Remittances from Internal Migration: Determinants and Its Impact on Household welfare in Bangladesh

Abstract

The study conducted to explore the determinants of internal remittance received by the left behind members of the farm households and remittance impact on their welfare. This study conducted mainly based on primary data for which 172 farm households were interviewed among which 89 households were households with migrant member and 83 households were households without any migrant member. Significant determinants of the internal migration remittances are household head education, household head non- land asset value, household income excluding remittances and age of the migrant member. Besides these migrant member education positively motivate the migrant to send remittance for their left behind members. The study found that internal remittance has positive impact on the welfare of the farm households in Bangladesh. The study recommend that proper policy is needed for internal migration to get the real benefits from internal remittance.

Keywords: Internal migration; remittances; determinants; farm households; welfare.

INTRODUCTION

"We live in a world shaped by human migration. Every day, people make a decision to leave their hometown or even their own country and move elsewhere to work, study, retire or reunite with their families" [1]. It is cited in the study of Taylor and Martin [2] that there exists an implicit contractual arrangement between migrant and household [3,

4]. “Migration is defined broadly as a permanent or semi-permanent change of residence. No restriction is placed upon the distance of the move or upon the voluntary or involuntary nature of act, and no distinction is made between external and internal migration [5]”. Farm households in less developed countries have less access to credit and insurance which creates a barrier to their investment in farming technology and to transforming the farm from subsistence to a commercial farm. In this case, households can decide to send their family member away to gain financial benefit from the migrants in the form of remittance.

The present study is focused on the internal migration more particularly the rural-urban migration pattern in Bangladesh and its impact on farm household’s welfare through remittance utilization. In this study, two groups of households are considered. These are households with and households without any migrant members. In rural Bangladesh, there is a strong familial bond among the household members. This study is conducted on the basis of NELM theory which explains that a migration decision is not merely an individual decision of the migrant but rather a joint decision of the household. The theory also explains migration is a strategy of the farm households to diversify their risk of crop failure through remittances from the migrants in the presence of credit constraints and insurance. It is strongly assumed that the migrant will remit to his or her family since they have strong bonds and as insurance for the migrants to return to the family when needed. In rural Bangladesh, most of the poor farmers do not have access to formal credit. Very often they take loans from moneylenders and they have to repay this amount at a high interest whether in terms of cash or in terms of crops. In light of this situation, farm households with migrants can try to overcome their credit constraints or any other risks with remittances from their migrants.

Internal migration can be beneficial for the left behind members of the household or it can reduce their standard of living at the same time depending on the remittance received by those households. There is no policy regarding internal migration of the country. The government of Bangladesh (GOB) has long recognized the value of international migration although the internal movement potential has a stronger contribution to the growth process and to poverty reduction of the country [6]. However, there are some activities in Bangladesh which promote internal migration more particularly rural-urban migration. These are the establishment of most of the industries in the major cities by the government initiatives as well as by private sector initiatives and thereby creating job availability in the city.

The variables highlighted in [7] that determine the propensity to receive remittances and the amount of remittances by households in rural Bangladesh incorporating observed migrant and household characteristics that were assumed to capture the underlying motives of remitting suggested by existing theories of remittances. Mannan and Farhana, analyzed the effect of gender differences of household head amongst 10 villages on the remittance determinants and their socioeconomic impacts of remittance receiving households in rural [8]. Quantitative macroeconomic variables to find factors influencing on remittances are identified by Tabit & Moussir [9]. A similar research work is carried out by Zakari and Nasiro where macroeconomic determinants of remittances for 14 west African countries for the period of 1990-2014 were analyzed [10]. Akhter and Islam analyzed the impact of internal and international migration and migrant remittances on household poverty in Bangladesh [11]. They found that domestic and international remittances have positive impact on poverty alleviation. Raihan *et al*. found that international remittances have positive effects on the economy [12]. At the household level, positive and significant impact found on the household food and housing related expenditures. They also explored that remittances have positive effects on education and health expenditures of the household's members. Pfau and Giang, studied about welfare impact of international remittances on the household in Vietnam. They explored the determinants of remittances where found international remittance disproportionately received by the elderly, female headed households and households where the head does not work. International remittances are also found to reduce poverty[13]. Anupama *et al*, found that many households were able to come out of poverty due to seasonal migration even though they had experienced a decade of drought [14].

