

Results of the 1998 Population Census in Cambodia

The first population census in Cambodia since 1962 identifies many distinctive features of that country's population and provides needed data for social and economic planning

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The population census conducted in Cambodia in March 1998 was the first since 1962. During the 36-year interval, comprehensive population data needed for social and economic planning had been lacking.

No nationwide count of the population took place during the 1970s because of civil strife and disruption. An administrative count of the

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population was carried out in 1980 by the Government of the People's Republic of Kampuchea, formed following the Khmer Rouge regime. That count enumerated the population by sex and age group, but not by any other characteristic (Huguet, 1991).

After 1980, the first data on economic and social characteristics of the population were provided by the Socio-Economic Survey of Cambodia, 1993/1994 (National Institute of Statistics, 1995). That survey yielded valuable estimates for the country as a whole, Phnom Penh, other urban areas, and rural areas, but not for individual provinces or lower administrative levels.

In preparation for the 1998 population census, the National Institute of Statistics conducted the Demographic Survey of Cambodia in March 1996, which covered about 20,000 households (National Institute of Statistics, 1996). Among other social indicators, the Survey enabled estimates of fertility and mortality to be made at the national level. Survey data were presented only for the country as a whole and rural and urban areas.

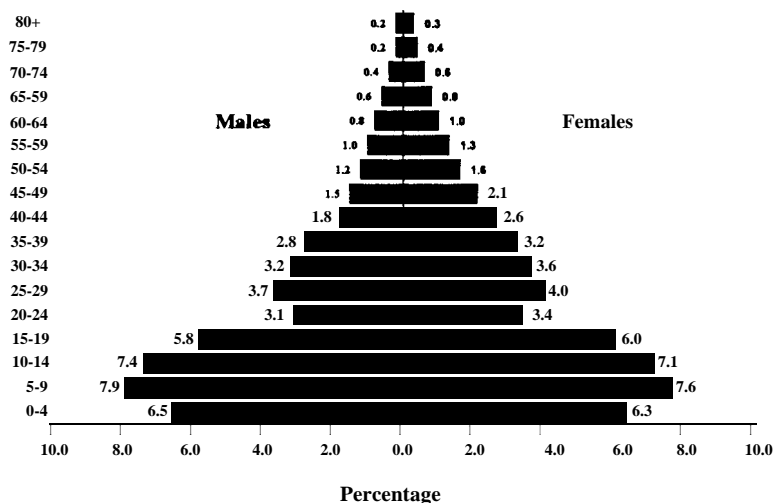
The national population total of 10.7 million persons estimated by the Demographic Survey of Cambodia in March 1996 was roughly consistent with the population count of 6.6 million at the end of 1980, with plausible assumptions regarding mortality and international migration (Huguet, 1997).

Population size and structure

The census was conducted with the reference date of 2 March 1998. It enumerated a total of 11,437,656 persons. A post-enumeration survey (PES) was carried out soon after the census in 100 enumeration areas in order to estimate the completeness of coverage and the accuracy of reporting on some census questions. The PES estimated that there was a net undercount of 1.78 per cent of the population by the census (National Institute of Statistics, 1999b).

In addition to this undercount, there were some villages and districts in the provinces of Odar Mean Chey, Banteay Mean Chey, Battambang and Pursat that were not enumerated for security reasons. The National Institute of Statistics estimated that the population of these areas combined equalled 45,000. At the time of the census, there were 60,000 Cambodians temporarily displaced to camps in Thailand and they were properly not included in the census. As they all returned to Cambodia later in 1998, however, they may be considered to be part of the population of the country.

Figure 1. Population of Cambodia by sex and age, March 1998



Source: National Institute of Statistics, General Population Census of Cambodia 1998 – Final Census Results (Phnom Penh, 1999), p.11.

When the census population is presented by sex and five-year age groups, as in [figure 1](#), three distinctive features are apparent. First, there is a deficit of adults because of excess mortality from civil strife during the 1970s. Second, there is a particular deficit of males among the adult population. Third, a high proportion of the population is under age 20 because of the baby boom that began in 1980.

Heuveline (1998) carried out a detailed exercise to attempt to estimate the level of excess mortality (that above what would have been expected had Cambodia not been subject to civil war, the Khmer Rouge regime and famine). His medium estimate is that there were 2.52 million excess deaths from 1970 through 1979, of which 1.4 million were estimated to be violent deaths. He provides what he considers to be a minimum estimate of 1.17 million and a maximum estimate of 3.42 million excess deaths, but these are derived by combining extreme assumptions and the author believes the medium estimates are more plausible.

The disruptions of the 1970s have had a continuing impact on the Cambodian population not only because of excess mortality, but also

Table 1. Population of Cambodia by sex and five-year age group, and sex ratios, March 1998

Age group	Both sexes	Males	Females	Sex ratio
Total	11,437,656	5,511,408	5,926,248	93.0
0-4	1,466,792	747,292	719,500	103.9
5-9	1,772,820	903,976	868,844	104.0
10-14	1,658,196	851,139	807,057	105.5
15-19	1,344,258	664,184	680,074	97.7
20-24	745,687	354,100	391,587	90.4
25-29	888,540	426,968	461,572	92.5
30-34	782,682	370,090	412,592	89.7
35-39	695,868	325,331	370,537	87.8
40-44	497,067	199,722	297,345	67.2
45-49	415,931	175,052	240,879	72.7
50-54	312,463	132,413	180,050	73.5
55-59	256,930	110,189	146,741	75.1
60-64	204,994	86,602	118,392	73.1
65-69	166,928	70,660	96,268	73.4
70-74	112,213	46,769	65,444	71.5
75+	116,287	46,921	69,366	67.6

Source: 1998 population census of Cambodia.

because of low levels of fertility. The age group 20-24 years shown in [figure 1](#) is clearly much smaller than the next older and younger age groups. These persons were born between 1973 and 1978 when there were extensive dislocations of the population because of civil war, the bombing campaign by the United States of America, and the Khmer Rouge regime.

The sex ratios by age presented in [table 1](#) demonstrate that excess mortality during the 1970s affected males more than females. The sex ratio in the population as a whole in 1998 was only 93.0 males per 100 females. This is even lower than the sex ratio of 94.2 recorded by the 1989 population census of Viet Nam, a country that had fought wars of independence and reunification during the periods 1945-1954 and 1960-1975 (Viet Nam, Central Census Steering Committee, 1991). The sex ratio recorded in Cambodia in 1998 was much lower among the adult population. Among persons aged 20 years and older, the sex ratio was 82.3 and among those aged 60 years and older it was only 71.8.

A baby boom occurred in Cambodia during the 1980s, with a return to relatively stable political and social conditions. By projecting the population

Table 2. Headship rates in Cambodia by sex and age

Age group	Males	Females
Age 10 and older	41.6	12.8
10-14	0.1	0.2
15-19	1.8	1.5
20-24	25.1	5.8
25-29	56.4	10.2
30-34	73.0	14.5
35-39	81.4	18.8
40-44	85.9	23.4
45-49	88.8	28.3
50-54	89.9	32.8
55-59	89.5	34.8
60-64	85.8	33.9
65-69	79.2	30.2
70-74	67.2	25.1
75 and older	47.3	17.1

Source: Calculated from tables B1 and B11 from the 1998 population census of Cambodia.

Note: Excludes institutional, homeless, boat and transient households.

estimated by the Demographic Survey of Cambodia in 1996 backwards, Huguot (1997) estimated that the crude birth rate (CBR) between 1980 and 1985 was 52.4 births per thousand population and between 1985 and 1990 the CBR was 46.0. The 1998 population census recorded that 53 per cent of the population was age 18 and younger. In fact, the proportion age 18 and younger is somewhat greater than this. The age group 0-4 in [figure 1](#) appears to be considerably smaller than that of the age group 5-9, but that is largely because of underenumeration of young children, especially those aged 0-2. When the 0-4 age group is adjusted for underenumeration, as described in the section below on projections, it is slightly larger than the 5-9 age group.

The census recorded that 25.7 per cent of households were headed by women (National Institute of Statistics, 1999a). This is a high proportion, but not unprecedented. According to the 1989 population census of Viet Nam, 31.9 per cent of the households in that country were headed by women (Viet Nam, General Statistical Office, 1991). The Cambodian census was conducted on a *de facto* basis, counting people in a household only if they were present on the reference night. This approach could have

exaggerated the number of female heads of household somewhat. If a male head were away temporarily, as for work or business, his wife would usually have been reported as the head of household. By way of comparison, the Socio-Economic Survey of Cambodia of 1993/1994 was conducted on a *de jure* basis and found that 21.2 per cent of households were female-headed (National Institute of Statistics, 1995).

Headship rates (the percentage of a given population who are head of their household) by sex and age group are shown in [table 2](#). Between the ages of 35 and 64, well over 80 per cent of males are head of their household. From the age group 25-29 upward, over 10 per cent of females are head of their household. About a quarter of women aged 40-49 years are heads of household as are about one third of those between the ages of 50 and 69. The relatively high level of headship among women in Cambodia is largely a consequence of the deficit in adult males, as female headship rates parallel rates of widowhood up to age 60.

Nuptiality

The deficit of males compared with females in the adult population means that the proportion of adult males who are currently married is higher than for adult females, whereas the proportion of females widowed greatly exceeds that of males. Among the population aged 30-59 years, 95 per cent of males, but only 76 per cent of females, are currently married. The disparity is much greater among older persons. Among those aged 60 years and older, 83 per cent of males and 43 per cent of females are currently married.

Conversely, women are much more likely than men to be widowed. Among the population aged 30-59 years, only 1 per cent of men but 12 per cent of women are widowed. Widowhood rises with age so that 28 per cent of women aged 50-59 years are widows. Among persons at least 60 years of age, 12 per cent of men but 48 per cent of women are widowed. Thus, women who are over 60 years old are more likely to be widowed than to be currently married. The likelihood of being divorced is also much greater among women than men, implying that divorced men are more likely to remarry or to be deceased.

There are no direct measures of the age at marriage in Cambodia, but the singulate mean age at marriage (SMAM) may be estimated from census data. SMAM is an estimate of the number of years spent in the single state based on the proportion ever-married reported by age group in the census.

Table 3. Reported number per woman of children ever born and children born in the 12 months prior to the census, and adjusted age-specific fertility rates, by age group of women, Cambodia, March 1998

Age group	Average number of children ever born	Average number of children born in the 12 months prior to the census	Adjusted age-specific fertility rates
15-19	0.104	0.0238	0.0466
20-24	0.873	0.1395	0.2244
25-29	1.960	0.1715	0.2596
30-34	3.165	0.1565	0.2314
35-39	4.377	0.1202	0.1753
40-44	5.129	0.0683	0.0942
45-49	5.565	0.0232	0.0281
Implied total fertility rate	5.600	3.520	5.300

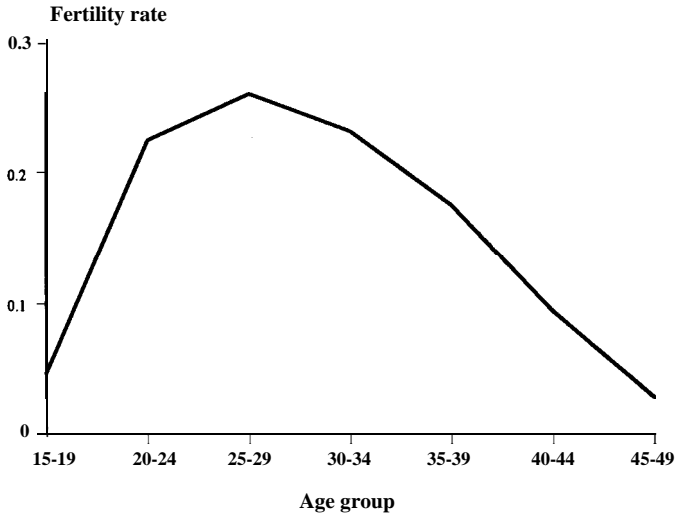
Source: National Institute of Statistics, General Population Census of Cambodia 1998: Analysis of Census Results, Report 1, Fertility and Mortality (Phnom Penh, 1999), p. 8.

In Cambodia, SMAM is 24.2 years for males and 22.5 years for females, based on the 1998 census. These estimates are distinctive for the relatively late age at marriage among females and the small difference in age at marriage between men and women. Both of these findings may reflect a current “marriage squeeze” affecting the potential for marriage among young women in Cambodia. The 1998 census enumerated 630,063 women aged 16-20 years, but only 438,706 men aged two years older, or 18-22 (the average difference in age at marriage between men and women is 1.7 years). Thus, for every 100 of these young women who may be contemplating marriage there are only 70 men of the appropriate age group. This marriage squeeze may be causing women to marry later than they would wish and to marry men closer to their own age than would normally be the case. The marriage squeeze will ease for women who were under 16 years of age in 1998, so that there is a potential for the age at marriage of women to decline in the near future (National Institute of Statistics, 2000a).

Fertility

The census recorded the number of children ever born for all women aged 15 years and older. The average number of children ever born increases rapidly with age of women. Those aged 45-49 years had borne an average of 5.56 children each (table 3).

Figure 2. Estimated age-specific fertility rates for Cambodia, March 1998



Source: National Institute of Statistics, General Population Census of Cambodia 1998: Analysis of Census Results, Report 1. Fertility and Mortality (Phnom Penh, 1999), p. 8.

The census also recorded the number of children born in the 12 months prior to the date of the census, by age of mother at the time of the census. The age-specific fertility rates (ASFR) and the total fertility rate (TFR) implied by the reported number of births in the previous 12 months are also shown in [table 3](#). The direct measure of the TFR equaled 3.52 children per woman. This figure is lower than recorded by recent surveys, including the Demographic Survey of Cambodia 1996 (Huguet, 1997) and does not appear to be consistent with the contraceptive prevalence rate for modern methods of 21 per cent reported by the National Health Survey 1998 (Ministry of Health, 1999).

