

Investigating Factors Influencing Brain Drain of Citizens of Azad Kashmir Pakistan

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Abstract

The primary purpose of the paper to analyze the impact of Human Capital Migration on the social sector of Azad Jammu & Kashmir. Population of the study was the above matriculation (10th grade) migrants shifted from Pakistan to abroad. A sample of 300 people was request to fill the questionnaire out of which data collected from the 225 participants. To strengthen the study, we utilized both primary as well as secondary sources for data collection. Regression and correlation statistics utilized to identify the association between the predictor and outcome variables. Conclusively, there are numerous root causes of the Educated Human Capital Migration from the Mirpur Division Azad Jammu & Kashmir. This study finds that the Economic Factor, Social Factor, Job Opportunity Factor, Political Factor, Education System Factor, Pure Science Factor, Technological Factor has a significant impact on the phenomenon of Brain Drain. In the long run the migration of Educated Human Capital destructs the institution as well as the region. Study is beneficial for the policy makers of Azad Jammu and Kashmir to attract the skilled migrants back to their orgin. The acamdicians can further study thus topic to explore the Brain Drain at demographic level.

Keywords: Human capital migration; Educated human capital; Brain drain; Brain gain.



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1. Introduction

Brain Drain is a process by which people who possess high skill levels, educational qualifications and competences shift from their country to the developed countries. Literature suggests that educated Human Capital Migration (HCM) impacts two countries. Countries from where the talented people are migrating towards developed world and the migrant's origin country. Anecdotic ally, the Brain Drain (BD) has a positive impact on both countries if the skilled people and sending money back to their home in form of remittance (Tina, 2015). However, incase of permanently switching from one country to another, skilled people can have a negative impact on the economy of their first country. The phenomenon why people move from one country to another country is least explored on context of Azad Kashmir Pakistan. Therefore, this study is focused to identify the factors which influence the talent people to leave their country and settle in some other country.

2. Brain Drain in Brief

In 1952 the British Society of London first used the term, Brain Drain. The emergence of term basically relied upon the shift of Educated Human Capital from their origin countries to the countries where they have the better settlement and work opportunities. It was a part of history that during certain time period scientists, technical Russian workers from the former Union of Soviet Socialist Republics (USSR) to the United States of America During the time period of 1960 the government of United States devised a policy and legislation to refrain the best Educated Human Capital from the different origins of the world as it has the potential to create different problems for the government of the United States (1967, 1968a, 1968b). Root causes of Brain Drain are *lack of jobs and*

research opportunities, politics as a factor of migration, pure science factors as the source of migration, better well of parents, Education System Factor and scarcity of Jobs

Brain Drain is a worldwide problem particularly for the developing countries due to globalization. During the last few decades' migrations of Educated Human Capital all over the world heightened at panic level (Tina, 2015). Many Educated Human Capital is moving every year from the AJ&K to abroad. Furthermore, the focus of this research is to find out the root causes of the migration of Educated Human Capital, what should the government, law and enforcing agencies and institution play role and devise a comprehensive plan?

3. Literature in Favor of Brain Gain

There are some factors which cause Brain Gain. Different researchers have tried to find out those critical factors in their researches. Some of those researches are listed below:

A proposal is offered by Malaysian's government that when Human Capital return they will be given incentive and financial packages. The incentives offered by the government gives tax immunity to the individual households, education relief for the young ones of the migrants and settlement case, the lifetime stay or nationality for the wife and young ones (UNDP the United Nations Development Program, 2007).

As a case in study, South Korea is a country which seen oppressive brain drain in the past few decades. In 1960's it was published in the reports that 80 to 90 percent of the Korean's best brain, such as categorized student's, engineers, scientist migrated to the United States of America. To cope with this situation the South Korean's government head Chung Hee Park uniformly proposed to return back the educated migrants by organizing the KIST (Korean Institute of Science and Technology) and investing in the industrial sector to boost up (Yoon, 1992).

For industrial innovation, the government of Korea allocated optimum funds for KIST (Korea Institute of Science and Technology) as well as R&D (Research and Development) initiatives. Private multinationals in Korea also followed the practical and radical steps taken by the government. They offered very low even no interest-bearing loans to enhance the rate of returnees to Korea. Other countries around the globe also implicate similar strategies (Saxenian, 2005).