Several studies conducted regarding determining the factors of international remittance flue to the left behind member of the households. But very few research conducted to explore the internal remittance determinants and its effect on the rural economy and households. This study is conducted in this regard to explore the determinants of remittances accrued from rural urban migration and its effects on the welfare of the farm households. The study has the following specific objectives:

i. To analyze the determinants of remittances of the farm households; and
ii. To analyze the effects of remittances on the welfare of the households.

2. Materials and Methods

Remittances, usually understood as the, money or goods that migrants send back to families and friends in origin countries, are often the most direct and well known link between migration and development Migration data portal [15]. In this study remittances received in cash by the households are considered for empirical analysis. This study was conducted in the Kishoreganj districts of Bangladesh covering three upazillas which are located in the central part of the country. These upazillas are Karimganj Tarail and Nikli upazillas of Kishoreganj district in Bangladesh. The study areas were selected purposively considering the migration situation and agricultural practices of the areas. In the case of internal migration, no records were kept at the household level. Some overall statistics were found in general. That's why, farm households with migrant member were selected purposively through getting information from the focus group discussion (FGD). Here, farm households with migrants are defined as those households that have at least one internally migrant member and at the same time, the households are engaged in farming which is operated by the remainder of the members of the household. On the other hand, the households without migrants were classified as those households that are engaged in farming but no family members were migrants either internally or internationally. A farm holding is defined as an agricultural production unit having cultivated land either by own or by renting in. A total of 172 farm households were interviewed for collecting data. Among 172 households, 89 households were with migrant members and remaining 83 were households without any migrant member. The field survey was carried out during February to April 2020. Determinants of remittances were analyzed using multiple(MR) regression model. Descriptive statistical techniques such as sum average percentages; t tests were used to analyze the remittance use effects on the household's welfare.

2.1 Econometric Model for analyzing the determinants of remittance and remittance use effects on the household welfare

In the study area remittances are received by almost every household. Here remittance is continuous variable. Therefore, multiple regression model was used to analyze the internal remittance determinants at the farm household level. Assumptions of the multiple regression model included that there exists linear relationship between each predictor and the response variable, no multicollinearity, the observations are independent and the residuals have constant variance at every point in the linear model. Independent variables of this model consists variables including household's socioeconomic characteristics as well as migrant member individual characteristics. Following [16] GUZARATI, the multiple regression model for the remittance determinants analysis can be written as

$$Y_i = \beta 0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} \ldots\ldots\ldots\ldots\ldots + \beta_k X_{ki} + u_i \ldots\ldots\ldots (1)$$

Y = Remittances received in BDT by the farm households; X_{1i}……X_{ki} are the factors that influence or determine the remittances received by the left behind member of the farm households where i = 1……. n ; β0 is the constant term, β_1…. β_k are the parameters estimated using the ordinary least square regression model.

And u_i is the random error term with conditional mean zero with given regressors

i. e, $E (ui / X_{1i} \ldots\ldots\ldots X_{ki}) = 0$ ……. (2)

Descriptive statistical techniques such sum average, percentage and t test were carried out to analyze the remittance use effects on the welfare of the left behind member of the households compared to the households without any migrant member.

3. RESULS AND DISCUSSION

3.1 Dependent variable measurement

Dependent variable used in the model is a continuous variable which consists the remittances received by the farm household with migrant member in Bangladeshi Taka. Average amount of remittance received by the households is BDT 8702.25.

Maximum number of households (52 percent) received remittance within the range of BDT 6000-1000 where only 1 percent household received remittance above BDT 26000. 23 percent households received remittance within the range of 3000-5000.

Table 1. Distribution of remittance per household

Monthly remittance	No. of households	Percentage of households
3000-5000	20	23
6000-10000	46	52
11000-15000	15	16
16000-20000	4	5
21000-25000	3	3
Above 26000	1	1
Average remittance	8702.25 (5406.60)	

Source: Authors calculation

Figure in parentheses indicate standard deviation; BDT= Bangladeshi Taka.

3.2 Explanatory variables used in econometric model

The New Economics of Labour Migration theory (NELM) states that migration is not only the decision of individual rather it is the joint decisions of the family that one or two member of the household will migrate to diversify family income therefore its remittance sending criteria also influences by the household level variables including social, economic, as well as demographic factors. Considering migration theory and perspectives of the study area, explanatory variable is included in the model. These includes household head age, education and occupation since household head is major decision maker these variables are expected to one of most important determinant of the remittance send by the migrant members. Beyond these factors, individual characteristics of the migrant members are considered for analyzing the determinants of remittance. Definitions of the selected explanatory variables are presented in Table 2 and explanations of these are given in the following sections.