It is common for the number of births in the previous 12 months to be under-reported by censuses and surveys and indirect techniques of estimating the true level of fertility have been developed. In these techniques, the birth rates derived from the reported number of births in the previous 12 months are adjusted to be consistent with the reported number of children ever born. A key assumption in making such an adjustment is that fertility has not been changing. The 1998 census recorded

a higher average number of children ever born for each age group of women than did the Demographic Survey of Cambodia 1996, with the largest proportional increases reported for the younger age groups. Thus, there is no evidence that fertility has declined in the very recent past in Cambodia.

The Arriaga approach to estimating the true level of current fertility, as contained in the MORTPAK software package, was applied to the 1998 census data. The adjusted ASFRs are shown in [table 3](#) and graphed in [figure 2](#). The peak childbearing period is from age 25 to age 29, reflecting the relatively late age at marriage of 22.5 years for women. It is estimated that the TFR in Cambodia in the 12 months prior to the census was 5.30 children per woman. This is consistent with an estimate of 5.26 derived from the Demographic Survey of Cambodia 1996 (National Institute of Statistics, 1999c). While these estimates are consistent with each other, they are somewhat higher than estimates from other surveys. The Demographic and Health Survey conducted in early 2000 will yield further information on fertility levels and trends.

There are wide differences in TFR by geographical area and social groups. TFR is estimated to equal 4.42 in urban areas and 5.47 in rural areas. The TFR for literate women is 4.9, but for illiterate women it is 5.9. Among literate women, the TFR for those who have not completed primary school is 5.3, but for those who have completed primary school (but no further education) it is 4.3. Economically active women have lower fertility than those not in the labour force, with TFRs of 5.16 and 5.62 respectively. Among employed women, those in the primary sector have a TFR of 5.47, while those in the secondary sector have a TFR of 4.06, and those in the tertiary sector have a TFR of 3.67 (National Institute of Statistics, 1999c).

Mortality

In addition to information on the number of children ever born, the census recorded the number of children surviving and the number who had died, by sex of child and age of mother. This information was used to estimate infant and child mortality rates, again employing MORTPAK.

This procedure yielded an estimated infant mortality rate (IMR) of 80 per thousand live births and a child mortality rate (probability of dying between exact age 1 and exact age 5, multiplied by 1,000) of 53, with a reference date of February 1996. This estimate of the IMR is slightly lower

than the level of 90 estimated by the Demographic Survey of Cambodia 1996 and the National Health Survey 1998, and it is to be expected that surveys would yield somewhat better reporting of infant and child deaths. There are wide disparities in estimates of the IMR by sex, residence and social groups. The estimated IMR equaled 88 for boys and 72 for girls. In urban areas, the IMR was 65, but in rural areas it was 82.

The widest disparity in IMR was observed for illiterate and literate mothers. IMR for children of illiterate women was 96, compared with 70 among children of literate mothers. IMR for children of literate women who had attended but not completed primary school was 78, while for those who had completed primary school (but no further education) it was only 57. The IMR also varied by industrial sector for employed women, equaling 82 for those in the primary sector, 65 for those in the secondary sector and 54 for those in the tertiary sector (National Institute of Statistics, 1999c).

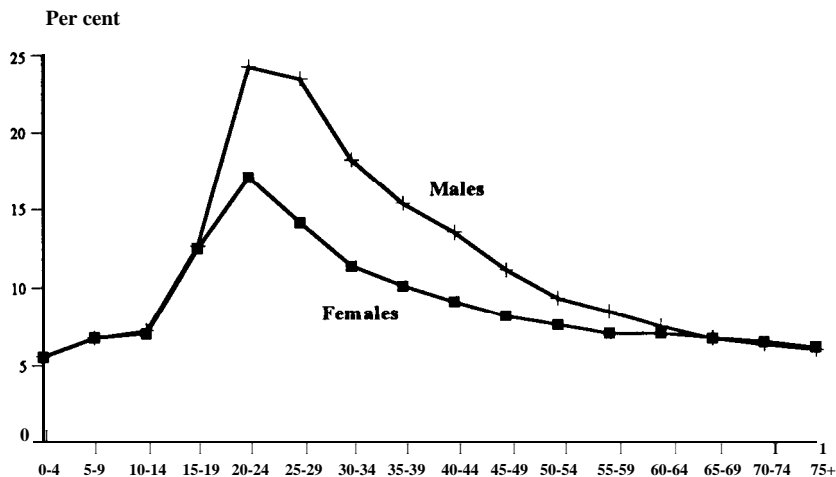
The 1998 census did not include a question on adult mortality, but it is possible to observe the expectation of life at birth in North Model Coale-Demeny Model Life Tables associated with the levels of infant mortality by sex noted above. This approach indicates an expectation of life at birth of 54.4 years for males and 58.3 years for females (National Institute of Statistics, 1999c).

Migration

The 1998 population census asked questions on place of birth and place of any previous residence for the purpose of identifying migrants. The results indicated that 3.60 million persons (or 31.5 per cent of the total population) had lived in a place other than the village of enumeration and that 3.04 million persons had been born in a place other than the place of enumeration. The difference in the two figures of 555,000 is explained by return migration to the place of birth. The high level of return migration is largely attributable to the internal and international displacement of population that occurred because of civil war and strife in the 1970s (National Institute of Statistics, 2000c).

Partially because of those population displacements and return movements, the percentage of migrants in the population is relatively high, equaling 59 per cent of the urban population and 26 per cent of the rural population. Well over 80 per cent of urban residents aged 20 years and older are migrants to their city.

Figure 3. Percentage of the Cambodian population migrating in the five years prior to the 1998 census, by sex and age



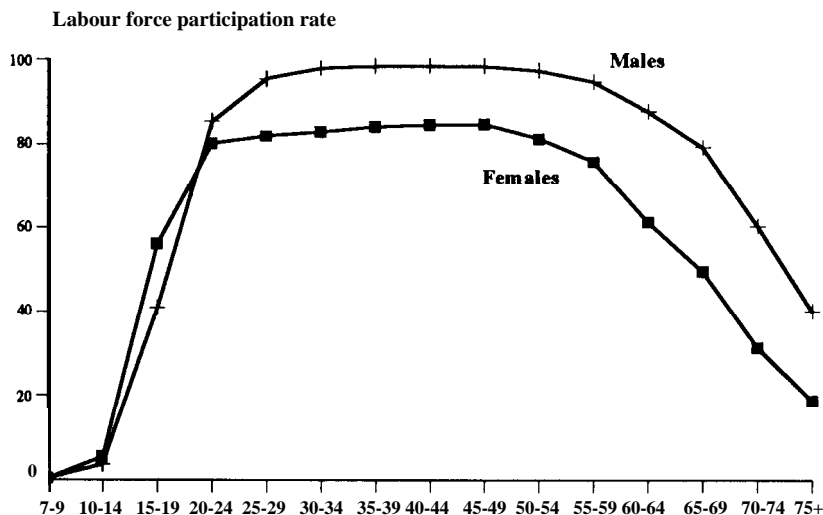
Source: Calculated from tables A1 and C9 of the 1998 population census of Cambodia.

Recent migration rates remain high because of economic growth since the election and formation of a new government in 1993. In the five years prior to the 1998 census, 10.4 per cent of the population had migrated, 11.5 per cent of males and 9.3 per cent of females. Age-specific five-year migration rates are presented in figure 3. Male migration rates are considerably higher than female rates between the ages of 20 and 60, with the highest rates for both sexes occurring between the ages of 20 and 30.

As only 15.7 per cent of the population resided in urban areas in 1998, it is to be expected that most migratory movements involve rural areas. Among migrants in the five years prior to the census, 58.2 per cent had moved from one rural place to another rural place; 19.2 per cent of moves were from rural to urban areas, 14.5 per cent were between urban areas, and 8.1 per cent were from urban to rural areas (National Institute of Statistics, 2000c).

Cambodia's turbulent recent history is reflected in the reasons for moving. Among the 3.6 million migrants in the country, 13.4 per cent had

Figure 4. Age-specific labour force participation rates by sex, Cambodia, March 1998



Source: Calculated from table B1 of the 1998 population census of Cambodia.

made their most recent move as repatriation or a return after internal displacement and another 5.8 per cent had moved because of insecurity or natural disaster. Among all migrants, 35.6 per cent had moved because their family moved and 12.6 per cent had moved for marriage. Only 14.0 per cent had moved to seek employment, while 7.8 per cent had moved as a result of a job transfer (National Institute of Statistics, 2000c).

Labour force participation

The levels of labour force participation and the structure of the labour force reflect the underdeveloped nature of the economy of Cambodia. The 1998 census collected information concerning economic activity from all persons aged 7 years and older. That was not to imply that age 7 is the usual age of entry to the labour force, but that age was used so that information on child labour could be collected. In fact, only 0.4 per cent of persons aged 7-9 years and 4.5 per cent of those aged 10-14 years were in the labour force and the great majority of those were unpaid family workers in rural areas.

Table 4. Percentage distribution of employed persons by employment status, sex and residence, Cambodia, March 1998

Area and employment status	Both sexes	Males	Females
Cambodian			
Number	4,845,762	2,360,107	2,485,655
Per cent	100.0	100.0	100.0
Employer	0.2	0.2	0.1
Paid employee	12.2	18.5	6.3
Own-account worker	45.5	61.1	30.7
Unpaid family worker	41.8	19.6	62.8
Other	0.3	0.6	0.1
Urban			
Number	673,612	378,080	295,532
Per cent	100.0	100.0	100.0
Employer	0.4	0.5	0.3
Paid employee	35.0	45.0	22.2
Own-account worker	44.6	44.7	44.5
Unpaid family worker	19.5	9.2	32.7
Other	0.5	0.6	0.3
Rural			
Number	4,172,150	1,982,027	2,190,123
Per cent	100.0	100.0	100.0
Employer	0.1	0.1	0.1
Paid employee	8.6	13.5	4.1
Own-account worker	45.6	64.3	28.8
Unpaid family worker	45.4	21.5	66.9
Other	0.3	0.6	0.1

Source: Table B4 from the 1998 population census of Cambodia.

Note: Persons for whom employment status was not reported are distributed proportionately.

As indicated by figure 4, age 15 would be a more appropriate age for measuring labour force participation. Among the population aged 15 years and older, 77.0 per cent were economically active. This general labour force participation rate equaled 81.2 per cent for men and 73.5 per cent for women. Women enter the labour force at an earlier age than men. Among persons aged 15-19 years, 56 per cent of women and 41 per cent of men are economically active. Between the ages of 20 and 54, over 80 per cent of women are in the labour force. Male labour force participation rates reach 85 per cent in the age group 20-24 and are over 95 per cent for those between the ages of 25 and 55. High percentages of older persons remain economically active. In the age group 65-69, 79 per cent of men and 50 per cent of women are still in the labour force. Even among persons aged 75 years and older, 40 per cent of men and 19 per cent of women remain in the labour force (National Institute of Statistics, 1999a and 2000b).

Table 5. Percentage distribution of employed persons by major occupational group, Cambodia, March 1998

Major occupational group	Both sexes	Males	Females
Number	4,845,762	2,360,107	2,485,655
Per cent	100.0	100.0	100.0
Legislators, senior officials and managers	0.3	0.6	0.1
Professionals	0.3	0.5	0.1
Technicians and associate professionals	3.1	4.5	1.8
Clerks	1.3	2.0	0.7
Service and sales workers	5.2	4.6	5.7
Skilled agricultural and fishery workers	76.6	70.5	82.4
Craft and related workers	3.4	4.5	2.4
Plant and machine operators and assemblers	2.2	3.3	1.2
Elementary occupations	5.4	5.3	5.4
Armed forces	2.2	4.3	0.2

Source: Table B15 from the 1998 population census of Cambodia.

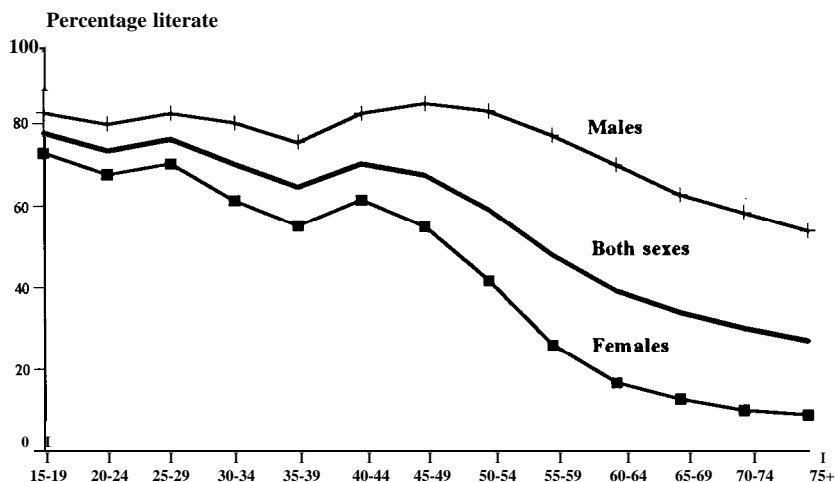
Note: Persons for whom occupation was not adequately described or not stated are distributed proportionately.

The underdeveloped level of the economy is indicated by the employment status of workers (table 4). Only 12 per cent of workers are paid employees, while 46 per cent are own-account workers and 42 per cent are unpaid family workers. Only 6 per cent of women workers are paid employees, while 31 per cent are own-account workers and 63 per cent are unpaid family workers. The high proportions of own-account workers and unpaid family workers result from the high percentage of the labour force in agriculture. In an agricultural family, the head of household will normally be an own-account worker while other family members are unpaid family workers. Thus, in rural areas, about two thirds of male workers are own-account workers and about two thirds of female workers are considered unpaid family workers.

In urban areas, 35 per cent of workers are paid employees, but 45 per cent are own-account workers. Women workers in urban areas are more likely to be own-account workers (44 per cent) and unpaid family workers (33 per cent) than paid employees (22 per cent).