China gave much and timely needed importance to the educated Human Capital, for this cause, China initiated 100 Talent Programs in 1996 to attract the best brain back to China who will ultimately will benefit China in future. The first and foremost aim of the programme was to attract, recruit and retain the 100 efficient scholars from all over the world by the end of 20th century. The scholarship also includes other benefits and incentives such as today the individuals have a chance to win two million Chinese Yuan (around 300,000 US dollars). In this offers the winners also get "new housing facilities, a new laboratory, imported equipment, and a research team consisted of graduate and talented research compliance staff with a home-based Ph.D." (UNDP the United Nations Development Program, 2007).

There are some factors which cause Brain Drain. Different researchers have tried to find out those critical factors in their researches. Some of those researches are listed below: Health sector plan of Suriname 2011 – 2018 (Health, 2011), concludes that there is a scarcity of some medical specialists (Surgeons, anesthesiologist's and specialists in disciplines such as geriatrics, trauma, and infectious diseases). The professional migrant's destination was the Netherlands to settle down for their adjustments, ultimately a loss for the state of Suriname as per a shortage of educated and professional individuals. Suriname suffered much in different sectors such as health, and education, some public sectors of the state impaired in a terrible manner due to shifting of educated migrants.

In 1979, when Iran revolutionized through the Islamic change and the older giants were demolished through a positive change, and the Islamic Republic came into being as a result. And it laid down the foundation stone for the early migration of educated Human Capital of Iran, most of them shifted to Europe and the United States of America. There are certain inevitable consequences through which the Iranian Human Capital have migrated abroad (Chaichian, 2008); (Hakimzadeh, 2006; Torbat, 2002).

In the era of 1990s, new theories and discussions emerged outlining the migration of the Human Capital, and skilled workers resulted in Brain Gain that was for the long-term benefits. It was a source of financial gain for Iranian's economy and the migrants' relative who were left abroad (Hunger, 2002). There are three main key factors that used as a determinant for the Brain Gain. First, the migrated Human Capital of Iran may provide an incentive for the population left behind to get the education (Mountford, 1997), the second factor is that migrant may send the financials to the families left behind it may be proven as beneficial for the country (Gibson and McKenzie, 2011).

4. Literature Related to Pakistan

Pakistan probably only the country in the world which can be considered as a great case of brain drain, no other country is being affected by such situation as Pakistan. Facts and figures show that around 3500 graduates from prestigious medical colleges of Pakistan shifted to abroad due to the scarcity of the job. Pakistan's Overseas Employment Corporation concludes that 36,000 educated individuals such as teachers, engineers, doctors shifted to abroad in the past three decades due to the scarcity of the jobs in the home country. Many migrants don't register while leaving the country in recent year the migrants figure reached to 45,000. There is a scarcity of the job opportunities for the educated individuals, so the threats of the Brain Drain to Pakistan are not ambiguous. Government is also enforcing a low rate of income of uneducated ones to maintain a phenomenon of egalitarian income policy (Abid, 2012). According to the Bureau of Emigration and Overseas Employment, the numbers of migrants have been increased since the 1970s.

That shows an upward trend in workers movement abroad. According to statistic figures given by Pakistan’s Overseas Employment Corporation about 36,000, Educated Human Capital such as doctors, teachers, and engineer migrated to abroad because of better well off.

