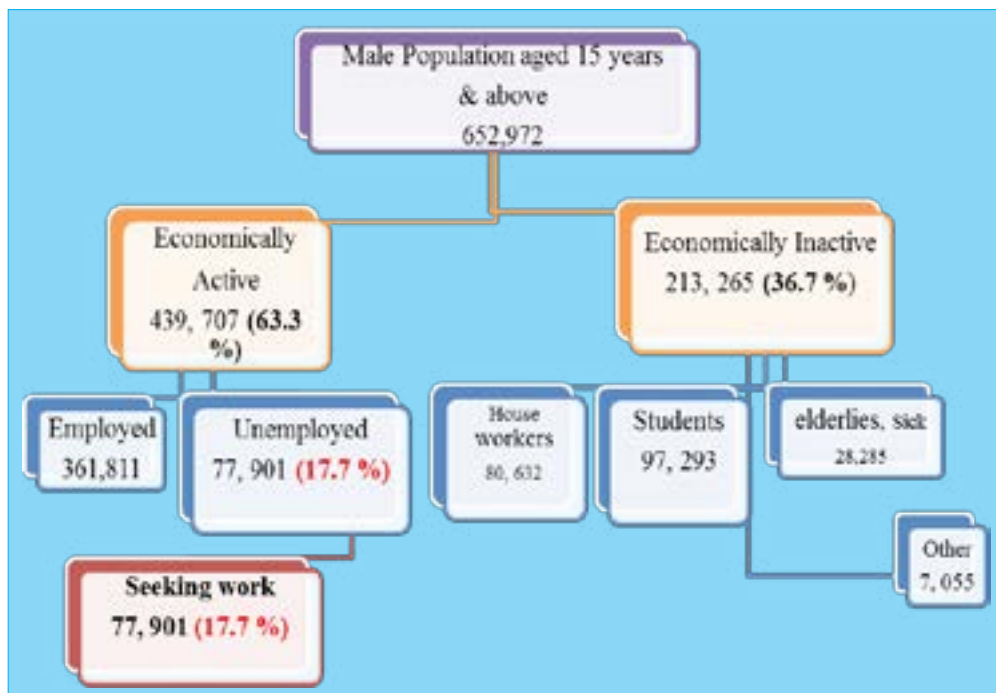


Diagram 4: Female Population Aged 15 years and above

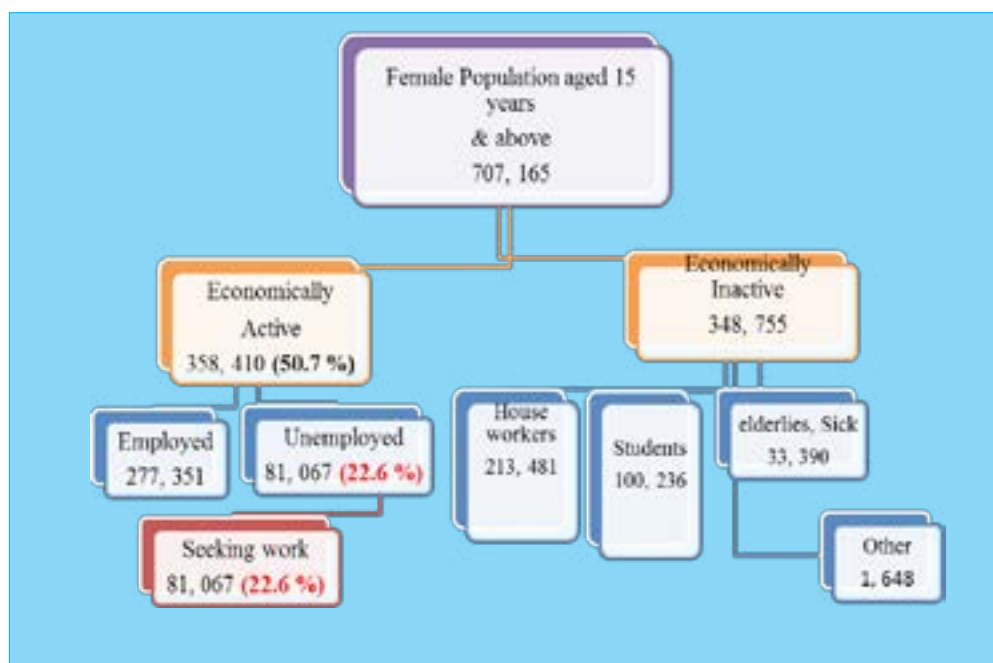


Table 1: Labour Force Participation Rate by Age Group and Sex, 2011 Population and Housing Census

Age	Total Population			Economically Active			Labour Force Participation Rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-17	64,517	63,957	128,474	4,967	3,054	8,021	7.7	4.8	6.2
18-19	40,301	41,971	82,272	13,719	10,862	24,581	34	25.9	29.9
20-24	97,249	103,101	200,350	64,084	53,821	117,905	65.9	52.2	58.8
25-29	101,194	106,658	207,852	84,786	73,765	158,551	83.8	69.2	76.3
30-34	84,515	86,027	170,542	73,927	62,380	136,307	87.5	72.5	79.9
35-39	68,435	66,784	135,219	60,150	47,887	108,037	87.9	71.7	79.9
40-44	48,767	50,530	99,297	42,083	34,334	76,417	86.3	67.9	77
45-49	37,881	44,380	82,261	31,459	26,902	58,361	83	60.6	70.9
50-54	29,742	36,620	66,362	22,961	19,012	41,973	77.2	51.9	63.2
55-59	24,368	29,681	54,049	17,200	12,723	29,923	70.6	42.9	55.4
60-64	17,344	20,240	37,584	9,809	5,922	15,731	56.6	29.3	41.9
65-69	12,243	15,504	27,747	6,077	3,396	9,473	49.6	21.9	34.1
70-74	9,464	12,797	22,261	3,959	2,025	5,984	41.8	15.8	26.9
75+	16,887	29,052	45,939	4,921	2,573	7,494	29.1	8.9	16.3
Unknown	3,088	1,837	4,925	1,905	866	2,771	61.7	47.1	56.3
Total	655,995	709,139	1,365,134	442,007	359,522	801,529	67.4	50.7	58.7