It may be seen from table 5 that 77 per cent of employed persons are considered skilled agricultural and fishery workers. Five per cent of

Figure 5. Percentage literate, by sex and age group, Cambodia, March 1998



Source: Calculated from table B2 of the 1998 population census of Cambodia.

employed persons are service and sales workers and 5 per cent are in elementary occupations. Less than 5 per cent of the labour force is in any of the other major occupational groups. Female workers are particularly concentrated in agriculture and fishing; sales and services; and in elementary occupations, while male workers are more diffused among the occupational groups.

Literacy and educational attainment

Roughly two thirds of the adult population are literate. Among persons aged 15 years and older, 67 per cent are literate — 80 per cent of males and 57 per cent of females (National Institute of Statistics, 1999a and 2000d).

Literacy rates by sex and age group are presented in [figure 5](#). Male literacy rates have been essentially stagnant for the past 30 years while female literacy rates have continued to improve with younger ages, leading to a narrowing of the difference between the sexes. The literacy rates by age

have been impacted by the recent history of Cambodia. Table 5 indicates that literacy rates improve considerably for each younger age group down to ages 45-49 for men and 40-44 for women. Taking into account the fact that school enrolment in Cambodia peaks at about age 12, these literacy rates imply that male schooling improved rapidly up to about 1965 and female schooling improved more rapidly up to 1970. A civil war fought from 1970 to 1975 appears to have arrested earlier educational progress.

Two cohorts have lower literacy rates than both their older and younger cohorts, those aged 20-24 and 35-39 at the time of the 1998 census (table 5). Those aged 20-24 were born between 1973 and 1978. This was a period of civil war and of much of the Khmer Rouge regime. Apparently, being born during this period constituted a handicap that carried over to the education of that cohort.

Literacy rates are especially low for the age group 35-39. This cohort was born between 1958 and 1963. Their peak school enrolment rates should have occurred between 1970 and 1975. That was a period of civil war and population displacements caused by the fighting between Viet Nam and the United States and by the United States bombing campaign in Cambodia. The large-scale population displacements appear to have had a significant impact on the education of children who should have been in school at the time. That period was followed by the Khmer Rouge regime from 1975 to early 1979, so that the cohort had little opportunity to make up its lost education.

The importance of at least a primary school education for reducing fertility and infant mortality has been noted above. The 1998 census calculated educational attainment only for the literate population. Thus, it was observed that 49 per cent of literate males aged 25 years and older had completed primary school or a higher level of education. The corresponding figure for females was 32 per cent. In urban areas, the proportion of the literate population aged 25 years and older who had completed at least primary school was 68 per cent for males and 51 per cent for females. In rural areas, the corresponding figures were 44 per cent for males and 27 per cent for females (National Institute of Statistics, 1999a).

Among literate persons aged 25 years and older, only 6.4 per cent of males and 2.8 per cent of females have completed secondary school or a higher level of education. These low levels of educational attainment are likely to constitute a severe obstacle to social and economic development.

Population projections

Population projections have been prepared by the National Institute of Statistics (2000e) for the country as a whole, urban and rural areas, four geographical regions and 24 provinces/municipalities. The projections begin in January 2001 in order to be consistent with the five-year periods of the national development plans.

Four adjustments were made to the 1998 census population before projecting it forward. First, the total was adjusted for the 1.78 per cent net undercount estimated by the post-enumeration survey. Then the estimated population of 45,000 in areas that were not enumerated for security reasons was added. Next, 60,000 persons who were temporarily displaced to Thailand at the time of the census were added (see the section on population size and structure above). Finally, the population aged 0-4 years was adjusted upward in order to make it consistent with a total fertility rate of 5.3 estimated for the period prior to the census. The male population aged 0-4 years was adjusted upward by 28.55 per cent and the female population in that age group was similarly adjusted by 29.35 per cent.

The population as of March 1998, after making these four adjustments, equalled 12,186,047, or a population 6.54 per cent larger than enumerated.

The population was projected forward to 1 January 2001 (the starting date of the next five-year plan) by assuming a total fertility rate of 5.0, and male and female expectation of life of 56.4 and 60.3 years respectively. Net international migration was assumed to be nil throughout the projections.

The projections assume that the total fertility rate will decrease by 0.5 children per five-year period and that both male and female expectation of life will increase by 2.0 years per five-year period.

The projections imply that the population of Cambodia will increase from 13.10 million in January 2001 to 20.27 million in January 2021, an increase of 55 per cent. Because the very large cohorts of females aged 0-19 in 1998 (figure 1) move into childbearing ages during the course of the projection, the birth rate and growth rate remain high in spite of the assumption of a steady decline in the total fertility rate. The projected crude birth rate equals 33.7, 31.8, 29.1 and 25.8 per thousand in the four projection periods. The annual population growth rate equals 2.44, 2.31, 2.12 and 1.86 per cent in the four periods. The crude death rate would also decline, equalling 9.3, 8.8, 7.9 and 7.2 per thousand in the four projection periods.

While the rate of natural increase in rural areas exceeds that in urban areas, the urban population is projected to grow somewhat more rapidly because of net rural-to-urban migration. By 2021, the urban population is projected to equal 3.67 million, or 18.1 per cent of the total, up from 15.7 per cent in 1998.

Policy implications

The 1998 population census of Cambodia constitutes an important source of data to be used for national and provincial policy formulation and programme development by government ministries, international agencies and non-governmental organizations, among others. The in-depth analysis of the census provides more detailed information concerning fertility, mortality, nuptiality, literacy and education, labour force and employment, spatial distribution, migration, women in development, housing and household amenities. Programme management, monitoring and evaluation, and sample surveys can benefit a great deal from the availability of the database at the community level and from the village gazetteer prepared by the census office. Population projections, especially of the school-age and working-age populations, based on the census can greatly assist in the development of national policies and five-year plans.

The high fertility and mortality levels indicated by the census result in relatively rapid population growth and indicate that reproductive health programmes and facilities need to be expanded in both quality and quantity throughout the country. The government should aim to increase utilization of public health services and access to quality health care facilities, especially in rural and remote areas. The census figures also show that the country needs a committed programme of human resource development not only in the health sector. Even rapid educational expansion may be barely enough to meet the country's challenges. Industrial and service employment needs to be accelerated in order to enable sustainable economic growth. Female education and more productive employment for women will be essential for economic and social development.

Rural-to-urban migration and rapid urbanization are inevitable considering the large rural-urban gap in all development indicators. These point to the need for rural and regional development plans, accommodationist policies to absorb migrants into urban areas and expanded employment opportunities in both rural and urban areas. Urban development and improvement in infrastructures as well as urban planning and regulations are immediately called for.

Cambodia faces immense challenges in all development sectors. Many of these are beyond the capacity of the government to deal with alone. Participation from the population, the private sector, international agencies and non-governmental organizations will be essential. Dynamic and strategic policy formulation and planning are urgently needed. Successful social and economic development can be achieved if the government, the international community and, most importantly, the people of Cambodia themselves, make concerted efforts to usher in the dynamic social changes and technical innovations required to move forward.

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The Quality of Care Provided at Union Health and Family Welfare Centres in Bangladesh: Clients' Perspectives

*IEC materials focusing on reproductive
health need to be improved and the technical
competence of paramedics enhanced*

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The Government of Bangladesh attempts to provide reproductive health services that emphasize maternal and child health (MCH) and family

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planning at different service delivery tiers through a variety of service providers. For this purpose, it has established an extensive network of reproductive health services that reaches almost every village in the country. Female field workers, known as family welfare assistants (FWAs), work at the grassroots level and provide information and counselling on various aspects of reproductive health and refer clients when necessary to clinics. They also distribute oral contraceptives and condoms at the homes of married women of reproductive age, identify pregnant women and refer them to static points of service delivery, i.e. health and family welfare centres, for ante-natal care and for obtaining clinical contraceptives.

The country's maternal and child health programme was launched in the 1950s with the provision of obstetrical care in urban-based hospitals. Under this programme, mother and child welfare centres, run by paramedics, were established in the late 1950s. However, it was soon evident that those centres, numbering about 95, at the *thana* (subdistrict) health complexes (hospitals) were not covering sufficiently well the population living in rural areas. Therefore, to ensure continuous and sustained delivery of primary health care to mothers and children, the government established static MCH and family planning (MCH-FP) service centres at the union level (a union is composed of a group of villages). Eventually, these centres came to be known as health and family welfare centres (FWCs).

These centres are the focal point for providing MCH and clinical contraceptive services to the population of a union. Each centre covers, on average, a population of about 24,000. They are staffed by two paramedics: a female, known as the family welfare visitor (FWV), and a male, known as the medical assistant (MA). The female paramedic receives 18 months of basic training in maternal and child health and family planning and periodic refresher courses. FWVs are supposed to give health education, provide care to pregnant and post-partum women, treat mothers and children suffering from minor ailments, and offer family planning services. FWVs also organize satellite clinics twice a week at various sites within each union. The tasks of the medical assistant are to treat minor diseases irrespective of the age and sex of patients, refer serious cases to clinics and provide surgical first aid. They also have to conduct health education sessions in schools and other public places twice a week (ICDDR,B, 1991). MAs receive basic medical training for a period of three years.

Several studies (Ali and others, 1988; Sabur and Hug, 1989; Ahmed and others, 1994; Juncker, 1994; Wirzba and Juncker, 1995) have been

carried out to assess the role of FWCs in the country's MCH-FP programme. Most of these studies have shown that, although the rural population is aware of the existence of FWCs, relatively few people actually use the services. Further, a majority of the recipients of FWC services do not have a clear idea about the MCH-FP services provided through these centres. Most consider the centres to be only for family planning services. Others feel that the FWCs are mainly for child care and the treatment of minor diseases of women. Sabur and Hug (1989) reported that women who knew about the types of services available were more likely to use the services than those without such knowledge. A review of the above-mentioned studies also revealed that the services offered at FWCs are underutilized. Describing the characteristics of those who do use the FWCs, the studies concluded that users comprise mostly clients who live close to an FWC and come from the poorer and less educated sections of the community. Further, the studies found that the FWCs were involved mainly in the provision of health care services to women and their young children.

Irregular attendance by the paramedics, ineffective treatment, inadequate supplies of drugs and unsatisfactory behaviour of the members of the staff have been attributed to the low utilization of these centres, but very little has been mentioned about the clients' perceptions of the knowledge of FWC staff and the quality of their services. However, if the clients themselves continue to be unaware of the types of services offered or are dissatisfied with the quality of those services, increasing the efficiency of service delivery and the FWCs, improving the competence of the service providers and ensuring the availability of drugs would all be ineffective in increasing the utilization of FWC services.

This study was undertaken because it is important to know how much the clients attending the FWCs know about the types of services available, how they assess the quality of the services being offered and whether they leave the centres feeling satisfied or dissatisfied. The assessment of the users' knowledge and their perceptions about the quality of services provided was obtained through "exit interviews" and the use of a simple framework (Bruce, 1990) to measure those perceptions. The overall objective of the study was to examine service delivery at the FWCs from the clients' perspective and to make recommendations for improving the quality of care and thus increase the use of the reproductive health services available in Bangladesh, as called for by the Programme of Action adopted by the 1994 International Conference on Population and Development.

Methodology

A cross-sectional exploratory study was designed to determine the use of services and the quality of the services offered at union FWCs from the users' perspective. Two rural subdistricts, namely, Abhoynagar in Jessore District and Sirajganj *Sadar* (Headquarters) in Sirajganj Subdistrict, were selected. These two areas are field sites of the Maternal and Child Health and Family Planning (MCH-FP) Extension Project (Rural) of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B). According to the 1991 census, the estimated population in Sirajganj was around 389,160 and in Abhoynagar about 210,000. The literacy rate in Sirajganj was 27 per cent, with female literacy being 20.2 per cent, which was lower than the national average of 32.4 per cent for that year. In Abhoynagar, the literacy rate was slightly higher than the national average (BBS, 1992). In Sirajganj, the majority of the labour force work in small weaving factories and in agriculture; the majority of households own no arable land. In Abhoynagar, a sizeable proportion of the labour force work in mills and factories. In 1992, the contraceptive prevalence rates were around 48 per cent in Abhoynagar and 40 per cent in Sirajganj (Mozumder and others, 1994). Government health care facilities provide the same services in both areas. To ensure normal working conditions and an adequate supply of equipment and drugs, only fully constructed FWCs were selected. Six of the eight unions of Abhoynagar Subdistrict and seven of the 11 unions of Sirajganj Subdistrict met those criteria. (Two *Sadar* FWCs located in urban areas were excluded, because the data may not be representative of a rural setting.)

A total of 650 clients were interviewed for the study, i.e. 50 from each FWC. Every fifth client was interviewed once he or she was ready to leave the centre, regardless of who provided the treatment, i.e. the FWV or MA. If the fifth person leaving the centre was unwilling to be interviewed, then the sixth or seventh person would be interviewed. If the client was a child, his or her attendant was selected as the respondent. If the respondent received services for himself or herself as well as for one or more of his or her children, information was collected from all of them, but was considered as a single record. To reduce recall bias, the women who had received services from the FWC that day were interviewed immediately after they had received the services. A structured questionnaire was designed with both open- and close-ended questions. This was pre-tested and necessary adjustments were made based on the results of the pre-test. Information on selected indicators was also collected from the daily record-keeping registers of the FWCs.

