

Role of International Remittance on Rural Development in South-central Region of Bangladesh

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Abstract

This study examines the impact of international remittance on rural development process in south-central rural areas of Bangladesh. The methodology applied in this study is qualitative in nature. Multistage random sampling technique has been applied to select the study area and convenient sampling approach has been used to select the sample from the study area. In-depth face to face interview technique has been employed to collect the data by using pretested semi-structured questionnaire from the respondents. A set of statistical tools such as, descriptive statistics, t-test, and correlation analysis has been employed to explore the research objective. The findings of the research show that international remittance plays positive role in rural development process by improving socioeconomic conditions of the remittance receiving rural households. It also asserts that remittance income serves as a key factor in sustaining the livelihood and improving the living conditions of the household. The outcome of the research is an addition to the existing body of knowledge on international remittance and its role in rural development process in the context of south-central region of Bangladesh. Appropriate policies have to be taken and implemented to increase remittance inflow to speed up rural development process in Bangladesh.

Keywords: International Remittance, Rural Development, South-central Region, Bangladesh

Introduction

Bangladesh, located in south-east Asia, is one of the largest low-lying deltas in the world. The economy of the country is mostly agriculture based and more than 71.90 percent of the total population live in the rural areas (DGHS, 2012). Livelihood activities of the rural people are mainly dominated by agricultural activities, where, more than 85% people depend on agriculture for their livelihood (Robbani, Siddiquee, Zaman, &

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Nakamura, 2007). A huge number of people living in the rural areas live below the poverty line. In order to eradicate the rural poverty, both farm and non-farm activities can play a crucial role. Farm activities incorporate mainly agricultural production which is seasonal in nature. On the other hand, non-farm activities got little attention although income received from it can play a vital role in reducing rural poverty (Roetter, Keulen, Kuiper, Laar, & Verhagen, 2007). Agriculture sector, the key source to rural economic growth, employment and livelihood is now facing low productivity (Wang, Khan, & Zhang, 2013), driving the rural people to explore potential non-farm income earning activities. In the recent decades, international remittance received from exporting manpower to foreign countries has gained much attention to improve the socio-economic conditions of the country for removing unemployment, incidence of poverty, increasing foreign reserve and improving balance of payment situation (Ali, 2014; Siddique, Selvanathan, & Selvanathan, 2012). There has been a strong positive relation between international remittance and poverty reduction. International remittance has been playing a crucial role in macroeconomic stability and household welfare by increasing consumption and reducing poverty in Bangladesh (Islam, 2011; Raihan, Sugiyarto, Bazlul, & Jha, 2009; Wadood & Hossain, 2016). On this backdrop, the current research attempts to investigate the role of international remittance on rural development in south-central region of Bangladesh. More specifically, the study examines the impact of foreign remittance on households in rural areas of Barisal Division of the country.

Literature review

Through the past decades, rural development has been the central point to development effort (Ashley & Maxwell, 2001). The concept of rural development is linked with the well-being of the rural people. It encompasses the multidimensional aspects of rural life and their all needs including enviro-cultural and psycho-social needs (Adisa, 2012; Mashreque & Nasrullah, 2005). Rural development is related to the social and economic improvement of the rural poor through increased production, equitable distribution of resources, and empowerment. The is a process of rural development is much more broad which aims at developing the rural economy as a whole (Banglapedia, 2015). According to World Bank (1975), "Rural development strategy designed to improve the economic and social life of a specific group of people - the rural poor. It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas." So, rural development is a process which aims at improving rural social life completely and its success duly depends on the effective interaction between economic, social, political and cultural factors (Acharya, 2008; Ploeg et al., 2000).