Table 2: Employment to Population Ratio by Age Group and Sex, 2011 Population and Housing Census

Age Group	Total Population			Employed			Employment to Population Ratio		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-17	64,517	63,957	128,474	2,837	1,245	4,082	4.4	1.9	3.2
18-19	40,301	41,971	82,272	7,176	4,445	11,621	17.8	10.6	14.1
20-24	97,249	103,101	200,350	41,797	28,831	70,628	43.0	28.0	35.3
25-29	101,194	106,658	207,852	66,667	53,009	119,676	65.9	49.7	57.6
30-34	84,515	86,027	170,542	63,007	50,287	113,294	74.6	58.5	66.4
35-39	68,435	66,784	135,219	53,059	41,055	94,114	77.5	61.5	69.6
40-44	48,767	50,530	99,297	38,016	30,940	68,956	78.0	61.2	69.4
45-49	37,881	44,380	82,261	28,619	24,705	53,324	75.5	55.7	64.8
50-54	29,742	36,620	66,362	21,262	17,923	39,185	71.5	48.9	59.0
55-59	24,368	29,681	54,049	16,142	12,059	28,201	66.2	40.6	52.2
60-64	17,344	20,240	37,584	9,222	5,606	14,828	53.2	27.7	39.5
65-69	12,243	15,504	27,747	5,833	3,233	9,066	47.6	20.9	32.7
70+	26,351	41,849	68,200	8,564	4,251	12,815	32.5	10.2	18.8
Unknown	3,088	1,837	4,925	1,537	738	2,275	49.8	40.2	46.2
Total	655,995	709,139	1,365,134	363,738	278,327	642,065	55.4	39.2	47.0

Table 3: Trends in Labour Force, 2001 to 2011

Census/Survey	Unemployed			Employed			Labour Force			Unemployment Rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2001 PHC	51,916	57,596	109,512	268,024	185,361	453,385	319,940	242,957	562,897	16.2	23.7	19.5
2002/03 HIES	66,880	77,580	144,460	245,408	216,959	462,366	312,288	294,539	606,826	21.4	26.3	23.8
2004 BAIS II	86,233	99,583	185,816	259,219	311,110	570,329	345,452	410,693	756,145	25	24.2	24.6
2005/6 LFS	50,833	63,209	114,042	281,762	257,388	539,150	332,595	320,597	653,192	15.3	19.7	17.5
2008 BAIS III	81,630	101,417	183,047	290,694	223,728	514,422	372,325	325,148	697,471	21.9	31.2	26.2
2009/10 BCWIS	53,704	72,645	126,349	317,163	267,088	584,251	370,868	339,733	710,600	14.5	21.4	17.8
2011 PHC	78670	81458	160128	364,466	278,535	643,001	443,136	359,993	803,129	17.8	22.6	19.9

Age group 12 years and above

Table 4: The Employed Population by District and Employment Status, 2011 Population and Housing Census

District	Employment Status								Total
	Paid Employment	Paid in Kind	In own business with employees	In own business without employees	Unpaid work in a family activity	Worked in own lands/cattle post	Not Stated		
Gaborone	95 862	323	6 833	6 045	214	209	65	109 551	
Francistown	34 026	141	4 282	1 654	109	123	10	40 345	
Lobatse	10 277	17	725	360	24	24	4	11 431	
Selebi_Pikwe	18 212	37	1 716	554	31	60	12	20 622	
Orapa	4 321	6	112	22	2	7	1	4 471	
Jwaneng	8 729	19	311	180	4	51	2	9 296	
Sowa Town	1 661	-	38	18	3	3	3	1 726	
Ngwaketse	22 467	363	2 127	818	656	3 866	37	30 334	
Barolong	9 885	204	691	204	229	1 271	14	12 498	
Ngwaketse West	2 258	38	118	50	174	787	5	3 430	
South East	27 318	151	2 232	1 183	174	766	52	31 876	
Kweneng East	65 827	392	8 071	2 596	599	4 008	98	81 591	
Kweneng West	9 413	189	806	118	177	2 311	13	13 027	
Kgatleng	23 962	109	2 629	987	261	2 565	79	30 592	
Central Serowe Palapye	39 518	313	3 983	1 311	362	4 584	81	50 152	
Central Mahalapye	21 388	209	2 398	781	277	4 094	31	29 178	
Central Bobonong	12 983	85	1 437	372	88	2 290	14	17 269	
Central Boteti	10 725	62	1 051	234	96	1 881	20	14 069	
Central Tutume	27 118	216	3 611	946	226	2 675	59	34 851	
North East	13 008	70	1 331	444	73	629	14	15 569	
Ngamiland East	18 871	180	2 403	774	200	3 031	29	25 488	
Ngamiland West	7 249	108	1 846	162	125	4 611	12	14 113	
Chobe	9 569	76	676	204	58	115	13	10 711	
Okavango Delta	1 387	8	122	5	6	100	-	1 628	
Ghanzi	10 611	58	549	265	57	1 579	10	13 129	
Central Kgalagadi Game Reserve (CKGR)	170	-	9	-	-	2	-	181	
Kgalagadi South	6 834	34	313	127	56	1 121	4	8 489	
Kgalagadi North	5 171	21	340	79	85	750	3	6 456	
Total	518 820	3, 429	50, 760	20, 493	4, 366	43, 513	685	642 065	

Table 5: The Employed Population by Industry and Sex, 2011 Population and Housing Census

Industry	Sex		Total
	Male	Female	
Agriculture	74,196	23,986	98,182
Mining and Quarrying	16,417	2,438	18,855
Manufacturing	18,122	14,235	32,357
Electricity & Water	4,121	1,478	5,599
Construction	54,199	5,571	59,770
Wholesale & Retail Trade	37,491	50,052	87,543
Hotels & Restaurants	5,043	10,938	15,981
Transport & Comm	16,721	5,157	21,878
Finance	3,718	6,633	10,351
Real Estate	32,352	20,349	52,701
Public Administration	43,635	26,094	69,729
Local Government	17,494	28,511	46,005
Education	17,912	32,456	50,368
Health	9,364	14,280	23,644
Other Community	8,132	8,884	17,016
Private Households	3,142	25,760	28,902
Foreign Mission	356	374	730
Not Stated	1,323	1,131	2,454
Total	363,738	278,327	642,065

