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The Factors of Migration in Northern Mountain Region of Pakistan (A Case Study of Tehsil Murree, District Rawalpindi)

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ABSTRACT

This study was conducted in Tehsil Murree area of Rawalpindi District. Data was collected from around 450 participants in order to assess the factors of migration from the area. Descriptive analysis of the results showed that agriculture is not the primary source of income for the people of Murree area and they have shifted to off farm activities. The results showed 23.07% of the people have already migrated from the Tehsil. The Logit model was used, both to estimate the impact of the independent variables on declining agriculture due to increasing migration in the area and to predict probabilities of changes in migration pattern. The analysis in the study area establishes the fact that migration in Tehsil Murree is due to many factors that includes age, education, family members, number of children, education in the area, land area and percent contribution of agriculture in total income. The study has shown that ignorance from farming system and out migration from the area, are altering the natural environment leading to the disappearance of natural habitat, flora and fauna which has critical implications on rural livelihoods.

Keywords: Mountain Agriculture, Tehsil Murree, Murree Migration.

INTRODUCTION

In Pakistan, rural to urban migration is increasing faster as compared to past. The process of migration especially internal migration in Pakistan is an old phenomenon (Perveen, 1993). It not only provides opportunities for employment but also improves the socio-economic condition of migrant households (Arif, 2005).The migration is even higher in the mountain parts of the country due to limited level of livelihood opportunities and lack of facilities as compared to plain areas. Maximum resources are contributed to facilitate the urban community. Therefore, because of the government's lack of attention towards addressing the rural issues and better employment and living conditions in urban areas people are shifting towards the cities. Migration of a household member to seek employment provides an alternative route to reduce risk through income diversification (Stark and Bloom, 1985, Taylor, 1999) and improve their livelihoods (De Haas, 2007). The 'migration as adaptation' could be considered as a subset of the 'migration and development' discourse, and is conceptually grounded on the merging of the New Economics of Labour Migration (Stark and Levhari, 1982) and Sustainable Livelihoods Approach (Scoones, 1998). Any potential benefit from migration needs to be weighed against potential costs (e.g. social costs, unrealistic expectations, poor standard of living, and low wages or substandard working conditions in destination) (Foresight, 2011).

Within the New Economics of Labour Migration (NELM) approach, the decision to migrate is made at the

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household level, and involves both the migrating and non-migrating members of the household. The costs and returns of migration are shared by the migrant and household (Stark and Lucas, 1988). Migration is considered to be a risk-sharing behaviour of the household to diversify resources in order to minimize income risks (Stark and Levhari, 1982) since remittances serve as income insurance (Lucas and Stark, 1985), reduces number of individuals that a household supports, and establishes a network that could assist potential migration of other family members (Stark, 1991).

Rate of migration is higher in mountain region as compared to the plain areas. Wymann et al. (2013) describes the mountain areas as dispersed patches of usable land at different altitudes with different climatic condition with their own natural landscape and less space for mechanization. The structure of the mountain and low population densities as compared to the urban areas make the mountain life tougher for its residents. The provision of facilities such as roads, healthcare centers and educational institutes are very rare to see in mountain areas. People are often sidelined in political, economic and social decisions because of the fact that they are not part of the central economic and political zones. Pender and Hazell (2000) explained the mountain areas phenomenon by dividing it into favored and less favored areas. Less-favoured areas (mountain areas) are limited in potential for agricultural production due to biophysical constraints such as uncertain rainfall, steep slopes, or poor soils or that face socio-economic constraints such as poor access to markets and infrastructure (or both). The investment in mountain areas is very crucial for the development of the local communities as well as for the nation in large. Kayastha et al (1998) find out that due to low return from farming activities the people in rural areas of Nepal have shifted towards other areas for their income generation. Income generated through farm activities was not enough to fund the household expenses therefore, people have moved to the off farm sources of income generation. Off-farm employment (through migration) is an important source of income generation in most parts of the world (OECD, 1995; Haggblade et al. 1989; ICIMOD, 1992). It is gradually getting importance in supporting rural households but is also moving people out (Shand, 1986; Olfert, 1992). Due to lack of agriculture potential in the rural areas with having small land holding and lack of agriculture environment people move for Off-farm employment, and this strategy is helpful for them to improve their livelihood (Eapen, 1994). In both developing and developed countries, literature explains the declining farming and off farm employment.