Table 1. Presence of paramedics at health and family welfare centres during the days of data collection, Bangladesh

Presence of providers	Number of days interviews conducted		
	Abhoynagar	Sirajganj	Total
	52 days (%)	82 days (%)	82 days (%)
Family welfare visitor and medical assistant	21.1	23.3	22.0
Only family welfare visitor	32.7	33.3	32.9
Only medical assistant	36.5	43.3	39.0
No providers	9.6	0.0	6.1

The interviews were conducted by four senior field research assistants, previously designated as lady family planning visitors. All of them had the same educational and work background as senior FWCs and were well trained in the techniques of data collection; they had conducted several interviews previously. Analysis was carried out using the SAS statistical software package. The presence of service providers at the FWCs was observed during the interview days (table 1). Over 90 per cent of the time at least one paramedic was present. The main reasons for the absence of paramedics were their attendance at satellite clinics, vacant positions, maternity leave, official and unofficial leave, and collection of supplies at subdistrict offices.

It should be mentioned that this study considered only those women who used the FWC services during the days when the interviews were carried out. There was no attempt to collect information from past users and non-users of the FWC. Thus, this study has the limitation of presenting only the FWC users' opinions regarding the services received.

Results

Background characteristics of respondents

The majority of the respondents in Abhoynagar were in the age group 20-25, while in Sirajganj most respondents were aged between 25 and 30 years (figure 1).

Almost two thirds of the respondents (63 per cent) in Abhoynagar and 79 per cent in Sirajganj never attended school. Those with a primary education (1-5 years of schooling) accounted for 22 and 14 per cent of the respondents in Abhoynagar and Sirajganj respectively; very few had any secondary education (figure 2).

Figure 1. Age of respondents by subdistrict, Bangladesh

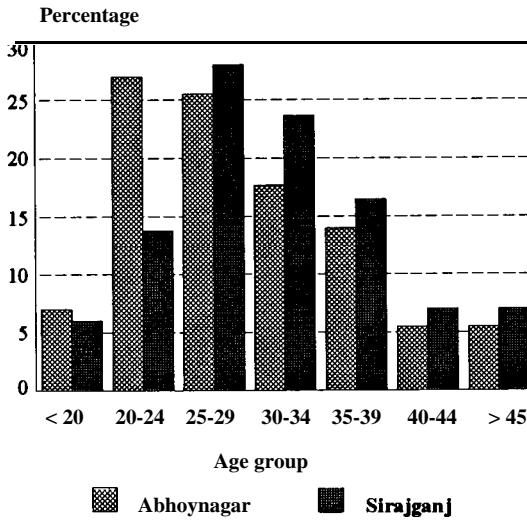


Figure 2. Years of schooling by subdistrict, Bangladesh

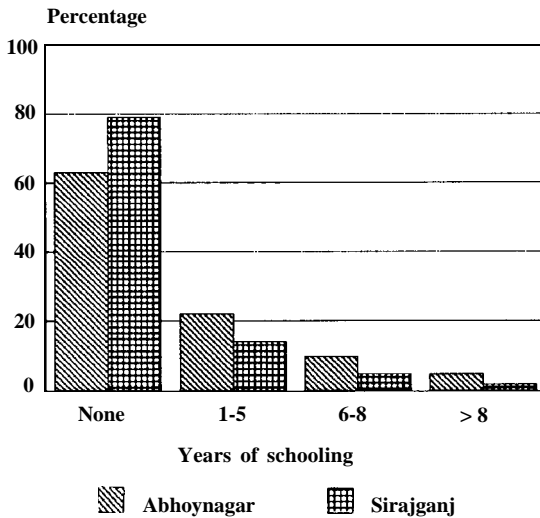
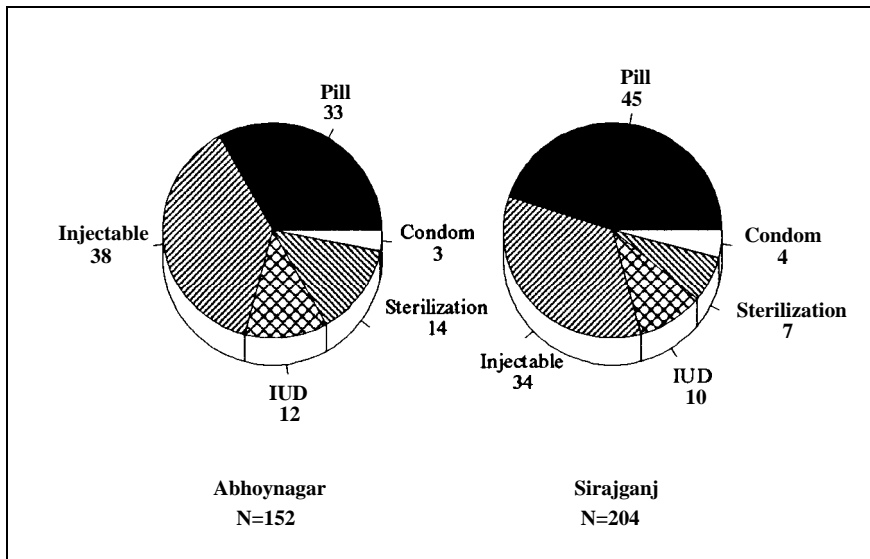


Figure 3. Percentage of family planning method-mix by subdistrict, Bangladesh



More than 90 per cent of the respondents were married and had had 2-3 pregnancies. The majority of them lived very close to the FWC. Over half of the recipients were users of modern contraceptive methods. The respondents in Abhoynagar were more likely to be using long-term methods, whereas the clients in Sirajganj had a tendency to use short-term methods. [Figure 3](#) shows the distribution of contraceptive use by area.

Knowledge of services offered

In this study, knowledge refers to the respondents' ability to mention different types of services offered at the FWC known to them. Findings show that, even without prompting, 83 per cent of the respondents knew about the curative services offered at FWCs, and over 50 per cent of them were aware of family planning and child care services (treatment of minor illnesses, provision of advice etc.). When respondents were prompted for more information, more than 90 per cent mentioned curative care for women and children, antenatal care and family planning services. Respondents' knowledge of menstrual regulation and post-natal care was found to be poor even with prompting ([table 2](#)).

Table 2. Percentage of respondents aware of services offered at FWCs, Bangladesh

Service	Respondents (N = 650)	
	Without prompting	After prompting
Curative care	83.1	92.9
Ante-natal care	20.1	93.3
Post-natal care	1.2	72.6
Family planning	56.8	95.0
Child care	53.2	97.4
Expanded programme on immunization	5.5	71.7
Health education	1.4	52.5
Deliveries	0.3	17.5
Menstrual regulation	1.1	28.8

The respondents' knowledge of the services offered at the FWCs was checked along with their level of education; the results are presented in table 3. Since EPI (expanded programme on immunization), health education, delivery and menstrual regulation represent a very small percentage of cases, those responses are not presented here. Except for knowledge of the necessity of ante-natal care, no significant difference in knowledge was found among the respondents with different education levels. Women having some education were more likely to have more knowledge about the care required during pregnancy.

Table 3. Percentage of respondents' awareness of services offered at FWCs in Bangladesh by level of education

Service	No education	Years of schooling	
		1-5 years	> 5 years
General treatment			
Yes	71.3	18.9	9.7
No	74.4	11.9	13.7
Ante-natal care^a			
Yes	58.8	28.2	12.9
No	75.1	15.3	9.8
Post-natal care			
Yes	62.9	22.2	14.8
No	72.2	17.5	10.3
Family planning			
Yes	73.0	18.5	8.4
No	70.3	16.6	13.0
Child care			
Yes	73.9	15.8	10.3
No	69.7	19.7	10.6

^a p value = .0001

Table 4. Reasons for seeking services at health and family welfare centres, Bangladesh

Reasons given	Respondents' reason N = 650 (%)
Curative care for woman herself	68.2
Curative care for children	51.1
Ante-natal care	8.3
Post-natal care	0.5
Seeking new family planning method	2.0
Seeking family planning supplies	1.2
Suffering from family planning complications	3.1
Immunization	1.5
Menstrual regulation	0.5

Note: More than one response was accepted.

Reasons for seeking services

The respondents were asked what kind of services they had received from the FWC on the day of the interview. They were allowed to give more than one answer. The findings are presented in table 4. General curative care for personal illness (68 per cent) and child care (51 per cent) were the most common reasons mentioned for seeking services, which suggests that the respondents regarded the FWC as a health centre where they could obtain general health care services. A negligible percentage of the respondents visited the FWCs for reproductive health services such as ante-natal care (8 per cent) and post-natal care (0.5 per cent) with only 6 per cent seeking family planning services (table 4).

Investigation was carried out on the types of multiple services received. It was found that more than two thirds (70 per cent) of the clients came for a single specific reason: treatment of a personal illness, or the illness of a child, or immunization of a child; 30 per cent of them came for treatment of both a personal illness and child care. Analysis of the data to determine the combination of general health care and reproductive health services which clients were seeking produced the following results: general care combined with ante-natal care (1.4 per cent), general care combined with post-natal care (0.2 per cent) and general care combined with family planning services (1.2 per cent). This outcome indicates the degree of under-utilization of reproductive health care services at the FWCs, even though the centres are equipped to offer these services.

Table 5. Number of new family planning acceptors, by method sought and received at FWCs, Bangladesh

	Family planning method	
	Method wanted	Method received
Pill	0	1
Injectable	6	6
IUD	7	6

Family planning services

The respondents coming to the FWCs for family planning services, including new acceptors and current users coming for supplies or for management of family planning complications, represented only 6.3 per cent of all clients. There were 13 new acceptors: 10 in Abhoynagar and three in Sirajganj. Table 5 shows a comparison of the methods chosen by the new acceptors and the methods received. Twelve of the 13 respondents (92.3 per cent) received the method of their choice.

Eight respondents (1.2 per cent) were family planning acceptors seeking additional supplies; five of them (1.7 per cent) came from Abhoynagar and three (0.9 per cent) from Sirajganj. Supplies included oral contraceptives for three respondents, injectable contraceptives for two and condoms for three.

Nineteen family planning acceptors (3.1 per cent) were suffering from complications and came to the FWCs for reproductive health services. Table 6 lists the method-related complications. Over half of the

Table 6. Complications by family planning method used in Bangladesh

Method	Complication	Number of cases
IUD	Excessive bleeding and/or spotting	5
	Vaginal discharge, lower abdominal pain	5
	Missing thread	1
Injectable	Bleeding problems	4
	Amenorrhea	1
	Headache	1
Oral pill	Dysmenorrhea	1
Condom	Vaginal itching	1

complications listed in [table 6](#) are related to the use of IUDs and about one third to injectables; bleeding was reported as a major complication. Of the 19 respondents seeking medical attention for complications, 16 received drugs and three received counselling only. Although 16 of the 19 were willing to continue with the same family planning method, three dropped the method.

Health education activities

Although health education in a group setting would be expected to be a normal component of everyday activity at FWCs, the practice was observed only four times in Abhoynagar: three times in one union and once in another. While group health education was almost non-existent in Sirajganj, about 70 per cent of the respondents said that they got individual health education which was easy for them to understand.

Complaints recorded

A total of 403 complaints were recorded in Abhoynagar and 583 in Sirajganj from the FWCs' record-keeping register. The term "complaint" refers to whatever the paramedics recorded, which includes symptoms, syndromes or diagnosis of a particular case; the term refers to the illness of the mother, or her children, or both. The average number of complaints was 1.6 per respondent. The five most common complaints accounted for 70 per cent of all complaints: weakness/malnutrition, diarrhoeal diseases, fever, skin problems and intestinal parasites. The next most frequent complaints included respiratory problems, gynaecological and obstetrical problems, and ear, nose and throat complaints.

Drugs received

When respondents were asked whether they received any drugs, 93 per cent of them said that they received one or more types of drug; the remaining respondents received a prescription. When asked about the persons for whom the drugs had been dispensed, 45 per cent of the respondents said that the drugs were for themselves, 30 per cent for themselves and their children, 24 per cent for their children only, and 1 per cent for their spouse.

Access to chosen service provider

The respondents were asked to name the person from whom they had hoped to receive services and the paramedic who actually provided the

Table 7. Percentage of clients receiving services from health care provider of their choice, Bangladesh

	Health care providers			Number
	Family welfare visitor (%)	Medical assistant (%)	Anyone (%)	
Respondents' request for provider	49.4	29.8	20.8	650
Actual service provider	47.7	52.3	–	650

consultation and/or services. Table 7 shows the percentage of clients who received services from the provider of their choice. Nearly half of the respondents selected the family welfare visitors who actually provided the services for them. Medical assistants were selected by only 30 per cent of the respondents, but provided half of the services. It is worth mentioning that more than one fifth of the respondents did not have any choice of provider, and consulted with whomever was available.

Perception of quality of services

To understand the clients' perceptions regarding the quality of services received at the FWCs on interview days, they were asked various questions. In this regard, enquiries were made to determine specific indicators of the quality of care, such as the users' opinion of the services they received, clinical examination carried out, drugs received, counselling, behaviour of the staff members, waiting time, privacy and overall quality of treatment. However, no attempts were made to assess the actual quality of the services provided at the FWCs. The results presented here describe only what the users said they felt about the FWC services. The respondents were asked to give their opinion on the services they received. Thus, because the responses were subjective, they should be viewed with caution. For example, waiting time was considered very good by those who enjoyed talking with other clients, but too long for those who had other activities planned for the day. Clients who received a limited number of tablets were not satisfied with the availability of drugs, whereas those who were given relatively large quantities of tablets did not complain.

Since the respondents were from two different subdistricts and it would be interesting to know their perceptions of the services they had received on that day, the findings are presented by subdistrict. In Abhoynagar, more than three quarters of the respondents said that they

Table 8. Respondents' opinion about the quality of services received, by selected variables, Abhoynagar Subdistrict, Bangladesh

Indicators of quality of services	Percentage of respondents N = 300		
	Yes	No	No opinion
Expected services were provided	77.4	22.6	–
Clinical examination was good	45.0	36.2	18.8
Drugs were available	57.9	29.6	12.5
Counselling was good	74.2	18.7	7.1
Staff were well behaved	91.5	8.2	.3
Waiting time was satisfactory	76.9	22.1	1
Privacy was respected	85.4	13.9	.7
Treatment provided was good	80.4	5.4	14.2

were satisfied with the services provided, the waiting time, the behaviour of the members of the staff and their respect for the clients' privacy, and the treatment provided. However, over half of the respondents were not happy or did not give any opinion about the clinical examination. The provision of drugs was identified as a weak point by 40 per cent of the respondents (table 8).