Table 6: The Employed Population by Industry and Occupation, 2011 Population and Housing Census

Industry	Managers	Professionals	Technicians	Clerks	Service/ Sales Workers	Skilled Agri. Workers	Craft Workers	Plant & Machine Opd.	Elementary Occupations	Not Stated	Total
Agriculture	839	60	119	233	452	48,734	522	755	45,866	602	98,182
Mining and Quarrying	815	1,271	1,344	766	633	19	5,185	6,209	2,584	29	18,855
Manufacturing	1,807	647	850	1,823	2,034	107	16,971	4,454	3,601	63	32,357
Electricity & Water	267	525	614	603	190	8	1,481	1,080	817	14	5,599
Construction	2,373	1,369	1,467	1,248	553	51	39,491	3,449	9,741	28	59,770
Wholesale & Retail Trade	5,338	930	1,396	12,410	28,795	121	14,324	2,696	21,473	60	87,543
Hotels & Restaurants	1,233	165	229	2,078	9,704	40	442	346	1,731	13	15,981
Transport & Commun.	1,275	823	1,220	2,025	3,560	86	797	10,331	1,721	40	21,878
Finance	1,423	1,716	2,366	3,714	593	2	36	95	388	18	10,351
Real Estate	4,743	5,242	4,510	5,824	19,044	121	3,912	2,818	6,266	221	52,701
Public Administration	3,668	5,752	7,035	10,146	15,427	943	2,291	16,152	8,185	130	69,729
Local Government	1,550	1,569	2,598	2,387	2,789	113	1,663	2,461	30,845	30	46,005
Education	1,505	18,165	15,008	1,828	6,381	94	552	607	6,169	59	50,368
Health	329	2,783	9,777	1,237	3,890	426	207	1,276	3,698	21	23,644
Other Community	933	1,396	2,322	1,099	6,752	196	680	848	2,733	57	17,016
Private Households	17	16	20	12	270	141	248	45	28,123	10	28,902
Foreign Mission	127	212	141	110	24	1	12	59	40	4	730
Not Stated	55	117	112	91	122	10	112	105	187	1,543	2,454
Total	28,297	42,758	51,128	47,634	101,213	51,213	88,926	53,786	174,168	2,942	642,065

Table 8: The Employed Population by Occupation and Sex, 2011 Population and Housing Census

Occupation	Sex		
	Male	Female	Total
Managers/Administrators	18,728	9,569	28,297
Professionals	22,831	19,927	42,758
Technicians	21,650	29,478	51,128
Clerks	13,969	33,665	47,634
Service/Sales Workers	46,567	54,646	101,213
Skilled Agri. Workers	34,176	17,037	51,213
Craft Workers	73,407	15,519	88,926
Plant & Machine Opd.	49,579	4,207	53,786
Elementary Occupations	81,195	92,973	174,168
Not Stated	1,636	1,306	2,942
Total	363,738	278,327	642,065

Table 9: The Employed Population by Occupation, Citizenship and Sex, 2011 Population and Housing Census

Occupation	Citizen			Non-Citizen			All Employees		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Managers/Administrators	13,067	8,116	21,183	5,661	1,453	7,114	18,728	9,569	28,297
Professionals	17,839	18,231	36,070	4,992	1,696	6,688	22,831	19,927	42,758
Technicians	18,769	27,519	46,288	2,881	1,959	4,840	21,650	29,478	51,128
Clerks	13,324	33,141	46,465	645	524	1,169	13,969	33,665	47,634
Service/Sales Workers	44,357	52,588	96,945	2,210	2,058	4,268	46,567	54,646	101,213
Skilled Agri. Workers	33,414	16,821	50,235	762	216	978	34,176	17,037	51,213
Craft Workers	59,952	14,755	74,707	13,455	764	14,219	73,407	15,519	88,926
Plant & Machine Opt.	6,859	4,128	50,987	2,720	79	2,799	49,579	4,207	53,786
Elementary Occupations	72,845	84,908	157,753	8,350	8,065	16,415	81,195	92,973	174,168
Not Stated	1,536	1,239	2,775	100	67	167	1,636	1,306	2,942
Total	321,962	261,446	583,408	41,776	16,881	58,657	363,738	278,327	642,065

Table 10: The Employed Population by District and Occupation, 2011 Population and Housing Census