Table 2: Explanatory variables used in the models of determinants of remittance from internal migration

Variables	Type	Description
HH head age	C	Household's head age in years
HH head education	C	Education of household head in schooling years
HH asset value	C	Value of household asset in BDT
HH income	C	Household's monthly income excluding remittances in BDT
Age of migrant1	C	Age of the first migrant member
Age of migrant 2	C	Age of second migrant member
Age of migrant 3	C	Age of third migrant member
Education of migrant 1	C	Education of the first migrant member
Education of migrant 2	C	Education of the second migrant member

Note: C = Continuous variables; D = Dummy variables, BDT= Bangladeshi Taka.
Source: Authors specifications

Households head working status are included as a dummy variable where two categories are considered one for those who are currently working and others household head are not working or retired from their particular job. Other three dummy variables are gender of the different migrant members. Here in case many of households, more than one member is migrant, therefore age, gender and education of the respective migrant members are included separately. Average duration of the migrants are average number of years; different migrant members are staying in the city.

Descriptive statistics of the explanatory variables are included in the Table 3. Average age of the household head is 53 which indicates that still now they are in active stage but some of them are not working because of their age. Although in Bangladesh, economically active persons are considered in the age range of 15-59

years of old [17] but age does not always indicate the activity of the people. Thus even with age above 60 some people are active and contribute to the family income. Household head working status shows that 82% of the household head are working and rest of them are not working. Value of the asset owned by the households is BDT 46632 and they earned average monthly income BDT 10923 excluding remittances. Amount of debt is BDT 22078 per household. Number of migrant member from each household is more than one. Average age of the first migrant is 28 years of old and this figure for the second and third migrant is approximately 10 and 3 years' old which implies that young including child are migrating from the farm households to the cities. Gender of the first and third migrant shows that migrations are male dominated. Where second migrant are female. Education level shows that most of the migrant have primary and secondary level of education. Average duration of migrants staying in the city is more than three years.

Table 3: Descriptive statistics of the explanatory variables used in the models

Variables	Mean	Standard deviation
HH head age	53.43	11.32
HH head education	3.43	3.71
HH asset value	46632.58	48308.76
HH monthly income	10923.22	12134.33
Age of migrant1	28.29	9.89
Age of migrant 2	9.98	13.00
Age of migrant 3	2.70	6.86
Education of migrant 1	7.80	4.47
Education of migrant 2	3.01	4.63

Source: Authors calculation

3.3 Determinants of Internal Migration Remittance at The Farm Household Level

Table 4: Regression estimates on the determinants of remittance received by the farm households from internal migration

Variables	Coefficient	T value	Significant value
HH head age	-0.025	-0.284	0.777
HH head education	0.264***	2.735	0.008
HH asset value	0.236***	2.604	0.011
HH income	-0.423***	-4.336	0.000
Age of migrant1	-0.130	-1.270	0.208
Age of migrant 2	0.174	1.134	0.260
Age of migrant 3	0.389***	3.218	0.002
Education of migrant 1	0.082	0.867	0.389
Education of migrant 2	0.093	0.711	0.479
Model summary	R2=0.456	Adjusted R2= 0.394	Durbin Watson =2.183

Notes: *, **, *** significant at 10%, 5%, and 1%, level respectively

Source: Authors estimation

Table 4 shows the regression model estimates on the determinants of internal migration. The regression model is significant where F value 7.353, R2 is 0.0.456 and adjusted R2 is 0.394. Significant determining factors of remittance are household head education, households non – land asset value, household income excluding remittances, age of the third migrant, and gender of the third migrant member. Table 4 shows that if household head education increases by 1 unit, remittance flow to that household increases by 0.264 unit. Here household income variable has significant negative coefficient which implies that households with higher income from other sources got less remittance from their migrant member. The empirical findings shows that if household income from other sources

excluding remittances increases by 1 unit then remittance flow that household decreases by 0.423 unit .The fact is that when left behind members are able to carry out their expenditure themselves, therefore migrant member send lower amount of remittance for the left behind and migrant member himself or herself retain kept their earning amount more. Age of the second and third migrant member contribute positively to the remittance flow of the households. This is because average age of the second and third migrant from the same households is below the active young age, therefore with the increase of age of that members their earning in the city increase and thereby increases the remittance flow to that households. The variable age of the third migrant is highly significant at 1 percent level and the coefficient is 0.389 which implies that if age of the third migrant increases by 1 unit, then remittance flow increases by 0.389 unit Education of all the migrant members have positive contribution to the remittance flow to the households although result is not significant. This implies that educated member have greater opportunity to get good job with high salary which have consequent positive impact on the remittance earnings and send more earnings to the households. Rana and Hashmi found that the education is not significant determinant remittances while unit analysis showed that the significance relationship depends on the level of education of the migrant and the household head [18]. This implies that educated migrant member have more earnings in the city and therefore they send more money to their left behind members. And with the increase of the migrant duration in the city increases the remittance amount for their family members.