Figure-1. Conceptual Framework of the Study

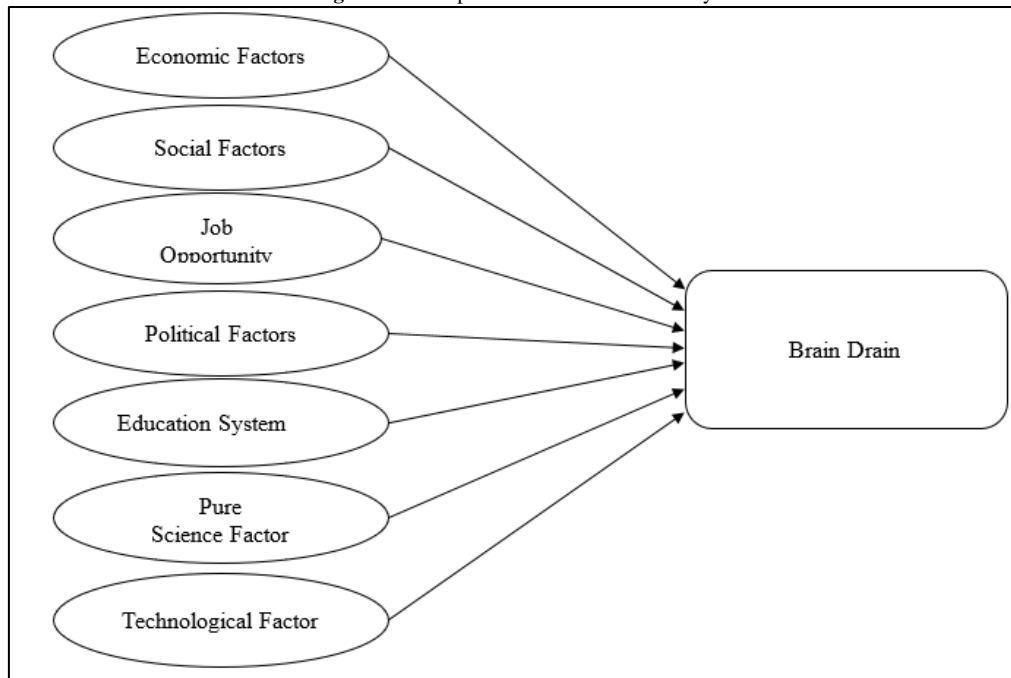


Table-1. Research Hypothesis Development

H1:	Economic Factor has a significant impact on the phenomenon of Brain Drain.
H2:	Social Factor has a significant impact on the phenomenon of Brain Drain.
H3:	Job Opportunity Factor has a significant impact on the phenomenon of Brain Drain.
H4:	Political Factor has a significant impact on the phenomenon of Brain Drain.
H5:	Education System Factor has a significant impact on the phenomenon of Brain Drain.
H6:	Pure Science Factor has a significant impact on the phenomenon of Brain Drain.
H7:	Technological Factor has a significant impact on the phenomenon of Brain Drain.

Education System Factor, Pure Science Factor, Technological Factor were not included in research model and hypothesized statements of Beine *et al.* (2001); Eggert *et al.* (2010); Batista *et al.* (2012); Tina (2015).

5. Research Methodology

The research pattern, initial investigation, and procedures are examined in this chapter, which explains the logical basis behind choosing the suitable methods, and statistical techniques that were used in systematic order to get the objectives of the research.

De Vos *et al.* (2005), along with Burns and Grove (2003) identified that population consists of all the respondents that a researcher wants to include in his/her research study. The researcher targeted the population of the Mirpur Division AJ&K. Mirpur Division comprises three districts Mirpur, Bhimber, and Kotli. The target population mainly consisted of all the Educated Human Capital who have migrated from these three districts.

Purposive sampling is basically on the expert judgment of the researcher to select the sample for the data collection (Mason, 2002). Parahoo (1997), elaborates the purposive sampling as “a systematic method of sampling process when the researcher intentionally picks the respondents who would be included as per their traits and qualifications. Judgmental Sampling is a type of sampling technique when the researcher chooses the unit that are part of sample based on the knowledge of the researcher and expert judgment. Judgmental Sampling technique is considered in the stages of sampling.

The sample consists of 100 percent male and 0 percent female. The response rate of female is 0 percent because of many reasons behind the scenario. Since the culture of AJ&K is typical in nature such as it is obvious from evidences that Educated Female individuals from the state of AJ&K will likely to stay at home station and start a job which is not far from home. Güngör and Tansel (2008), concluding in their research study with a theory that females are less likely to migrate from under developing countries because of many reasons such as typical nature. Respondent’s ages were 22 to 50 and above. Educational level of the Human Capital was from matric to MS/M.PHIL.

The main source of data was of primary nature, but the total population was obtained from the Federal Bureau of Emigration and Overseas Employment, Pakistan as a nature of Secondary type. The questionnaire was adapted from the previous research conducted in Tina (2015) of same nature to check the migration of Educated Human

Capital from the state of Suriname either it is Brain Drain or Brain Gain. With little modification, the questionnaire was distributed to the migrants abroad using online Google forms or even through email. The questionnaire consisted of 5 Likert scaled questions were asked to the respondents. Such as 1 = Unimportant; 2 = Not Very Important; 3 = It Does Not Matter; 4 = Important 5 = Very Important. The scale is adopted from [Güngör and Tansel \(2008\)](#).

Mainly the mode of collection of data was based on a questionnaire. The questionnaire is partially self – administered as there are some items adapted from the research study of [Tina \(2015\)](#). The source of data collection was primary in nature. As there is no much data available, that what are the root causes of the migration of Educated Human Capital from Mirpur division AJ&K. The only population is available that how many migrants are shifted abroad with the reference of Federal Bureau of Emigration and Overseas Employment, Pakistan. The questionnaire is filled by the Educated Human Capital who shifted abroad by using email as well as google documents online questionnaire developing facility.