Poverty is mainly a rural issue in the developing countries. The poor people are characterized as income poor since they are deprived of basic amenities such as inaccessibility to physical and social assets (Wang et al., 2013). International migration and remittances can play a vital role in wiping out the poverty and expanding household's disposable income in labor sending developing countries (Agarwal & Horowitz, 2002; Awan, Javed, & Waqas, 2015; De la Fuente, 2010; Dey, 2015; Hatemi-J & Uddin, 2014; Musumba, Mjelde, & Adusumilli, 2015; Sikder & Ballis, 2013). Research on the role of international remittance on socioeconomic development provides multidimensional role on various aspect of household's wellbeing in many parts of the world. Adams and Page (2005) have concluded that international migration and remittance significantly reduce the level, depth, and severity of poverty in the developing world. Using a panel data of 69 low and middle income countries, Zhunio, Vishwasrao, and Chiang (2012) have showed that remittances play an important role in improving primary and secondary school attainment, increasing life expectancy and reducing infant mortality in these countries. They further have concluded that remittances play role in the process of economic development.

Salas (2014) and Amuedo-Dorantes and Pozo (2010) have found that families receiving remittances are more likely to send their children to schools and have positive effect of human capital formation. In addition, Sikder and Higgins (2017) state that remittances also enable households to access education, and thus build their human capital. Another study by (Alcala, Adkins, Lahiri, & Savvides, 2014) has showed that remittances increase the probability that a rural family engages in nonfarm activities, at least in some regions of Bolivia. According to the findings of Kangmennaang, Bezner-Kerr, and Luginaah (2017) and Wouterse (2012), there is a positive effect of remittance on rural household asset accumulation and household welfare. Brown and Leevess (2011) found that remittances seem more linked to support consumption through supplementing low wage income. Adams and Cuecuecha (2013) stated that households receiving remittances spend less at the margin on food, more at the margin on three investment goods: education, housing, and health and the receipt of remittances greatly reduces likelihood of household poverty.

Literature on international remittance and its effect on rural development is absent in the context of Bangladesh. Hence, current research attempts to discover linkage between remittance and rural development in south-central region of Bangladesh.

Methodology

Study area and sample selection

Multistage random sampling has been employed to select the study area. At first stage, Barisal Division has been selected from the 8 division of Bangladesh. In the second stage, all districts of the division have been

chosen. At last stage, 23 upazila from total 43 upazila have been chosen randomly to select the study area. Population of the study constitutes those household from which at least one-member remits money from abroad. In this case, a household is considered as a sample unit. From the selected study area, 150 sample, 25 from each district, have been chosen by convenient sampling method for data analysis (Table 1).

Table 1: Selection of study area and sample

| Districts | Total upazila | Selected upazila | Sample selected |
|--------------|---------------|------------------|-----------------|
| Barisal | 10 | 5 | 25 |
| Barguna | 6 | 4 | 25 |
| Bhola | 9 | 3 | 25 |
| Jhalokati | 4 | 3 | 25 |
| Patuakhali | 7 | 5 | 25 |
| Pirojpur | 7 | 3 | 25 |
| Total | 43 | 23 | 150 |

Source: Authors’ compilation based on field survey, 2016

Source and collection of data

The main source of data is the primary data collected from the respondents. In addition, secondary data have also been collected to fulfill the research objective. A set of data collection techniques has been applied to collect data from the respondent. In-depth face to face interview technique has been used to collect the data by using pretested semi-structured questionnaire containing required questions. Here, we collect data on the selected variables in two different time periods with 5-year time span that is 2012 and 2016 to compare the changes of variables over the time period.

Variable description

World Bank used some indicators to measure the rural wellbeing. These indicators are population below the poverty line, access to safe water, access the sanitation, school enrollment ratio etc. (Larsen, Ytzen, Norris, & MacDonnell, 2000). Okafor (1985) mentioned that rural development can be measured by the indicators such as aggregate output of agricultural produce and the income per capita. In this research, socioeconomic indicators such as, household income, consumption, expenditure on healthcare, land holding, access to electricity and safe drinking water, food storage facility, housing and sanitation condition have been used as proxy measures for rural development (Table 2).