Table 5 shows the remittance use behavior of the households. Farm households in the study area spend their major part of remittance on the food basket which is around 48 percent of their total monthly remittance received from their migrant member. After that they spend their remittance on the livestock purchase (10%), health (9%), education of their children (9%), clothing of family members (9%), furniture purchase (8%), and on the farm practices (6%). Similar results found in the study of Raihan *et al*. They revealed that remittances have significant positive impact on the household food, education, health expenditures as well as housing related expenditures [12]. Here it is noted that compared to international migration remittance, internal remittance is very small amount and most of the farm households are poor. Therefore, they first prioritize their remittance expenditure on food then on the other expenditure. They also spent on housing in extent but not in monthly basis. In case of internal migrant, the left behind member of their family make small investment on the housing also but after making savings a little big amount. Therefore, their housing condition is also increased.

Table 5. Remittance use behavior of the households

Aspects	Average monthly expenditure from remittance, BDT	Percentage of remittance used in different aspects
Food	4131 (3615)	47.47
Health	780 (816)	8.96
Child education	814 (1154)	9.35
Clothing	759 (368)	8.72
Agriculture	606 (980)	6.96
Livestock purchase	916 (7414)	10.52
Furniture purchase	696 (2832)	8.00

Notes: Figure in parentheses indicate standard deviation
Source: Authors calculation

Table 6 presents the impact of internal migration remittance on the household welfare in terms of different socioeconomic indicators due to migration of one or more members to the city. Here, comparison has been made taking into account the farm households with migrant and farm households without any migrant member. It has been found that compared to the households without migrant member, farm households having migrant member's, monthly income, expenditure, food expenditure, value of housing, are significantly higher. Drinking water facilities and sanitation facilities are also better in the households with migrant compared to households without migrant. Similar results found in the study of Akhter and Islam where they explored that both domestic and international remittances have positive impact on poverty alleviation [11]. Households with migrant's monthly income, expenditure and food expenditure are BDT 19625, BDT 15291, and BDT 7252 respectively where for the households without any migrant income, expenditure and food expenditure are BDT 13222, BDT 11870, and BDT 5951 respectively. Value of house is also significantly high in case of households with migrant (BDT 228505) compared to households without any migrant member (BDT 144542). In terms of housing structure 30 percent households with migrant have cement house with tin roof where this percentage for households without migrant is 11 percent. Farm households invest more on the safe drinking water facilities where 83 percent households replied that they have own tube well for drinking water. On the other hand, 69 percent households without any

migrant have access to own tube well for drinking water. Sanitation facilities are also better in the case of farm households with migrant compared to households without migrant. Table 6 shows that 35 percent households have pucca water sealed sanitation facility where only 14 percent households without migrant have these facilities.

Table 6. Impact of remittance on the household's welfare in terms of income, expenditure, housing, sanitation and drinking water facilities

Outcome Indicators	**Household with migrant**		**Household without migrant**		
	Mean	**Standard deviation**	**Mean**	**Standard deviation**	**T value**
Income	19625.46***	12570.06	13222.89***	6176.80	4.192
Expenditure	15291.71***	7426.80	11870.85***	4799.97	3.560
Food expenditure	7252.81***	2672.59	5951.81***	1697.58	3.780
Savings	2193.09**	3083.09	1336.89**	2426.07	2.014
Housing value	228505.62***	224439.96***	144542.17***	106672.88	3.097
Investment on drinking tube-well	11370.79***	7975.90	6642.46***	6102.73	3.483
	Number of households	Percentage	Number of households	Percentage	
Sources of drinking water					
Own tube-well	74	83	57	69	
Others tube well	15	17	26	31	
Housing condition					
Cement house with tin roof	30	34	9	11	
House with tin fence and roof	58	65	60	72	
House with tin roof but bamboo fence	1	1	14	17	
Sanitation facilities					
Pucca (water sealed)	35	39	12	14	
Semi-pucca (not water sealed)	49	55	48	58	
Katcha	5	6	23	28	
Number of	N= 89		N=83		