District	Managers/ Administrators	Professionals	Technicians	Clerks	Service/ Sales Workers	Skilled Agri. Workers	Craft Workers	Plant & Machine Opd.	Elementary Occupations	Not Stated	Total
Gaborone	10,494	14,188	11,554	11,358	18,143	745	15,133	8,401	19,078	457	109,551
Francistown	1,919	2,761	3,457	3,860	8,271	330	6,026	5,073	8,538	110	40,345
Lobatse	594	903	1,292	1,037	2,282	76	1,431	1,035	2,740	41	11,431
Selebi-Phikwe	723	1,221	1,637	1,510	3,235	134	3,924	3,825	4,371	42	20,622
Orapa	226	410	576	268	512	25	844	686	904	20	4,471
Jwaneng	460	540	865	709	1,162	114	1,973	1,225	2,244	2	9,294
Sowa Town	72	109	176	193	263	1	286	299	326	1	1,726
Ngwaketse	873	1,700	2,533	1,730	4,306	4,752	3,440	1,954	9,008	36	30,332
Barolong	290	678	882	635	1,588	1,598	1,074	729	4,965	59	12,498
Ngwaketse West	77	102	219	128	342	1,019	199	146	1,197	1	3,430
South East	1,504	2,819	3,007	3,314	5,609	767	4,407	2,432	7,784	232	31,875
Kweneng East	2,379	4,312	5,805	6,617	13,803	4,894	14,731	8,680	20,049	320	81,590
Kweneng West	209	282	665	367	1,040	2,576	643	1,872	5,358	15	13,027
Kgatleng	1,056	1,596	2,316	2,447	4,179	2,815	4,618	2,012	9,201	352	30,592
Serowe/Palapye	1,697	2,784	3,427	2,710	6,714	5,293	7,968	3,078	16,439	42	50,152
Cent Mahalapye	805	1,314	2,004	1,532	4,303	4,417	3,366	1,315	9,823	299	29,178
Cent. Bobonong	442	824	1,081	847	2,190	2,563	1,995	1,126	6,102	99	17,269
Central Boteti	386	541	850	733	1,995	1,982	1,651	1,035	4,722	173	14,068
Central Tutume	738	1,687	2,163	1,717	4,960	3,294	4,534	2,250	13,318	190	34,851
North East	502	820	1,238	916	2,363	929	2,119	1,087	5,571	24	15,569
Ngamiland East	1,059	1,151	1,868	1,933	5,116	3,497	3,168	1,695	5,857	144	25,488
Ngamiland West	315	419	808	490	1,737	4,879	1,667	586	3,183	29	14,113
Chobe	399	339	688	877	2,442	389	1,130	1,565	2,696	185	10,710
Okavango Delta	133	2	5	18	790	173	130	76	299	2	1,628
Ghanzi	419	538	869	784	1,763	1,778	1,151	724	5,071	32	13,129
CKGR	8	4	2	10	41	3	36	15	62	-	181
Kgalagadi South	296	335	660	546	1,223	1,294	691	469	2,947	28	8,489
Kgalagadi North	222	379	481	348	841	876	591	396	2,315	7	6,456
Total	28,297	42,758	51,128	47,634	101,213	51,213	88,926	53,786	174,168	2,942	642,065

Table 11: The Employed Population by Industry and Locality Type, 2011 Population and Housing Census

Industry	City/Town	Urban Village	Rural Village	Lands area	Cattle Post	Freehold Farm	Mixture of lands and Cattle Post	Camp or Other Locality Type	Total
Agriculture	2,200	15,480	21,121	25,588	21,015	5,960	6,447	371	98,182
Mining and Quarrying	13,063	3,681	1,570	146	116	79	81	119	18,855
Manufacturing	13,889	12,921	4,282	710	222	81	148	104	32,357
Electricity & Water	1,843	2,859	737	70	26	15	13	36	5,599
Construction	17,764	26,358	10,492	1,516	505	272	499	2,364	59,770
Wholesale & Retail Trade	32,105	40,410	12,247	1,529	447	218	273	314	87,543
Hotels & Restaurant	5,731	7,013	1,949	219	48	250	72	699	15,981
Transport & Commun.	7,242	10,057	2,127	487	90	151	31	1,693	21,878
Finance	6,178	3,625	444	23	11	31	2	37	10,351
Real Estate	25,869	20,377	4,702	586	218	308	158	483	52,701
Public Administration	24,405	26,858	11,025	704	293	316	129	5,999	69,729
Local Government	7,449	18,726	16,393	1,942	819	74	436	166	46,005
Education	12,426	23,723	13,183	313	117	92	52	462	50,368
Health	7,340	11,101	4,246	286	138	43	51	439	23,644
Other Community	6,506	8,087	1,844	229	48	120	66	116	17,016
Private Households	12,190	10,890	4,164	601	176	527	120	234	28,902
Foreign Mission	551	143	33	-	-	1	-	2	730
Not Stated	689	1,165	443	60	16	17	9	55	2,454
Total	197,440	243,474	111,002	35,009	24,305	8,555	8,587	13,693	642,065

Table 12: The Employed Population by District, Citizenship and Sex, 2011 Population and Housing Census

District	Citizen			Non-Citizen			All Employees		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Gaborone	46,692	44,727	91,419	11,723	6,409	18,132	58,415	51,136	109,551
Francistown	18,341	16,434	34,775	3,678	1,892	5,570	22,019	18,326	40,345
Lobatse	5,614	5,014	10,628	558	245	803	6,172	5,259	11,431
Selebi-Phikwe	11,310	8,102	19,412	841	369	1,210	12,151	8,471	20,622
Orapa	2,441	1,818	4,259	148	64	212	2,589	1,882	4,471
Jwaneng	5,277	3,223	8,500	619	175	794	5,896	3,398	9,294
Sowa Town	1,029	590	1,619	85	22	107	1,114	612	1,726
Ngwaketse	16,452	12,806	29,258	800	274	1,074	17,252	13,080	30,332
Barolong	7,095	5,115	12,210	226	62	288	7,321	5,177	12,498
Ngwaketse West	2,124	1,218	3,342	76	12	88	2,200	1,230	3,430
South East	14,369	13,678	28,047	2,611	1,217	3,828	16,980	14,895	31,875
Kweneng East	40,942	32,760	73,702	5,722	2,166	7,888	46,664	34,926	81,590
Kweneng West	8,251	4,517	12,768	218	41	259	8,469	4,558	13,027
Kgatleng	15,347	12,904	28,251	1,742	599	2,341	17,089	13,503	30,592
Serowe/Palapye	25,869	20,071	45,940	3,654	558	4,212	29,523	20,629	50,152
Central Mahalapye	15,764	12,202	27,966	932	280	1,212	16,696	12,482	29,178
Central Bobonong	8,720	7,284	16,004	1,021	244	1,265	9,741	7,528	17,269
Central Boteti	8,090	5,487	13,577	389	102	491	8,479	5,589	14,068
Central Tutume	16,284	14,364	30,648	3,344	859	4,203	19,628	15,223	34,851
North East	7,256	6,933	14,189	1,005	375	1,380	8,261	7,308	15,569
Ngamiland East	13,670	10,499	24,169	929	390	1,319	14,599	10,889	25,488
Ngamiland West	7,400	6,371	13,771	255	87	342	7,655	6,458	14,113
Chobe	5,798	4,184	9,982	509	219	728	6,307	4,403	10,710
Okavango Delta	816	738	1,554	38	36	74	854	774	1,628
Ghanzi	7,948	4,711	12,659	360	110	470	8,308	4,821	13,129
CKGR	149	32	181	-	-	-	149	32	181
Kgalagadi South	5,205	3,134	8,339	120	30	150	5,325	3,164	8,489
Kgalagadi North	3,709	2,530	6,239	173	44	217	3,882	2,574	6,456
Total	321,962	261,446	583,408	41,776	16,881	58,657	363,738	278,327	642,065