2. METHODOLOGY

2.1 Study Area

This study is carried out to analyze factors effecting migration in Tehsil Murree area of district Rawalpindi in Punjab, Pakistan. Murree is Pakistan's most prominent station in the northern belt of Pakistan, approximately 50-55 kilometers from the capital territory, Islamabad. It is at an elevation of 7500 feet around 73 26 east and 33 54' 30" north scope longitude as shown in Figure 1. Murree, one of the seven towns/tehsils [sub-division] of Rawalpindi region. It is spread over a region of 434 Sq kilometer. The last census was conducted in 1998 in Pakistan, according to which the population of the area was 176,426 persons of which 90,780 were male while 85,646 were female. 155,051 individuals live in the village areas and 21,371 live in the town side. Murree is divided into 15 Union Councils including one city cantonment area. The literacy rate in the area is higher than many other regions of the country. In last census report the literacy rate at Murree was around 69%.

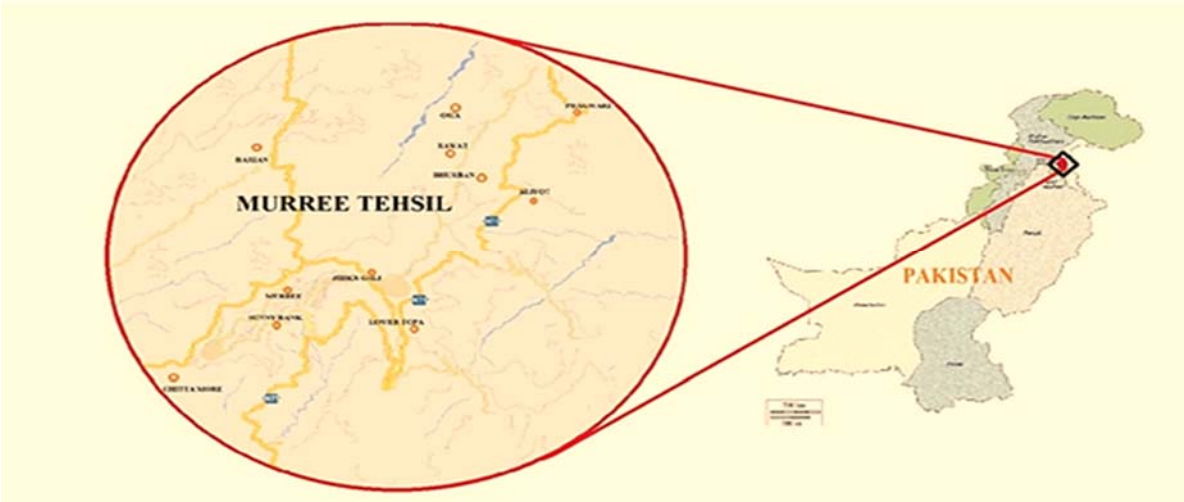

Figure 1: Location of Study Area

2.2 Data Collection

The survey was conducted in all 15 union councils of Tehsil Murree area. A total of 450 questionnaires were filled from households with 30 closed format questionnaires were used from each union council through random sampling method. The questionnaire was pre-tested and some changes to questions and content were made before field implementation. The data was collected in winters from January to March 2015. The data was collected mostly from the male members and females only represented 5.8% of the total data. Data was analyzed using SPSS version 21 in year 2015.

2.3 Estimated Model

Age of the household is important as it is likely that more aged household will tend to live in the villages and will not migrate. Young people have more migration ratio as compared to old ones as they are looking for new income generating opportunities. Age factor for migration becomes less important when social facilities like health, energy and water are taken into account. Education, may probably effects migration and households tend to migrate towards cities for the education of their children. Education is linked to adaptive capacity because it improves the ability to understand, accept, and properly utilize new agricultural (and non-agricultural) technologies and innovations (Asfaw and Admassie, 2004) and education of the household head is strongly correlated with economic wellbeing (Hunzai et al., 2011). Household size is a measure of the capacity for work (Aulong et al., 2012). Numbers of family members and number of children in a household likely have an impact on probability of migration. For more family members in a household it is difficult to move out and settle in some new place, especially the major cities of a country. Same is the situation with number of children in a household. Households with more children have difficulties in moving out and settle in new cities.

There is also probability of migration due to lack of educational facilities in the villages. Households have to migrate for providing good quality of education to their children. Even in some cases if the basic education facilities are meeting the requirements, there are no opportunities to get higher education.