The respondents' opinions of the quality of services they had received were investigated and compared with their level of education (table 9). The respondents who did not have any opinion about the quality of the services they had received were excluded from the analysis.

No significant differences were found between the respondents' opinions regarding the quality of services and their level of education, except with regard to counselling and the quality of treatment received, the expectations about which varied according to the education level of the respondents.

Table 10 shows that more than 90 per cent of the women in Sirajganj were happy with their expected services and were satisfied with staff behaviour, waiting time, privacy and the quality of treatment. The only service that was not appreciated, however, was the clinical examination, i.e. 40 per cent of the respondents were dissatisfied. About 20 per cent of the respondents expected more drugs to be provided. Although 65 per cent were satisfied with the information given, i.e. counselling, the rest of the respondents did not receive their desired level of attention from the health care providers (table 10).

Table 9. Respondents' opinion, by education, Abhoynagar Subdistrict, Bangladesh

Indicators	Years of schooling		
	No education (%)	1-5 years (%)	> 5 years (%)
Expected services were provided			
Yes	63.7	21.8	14.4
No	62.1	22.7	15.2
Clinical examination was good			
Yes	62.1	20.9	16.4
No	66.5	23.8	10.6
Drugs were available			
Yes	65.5	18.9	15.5
No	60.2	26.1	13.6
Counselling was good^a			
Yes	59.3	24.4	16.3
No	71.9	17.5	10.5
Staff were well behaved			
Yes	62.0	22.6	5.3
No	76.0	16.0	8.0
Waiting time was satisfactory			
Yes	61.9	21.21	16.8
No	68.2	25.76	6.6
Privacy was respected			
Yes	63.6	21.7	14.7
No	55.0	27.5	17.5
Treatment provided was good^b			
Yes	59.3	23.7	17.0
No	81.3	18.8	-

^a P = 0.014

^b P = 0.048

The quality of services perceived by the respondents is presented by education level in [table 11](#). In Sirajganj, no significant difference was found between the respondents' level of education and the perceived quality of services received at the FWCs.

The fact that the clients in Abhoynagar were much less satisfied with the services provided, except for counselling, than the clients in Sirajganj could mean that the service providers in Abhoynagar were not as qualified as their counterparts in Sirajganj, or that the respondents in Abhoynagar had higher expectations about the services. It could also be that the women in Abhoynagar are better educated and of a different socio-economic status than the respondents in Sirajganj.

Table 10. Respondents' opinion about the quality of services received, by selected variables, Sirajganj Subdistrict, Bangladesh

Indicators of quality of services	Percentage of respondents N = 350		
	Yes	No	No opinion
Expected services were provided	90.0	10.0	–
Clinical examination was good	59.5	38.7	1.8
Drugs were available	80.4	18.7	.9
Counselling was good	65.2	32.7	2.1
Staff were well behaved	96.2	3.5	.3
Waiting time was satisfactory	91.0	8.5	.5
Privacy was respected	94.0	5.3	.7
Treatment provided was good	94.0	5.3	.7

Discussion

Six hundred and fifty respondents, mainly female, were interviewed about their perceptions of the services offered at the union health and family welfare centres. Their responses were analysed with a view to formulating recommendations that would result in improvements in the quality of care and increased use of the services offered at such centres.

Knowledge of services offered

As in previous studies (Sabur and Hug, 1989; Ahmad and others, 1994) the majority of the respondents were aware of the curative care for women and children offered by the FWCs. However, few mentioned family planning services, and antenatal and postnatal care. Almost none of them talked about the delivery of babies. The findings of the present study are similar with regard to women's knowledge about the services offered at the FWC level, which indicates that the respondents were not fully aware of the aforementioned reproductive health care services offered and did not make use of them. An evaluation of the performance of field workers shows that they gave emphasis to family planning activities at the door-step and somewhat less importance to maternal health care services (Farida, 1987). Thus, there is a need for IEC (information, education and communication) activities focusing on clients' reproductive health needs and the types of related services offered at these centres. Field workers as well as the paramedics could play an important role in educating rural women and their families about the types of health services that are available. They could emphasize the importance of reproductive health care services and motivate people of reproductive age to use these services.

**Table 11. Respondents' opinion, by education,
Sirajganj Subdistrict, Bangladesh**

	Education		
	None (%)	1-5 years (%)	>5 years (%)
Expected services were provided			
Yes	90.4	9.6	—
No	89.6	10.4	—
Clinical examination was good			
Yes	58.2	39.7	2.1
No	60.7	37.8	1.5
Drugs were available			
Yes	78.1	20.5	1.4
No	82.6	16.9	0.5
Counselling was good			
Yes	63.7	34.2	2.1
No	66.7	31.3	2.0
Staff were well behaved			
Yes	95.9	3.4	0.7
No	96.5	3.5	—
Waiting time was satisfactory			
Yes	91.8	7.5	0.7
No	90.0	9.5	0.5
Privacy was respected			
Yes	94.5	4.1	1.4
No	93.5	6.5	—
Treatment provided was good			
Yes	94.5	4.1	1.4
No	93.5	6.5	—

Reasons for coming to FWCs and services received

A number of studies reviewed (Wirzba and Juncker, 1995; Sabur and Hug 1989; Juncker, 1994) showed that curative services comprised the main activity of the health care providers working at FWCs. While the majority of respondents mentioned personal illness or child care as the reasons for visiting the FWCs, the utilization of reproductive health care services such as family planning and antenatal care of pregnant women was low, i.e. only 15 per cent of the women sought such services. There may be several reasons for this situation; for example, rural women may not feel any need for such care, socio-cultural factors may inhibit them from seeking

such care outside their home, or they may not be aware of the availability of such services at FWCs. An evaluation of the services offered at the FWCs was conducted in five subdistricts (Rahman and others, 1996); it covered both the users and non-users of the FWCs. The evaluation found that reproductive health services were poorly used. Similar findings were also reported in another study conducted in two rural subdistricts of Bangladesh (Juncker, 1994). Evaluations of MCH-FP programmes showed that the majority of users of FWCs complained of diarrhoeal diseases, intestinal parasites and scabies (Ali and others; Rahman, 1989). However, it is recommended that a retrospective study be carried out in the future to determine the precise reasons for low use of reproductive health services.

Although a high proportion of the respondents were users of family planning methods, very few of them came to the FWCs for family planning-related purposes. The provision of family planning services, especially for new users and for supplying current users, was negligible. This situation suggests that the respondents do not depend on the FWC for their family planning needs, particularly for temporary contraceptive methods such as pills and condoms, as they may receive supplies at home, or buy them from a pharmacy. It could be that the service providers were not capable of screening clients properly for IUD insertion, which may be one of the reasons for discontinuation of this method. Similar findings were reported in the 1993/94 Bangladesh Demographic and Health Survey (NIPORT, 1995) and an annual IUD evaluation report (Kamal and others, 1992). Thus, the technical competence of the service providers needs to be improved through proper skills development training, particularly for inserting IUDs. Special emphasis should be given to screening and counselling clients in order to reduce the discontinuation of methods.

Perception of services

An overwhelming majority of the respondents were satisfied with the quality of care offered at the FWCs. Services that were perceived as poor by respondents include counselling and clinical examination. In Abhoynagar, the respondents said that they were not satisfied with the provision of drugs. The respondents considered the services offered by medical assistants and family welfare visitors to be equal in quality. They were generally satisfied with the behaviour of the staff, which suggests that respondents who had been received cordially by clinic personnel are more likely to report satisfaction with their services. With regard to waiting time at the FWCs, the reactions were mixed: nearly a quarter of the respondents in Abhoynagar

were not happy, but only a few respondents in Sirajganj complained about this aspect of the service. While this reflects the subjective judgement of the respondents about the quality of services they had received, the actual waiting time at the clinics was not observed. Such information could have given an indication of the duration of waiting times correlated with the level of the respondents' satisfaction. Satisfaction of the respondents was found to be related to their being given an adequate supply of drugs. It is commonly believed that more drugs will effect a quicker cure. These findings are similar to those of a study of a nationally representative sample of clients, i.e. those who received adequate quantities of medicine were 15 times more likely to be satisfied than those who received an inadequate quantity of medicine or none at all (Ahmed and others, 1994).

The respondents questioned the technical competence of the health care providers, especially in the area of clinical examination and counselling. However, it should be noted that most of the respondents who had received a clinical examination were not pleased with the services they had received. It should be mentioned that the perceived quality of counselling and quality of services received at the FWCs in Abhoynagar were found to be associated with the respondents' level of education. It could be that they were expecting to receive more empathy and attention, and more drugs from the providers, but were disappointed when they did not. That observation aside, the interpersonal communication skills of the service providers are weak since counselling was found to be the weakest point of service delivery in both areas. This could reflect on unclear health education messages or instructions for taking drugs. Also, it could be that the clients felt they were in a position where they could not ask further questions of the service providers. Thus, the service providers need to be oriented towards developing better interpersonal communication skills. Improvements in the quality of these services would be likely to increase their use.

Programme implications

Health and family welfare centres were designed to improve maternal and child health by making services available to people in rural areas. Although these service centres are utilized for curative care of mothers and children, very few women use them for reproductive health care purposes. Further, women's knowledge about the availability of reproductive health services at these centres is inadequate. Thus, there is a need for IEC activities focusing on clients' needs. Field workers and the paramedics at

FWCs should educate community members about the availability of and the need for utilizing the services they offer. Appropriate IEC and health education materials, focusing on priority reproductive health problems and the availability of services at FWCs to address those problems, need to be designed to educate women and men in the rural communities and motivate them to use FWCs. In addition, the technical competence of the health care providers should be improved in terms of reproductive health care and curative care. The provision of technical guidelines and the organization of refresher courses would be prerequisites for improving the quality of such services. However, further study of the under-utilization of the FWCs for ante-natal and post-natal care, delivery and other reproductive health care services also needs to be undertaken.

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Influence of Son Preference on Contraceptive Use in Bangladesh

Future fertility would decline if son preference were diminished at the earlier stages of family formation

By M. Asaduzzaman Khan and Parveen A. Khanum*

Son preference is commonly believed to be widespread in South Asia and in many developing countries, particularly where women are economically and socially dependent on men (Bairagi and Langsten, 1986; Arnold and Kuo, 1984; Cleland and others, 1983; Vlasoff, 1990). Analysing Demographic Health Survey data from 57 countries, Arnold (1997) showed that son preference remains strong in South Asian countries and, in that area, Bangladesh has the highest ratio of preference for sons over daughters. Sons are generally preferred over daughters owing to a complex

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interplay of economic and socio-cultural factors. Sons contribute more than daughters to family income, provide adequate support in old age to their parents, impose less of a financial burden and carry forward the family name (Nag, 1991; Ali, 1989). On the other hand, the birth of a daughter is seen as bringing neither "benefit" nor "prestige" to the family. Daughters are often considered as an economic liability because of the dowry system as well as the high cost of weddings. Once married, daughters become physically, as well as psychologically, isolated from their natal home and are seldom seen as making significant contributions to their natal family (Chowdhury, 1994). Thus, when the net utility of having a son outweighs that of having a daughter, parents are likely to prefer sons to daughters and may be reluctant to stop childbearing until their desired number of sons has been achieved.

Rahman and Da Vanzo (1993) have argued that, if couples desire to have one or more sons, then they might have larger families than would otherwise be the case, which could create "a significant barrier to future fertility decline" in many developing countries. Research shows that Bangladeshi women want at least two sons, perhaps to ensure against the risk of losing an only son to death, or to provide old-age security to their widowhood (Kabir and others, 1994). Although the common preference is for sons, there is evidence that parents may prefer to complete their families with a daughter (Mannan, 1988; Rahman and others, 1992). Das (1989) has claimed that the desire for at least one son and one daughter, and the tendency to continue childbearing until the desired minimum has been attained would increase the total fertility rate and crude birth rate in the population by 36 to 38 per cent compared with what would happen if family size were limited to two surviving children regardless of their sex. Thus, when parents have a strong preference for a child of one sex, the sex composition of the children that they already have could influence their decision about whether or not to have another child.

Although strong preference for sons is often assumed to be a significant barrier to fertility reduction, no consistent association has been observed between the sex composition of the children and fertility regulation. The associations are varied; for example, in cross-national settings among developing countries, Repetto (1972) concluded that fertility decisions are less influenced by sex preference and more by the costs and benefits involved with a child. Studies in India and Pakistan in the period 1960-1970 provide no clear evidence that son preference significantly affects fertility (De Tray, 1984; Mukherji, 1977). In Sri Lanka, De Silva (1993)

argued that “son preference has proven to be no substantial obstacle to achieving significant fertility decline”. However, analysing data from a cohort study in Pakistan, Hussain and others (2000) showed that the sex of surviving children is strongly associated with subsequent fertility and contraceptive behaviour. Also, recent Indian data have shown that the sex composition of children in the family affects subsequent fertility behaviour (Arnold and others, 1998). Analysing national-level survey data from Bangladesh for the years 1969 and 1979, Amin and Mariam (1987) concluded that son preference has a negative effect on contraceptive use regardless of socio-economic and demographic characteristics. However, the effect of son preference on fertility was not evident during the early 1980s; it was estimated that fertility would be reduced by 4-8 per cent if there were no gender preference in the country (Chowdhury and Bairagi, 1990). In a similar period, Rahman and others (1992) documented that the sex of the surviving children has a profound effect on the acceptance and continuation of contraceptives in Matlab, Bangladesh. Another study of South Asian countries reported that, although there is an increasing trend of son preference in Bangladesh, the effect of son preference on fertility is not clear (Nag, 1991). Other authors have argued that couples with sons have longer birth intervals and fewer subsequent births (Bairagi and Langsten, 1986; Chowdhury and Bairagi, 1990). These disparate findings have led to the hypothesis that the sex of the surviving children may have minimal, if any, effect on subsequent fertility behaviour. As argued by Rahman and Da Vanzo (1993) contraceptive use is likely to be influenced most strongly by sex preference and have a potential impact on fertility because it is the key variable for deliberate control of fertility. Therefore, the present study is designed to examine the effect of son preference, if any, on contraceptive use in order to gain an understanding of how it affects the fertility behaviour of Bangladeshi women.