Table 2: Variable description

| Name of variable | Symbol | Measurement unit |
|------------------------------------|--------|------------------|
| Household income from remittance | X_1 | In BDT per month |
| Household income except remittance | X_2 | In BDT per month |

| | | |
|-------------------------------------|----------|------------------|
| Household consumption | X_3 | In BDT per month |
| Household expenditure on healthcare | X_3 | In BDT per month |
| Household land holding | X_4 | In decimal |
| Access to electricity | X_5 | In dummy |
| Access to safe drinking water | X_6 | In dummy |
| Food storage facility | X_7 | In dummy |
| Housing condition | X_8 | In dummy |
| Sanitation condition | X_9 | In dummy |
| Age of household head | X_{10} | In year |
| Family member | X_{11} | In number |

Correlation analysis

Correlation analysis has been used to measure the degree of relationship between household income, consumption, healthcare expenditure and land holding. Correlation analysis is utilized because it is one of the powerful statistical tools used to determine linear relationship between random variables. Correlation between variables is expressed by correlation of coefficient. The value of Pearson's correlation coefficient ranges from -1 to +1. The value of coefficient from 0 to 1 indicates the strength of relationship between variables (Aczel & Sounderpandian, 2008).

Hypothesis testing

The goal of the research is to analyze the impact of remittance earning on rural development indicators from 2012 to 2016. So, research hypothesis has been formulated to measure the changes as given below:

Null Hypothesis : $H_0 =$ There is no change of rural development indicators

Alternative Hypothesis : $H_1 =$ There is change of rural development indicators

In this case, rural development has been represented through household income, consumption, expenditure on healthcare, land holding, access to electricity and safe drinking water, food storage facility, housing and sanitation condition. The reason is that, if there are positive changes on the above household socioeconomic indications, overall rural development will be increased.

Limitation

A common methodological problem associated in household survey in migration research is miss migrant members since they are not currently present. So, information is usually provided by the other household members that may or may not be satisfactory and reliable. To overcome the problem, household member having physically present or absent but financially contribute to the earning of the household have been chosen as sample unit (Mahapatro, 2016).

Results and Discussion

Socio demo graphic profile of the respondent

Summary statistics presented in the Table 3 provides sociodemographic information of the respondents. It has been found that among the respondents, average age of the household head exceeds 50. Age range of the respondents varies from minimum 22 years to maximum 80 years. On an average, a family constitutes 5 members excluding the migrant staying in the abroad currently. Remittance sent by the migrant member of the family generates major source of income for the family. The volume of remittance earning has been increased over the time period between 2012 and 2016. Descriptive statistics indicates that on an average, earning from international remittance becomes BDT 43,486 which is 37 percent more than earned in 2012. In the meantime, mean income from activities except remittance has grown 13 percent in the said period. Aggregately, household monthly income including both remittance and non-remittance sources has become BDT 63,093, a growth slightly 29 percent higher than in 2012. A lion's share of income from remittance is spent to meet household day to day consumption purposes. Survey result shows that household expenditure has been increased in 2016 compared with 2012. On an average, monthly BDT 21,426 is spent for consummation purpose in the year 2016 whereas it was BDT 18,450 per month in 2012. In addition, a portion of income is also spent on household healthcare purposes. From the time span 2012 to 2016, there has been a 14 percent decrease in per monthly expenditure in the healthcare wellbeing of the family members. There has been a positive change in the household land holding in the same time frame. Statistical analysis points out a 16 percent increase in average household land holding in the year 2016 in comparison to 2012.

Table 3: Summary statistics

| Variables | Obs | Mean | | Std. dev. | | Min | | Max | |
|--------------------------------------|-----|-------|-------|-----------|----------|------|------|--------|--------|
| | | 2012 | 2016 | 2012 | 2016 | 2012 | 2016 | 2012 | 2016 |
| Age | 150 | - | 51.57 | - | 14.51 | - | 22 | - | 80 |
| Family member | 150 | - | 5.70 | - | 1.92 | - | 2 | - | 12 |
| Household income (remittance) | 150 | 31740 | 43486 | 27373.98 | 43897.03 | 6000 | 5000 | 200000 | 400000 |
| Household income (except remittance) | 150 | 17285 | 19606 | 22471.96 | 21771.74 | 1500 | 5000 | 150000 | 150000 |
| Household consumption | 150 | 18450 | 21426 | 21408.83 | 15606.03 | 2000 | 3000 | 200000 | 80000 |

| n | | | | | | | | | |
|---------------------------|-----|------|------|----------|---------|-----|-----|--------|-------|
| Household healthcare cost | 150 | 5755 | 4904 | 16801.54 | 4660.48 | 100 | 100 | 200000 | 30000 |
| Household land holding | 150 | 127 | 147 | 202.52 | 208.57 | 5 | 5 | 1200 | 1200 |