Data is analyzed through the SPSS. Data is substituted in MS – Excel worksheets, subsequently is transferred onto SPSS (ver. 21). For Hypotheses testing regression analysis is done through SPSS. This mainly consists of the analysis of the data and its interpretation of the results that were collected from the Educated Human Capital. The responses of the respondents enabled the researcher to interpret them. The descriptive analysis, correlation, regression analysis of the data and their interpretation is given as follows:

Descriptive analysis was obtained through the process of data collection instruments such as a questionnaire. The data was transformed and analyzed using descriptive techniques relevant to the measure of central tendency such as mean and mode. Descriptive analysis played a vital role to check the normality of the data distribution — the statistical techniques used for the data relied upon the characteristic of the data. Furthermore, the descriptive analysis of the data elaborated the data from generalization to a specific group of the respondents observed during data collection. No conclusive results could be possible without considering descriptive data analysis. The descriptive analysis provided a brief analysis and much valuable information for the characteristics of respondents ([Best and Kahn, 2003](#)).

There are three demographics considered in this research study in compliance to analyze whether the responses of the respondents have an impact on the potential outcome of the relevant variables considered in the study. The demographics included age, education, and gender. The brief description of the demographics is as follows:

All responses were recorded according to their level of education and all the Educated Human Capital of the education categories were highly likely to move abroad because of the inevitable

Table-2. Education of Respondents

Frequency	Percent	Valid Percent	Cumulative Percent	
Matric	45	20	20	20
Inter	45	20	20	40
Bachelor	45	20	20	60
Masters	45	20	20	80
MS/M.PHIL	45	20	20	100
Total	225	100	100	

evidences given by them. These results are in line with the research studies of [Dulam and Franses \(2014\)](#) which concluded that Educated Human Capital have a highly likely thought to move abroad because of facilities, salaries and confidence in government.

[Tina \(2015\)](#) in her study demonstrated that percentage of the male migrants have much propensity such as no female experience was seen who shift abroad in accord to percentage of the Educated Human Capital this best fit to the theory that female Educated Human Capital have very low or no propensity to move abroad the reason is because of the cultural restrictions ([Güngör and Tansel, 2008](#)); ([De Jong, 2000](#)). The situation supports the state of Azad Jammu Kashmir because of the culture. demonstrates the age groups of the Educated Human Capital. The age group of 16–25, and 36–45 have the same frequency level of 83 and 36.9 percentage among the group ages. It depicts that the Education Human Capital of these such age has the much propensity to move abroad. Therefore, the mean age of the respondents is 16-25 and 36-45. These results are in accordance with [Docquier and Marfouk \(2006\)](#). The age group 2 demonstrates the frequency level of 46 and 20.4 percentage.

6. Brain Drain Data Analysis

The responses of the Educated Human Capital is collected against the variables and then data is analyzed using Regression Analysis. The hypotheses were tested by the regression table, supported by the literature. The Educated Human Capital showed much leniency to the factors which heighten the rate of migration from Mirpur Division at this migration resulted in Brain Drain.

Table-3. Model Summary

R Square	Adjusted R Square	Durbin-Watson
.553	.538	1.691

Henseler *et al.* (2009), elaborated R – Square that how much variation caused by independent variable to dependent variable, as evidenced from the table almost 55 percent of the variation in dependent variable of BD (Brain Drain) was explained by Independent variables TF (Technological Factor), SF (Social Factor), EF (Economic Factor), JOF (Job Opportunities Factor), PF (Political Factor), ESF (Education System Factor) and PSF (Pure Science Factor). Adjusted R – Square is the improved version of the R – Square.

The Durbin-Watson assumption have a standard that its value is in the range of 0 to 4 (Durbin and Watson, 1951). A rule of thumb standard is that the statistical values which are in range between 1.5 to 2.5 are considered as normal. The values under the range of 1.5 or more than 3 led to violation of autocorrelation assumption (Field and Miles, 2010).

Table-4. Regression Analysis

Variables		Standardized	t	Sig.	Collinearity Statistics	
		Coefficients			Tolerance	VIF
	Beta					
	(Constant)		-5.394	.000		
Economic Factor	EF	.250	5.392	.000	.955	1.047
Societal Factor	SF	.157	3.021	.003	.759	1.318
Job Opportunity Factor	JOF	.241	5.001	.000	.891	1.123
Political Factor	PF	.308	6.148	.000	.822	1.217
Education Sys. Factor	ESF	.292	5.793	.000	.811	1.233
Pure Science Factor	PSF	.275	5.169	.000	.727	1.375
Technological Factor	TF	.219	4.670	.000	.940	1.064

Source: Generated through SPSS on the basis of collected data.