There is a negative relationship between size of the farm and off farm employment in many countries of the world, including Canada (Olfert, 1992), India and Pakistan (Islam, 1986) Bangladesh, the US and Japan (Kada, 1980), and India/Kerala (Eapen, 1994), in Africa (Reardon et al., 1992) and in Nepal (Amatya, 1982). Size

of land is likely to influence the probability of household for migration. Due to small farm size farmer suffers from low productivity and just produce at the subsistence level (Chaudhry, 2006). Larger land area provide opportunity to get more quantity of cereal crops, fruits, wood and pasture for livelihood. In rural areas, especially in mountain region, land is the major asset a household possess. Out migration will risk the land and due to multi ownership of land area in mountain regions, households with more land area may not opt for permanent migration due to risk of loss. Percentage contribution of agricultural products may also affect the probability of households to migrate. More contribution of farm products may provide solid reasoning to stay in the village and less percentage contribution may results into out migration.

Model analysis was performed along with binary logistic regression model to generate the results. The Logit model is a statistical probability model with two categories in the dependent variable. Logit analysis is based on the cumulative normal probability distribution. The binary dependent variable, y, takes on the values of zero and one. The outcomes of 'y' are mutually exclusive and exhaustive. In logistic regression Probability or Odds of the response taking a particular value is modeled based on combination of values taken by the predictors. Although most of the properties of a logit model also hold for a probit model, the theoretical justification for employing the probit model is generally limited, while the logit specification is theoretically more appealing (Pindyck and Rubinfeld, 1976, pp. 245-47). Furthermore, the properties of the estimation procedure of the logistic function (which results in a logit model) are more desirable than those associated with the choice of a normal probability distribution, which results in a probit model (Rubinfield, 1977, p. 32). The logit model has been estimated for these variables and results were acquired using SPSS version 21.

The demographic variables included in the Logit model were: Age, Education, Family_ Members, Number of Children, Education in the Area (E_Area), Land Area and Percent Contribution of agriculture in total income (Percent_Contribution). The following logit model was estimated to see the factors effecting migration in Tehsil Murree.

$y = \beta_0 + \beta_1 Age + \beta_2 Education + \beta_3 Family\_Members + \beta_4 No\_of\_Children + \beta_5 E\_Area + \beta_6 Land\ Area + \beta_7 Percentage\_Contribution$

y = (1 if decline in family farming in mountain areas is due to Migration)

The Logit model was used both to estimate the impact of the independent variables on declining agriculture due to increasing migration in the area and to predict probabilities of changes in migration pattern.

3. RESULTS AND DISCUSSION

The descriptive analysis shows that participant's age on average was around 43 years with minimum age of 24 and maximum 82 years. Average education of the respondents was 10th class (9.29 accurately). Total family members on average in a household were calculated to be 6.57 with number of children per household were 3.68. Agriculture is not the primary source of income for the people of Murree area and they have shifted to off farm activities. The average land area in the tehsil is lower and on average each household has an area of 5.20 Kanals (less than 1 acre). Land is mostly terraces and cultivated area even reduces further due to hedges and steps. Around 30% of the respondent's do not have any agricultural land in the area. Due to limited available income opportunities in the Tehsil, people are migrating to the urban area. Most of the people migrate to Rawalpindi and Islamabad. The results showed 23.07% of the people have already migrated from the Tehsil.

Table 1
Basic Household Information

Name	N	Minimum	Maximum	Mean	Std. Deviation
Participants Age	450	24	82	43.81	13.186
Participant Education Level	450	0	21	9.29	4.154
Total Family Members in a Household	450	0	22	6.57	2.634
No of Children of the Respondent of Family Head	450	0	13	3.68	2.324
Land Area (Kanal)	450	0	100	5.20	9.910
Percenetage of People Doing Seasonal Migration from the village	450	0	99	23.07	25.550

Only 12% of the respondents have their source of income coming primarily from agriculture sector. The study area showed around 24.8% of contribution of households income is coming from the agriculture. This includes the cultivation of crops like wheat, maize and potatoes, vegetables like cucumber, pumpkins, tomatoes, bringals, chilies and ladyfinger. Along with that people also have livestock like buffalo, cow, goats and poultry. People are not involved in the commercial agricultural activities. Around 5.8% of the respondents sell their crops in the market while 10.9 % are involved in commercial livestock activities.