Table 13: The Employed Population by Age Group and Locality Type, 2011 Population and Housing Census

Age Group	Locality type								Total
	City/Towns	Urban Villages	Rural Villages	Lands areas	Cattle Posts	Freehold Farms	Mixture of lands and Cattle Post	Other Locality Type	
15-17	476	941	810	740	726	157	199	34	4,083
18-19	2,561	3,672	2,452	1,137	985	289	335	194	11,625
20-24	21,677	25,561	11,814	4,087	3,402	1,210	1,235	1,643	70,629
25-29	40,952	46,420	18,130	4,641	3,666	1,480	1,323	3,065	119,677
30-34	39,019	45,472	17,380	3,911	2,858	1,331	987	2,336	113,294
35-39	31,723	37,243	14,932	3,203	2,488	1,035	849	2,641	94,114
40-44	22,549	26,845	11,640	2,638	1,991	808	640	1,845	68,956
45-49	16,153	20,671	9,800	2,514	1,841	737	613	995	53,324
50-54	10,796	14,677	7,949	2,517	1,602	543	584	517	39,185
55-59	6,628	10,146	6,294	2,592	1,376	393	527	245	28,201
60-64	2,562	4,570	3,570	2,184	1,105	281	480	76	14,828
65-69	1,119	2,715	2,341	1,634	790	142	293	33	9,067
70+	845	3,616	3,463	2,996	1,277	123	458	36	12,815
Unknown	382	922	428	216	198	26	64	32	2,268
Total	197,442	243,471	111,003	35,010	24,305	8,555	8,587	13,692	642,065

Table 14: The Employed Population by Occupation and Employment Status, 2011 Population and Housing Census

Occupation	Employment Status							Total
	Paid Employment	Paid in Kind	In own business with employees	In own business without employees	Unpaid work in family activity	Worked in own lands/cattle post	Not Stated	
Managers/Administrators	19,454	38	1,711	7,045	18	27	4	28,297
Professionals	41,373	185	513	663	15	4	6	42,759
Technicians	48,117	139	2,125	704	25	6	13	51,129
Clerks	46,553	87	490	465	33	5	4	47,637
Service/Sales Workers	87,619	306	9,722	2,744	746	59	17	101,213
Skilled Agri. Workers	5,095	317	1,658	843	1,662	41,622	16	51,213
Craft Workers	66,455	426	15,908	5,527	316	126	169	88,927
Plant & Machine Opd.	49,730	93	2,996	846	43	14	65	53,787
Elementary Occupations	152,580	1,715	15,350	1,571	1,211	1,453	289	174,169
Not Stated	1,844	123	294	85	297	190	102	2,935
Total	518,820	3,429	50,767	20,493	4,366	43,506	685	642,065

Table 15: The Economically Active Population by Education/Training and Sex, 2011 Population and Housing Census

Education	Employed			Unemployed			Economically Active			Unemployment Rate (%)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Never attended	49 016	21 070	70 086	6 666	3 395	10 061	55 682	24 465	80 147	12	13.9	12.6
Primary	64 372	50 351	114 723	12 850	10 136	22 986	77 222	60 487	137 709	16.6	16.8	16.7
Junior Secondary	88 122	79 702	167 824	29 980	33 572	63 552	118 102	113 274	231 376	25.4	29.6	27.5
Senior Secondary	53 939	43 744	97 683	17 151	20 591	37 742	71 090	64 335	135 425	24.1	32	27.9
Post Sec education	2 115	798	2 913	245	171	416	2 360	969	3 329	10.4	17.6	12.5
Non formal	1 855	1 837	3 692	218	234	452	2 073	2 071	4 144	10.5	11.3	10.9
Apprentice Cert	12 334	1 957	14 291	104	73	177	12 438	2 030	14 468	0.8	3.6	1.2
Brigade Cert	8 570	3 979	12 549	2 211	1 645	3 856	10 781	5 624	16 405	20.5	29.2	23.5
Brigade Diploma	629	357	986	132	111	243	761	468	1 229	17.3	23.7	19.8
Vocational Cert	13 054	9 743	22 797	1 986	2 689	4 675	15 040	12 432	27 472	13.2	21.6	17
Vocational Diploma	7 657	4 958	12 615	898	991	1 889	8 555	5 949	14 504	10.5	16.7	13
Education College Cert	2 252	3 276	5 528	273	572	845	2 525	3 848	6 373	10.8	14.9	13.3
Education College Diploma	8 345	13 018	21 363	517	775	1 292	8 862	13 793	22 655	5.8	5.6	5.7
IHS Certificate	198	517	715	30	126	156	228	643	871	13.2	19.6	17.9
IHS Diploma	1 962	4 604	6 566	72	133	205	2 034	4 737	6 771	3.5	2.8	3
University Cert	2 574	2 404	4 978	343	549	892	2 917	2 953	5 870	11.8	18.6	15.2
University Diploma	13 634	11 729	25 363	1 929	2 726	4 655	15 563	14 455	30 018	12.4	18.9	15.5
University Degree	30 015	23 019	53 034	2 412	2 472	4 884	32 427	25 491	57 918	7.4	9.7	8.4
Not Stated	3 095	1 265	4 360	248	230	478	3 347	1 498	4 845	7.4	15.4	9.9
Total	363 738	278 327	642 065	78 265	81 191	159 455	442 007	359 522	801 529	17.7	22.6	19.9

Table 16: The Economically Active Population by Age Group and Sex, 2011 Population and Housing Census