Data and methods

The data for this study were obtained from the 1996-1997 Bangladesh Demographic and Health Survey (BDHS), which is the most recent and most comprehensive of all the national surveys conducted in Bangladesh. The BDHS is part of the worldwide Demographic and Health Surveys (DHS) programme which collects information on a number of areas such as demographic characteristics, reproductive history and family planning. The survey was conducted during the period from November 1996 to March 1997, under the authority of the National Institute of Population Research

and Training (NIPORT), Bangladesh. A nationally representative two-stage probability sample design was used for the sample survey in which a total of 9,127 ever married women were successfully interviewed (for details, see Mitra and others, 1997). This study is based on 6,996 currently married women aged 12-49 years who had at least one child and who were not currently pregnant, i.e. about 76.7 per cent of the total sample ($N = 9,127$) and 82.8 per cent of the currently married women ($N = 8,450$). Currently pregnant women were not considered in the analyses since they were not current users of contraception. The working hypothesis of this study is that the more sons a family has, the more likely the couple is to use contraception, because it is more likely to have satisfied its preference for sons. The term “contraceptive use” covers both modern and traditional methods of contraception. It should be noted that the BDHS data do not have information on stated preferences for children; however, such a large data set provides a unique opportunity to examine whether women’s fertility behaviour is influenced by the sex composition of their surviving children in the family.

In the present study, contraceptive use was examined at each parity for the sex composition of the surviving children. As the total fertility rate is less than 4 ($TFR = 3.3$, Mitra and others, 1997), women with four or more children are shown separately. Thus, the study participants were divided into four mutually exclusive groups, based on their number of children, namely, one child, two children, three children and four or more children. The list of variables initially considered for the analysis includes age of the respondents, religion, education, area of residence, membership in organizations, heard family planning messages on television or radio, land ownership, employment status, visits of family planning workers, women’s mobility, discussion of family planning issues with husband and husband’s education. For this article, woman’s mobility was defined according to whether they were allowed to go outside their home.

Multivariate analyses were conducted to examine the adjusted effect of son preference on the practice of contraception after allowing for potential confounders. Initially, four sets of potential confounders were identified in consideration of their independent potential contribution to the current use of contraception by using the chi-square test (results are in table 3). Subsequently, four logistic regression models were fitted for different numbers of children, i.e. one child, two children, three children and four or more children, by considering the current use of contraception as the outcome variable, which was dichotomized by taking the value 1 for those

Table 1. Socio-demographic characteristics of currently married women aged 12-49 years who had children, Bangladesh, 1996-1997

Characteristics	Percentage (N = 6,996)
Average age (years)	30.3
Average number of children	3.1
Rural residents	84.2
Muslim	88.3
Landless	64.3
No formal education	54.1
Husband has no education	43.6
Access to television/radio	48.8
Women working outside the home	37.0
Belongs to women's group	23.7

who were currently using contraceptives and 0, otherwise. Sex composition of the surviving children, expressed as the number of son(s), was used as the study variable and was kept in the model disregarding their significance. The “no son”, which means all daughter(s), category was considered as the referent for the analyses. Since this is an epidemiologic type of study, the effect of son preference on current use of contraception was assessed after adjusting for confounders. The following section describes the results of the analyses, with [table 4](#) presenting four logistic regression models with the study factor and confounders.

Results

[Table 1](#) presents the socio-demographic characteristics of currently married women aged 12-49 years (N= 6,996) who had at least one child and were not currently pregnant. On average, the study participants were 30.3 years old and had had 3.1 children. The overwhelming majority of them were Muslim (88.3 per cent) and from rural areas (84.2 per cent). Almost two thirds of the participants did not have any cultivated land (64.3 per cent). More than half of them did not have any formal education (54.1 per cent); however, less than half of the husbands had no education (43.6 per cent). Electronic media such as radio or television were accessible to 49 per cent of the participants. More than one third of the respondents were currently working (37 per cent). Almost a quarter of the study participants (23.7 per cent) were members of different organizations or associations such as the Grameen Bank, Bangladesh Rural Advancement Committee, Bangladesh Rural Development Board or Mothers' Club.

Table 2. Percentage distribution of currently married women aged 12-49 years using contraception, by number of children and by number of sons, Bangladesh, 1996-1997

Number of children and number of sons	Contraceptive use %	Total (N)
One child^a	46.9	1,487
No son	43.3	722
One son	50.3	765
Two children^b	62.8	1,696
No son	54.3	328
One son	64.6	942
Two sons	65.6	426
Three children^c	63.0	1,339
No son	53.8	143
One son	62.2	510
Two sons	67.6	534
Three sons	59.2	152
Four or more children	55.8	2,474
No son	53.4	73
One son	57.1	396
Two sons	59.0	746
Three or more sons	53.7	1,259
Overall	57.0	6,996

^a P < 0.01

^b Mantel-Haenszel P < 0.01

^c P < 0.05

Current use of contraceptives

Table 2 presents the current users of contraceptives by number of children and by number of sons. Although all currently married women reported that they knew about at least one method of contraception, only 57 per cent of the study participants who had at least one child were currently using contraceptive methods. Contraceptive use was significantly associated with the number of surviving children ($X^2_{MH} = 12.67$, $P < 0.0001$) and demonstrated a curvilinear relationship. Contraceptive use increased monotonically as the number of surviving children increased from a use rate of 47 per cent among those who had one child to 63 per cent among those who had two or three children. This rate, however, declined to 56 per cent for women with four or more children.

Within each parity, women who had no sons were less likely to use contraception than those with at least one son. For women with one child,

although the overall contraceptive use rate was slightly lower, this rate was significantly higher for women with only a son than for women with only a daughter ($X^2_1 = 7.26, P = 0.007$). Use of contraception increased consistently with the increase in number of sons for women with two children ($X^2_{MH} = 8.88, P = 0.003$). Of these, 54 per cent with no sons were practising contraception compared with 65 per cent with one son and 66 per cent with two sons. Among women with three children, contraceptive use was significantly associated with the number of surviving sons in the family ($X^2_3 = 10.7, P = 0.013$). Although there was no trend in the relationship, it is noteworthy that the highest contraceptive prevalence rate was among those couples with two surviving sons and one daughter (67.6 per cent). There was no evidence of association between contraceptive use and the number of sons among women with four or more children. These results indicate that son preference has a consistently adverse effect on the use of contraception for women at lower parities, although it becomes statistically insignificant when the number of children rises to four or more.

Table 3 shows the percentage of women aged 12-49 years who were using contraception according to some selected characteristics by number of children.

Logistic regression analyses

Multivariate logistic regression analyses were conducted to assess the net effect of son preference on the use of contraception by currently married women after allowing for potential confounders. Of the 12 variables initially considered (see table 3), respondent's education was found to be highly correlated with her husband's education. Therefore, a decision was made to drop the husband's education from the analyses to avoid the problem of multicollinearity, thus leaving 11 variables for the analyses. A potential confounder was dropped from the model if its exclusion changed the estimated odd ratios of the exposure variable, i.e. the number of sons in the family, by less than 10 per cent, or did not decrease the precision of the exposure effect on outcome to a material extent. The four final models, based on number of children, with confounders are presented in table 4.

The results of the multivariate analyses are in broad agreement with the univariate analyses. For women with one child (model 1), composition of the surviving children was found to be significantly associated with the current use of contraception after adjusting for the confounding factor,

Table 3. Percentage distribution of women aged 12-49 years who were using contraceptives, by some selected characteristics for different numbers of children, Bangladesh, 1996-1997

Category	Number of children			
	One (N= 1,487)	Two (N= 1,696)	Three (N= 1,339)	Four or more (N= 2,474)
Age (years)				
< 24	48.2 ^a	56.5 ^b	42.9 ^c	23.8 ^b
25-34	46.7	69.9	67.3	59.4
35+	30.3	56.2	65.8	54.6
Religion				
Muslim	46.5	61.6 ^d	61.5 ^d	59.6 ^b
Non-Muslim	50.0	70.5	72.5	78.2
Education				
None	37.7 ^c	56.6 ^c	58.0 ^c	57.5 ^c
Primary	47.1	65.5	65.6	63.3
Secondary +	60.8	72.8	76.9	77.0
Area of residence				
Rural	44.1 ^b	60.0 ^b	60.4 ^b	59.6 ^c
Urban	60.2	75.3	76.0	74.0
Membership in organization				
No	45.9	60.1 ^b	60.4 ^d	57.3 ^b
Yes	52.2	71.8	70.0	73.3
Heard family planning message on television/radio				
No	40.1 ^b	54.9 ^b	56.6 ^b	58.2 ^d
Yes	53.3	70.8	71.8	66.7
Land ownership				
No	41.9 ^b	58.4 ^b	60.7 ^d	61.0
Yes	54.3	70.2	68.1	63.5
Employment status				
No	45.8	60.7 ^f	59.5 ^e	58.9 ^f
Yes	49.3	66.5	68.6	66.3
Visited by family planning worker				
No	36.9 ^b	54.1 ^b	53.4 ^b	54.5 ^b
Yes	64.9	74.7	75.5	73.2
Allowed to go outside				
No	41.8 ^f	59.7	59.1	53.4 ^d
Yes, with someone	50.8	62.9	63.1	61.2
Yes, alone	47.6	67.2	67.1	69.4
Discussed family planning with husband				
No	38.9 ^b	57.9 ^b	58.7 ^b	57.4 ^b
Yes	68.8	75.4	75.1	75.7
Husband's education				
None	38.7 ^c	57.4 ^c	58.0 ^c	60.7 ^a
Primary	46.6	60.1	62.4	54.7
Secondary +	56.3	71.2	71.5	70.8

^a Mantel-Haenszel P < 0.05; ^b P < 0.0001; ^c Mantel-Haenszel P < 0.0001; ^d P < 0.01; ^e P < 0.001; ^f P < 0.05

family planning workers' visits during the period six months prior to the interview. Compared with women having only a daughter, women with only a son were 1.4 times more likely to be practising contraception (95 per cent confidence interval (CI): 1.11-1.69). For women with two children (model 2), women with one or two son(s) were 1.6 times more likely to be using contraception compared with their counterparts having no sons after adjusting for the effects of area of residence and visits of family planning workers (95 per cent CI: 1.22-2.07 for one son and 1.19-2.18 for two sons). The number of sons among women with three children was found to be significantly associated with current use of contraception after allowing for the confounders age of the respondents and their discussion about family planning issues with husband (model 3). Women with two sons were 1.7 times more likely to be using contraception than women with no sons (95 per cent CI: 1.18-2.58). As with the univariate assessment, overall association between the number of sons and use of contraception was not found to be significant for women with four or more children (model 4). All the models except model 4 (women with four or more children) were well fitted based on the Hosmer and Lemeshow test of goodness of fit (P-values are shown in the last column of [table 4](#)). These results clearly demonstrate a moderately adverse effect of son preference on contraceptive use among Bangladeshi women at lower parities.

[Table 4](#) also reveals that, in all but one of these models (model 3: women with three children), women who were visited by family planning workers during the period six months prior to the interview were more likely to use contraception than their counterparts who were not visited. For women with two children, urban residents were more likely to be users of contraception than their rural counterparts. Women with three or more children and those aged 25 years or older were more likely to be using contraception than their younger counterparts. Women with three or more children who discussed family planning issues with their husband were more likely to use contraception. Among women with four or more children, those who had heard family planning messages on television or radio were more likely to be using contraception than women who did not hear such messages.

Interactions of the number of sons with the potential confounders for different models were examined and found to be not statistically significant, which suggests that son preference affects contraceptive use in the same order of magnitude irrespective of the potential confounders.