Table 2
Agricultural Farming by Households

Name	Frequency	Percent
Farming Occupant	17	3.8
Land Ownership	317	70.4
Agriculture as a Primary Source of Income	54	12
% Contribution of Agriculture in Total Income	110	24.8
Crop Cultivation by the Respondent on his Land	221	49.1
Selling any Produce in the Market	26	5.8

A test of full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between migrants and non-migrants (chi square =34.390, p=0.000 with df= 7). Nagelkerke's R^2 of .101 indicates a moderate relationship between prediction and grouping. Prediction success was 66.9% Percent.

The Wald criterion demonstrates that among the

selected predictors some showed significance while some of the predictors were non-significant. Table 3, shows the results of regression analysis. The increase in average age of household members will not affect migration in the village. The significant P-value at 10% confidence interval shows that, education in the area increases there are more likelihood of migration. The area does not have any opportunities for educated people, therefore, most of the people who achieve higher education will tend to move towards the cities.

Relation between family members and migration is negative, showing more members in the family will tend to decrease the chances of migration. As it is difficult to settle up in a new place with a large family, especially keeping in view that migration from these villages is mainly towards the expensive cities of Pakistan (Karachi and Rawalpindi/Islamabad). There is combined family system in the villages and every household comprises of parents (household heads) living together with his married children's and un-married daughters. Therefore, it is difficult for such a household to shift towards the cities. But contrary to this, it is easier for an individual family (husband, wife and children) to migrate because of an independent family and less burden of social responsibilities. Most of the people tend to migrate because of children's education. People are not satisfied to the quality of education provided at village level. The results showed that if education facilities in the area can be improved there will be less chances of migration. Land is also an important factor in migration, the results showed that people having more land will not go for migration. The percentage contribution of agriculture in total income does not showed any positive relationship and is statistically insignificant as well. It is because commercial farming approach is not yet being adopted by the families. They lack behind in knowledge and skills required for modern agriculture and people are unaware of commercialization activities.

Table 3

Maximum Likelihood Estimates of the Logit Model for factors of Migration

Variables		B	S.E.	Wald	P value
Step 1[a]	Age	.001	.009	.010	.919
	Education	.044	.026	2.859	.091
	Family_ Members	-.190	.069	7.528	.006
	No_of_Children	.204	.080	6.513	.011
	E_Area	-802	.228	12.399	.000
	Land Area	-.033	.015	4.954	.026
	Percent_Contribution	-.016	.566	.030	.139
	Constant R^2 Log-Likelihood %age Prediction correct	-.098 .101 548.928[a] 66.9	.566	.030	.862

4. CONCLUSION

The analysis in the study area establishes the fact that migration in Tehsil Murree is due to many factors. This study has shown that ignorance of farming system and out migration from the area, are altering the natural environment leading to the disappearance of natural habitat, flora and fauna which has critical implications on rural livelihoods. Understanding of local people towards declined agricultural productivity is limited due to limited knowledge. Due to difficulties of mountain topography, people of the area take least interest in agriculture sector.

In order to get maximum out of mountain agriculture, communities living in the mountain areas should be strengthened. They should be trained to handle each step from production, harvesting, storage, processing, marketing and development of value chain. Moreover, environment for farming should be in favor of mountain societies. This includes the availability of quality seeds and best farming practices, techniques for management of crops and loan schemes to meet their financial requirements. Local people will keep on migrating unless their livelihood is improved at local level.

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عوامل الهجرة في منطقة الجبال الشمالية في باكستان (حالة دراسية لـ تهسيل موري، مقاطعة روالبندي)

سكب سكيل عباسي، تايا كيم

ملخص

لمعرفة العوامل المؤثرة في الهجرة من منطقة تهسيل موري في مقاطعة روالبندي جمعت بيانات من 450 مشارك.
التحليل الوصفي أوضح أن الزراعة ليست المصدر الرئيس للدخل في المنطقة المذكورة، بل إن الأفراد انتقلوا للأعمال غير الزراعية.
وبينت النتائج أن 23.07% من السكان قد هاجروا من تهسيل.
نموذج logit تم استخدامه لتقدير أثر المتغيرات المستقلة على تراجع الزراعة بسبب تزايد الهجرة، وكذلك تم استخدام النموذج للتنبؤ بالتغيرات المحتملة في أنماط الهجرة.
بينت النتائج أن الهجرة في تهسيل تعود إلى عدة عوامل منها: العمر، التعليم، عدد أفراد الأسرة، عدد الأطفال، التعليم في المنطقة، الأرض، ومساهمة الزراعة في الدخل.

الكلمات الدالة: الزراعة الجبلية، تهسيل موري، الهجرة في موري.

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