VIF (Variance Inflation Factors) elaborates that how much multicollinearity is present in the regression analysis. A rule of thumb is used to check the value of VIF meeting the assumption such as:

The stronger the value of Beta the stronger will be the influence of dependent variables on the independent variable.

7. Results Interpretation

For hypothesis H1, the significance value of $P < 0.05$ shows that Economic Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Economic Factor. The results are in line with the research studies conducted by Nasir and Dr Mohammed (2004) and Tina (2015).

For hypothesis H2, the significance value of $P < 0.05$ shows that Social Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Social Factor. Similar results are being reported by Findley (1987), Gibson and McKenzie (2011) and Tina (2015).

For Hypothesis H3, the significance value of $P < 0.05$ shows that Job Opportunities Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Job Opportunities Factor. The results are in line with the research study by Docquier *et al.* (2007), Gibson and McKenzie (2011).

For hypothesis H4, the significance value of $P < 0.05$ shows that Political Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Political Factor. Similar results were reported by the research study of Easterly and Levine (1997); Alesina *et al.* (2003); Gibson and McKenzie (2011); Güngör and Tansel (2008).

For hypothesis H5, the significance value of $P < 0.05$ shows that Education System Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Education System Factor and Gibson and McKenzie (2011).

For hypothesis H6, the significance value of $P < 0.05$ shows that Pure Science Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Pure Science Factor. Gibson and McKenzie (2011) and Güngör and Tansel (2008).

Similarly, for hypothesis H7, the significance value of $P < 0.05$ shows that Technological Factor significantly impacting the phenomenon of Brain Drain. Therefore, the hypothesis is accepted that Educated Human Capital move to abroad because of Technological Factor. Similar research study being conducted, and results were reported that Technological Factor also acts as factor of Brain Drain. Saxenian (2005); Dulam and Franses (2014); Dulam and Franses (2015); UNDP the United Nations Development Program (2007), standard deviations from the mean figures. The Allocate Sufficient Funds is highest amongst all the variables included. The other remaining variables such as Cultural Exchange Scholarships Programs, Autonomous Un – Biased System, Accredited Universities, and Higher Compatible Salaries have mean value 3.95, 3.58, 3.60, 3.59, 3.62 respectively. No value is either on extreme positive or negative peaks. It can be concluded that Educated Human Capital gave weightage to the B.G factors to the Likert Scale almost 4 (Important), these factors may be helpful to assess the phenomenon of Brain Gain (B.G).

8. Conclusion and Recommendations

The aim of this study was to determine whether issues of Human Capital Migration leads to Brain Drain or Brain Gain. The target population of research was Educated Human Capital Mirpur division of Azad Kashmir was selected. Regression analysis shows that Economic Factor has least impact on the phenomenon of Brain Drain while all other factors have significant impact on the phenomenon of Brain Drain. Social Factor, Job Opportunities Factor, Political Factor, Education System Factor, Pure Science Factor, Technological Factor are responsible the phenomenon of Brain Drain. Due to these factors Educated Human Capital move abroad because of these factors. From these analyses was concluded that the responses of the Educated Human Capital on basis of education level with respect to Economic Factor are different it means that Educated Human Capital have different point of view. All other responses relevant to the factors such as Social Factor, Job Opportunity Factor, Political Factor, Education System Factor, Pure Science Factor, and Technological Factor are not different. It means that all remaining respondents agree that based on education relevance to the factors they move abroad.

Research study have implications and recommendations which may be proven as best source of information to the government and effective for the future development of the state of AJ&K. The government of AJ&K in accord to the government of Pakistan must device some comprehensive policies to retain the Human Capital or may utilize and accumulate the Brain of Human Capital to benefit both the parties such as individual as well as government at large. The suggested recommendations based on the study are given as follows:

Concrete policies must be devised by the policy makers to provide the job opportunities to the young educated blood to serve their country. The results of implementing these policies would be much favorable to the country as well as for the human capital.

The salary packages between the resident country and the source country are on high difference. The small proportion increase in the salaries packages such as health care bonus are not enough to retain the healthcare expertise such as the doctors and professional nurses. The salary packages of the graduate must be up to the standardized economic policy.

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