Table 4. Multivariate assessments of association between sex of the surviving children and use of contraception among currently married women aged 12-49 years who had children, Bangladesh, 1996-1997

Category	Adjusted-OR ^a	95 per cent CI ^b	Goodness of fit ^c (P)
Model 1: One child			0.66
Number of sons			
No son	1.0 ^d		
One son	1.37 ^e	1.11- 1.69	
Visited by family planning worker			
No	1.0 ^d		
Yes	3.19 ^f	2.56 - 3.99	
Model 2: Two children			0.78
Number of sons			
No son	1.0 ^d		
One son	1.59 ^g	1.22 - 2.07	
Two sons	1.61 ^e	1.19 - 2.18	
Area of residence			
Rural	1.0 ^d		
Urban	2.08 ^f	1.56 - 2.76	
Visited by family planning worker			
No	1.0 ^d		
Yes	2.47 ^f	2.00 - 3.06	
Model 3: Three children			0.78
Number of sons			
No son	1.0 ^d		
One son	1.35	0.92 - 2.00	
Two sons	1.74 ^e	1.18 - 2.58	
Three sons	1.27	0.79 - 2.06	
Age of respondent (years)			
< 24	1.0 ^d		
25-34	2.76 ^f	2.00 - 3.79	
35+	2.68 ^f	1.88 - 3.82	
Discussed family planning with husband			
No	1.0 ^d		
Yes	2.27 ^f	1.71 - 3.00	
Model 4: Four or more children			0.24
Number of sons			
No son	1.0 ^d		
One son	1.34	0.77 - 2.32	
Two sons	1.42	0.84 - 2.42	
Three or more sons	1.24	0.73 - 2.08	
Age of respondent			
< 24	1.0 ^d		
25-34	5.24 ^f	2.43 - 11.34	
35+	5.65 ^f	2.61 - 12.20	

Table 4 (continued)

Category	Adjusted-OR^a	95 per cent CI^b	Goodness of fit^c (P)
Visited by family planning worker			
No	1.0 ^d		
Yes	2.99 ^f	2.48 - 3.62	
Heard family planning messages on television/radio			
No	1.0 ^d		
Yes	1.67 ^f	1.40 - 2.00	
Discussed family planning with husband			
No	1.0 ^d		
Yes	2.75 ^f	2.15 - 3.53	

- a** adjusted odds ratio after adjustment for potential confounders
- b** confidence interval
- c** Hosmer and Lemeshow test
- d** reference category
- e** Wald P < 0.01
- f** Wald P < 0.0001
- g** Wald P < 0.001

Discussion

This study shows that the sex composition of the surviving children moderately influences women's decisions regarding contraceptive use at lower parities. The more sons a woman has, the more likely she is to practise contraception. This phenomenon holds true among women with one, two or three children, but breaks down among families with four or more children. At lower parities, this behaviour may be primarily because couples with at least one son among their children are less likely to want more children, as they are satisfied with the sex composition of their children. However, couples who have all daughters are less likely to terminate their childbearing and continue having more children until such time that they have a son. These results are consistent with a similar recent study in Viet Nam (Haughton and Haughton, 1995). Bangladeshi women control their births at lower parities in order to regulate fertility; thus, the average family size has begun to decrease since the inception of family planning programme in the 1950s. In such a situation, women become more aware of the sex of their children. However, preferred sex composition is not always achieved within a preferred family size, and contraceptive use

thus depends on the couple's trade-off between sex preference and family size preference. This study also shows that some of the women with higher parities, four or more children, who have all sons, avoid the use of contraception until they have at least one daughter. These findings resemble the earlier finding that couples have a strong preference for sons but also want to have at least one daughter after having several sons (Rahman and Da Vanzo, 1993).

Although it is difficult to quantify the effect of son preference on fertility and family planning, a measure developed by Arnold (1985) can be used to estimate the effect. According to the measure, the contraceptive prevalence rate would increase modestly from its current level of 57.0 per cent to 60.3 per cent, if there were no sex preference. Although moderate, an increase of this magnitude (3.3 per cent) would be a boon for the country's family planning programme.

For a better understanding of son preference, it is important to bear in mind the socio-economic and cultural settings of the country. In a society such as in Bangladesh, where men are the traditional authorities in their families, women often cannot make decisions themselves regarding family size and contraceptive use, although they carry a heavy burden of poor health related to reproduction. Women's contributions are often unrecognized in the family as well as by society; however, their worth is predicated mainly on their ability to produce children, particularly sons. The social and cultural milieu does not allow women to work outside the home, especially in rural areas. Women who go outside the home for work are often considered to be of low social status (Piet-Pelon and others, 1999). The practice of *purdah* (the seclusion of women in the household and the area immediately surrounding it) and the traditional norms of modesty (including the wearing of a veil outside the home) isolate women and limit their contact with the world beyond their household. The norm of marginalizing women teaches them to accept dependence and deprivation relative to the male members of their family (Schuler and Hashemi, 1994).

The key finding of this study is that son preference has a moderately adverse effect on contraceptive use among women at lower parities and could be a significant barrier to reducing further the country's fertility rate. The most important policy implication from the findings of this study is that future fertility would decline if son preference were diminished at the earlier stages of family formation. As son preference is largely socio-cultural, its effect should not be underestimated in a traditional, poor

society such as in Bangladesh where women are considered to be of low status. Short-term and narrowly defined population control activities may be ineffective in reducing the influence of son preference on fertility. Nonetheless, an integrated effort is essential to decrease gender inequality as well as to increase the status of women, which potentially could help to decrease further the country's fertility rate.

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Gender, Mobility and Urban Place in Fiji: from Colonial to Post-colonial Wanderings

By Raymond Young*

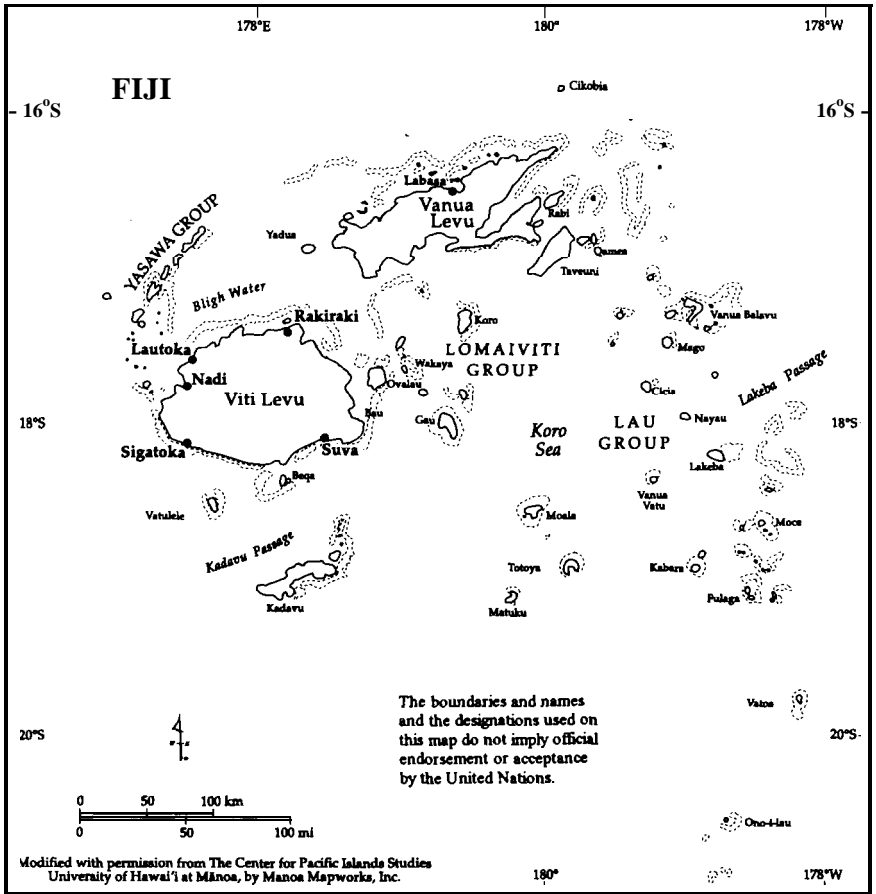
In many traditional Pacific societies the strange and unknown world is the domain of males, those who were thought to have the strength and confidence to face the odds likely to be met. The female arena is the known, the less dangerous, usually domestic surroundings (Ravuvu, 1992:330).

Despite the suggestion that the unknown is the domain of men and that movement is part of an inherently male gender ideology (Ravuvu, 1992:330), movement into the “strange and unknown” is associated with a wide range of gender and cultural experiences in the Pacific islands. Women’s mobility and urban experiences (Connell and Lea, 1994:300) perhaps best elucidate how gender relations and identities are constructed and contested; however, they remain largely unexamined by researchers in the Pacific subregion. There are some notable exceptions, such as Jolly (1987) and Flinn (1994), whose papers provide historical and contemporary perspectives on gender and mobility in Melanesian and Micronesian societies. Philibert (1988:169) provides yet another perspective, questioning the lack of attention scholars have paid to the “peri-urban village” in Melanesia and that by “...focusing on the behaviour of women has given us a vantage point from which to watch the shifting line between the rural and the urban in Vanuatu”. Fictional works also provide an increasingly fertile

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ground for thinking about gender and urban experience (e.g. Veramu, 1994) and more recently have included the voices of “migrants” from rim countries such as New Zealand (e.g. Pule, 1998). In Fiji, the focus of this paper, there is an established tradition of research on migration and urbanization; yet gender relations, identities and roles remain conspicuously absent from this research agenda and its dominant questions.

In light of the general dearth of material on gender in mobility and urban studies on Fiji (see map), this paper attempts to explore and to integrate a range of primary and secondary material around the theme of “wandering”. As a metaphor, wandering has been employed to denote



displacement, aimlessness, or inappropriate movement in much of the literature and other records on female migrants in the Pacific (Jolly, 1987). In this paper, the term wandering is employed to denote the conceptual shifts from an earlier period in Fiji's colonial history — where restrictions on the movement of indigenous Fijians became tied closely to colonial constructions of rural place and Fijian identity — to post-colonial patterns of rural-to-urban migration in Fiji where, in the works of scholars, movement was linked primarily to economic opportunity and social change.

Where urbanization is considered to modify gender relations and roles in the island Pacific, change is seen generally to disadvantage women (Bryant, 1993; Connell and Lea, 1994; Flinn, 1994). Women are thought to be isolated from the support of kin networks, carrying the burden of kin in town, excluded from employment opportunities, or suffering in poor working environments. Women are viewed as “followers” and more recently, as the ratio of women to men moving from rural to urban places has become more balanced (e.g. Chandra, 1996), they are viewed as “migrants” in their own right. In town, the ability of women to retain control over their lives is seen to be significantly diminished. It also has been suggested that urbanization lessens traditional forms of social control and alters the position of men (McCreary, 1977:18-19). In the case of Fiji, Ravuvu (1983:2) observes that:

Young men are now becoming so influenced and swayed by their wives that they find it difficult to continue their social and economic obligations to their parents and blood kin, because of their in-laws. This happens especially when the married couple is not staying with or near the husband's group, an increasingly common phenomenon of urbanization.

Such interpretations tend to portray gender relations as fixed and suggest that, once in town, women's activities and relationships with others significantly diverge from culturally prescribed roles. Men, on the other hand, tend to be viewed as less constrained in their roles in Fijian society, particularly in terms of their sexuality (Davis, 1986; Toren, 1994). As Toren (p. 34) suggests, “... a man's sexuality is at once his strength and his undoing while a woman's sexuality is an unspoken and potential source of power”. This paper argues, however, that sexuality is not the only source of a woman's power in migration. Decisions to move and to support kin clearly state that a woman does not always conform with the decisions of her husband or father. To suggest that “it is a wife's subordination that makes a man a chief in his own house” (Toren, 1994:35) implies that notions of Fijian hierarchy, and indeed gender, can and always will be transposed from wider kin groups to households. However, a woman is never “thoroughly a wife” (Toren, 1994:34) and kin never simply “a retinue of followers” (Rutz

1989: 133). As suggested below, a woman is also a sister, and transformations in the meaning of hierarchy and of equality in Fijian households relate to the constitution of other kin relations within and across households.

The first part of this paper examines the interplay between the British colonial administration and the *Bose Vakaturaga* (Council of Chiefs) in creating regulations and controls over Fijian village communities. It is suggested that colonial discourses established a context for the construction and negotiation of gender relations that in itself reflected attempts to ossify Fijian customs and tradition. The second part considers contemporary research on mobility and urban place in Fiji, arguing that past studies have failed to describe continuities and changes in household practices, particularly where these are reproduced in the urban setting. The final section of the paper examines the relationship between mobility and gender among urban Fijian households. Research findings on urban places suggest dimensions of both change and continuity for women and men in terms of decision-making, social relationships, and knowledge and identity. The implications of research work for government policy initiatives in the field of regional development in Fiji are briefly discussed in the conclusion.

Colonial wanderings: movement, gender and community in colonial Fiji

Prior to first European contact at the end of the eighteenth century, Fijian men and women were actively involved in moving within and between island groups. Complex networks of exchange and marriage extended to Samoa, Tonga and possibly further afield as early as 2,000 years ago (Best, 1984). By the mid-1700s, eastern Fiji had become a powerful maritime state. The trade of Lau (see map) in *drua*, or large double-hulled canoes, established an indigenous system of exchange that rivalled subsequent trade in European goods, such that "... the advantages and disadvantages of accepting foreign goods and ideas were carefully considered in relation to the existing economic and political system" (Young, 1982:33).

In the short span of several decades following the cession of Fiji to Britain in 1874, the colonial state put in place a system of "native regulation". Restrictions on the movement of indigenous Fijians were at the heart of controls aimed at codifying land tenure and social systems (France, 1969; MacNaught, 1982). This system of regulation was sanctioned by the *Bose Vakaturaga* and sought to bring village Fiji under the control of the state — a control often subject to Fijian challenge (e.g. Kaplan, 1995) and its architects often plagued by their own professional and personal uncertainties (Thomas, 1990, 1994). Central to this attempt, from the

mid-1800s, were a number of resolutions and regulations concerning the recruitment by Europeans of Fijian men and women to work aboard ships or on plantations. The “labour question”, as it commonly became known, was vigorously debated among members of the *Bose Vakaturaga* following reports that men were working outside of their province and leaving behind families to fend for themselves:

Men leaving their homes to work in other places causes both famine and much domestic evil. It is a good thing for the provinces they go to. Another evil is that they leave their homes and get scattered about, and often do not return for two or three years (Roko Tui Ra, Proceedings of the *Bose Vakaturaga* (hereafter BVT) 1875, National Archives of Fiji (hereafter NAF).

The movement of women was also believed to be widespread: “There were a great many women who on the smallest occasion leave their husbands and wander about, and unless something was done to stop that kind of thing, the evil would increase” (Roko Tui Ra, BVT, 1879, NAF:65). It had been observed, for example, that three women from Vuda and 10 from the Yasawas had been recruited as crew members aboard a sailing vessel (BVT, 1875:13). Indeed, the Roko Tui Ba suggested that some women “exceed the men in the desire to roam” (BVT, 1879:16), which came to be known as the “Yasawa custom”. It was noted that this practice had now spread to the mainland, Viti Levu, and that women out fishing on the reef would seek passage upon arrival of a recruitment vessel, while others would leave under cover of dark (BVT, 1879:16). The “Yasawa custom” therefore became a metaphor of inappropriate movement usually associated with women, while those whose husbands had left their villages also became vulnerable to “improper behaviour”.