Age Group	Employed			Unemployed			Economically Active				Unemployment Rate (%)			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	%	Cumulative %	Male	Female	Total
15-17	2,837	1,245	4,082	2,130	1,809	3,939	4,967	3,054	8,021	1.0	1.0	42.9	59.2	49.1
18-19	7,176	4,445	11,621	6,543	6,417	12,960	13,719	10,862	24,581	3.1	4.1	47.7	59.1	52.7
20-24	41,797	28,831	70,628	22,286	24,989	47,275	64,083	53,820	117,903	14.7	18.8	34.8	46.4	40.1
25-29	66,667	53,009	119,676	18,118	20,756	38,874	84,785	73,765	158,550	19.8	38.6	21.4	28.1	24.5
30-34	63,007	50,287	113,294	10,920	12,092	23,012	73,927	62,379	136,306	17.0	55.6	14.8	19.4	16.9
35-39	53,059	41,055	94,114	7,090	6,831	13,921	60,149	47,886	108,035	13.5	69.0	11.8	14.3	12.9
40-44	38,016	30,940	68,956	4,066	3,393	7,459	42,082	34,333	76,415	9.5	78.6	9.7	9.9	9.8
45-49	28,619	24,705	53,324	2,840	2,197	5,037	31,459	26,902	58,361	7.3	85.9	9	8.2	8.6
50-54	21,262	17,923	39,185	1,699	1,089	2,788	22,961	19,012	41,973	5.2	91.1	7.4	5.7	6.6
55-59	16,142	12,059	28,201	1,058	663	1,721	17,200	12,722	29,922	3.7	94.8	6.2	5.2	5.8
60-64	9,222	5,606	14,828	587	316	903	9,809	5,922	15,731	2.0	96.8	6	5.3	5.7
65-69	5,833	3,233	9,066	244	163	407	6,077	3,396	9,473	1.2	98.0	4	4.8	4.3
70+	8,564	4,251	12,815	316	347	663	8,880	4,598	13,478	1.7	99.7	3.6	7.5	4.9
Unknown	1,537	738	2,275	368	128	496	1,905	866	2,771	0.3	100.0	19.3	14.8	17.9
Total	363,738	278,327	642,065	78,265	81,190	159,455	442,003	359,517	801,520	100		17.7	22.6	19.9

Table 17: The Economically Active Population by District, 2011 Population and Housing Census

District	Employed			Unemployed			Economically Active			Unemployment Rate (%)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Gaborone	58415	51136	109551	7762	8599	16361	66177	59735	125912	11.7	14.4	13
Francistown	22019	18326	40345	4155	5066	9221	26174	23392	49566	15.9	21.7	18.6
Lobatse	6172	5259	11431	1121	1347	2468	7293	6606	13899	15.4	20.4	17.8
Selebi-Phikwe	12151	8471	20622	1506	2161	3667	13657	10632	24289	11	20.3	15.1
Orapa	2589	1882	4471	194	379	573	2783	2261	5044	7	16.8	11.4
Jwaneng	5897	3399	9296	808	877	1685	6705	4276	10981	12.1	20.5	15.3
Sowa Town	1114	612	1726	94	156	250	1208	768	1976	7.8	20.3	12.7
Ngwaketse	17253	13081	30334	5256	5029	10285	22509	18110	40619	23.4	27.8	25.3
Barolong	7321	5177	12498	2257	1846	4103	9578	7023	16601	23.6	26.3	24.7
Ngwaketse West	2200	1230	3430	539	421	960	2739	1651	4390	19.7	25.5	21.9
South East	16980	14896	31876	3699	4084	7783	20679	18980	39659	17.9	21.5	19.6
Kweneng East	46665	34926	81591	11007	12061	23068	57672	46987	104659	19.1	25.7	22
Kweneng West	8469	4558	13027	1599	1197	2796	10068	5755	15823	15.9	20.8	17.7
Kgatleng	17089	13503	30592	3208	3826	7034	20297	17329	37626	15.8	22.1	18.7
Serowe/Palapye	29523	20629	50152	6626	6153	12779	36149	26782	62931	18.3	23	20.3
Central Mahalapye	16696	12482	29178	4641	4610	9251	21337	17092	38429	21.8	27	24.1
Central Bobonong	9741	7528	17269	2825	3149	5974	12566	10677	23243	22.5	29.5	25.7
Central Boteti	8479	5590	14069	2706	2586	5292	11185	8176	19361	24.2	31.6	27.3
Central Tutume	19628	15223	34851	5477	5063	10540	25105	20286	45391	21.8	25	23.2
North East	8261	7308	15569	2726	2725	5451	10987	10033	21020	24.8	27.2	25.9
Ngamiland East	14599	10889	25488	4540	4642	9182	19139	15531	34670	23.7	29.9	26.5
Ngamiland West	7655	6458	14113	1575	1511	3086	9230	7969	17199	17.1	19	17.9
Chobe	6308	4403	10711	680	802	1482	6988	5205	12193	9.7	15.4	12.2
Okavango Delta	854	774	1628	26	13	39	880	787	1667	3	1.7	2.3
Ghanzi	8308	4821	13129	1489	1221	2710	9797	6042	15839	15.2	20.2	17.1
CKGR	149	32	181	1	1	2	150	33	183	0.7	3	1.1
Kgalagadi South	5325	3164	8489	1120	1059	2179	6445	4223	10668	17.4	25.1	20.4
Kgalagadi North	3880	2570	6450	628	607	1235	4510	3181	7691	13.9	19.1	16.1
Total	363,742	278,331	642,065	78,265	81,191	159,455	442,007	359,522	801,529	17.7	22.6	19.9

Table 18: The Unemployed Population by Age Group, Citizenship and Sex, 2011 Population and Housing Census