Note: Obs. = Observation, Std. Dev. = Standard Deviation, Min = Minimum, Max = Maximum

Source: Authors' compilation based on field survey, 2016

Table 4: Changes in household basic indicators

| Indicators | Particulars | Frequency (%) | | Change (%) |
|--------------------------|----------------|---------------|-------|------------|
| | | 2012 | 2016 | |
| Source of drinking water | Deep tube-well | 46.67 | 52.67 | +6 |
| | Tube-well | 47.33 | 44.66 | -2.67 |
| | Others | 6 | 2.66 | -3.33 |
| Housing condition | Concrete | 28 | 39.33 | +11.33 |
| | Tin-concrete | 14.67 | 22 | +7.33 |
| | Tin-shade | 52 | 38 | -14 |
| | Others | 5.33 | 0.67 | -4.67 |
| Sanitation condition | Concrete | 38.67 | 52.67 | +14 |
| | Tin-concrete | 13.33 | 16.67 | +3.33 |
| | Tin-shade | 41.33 | 29.33 | -12 |
| | Straw | 6.67 | 1.33 | -5.33 |
| Food storage facility | Refrigerator | 44 | 58 | +14 |
| | Storehouse | 25.33 | 20.67 | -4.67 |
| | Mud-made room | 8.67 | 6 | -2.67 |
| | Others | 22 | 15.33 | -6.67 |
| Access to electricity | Yes | 82.67 | 93.33 | +10.67 |
| | No | 17.33 | 6.67 | -10.67 |

Source: Authors' compilation based on field survey, 2016

Changes in household basic indicators

Impacts of increasing remittance income of household have been reflected on their access to basic amenities (Table 4). Household well-being is

expressed through the full access to these facilities. It is evident from the Table 4 that 46 percent of the household has the access to collect water from deep tube-well in 2012, whereas, this number has been increased to 52 percent in 2016. There is net 6 percent increase in household access to drinking water from deep tube-well in the recent time. Due to increase in deep tube-well access, there is decrease in collection of drinking water from the other sources such as general tube-well, pond, river etc. Higher income stimulates the household to live in better housing condition. It is clear from the analyzed data that earlier 28 percent household had house made of concrete, whereas, it reaches to 39 percent in the later period. Over the time span of 2012 to 2016, there is 11 percent increase in living concrete house among the respondent. Although there is 7 percent increase in tin-concrete houses, there is a 14 percent decrease in tin-shade houses. It demonstrates a positive change in housing condition among the respondent. In the similar fashion, sanitation condition of household has improved over the time period. There is a 11 percent increase in the utilization of concrete based sanitary system in 2016 than the previous time. Besides, incidence of using tin-concrete sanitary housing system has been increased while use of tin-shade sanitation system has been decreased greatly. Use of refrigerator to preserve food has been increased by 14 percent among the respondents in 2016 compared to 2012. On the other hand, traditional food storage system such as storehouse, mud-made room etc. has been decreased by 4 percent and 2 percent respectively. The number household enjoying electricity has been grown in the said period. It has been found that a 10 percent increase in electricity user among the respondents in 2016 than in 2012. Overall, there have been positive changes in the use to social amenities by the household over the time frame between 2012 and 2016 due to increase in income receipt from abroad by the migrant household member.

Hypothesis testing

Test of hypothesis provides statistical inference on whether to accept or reject the null hypothesis that is there is no difference between our hypothesized mean and the actual mean.

Results from hypothesis testing presented Table 5 give significant insights on variables of the study. It has been found that mean values of household remittance income, household income except remittance, total household income, household consumption and household land holding in 2016 are statistically significantly differed from the mean values in 2012 showing evidence of rejecting null hypothesis implying that there is change in rural development indications over the time period. More specifically, volume of household income including remittance and non-remittance income has been increased. Besides, household consumption and land holding also have been increased over the time span. All these positive changes of the rural development indicators demonstrate the overall rural development has been happening in the study area.