Women’s voices also are absent from many of the written sources of Fijian historiography. After some six years of women attending meetings of the Council of Chiefs, the Governor banned them on the grounds that “their numbers increased the difficulties of provision, and their presence was as a rule neither good for them nor conducive to the main object of the meeting” (BVT, 1881:9).

Initially intended to curb the movement of men, clearly by the turn of the century the Regulation preventing Fijians from leaving their villages had focused chiefly attention on women. Since it was rarely admitted that women, legitimately or otherwise, should seek paid work, they had not been included in the Regulation. If men, on the other hand, were able to demonstrate a need for exemption from communal duties, then sub-

sequently they could make application. Women's wanderings in contrast were clearly presented as acts of defiance against kin and against their husbands.

Often, social reality was at odds with colonial imagery. In 1892, the Colonial Secretary had described the Lau people as nomads (Lau Provincial Council, 1892 minutes, NAF), but by 1921 only 4 per cent of Lauans "living apart from native villages" were actually outside of the province (Pennefather, 1922).

The *Bose Vakaturaga* continued to debate the issue of women being away from villages without permission into the 1950s when the concern shifted to the "control of behaviour in urban centres" (BVT Resolution VI, 1956). By 1956, 27 per cent of Lauans lived outside of their province, 23 per cent of them women (McArthur, 1958). Information on the experience of women in town is vague, since Council proceedings for the past 30 years remain classified so as to be unavailable to researchers. Controls over movement were relaxed in the mid-1960s, but resurfaced as recently as the 1980s, when the *Bose Vakaturaga* proposed a separate Fijian court system to set down a moral code for Fijian villages. In the proposed regulations, unmarried girls under the age of 16 who moved without parental consent were punishable, and prohibitions against pregnant Fijian women taking up work also were considered.

Post-colonial wanderings: migration and urban studies on Fiji

Despite a scholarly tradition of research on migration and urbanization on Fiji (e.g. Chandra, 1989), there is little detailed information on women's presence, temporary or otherwise, in Suva or other urban centres. The experience of women in Suva gets brief mention in the context of housing estates (e.g. Mamak, 1977), but few studies have focused specifically on gender relations in the urban setting. Often "migrants in town" or "urban dwellers" are presented as an undifferentiated mass and even recent attempts to incorporate gender in urbanization analyses (e.g. Chandra, 1996:37-39) hardly proceed beyond urban sex ratios.

The earliest studies on mobility and urbanization in Fiji were carried out by geographers and based largely on analysing published census data (e.g. Ward, 1961; Walsh, 1976; Frazer, 1969; 1986). For some geographers (e.g. Bayliss-Smith and others, 1988; Sofer, 1993) theoretical frameworks were applied to fieldwork results from rural communities by focusing on the impact of modernization on traditional society and economy and on the

incorporation of Fijian society into the global capitalist system. During the 1970s, dependency theory strongly influenced the work of Brookfield (1979) and Bedford (1984, 1988) in eastern Fiji, while the articulated modes-of-production approach continued to hold appeal into the 1980s (e.g. Sofer, 1985, 1987a, 1987b). All these approaches focused mainly on labour migration in response to uneven regional development.

A number of other studies sought to show how particular groups of migrants had adapted to urban conditions and the role of social ties between natal communities and migrant households (Bryant, 1974, 1988, 1990; Kaurasi, 1991; Nair, 1980). Evidence of “the migrant experience” was presented through residential intentions, notions of urban commitment, and the advantages and disadvantages of living in urban, as opposed to rural, places. While this research threw light on the experience of migrants in the capital of Suva, the position of women was described generally in terms of nuclear family relationships and the sexual division of labour. Much scholarly interest focused on the Rotuman population — socially and linguistically distinct from other Fijian communities — for a significantly larger number reside in Fiji than on their home island.

The conspicuous absence of data on women and female voices in the migration literature reflects methodological and epistemological traditions which construct “the migrant” as an individual in transit from one place to another (Young, 1998). As is evident in Nair’s (1980) study of rural-to-urban links, research designs often excluded women or established definitions too rigid to provide an understanding of how women’s and men’s experiences differed; movements of less than one year were not recorded as part of the mobility histories of household members (Nair, 1980:17); household membership was delimited to exclude single and married men whose families remained in the village (p. 52); and the initial goal of interviewing all members of 400 households proved unrealistic, so that only male heads were interviewed (p. 19).

Subsequent studies investigated in more detail the transposition of cultural and social practices to urban settings. It was generally in the context of anthropological studies that local Fijian experience was recorded, through the pioneering work of Nayacakalou (1963), a Fijian anthropologist, and research by Williksen-Bakker (1984), Gounis and Rutz (1986), and Rutz (1987, 1989) - all contributors to *Fijians in Town* (Griffin and Davis, 1986). Such scholarship challenged the conception of rural and urban communities as bounded social entities, with the distinction between rural and urban becoming increasingly blurred in more populated parts of Fiji such as Suva and, given the diverse range of urban settlement and forms of

mobility, no longer synonymous with village and town. More specifically, the persistence of circulation, remittances and the continued appeal and flexibility of tradition among households in urban settings suggested a more critical examination of indicators of “urban commitment”.

From rural to urban and back again: “the urban household” reconsidered

A focus on wife-husband relationships has tended to dominate scholarly understanding of urban household practices and gender relations in Suva. This is clearly demonstrated in Rutz’s (1989) paper on authoritative allocation, premised as it is on the notion that a rural Fijian folk model is reproduced under urban conditions. Household arrangements in the urban context are seen to be both complex and contradictory, particularly among urban middle class households, which find it difficult to “reconcile the many conflicting bases for household allocation and distribution, instead falling back on a coherent ideology of kinship and chiefship whose practices fits [sic] their own conditions of existence only imperfectly and, on occasion, not at all” (Rutz, 1989:123). Thus, the employment of traditional (rural) social controls is central to the reconciliation of conflicts between the Fijian way, *sala vakavanua* (literally “pathways in the way of the land”), and *sala vakailavo*, or the “money way”.

He argues that social control is reproduced in the urban context whereby authoritative allocation of household resources is retained by male household heads. This model, he suggests, is based on the construct of the “Fijian chiefdom” (Rutz, 1989:131), for the household head can be likened to chiefs with authority and control over their people. In this analogy, the Fijian household is hierarchically structured according to the age, rank and gender of its various members. Yet, while the relationship between the household head and its membership is much the same as between chiefs and their people, the “ideology of kinship and chiefship” often collides with the capitalist market. In the urban place, this is most pronounced where there occurs exclusive rights to property and less control over household labour and wages as its product.

While Rutz’s lines of thought about householding in urban place are instructive, several critical questions remain. In the urban household, he argues, Fijians reconcile the conflict between customary ways and the market economy through an ideology that imperfectly fits their actual existence. The notion that tradition and custom are fixed, however, denies the involvement of Fijians in the active making and remaking of their past in the present. In a sense, it is not ideology with which “urban Fijians” are

concerned but rather appropriate action embodied in social relations and roles.

Second, Rutz fails to describe and distinguish relationships that are basic to the household and that extend across households, since the former appear only as an analysis of “political and discursive practices” of household membership, and primarily of male heads. For Rutz (1989), the patriarchal unit is the prevailing model for urban household relations: female heads are anomalous (p. 132) and male heads command respect for having a large “retinue of followers” (p. 133). Husband-wife relations clearly dominate Rutz’s model, despite the presence in urban households of lateral kin of both men and women. Other possible “models” for householding revealed through links between affective kin, such as the relationship between siblings and other kin, or interhousehold ties in urban places, remain absent from his analysis.

Third, a generalized conception of rural and urban relies on a folk model of the household which, suggests Rutz, is “most easily explicated in the rural village setting” (p. 130). Throughout, the terms “urban Fijian” and “middle class Fijian” are used interchangeably, which raises yet further questions. To what “variants of benign patriarchy” do working and upper class Fijians resort, assuming these classes can be said to have a “history”? Neither does Rutz locate the “rural household”, other than to suggest it as the basis of this patriarchy. As Overton (1993:64-66) suggests, “Fijian villages are no longer settings for a simple subsistence mode of life...Village economies are transforming at a rapid pace and in ways that demand a reevaluation of scholarly preconceptions and analytical frameworks...”. Among these preconceptions is Rutz’s notion of rural folk model.

Embodied worlds of movement: a case study of household and gender relations in Suva

Only recently have scholars writing about urban Fiji, specifically Suva, described explicitly the embodied dimensions of Fijian social and cultural worlds (e.g. Williksen-Bakker, 1995).

In both daily and ceremonial activities, movement is said to produce meaning: “as the person acts and moves in various contexts in villages and cities”, writes Williksen-Bakker (1995:222), “certain memories become encoded in the body and are expressed by its movements . . . the body is memorizing and re-enacting a particular past”. Movement between places, within villages and between island communities and urban places like Suva, also embodies relationships between kin, and between the past and present. In Lakeba and Suva ([see map](#)), where the author conducted ethnographic

field work during 1995, it was the cultural metaphor of “pathways”, *wakolo*, that most clearly expressed identity and conceptions of movement and of place (Young, 1998). This final section draws on ideas that arose from primary research and attempts to examine what different meanings one Fijian community places on household, gender and kinship relations.

For generations, Lakebans had left the island for other parts of Lau, Tonga and places beyond. Genealogies and oral histories clearly established that movement implied the establishment or affirmation of pathways of relationships between people and places. The absence of kin, and the type of residential and household arrangements encountered on Lakeba did not fracture the boundaries established by *mataqali*, extended family, or a particular person; rather, these were complex and shifting. Being Lakeban, or *kai Lakeba*, described only one possible identity where clearly there were many pathways (*wakolo*), the significance of which was elucidated by personal narratives from Lakebans in Suva where, according to some scholars (e.g. Ward, 1997) the identities of urban Fijians have been most radically changed and weakened.

The narratives of Lakebans suggested that, from an early age, one’s knowledge of relationships to others becomes tied closely to daily and ritual activities. In any gathering or meeting with kin, a sense of legitimacy is established by any person knowing of their relationships to others. Thus, Fane, a Vakano woman who had lived in the capital of Suva for 35 years, suggested that her older brother did not always know the meanings of relationships to their kin — this brother had left Vakano at the age of seven to attend school in Suva and never returned to the village. When her brother moved to Sigatoka, a town in western Viti Levu ([see map](#)), he asked her “Why does Pita [cousin from Lakeba] always come to my house, consult me? When there are gifts, he brings me a share of the best, whether pork or mats”. Fane explained that “this is because Pita remembers as a child what used to go on at home [Vakano] . . . When he grew up he saw [the exchanges between our families], how we kept relationships” (field notes, 1995).

There is a strong sense in which memory becomes embodied in the actions of kin, so that relationship pathways evoke a sense of genealogical movement between past and present as well as of the physical movement of kin from place to place. Fane’s experience suggests the significance of knowing kin relationships in an urban place and her own account of moving from Lakeba to Suva is situated in a context where giving and receiving are tied closely to asserting an identity continuous with a long past. As she explained, her grandparents had emphasized past events in their story-telling, *i tukuni* [oral traditions], so that Fane knew “... the people who

had come, what they bought. We were supposed to keep that, to reciprocate that when our relatives came" (field notes, 1995).

A person's relationship with older and younger siblings clearly establishes who they are in a particular family, the significance of which is transformed through time. Among Lakebans, while a person may marry, establish a separate household and live in different places, sibling relationships remain strongly affective ties. The notion of kinship evoked by Lakeban narratives describes two possible pathways: those that include ties between siblings, *veitacini* and *veiganeni* and cross-cousins, *veitavaleni* and *veidavolani*, and pathways that embrace all consanguineal and affinal relations. Because one carries relationships with them, functions, meeting kin and reciprocal giving are important markers for both siblings and other kin.

Conclusion

It has been argued in this paper that, underlying the links between movement and gender in Fiji, are discourses on mobility which construct the domestic and the familiar as the domain of women and the unknown as that of men. In this context, movement to an urban place is shown significantly to disadvantage women and to lessen their abilities to control their lives in those places. That both colonial and Fijian discourses underscored gender relations is revealed through both an overview of regulations during the colonial period that restricted the movement of indigenous Fijians and of the proceedings of the *Bose Vakaturaga* for more than a century. Although women were mobile in pre-contact times, written sources portrayed them as bound to the domestic domain. When husbands and villages were left, the mobility of women was portrayed as "aimless wanderings" and wandering became a metaphor for sexual transgression rather than any desire to acquire goods of the "West", the reason often given for Fijian men who left *their* wives and villages.

Contemporary studies on mobility and urban households are vague in their sketches of the colonial and post-colonial experience of indigenous Fijian women. Urban experience is presented as a disjuncture of rural and urban, past and present, yet scholars have not critically examined the meanings associated with rural and urban place and with community through time. Generally, women's experiences are portrayed as discontinuous with the past, for women are "followers" and only more recently "movers" in their own right. More significantly, the voices of women and accounts of their mobility experiences are largely absent from the urban literature.

Recent field research suggests that gender and household relations in urban places such as Suva are complex tied to experiences of past and present that become embodied pathways of movement (*wakolo*), and describe kin relations within and across households. Such a perspective raises questions about the specificity of movement experience and the ability of women to establish and re-establish social ties and cultural identities in urban places. It also provides an alternative perspective on the urban Fijian household, one that focuses attention on the role of women as sisters as well as wives, and on the intricate links between women's knowledge, personal legitimacy and group identity.

For future regional development policy initiatives to be successful in Fiji, greater recognition needs to be given to the movement of men and women as a dynamic of community change. While past government policies have attempted to curb the "urbanward" flow of Fijians, and define development issues along rural and urban axes, it is complex household and community inter-relationships that cross rural and urban boundaries that often sustain existing social and economic activities. By highlighting some of the key issues raised by an evaluation of gender, this paper provides one possible direction for policy formulation in this field.

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