District	Citizen			Non-Citizen			All Employees		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Gaborone	7,129	7,814	14,943	633	785	1,418	7,762	8,599	16,361
Francistown	3,790	4,610	8,400	365	456	821	4,155	5,066	9,221
Lobatse	1,095	1,313	2,408	26	34	60	1,121	1,347	2,468
Selebi-Phikwe	1,454	2,105	3,559	52	56	108	1,506	2,161	3,667
Orapa	187	360	547	7	19	26	194	379	573
Jwaneng	786	859	1,645	22	18	40	808	877	1,685
Sowa Town	92	151	243	2	5	7	94	156	250
Ngwaketse	5,173	4,956	10,129	83	73	156	5,256	5,029	10,285
Barolong	2,234	1,833	4,067	23	13	36	2,257	1,846	4,103
Ngwaketse West	531	415	946	8	6	14	539	421	960
South East	3,502	3,829	7,331	197	255	452	3,699	4,084	7,783
Kweneng East	10,449	11,549	21,998	558	512	1,070	11,007	12,061	23,068
Kweneng West	1,585	1,193	2,778	14	4	18	1,599	1,197	2,796
Kgatleng	3,099	3,713	6,812	109	113	222	3,208	3,826	7,034
Serowe/Palapye	6,449	6,035	12,484	177	117	294	6,626	6,152	12,778
Central Mahalapye	4,549	4,531	9,080	92	79	171	4,641	4,610	9,251
Central Bobonong	2,750	3,112	5,862	75	37	112	2,825	3,149	5,974
Central Boteti	2,656	2,553	5,209	50	33	83	2,706	2,586	5,292
Central Tutume	5,100	4,875	9,975	377	188	565	5,477	5,063	10,540
North East	2,585	2,639	5,224	141	86	227	2,726	2,725	5,451
Ngamiland East	4,451	4,559	9,010	89	83	172	4,540	4,642	9,182
Ngamiland West	1,566	1,504	3,070	9	7	16	1,575	1,511	3,086
Chobe	648	773	1,421	32	29	61	680	802	1,482
Okavango Delta	26	13	39	-	-	-	26	13	39
Ghanzi	1,467	1,206	2,673	22	15	37	1,489	1,221	2,710
CKGR	1	1	2	-	-	-	1	1	2
Kgalagadi South	1,112	1,053	2,165	8	6	14	1,120	1,059	2,179
Kgalagadi North	621	597	1,218	7	10	17	628	607	1,235
Total	75,087	78,151	153,238	3,178	3,039	6,217	78,265	81,190	159,455

Table 19: The Unemployment Rates by District, Citizenship and Sex, 2011 Population and Housing Census

District	Citizen		Non-Citizen			All Employees			
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Gaborone	13.2	14.9	14.0	5.1	10.9	7.3	11.7	14.4	13.0
Francistown	17.1	21.9	19.5	9.0	19.4	12.8	15.9	21.7	18.6
Lobatse	16.3	20.8	18.5	4.5	12.2	7.0	15.4	20.4	17.8
Selebi-Phikwe	11.4	20.6	15.5	5.8	13.2	8.2	11.0	20.3	15.1
Orapa	7.1	16.5	11.4	4.5	22.9	10.9	7.0	16.8	11.4
Jwaneng	13.0	21.0	16.2	3.4	9.3	4.8	12.1	20.5	15.3
Sowa Town	8.2	20.4	13.1	2.3	18.5	6.1	7.8	20.3	12.7
Ngwaketse	23.9	27.9	25.7	9.4	21.0	12.7	23.4	27.8	25.3
Barolong	23.9	26.4	25	9.2	17.3	11.1	23.6	26.3	24.7
Ngwaketse West	20.0	25.4	22.1	9.5	33.3	13.7	19.7	25.5	21.9
South East	19.6	21.9	20.7	7.0	17.3	10.6	17.9	21.5	19.6
Kweneng East	20.3	26.1	23.0	8.9	19.1	11.9	19.1	25.7	22
Kweneng West	16.1	20.9	17.9	6.0	8.9	6.5	15.9	20.8	17.7
Kgatleng	16.8	22.3	19.4	5.9	15.9	8.7	15.8	22.1	18.7
Serowe/Palapye	20.0	23.1	21.4	4.6	17.3	6.5	18.3	23.0	20.3
Central Mahalapye	22.4	27.1	24.5	9.0	22.0	12.4	21.8	27.0	24.1
Central Bobonong	24.0	29.9	26.8	6.8	13.2	8.1	22.5	29.5	25.7
Central Boteti	24.7	31.8	27.7	11.4	24.4	14.5	24.2	31.6	27.3
Central Tutume	23.8	25.3	24.6	10.1	18.0	11.8	21.8	25.0	23.2
North East	26.3	27.6	26.9	12.3	18.7	14.1	24.8	27.2	25.9
Ngamiland East	24.6	30.3	27.2	8.7	17.5	11.5	23.7	29.9	26.5
Ngamiland West	17.5	19.1	18.2	3.4	7.4	4.5	17.1	19.0	17.9
Chobe	10.1	15.6	12.5	5.9	11.7	7.7	9.7	15.4	12.2
Okavango Delta	3.1	1.7	2.4	-	-	-	3.0	1.7	2.3
Ghanzi	15.6	20.4	17.4	5.8	12.0	7.3	15.2	20.2	17.1
CKGR	0.7	3.0	1.1	-	-	-	0.7	3.0	1.1
Kgalagadi South	17.6	25.1	20.6	6.3	16.7	8.5	17.4	25.1	20.4
Kgalagadi North	14.3	19.1	16.3	3.9	18.5	7.3	13.9	19.1	16.1
Total	18.9	23.0	20.8	7.1	15.3	9.6	17.7	22.6	19.9

Table 20: The Unemployed Population by Education/Training and Sex, 2011 Population and Housing Census

Education	Sex		Total
	Male	Female	
Never attended	6,705	3,421	10,126
Primary	12,844	10,128	22,972
Junior Secondary	29,940	33,527	63,467
Senior Secondary	17,151	20,591	37,742
Post Sec education	271	211	482
Non formal	205	223	428
Apprentice Cert	104	73	177
Brigade Cert	2,211	1,645	3,856
Brigade Diploma	132	111	243
Vocational Cert	1,986	2,689	4,675
Vocational Diploma	898	991	1,889
Education College Cert	273	572	845
Education College Diploma	517	775	1,292
IHS Certificate	30	126	156
IHS Diploma	72	133	205
University Cert	343	549	892
University Diploma	1,929	2,726	4,655
University Degree	2,412	2,472	4,884
Not Stated	242	227	469
Total	78,265	81,190	159,455