Table 5: Test of hypothesis

| Variables | Year | Obs | Mean | Std. Err. | Std. Dev. | Mean difference | t-value |
|--------------------------------------|------|-----|----------|-----------|-----------|-----------------|---------|
| Household income (remittance) | 2016 | 150 | 43486.67 | 3584.17 | 43897.03 | 11746.67 | 4.98* |
| | 2012 | 150 | 31740 | 2235.07 | 27373.98 | | |
| Household income (except remittance) | 2016 | 150 | 19606.67 | 1777.65 | 21771.74 | 2321.66 | 1.97* |
| | 2012 | 150 | 17285 | 1834.82 | 22471.96 | | |
| Total household income | 2016 | 150 | 63093.33 | 4471.66 | 54766.51 | 14068.33 | 4.73* |
| | 2012 | 150 | 49025 | 3504.82 | 42925.21 | | |
| Household consumption | 2016 | 150 | 21426.67 | 1274.22 | 15606.03 | 2976.66 | 2.05* |
| | 2012 | 150 | 18450 | 1748.02 | 21408.83 | | |
| Household land holding | 2016 | 150 | 147.03 | 17.03 | 208.57 | 19.81 | 3.78* |
| | 2012 | 150 | 127.22 | 16.53 | 202.52 | | |
| Household healthcare cost | 2016 | 150 | 4904 | 380.52 | 4660.48 | -851.33 | -0.59 |
| | 2012 | 150 | 5755.33 | 1371.84 | 16801.54 | | |

[Note: Obs. = Observation, Std. Err. = Standard Error, Std. Dev. = Standard Deviation, * = significant at 1 percent level, ** = significant at 5 percent level, *** = significant at 10 percent level]

Source: Authors' compilation based on field survey, 2016

Table 6: Correlation matrix

| Variables | HIR 2016 | HTI 2016 | HC 2016 | HL 2016 | HHC 2016 |
|-----------------|-----------------|-----------------|-------------------|----------------|----------|
| HIR 2016 | 1 | - | - | - | - |
| HTI 2016 | 0.92* (0.00) | 1 | - | - | - |
| HC 2016 | 0.35* (0.00) | 0.49* (0.00) | 1 | - | - |
| HL 2016 | 0.10 (0.20) | 0.23* (0.00) | 0.14*** (0.07) | 1 | - |
| HHC 2016 | 0.003 (0.96) | 0.05 (0.52) | 0.20** (0.01) | 0.07 (0.33) | 1 |

[HIR = Household income from remittance, HTI = Household total income, HC = Household consumption, HL = Household land holding, HHC = Household healthcare cost]

Note: * = significant at 1 percent level, ** = significant at 5 percent level, *** = significant at 10 percent level]

Source: Authors' compilation based on field survey, 2016

Correlation analysis

There has been found significant positive correlation between household remittance incomes on total household income in 2016 which is very obvious (Table 6). In addition, remittance income plays positive role on household consumption expenditure, hence it is found there is positive and significant correlation between household remittance income and household expenditure in the same time. Besides, household land holding and healthcare cost are found positively correlated with household remittance income although they are not statistically significant. Results from correlation analysis also prove that household remittance income plays crucial positive role in household overall well-being as well as rural development process in the study area.

Concluding Remarks

The study has made an effort to observe the impact of international remittance on the process of rural development by examining the rural development indicators in south-central rural areas of Bangladesh. The survey results show that remittance earning has a significant and positive impact on the outcome variables. International remittance seems to have improved the household welfare of the respondents and its effect is expected to increase in the future. It is clear from the analysis that, total income of the household has been increased due to increase in remittance earning. Household consumption expenditure has been significantly increased over the time period. In addition, amount of land holding has also been increased indicating a gross increase in household asset holding (Ahmed, 2012; Awan et al., 2015; Mahapatro, 2016; Traverso, 2016). Besides, impact of remittance income has been observed in the basic needs enjoyed by the household. Starting from 2012 to 2016, survey findings show that there have been significant increases in number of household having concrete made house, sanitation system, access to deep tube-well, electricity and modern refrigeration facilities. Overall, remittance income is found to be positively correlated with households' total earning and expenditure among the respondents allowing for evidence of rural development process.

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