observations

Notes: *, **, *** significant at 10%, 5%, and 1%, level respectively

Source: Authors calculation

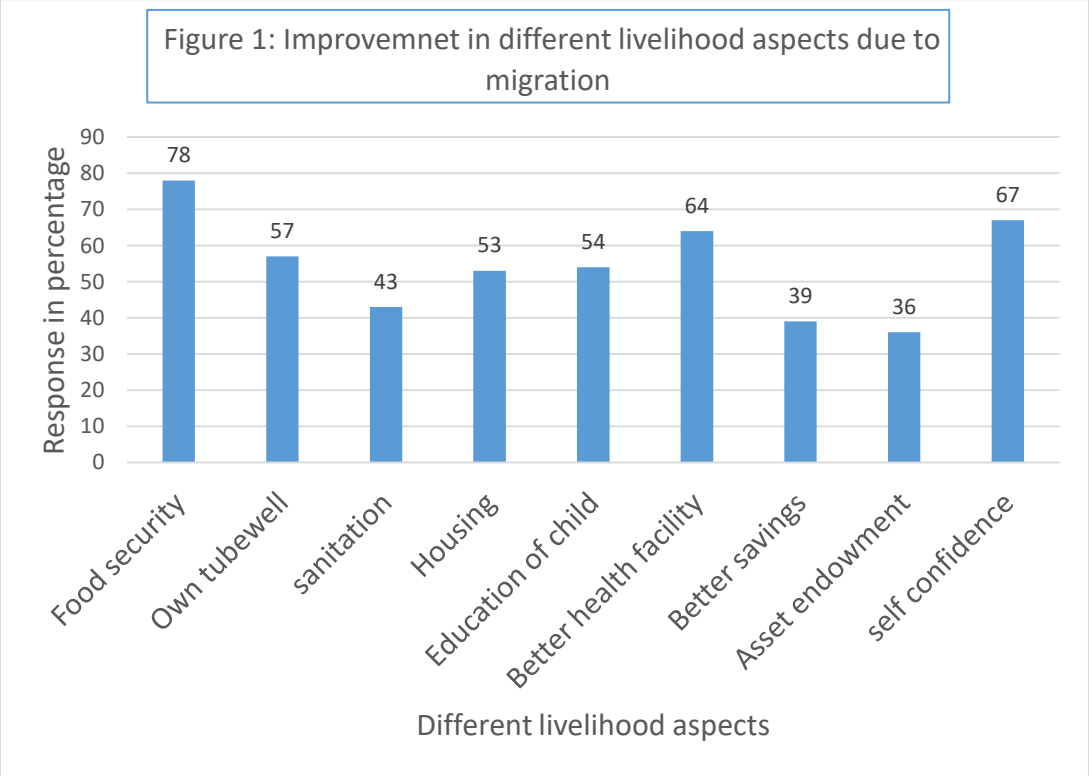

Figure 1 shows that the different livelihood aspects status due to migration of one or more members to the city. It has been found from the study that 78 percent households perceived that their food security situation has been improved due to migration of their family member. More than 50 percent households reported that they are in improved situation in terms of housing, access to own drinking water facilities and education of their child. More than 60 percent households with migrant perceived that they are now more confident and have access to better health facilities due to remittance received from their migrant member. 43 percent reported their sanitation facility has been improved than before migration of their family member. More than 30 percent households respond that their savings and asset endowment has been increased. In considering above mentioned indicators of households wellbeing, it has been found that farm households are in better position in terms of their wellbeing compared to farm households without any migrant. The

similar findings also explored in the study of Samal Chandan, who found that remittances have a potential for wealth and asset creation for households in addition to providing basic consumption needs [19].

4. Conclusion

Internal migration remittance is determined by the farm household's socioeconomic characteristics as well as individual migrant member attributes. Household head education, migrant member education positively contributes to the remittance flow to the households. Migrant member gender has effect on the remittance flow received by the left behind member of the households. With higher household income, left behind members got less remittance from their migrant members. Internal migration has positive effects on the welfare of the households left behind members. Their food, housing child education, expenditure has been improved. They are also better in terms of sanitation and having drinking water facilities compared the households without any migrant member. Although internal migration remittance small in amount but it has many positive consequences on the welfare of the left behind member of the households. But policy regarding internal migration is almost neglected in the country. Therefore, better policy management and institutions are needed to get the real benefits from internal migration through proper using remittances besides meeting basic consumption needs for households.

Consent

Data has been collected according to international standard and respondents written consent has been taken by the authors.

Competing interests

Authors have declared that no competing interests exist.

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