Table 21 : The Unemployed Population by Age Group, Citizenship and Sex, 2011 Population and Housing Census

Age Group	Citizen			Non-Citizen			All Employees		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-17	2,092	1,769	3,861	38	40	78	2,130	1,809	3,939
18-19	6,412	6,303	12,715	131	114	245	6,543	6,417	12,960
20-24	21,618	24,282	45,900	668	707	1,375	22,286	24,989	47,275
25-29	17,276	19,868	37,144	842	888	1,730	18,118	20,756	38,874
30-34	10,340	11,481	21,821	580	611	1,191	10,920	12,092	23,012
35-39	6,709	6,475	13,184	381	356	737	7,090	6,831	13,921
40-44	3,819	3,231	7,050	247	162	409	4,066	3,393	7,459
45-49	2,720	2,114	4,834	120	83	203	2,840	2,197	5,037
50-54	1,623	1,055	2,678	76	34	110	1,699	1,089	2,788
55-59	1,020	643	1,663	38	20	58	1,058	663	1,721
60-64	569	310	879	18	6	24	587	316	903
65-69	237	160	397	7	3	10	244	163	407
70+	300	335	635	16	12	28	316	347	663
Unknown	352	125	477	16	3	19	369	129	498
Total	75,087	78,151	153,238	3,178	3,039	6,217	78,265	81,190	159,455

Table 22: The Unemployment Rates by Age Group, Citizenship and Sex, 2011 Population and Housing Census

Age Group	Citizen			Non-Citizen			All Employees		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-17	43.6	60.6	50	22.6	29.4	25.7	42.9	59.2	49.1
18-19	49.3	60.2	54.2	18.4	29.2	22.3	47.7	59.1	52.7
20-24	36.5	47.5	41.6	13.7	26.3	18.2	34.8	46.4	40.1
25-29	22.6	28.7	25.5	9.9	19.7	13.3	21.4	28.1	24.5
30-34	15.9	19.7	17.7	6.6	15.3	9.4	14.8	19.4	16.9
35-39	12.8	14.5	13.5	5.1	11.2	6.9	11.8	14.3	12.9
40-44	10.5	10	10.3	4.3	8	5.3	9.7	9.9	9.8
45-49	9.8	8.2	9	3.3	6.5	4.1	9	8.2	8.6
50-54	7.8	5.8	6.9	3.6	4.2	3.7	7.4	5.7	6.6
55-59	6.5	5.3	5.9	2.7	4	3.1	6.2	5.2	5.8
60-64	6.3	5.5	6	2.4	2.6	2.4	6	5.3	5.7
65-69	4.2	4.8	4.4	1.8	3.3	2.1	4	4.8	4.3
70+	3.5	7.4	4.8	5.7	14.3	7.6	3.6	7.5	4.9
Unknown	19.8	15	18.3	12.4	9.7	11.9	19.4	14.9	18
Total	18.9	23	20.8	7.1	15.3	9.6	17.7	22.6	19.9

Table 23: The Unemployed Population by Age Group and Locality Type, 2011 Population and Housing Census

Age	Locality type							Total	
	City/Towns	Urban Villages	Rural Villages	Lands areas	Cattle Posts	Freehold Mixture of lands Farms and Cattle Post	Camp or Other Locality Type		
15-17	556	1,667	1,207	209	155	41	85	19	3,939
18-19	2,566	6,156	3,431	393	204	54	110	46	12,960
20-24	11,169	23,229	10,434	1,237	599	129	281	197	47,275
25-29	9,001	19,643	8,320	1,013	429	118	215	135	38,874
30-34	4,824	11,803	5,157	653	252	73	151	98	23,012
35-39	2,715	7,084	3,321	386	193	44	113	64	13,921
40-44	1,503	3,619	1,872	236	115	25	63	26	7,459
45-49	877	2,433	1,371	174	99	25	44	14	5,037
50-54	495	1,325	743	114	48	13	35	15	2,788
55-59	248	797	513	89	42	10	19	4	1,722
60-64	121	406	264	72	25	3	9	3	903
65-69	48	171	131	34	8	5	9	1	407
70+	44	314	224	34	24	6	14	3	663
Unknown	58	249	130	25	21	-	6	6	495
Total	34,225	78,896	37,118	4,669	2,214	546	1,154	631	159,455

Table 24: 2001 Census and 2011 Census Unemployment Rates by Age group and Sex

Age Group	Unemployed Population						Unemployment Rates					
	2001 Census			2011 Census			2001 Census			2011 Census		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-19	8,227	9,170	17,397	8,673	8,226	16,899	48.2	63.5	55.9	46.4	59.1	51.8
20-24	16,921	21,557	38,478	22,286	24,989	47,275	47.4	51.3	49.4	34.8	46.4	40.1
25-29	9,733	12,473	22,206	18,118	20,756	38,874	23.6	31.8	27.9	21.4	28.1	24.5
30-34	5,171	5,964	11,135	10,920	12,092	23,012	17	18.1	17.5	14.8	19.4	16.9
35-39	3,811	3,647	7,458	7,090	6,831	13,921	13.1	13.4	13.2	11.8	14.3	12.9
40-44	2,591	2,044	4,635	4,066	3,393	7,459	11.3	7.9	9.7	9.7	9.9	9.8
45-49	1,905	1,187	3,092	2,840	2,197	5,037	6.8	7.9	7.3	9	8.2	8.6
50-54	1,143	510	1,653	1,699	1,089	2,788	6.8	3.8	5.5	7.4	5.7	6.6
55-59	701	293	994	1,058	663	1,721	2.9	4	3.4	6.2	5.2	5.8
60-64	421	159	580	587	316	903	2.4	5.2	3.4	6	5.3	5.7
60-69	221	90	311	244	163	407	0	0	0	4	4.8	4.3
70+	229	168	397	316	347	663	0.7	2.6	1.2	3.6	7.5	4.9
Not Stated	406	24	430	368	128	496	-	-	-	19.3	14.8	17.9
Total	51,480	57,286	108,766	78,265	81,190	159,455	21.5	26.3	23.9	17.7	22.6	19.9

