



**Original Article**

**Changing pattern of rural income diversification and its impacts on household economy: A study on a selected village in Jashore District, Bangladesh**

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**ABSTRACT**

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Bangladesh is an agrarian country and majority of its population depends on either agriculture or its associated activities. Being a developing country, Bangladesh is characterized by densely populated, widespread unemployment, high incidence of landlessness and labor surplus economy. Under such a land scarce condition, farmers in rural areas have been gradually inclining towards different alternative income generating activities. The study was conducted to assess the nature and extent of occupational diversification, its changes and impacts on household income over time. Data was collected from a selected village, Lebutala in Jashore district of Bangladesh in two different years. In 2000, a total of 107 households were randomly selected which have split and increased to 124 in 2017. Once again, the entire 124 households were interviewed in 2017. Result of the study shows that farmers in the studied area have significant diversity on their income sources. Almost all (94%) of them have dual and 24% of them have multiple occupations. Contributing 40% of the household income, agriculture is still predominant occupation in the rural area. Besides, rural business, dairy farming and self-employed occupations have become more attractive alternatives than the previous time. Result also unveils that the average rural household income (BDT 16,983 per month) has significantly increased over the time. In 2017, more than 61% of the sampled rural household earned above the national rural income level of BDT 13,353 per month. Increases in diversification of income sources were responsible for this enhancement of rural household income. Further diversification is suggested through proper development of small business, dairy farming and self-employment generating activities in rural areas.

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**Introduction**

Being an agrarian country, land is considered as a valuable asset among rural farm households in Bangladesh. However, majority of the rural households are either landless or near landless (Raihan *et al.*, 2009; Ghosh *et al.*, 2015). Basically, landlessness often materializes the manifestation of poverty and powerlessness of the majority of the rural households. This situation has been worsening gradually as a result of abnormal population pressure, dearth of cultivable land, low productivity in agriculture, split of family, river erosion and alteration of cultivable land into different purposes (Rahman and Manprasert, 2006). Moreover, the labor absorption capacity of agriculture has declined because of population pressure, land distribution structure, increasing application of labor-saving farm technologies, etc. As a result, the off-farm sector in the country has attracted attention in recent years as

it has been performing as rural income enhancing factor (Kumar and Rahman, 2002). In this process of development, land poor farmers often try to find alternative on and off-farm occupation to manage their livelihoods. Prosperous non-farm activities have been considered as a poverty reduction strategy for the rural people. This sector can engross surplus labors, offer lucrative remuneration, supplement or replace income from agricultural sectors, provide a means for rural poor to cope with and improve the overall quality of life in rural areas. For most of the rural people in developing and transitional economies, non-farm activities are part of a set of livelihood activities. They are part of a diversified livelihood portfolio. The rural people in developing countries derive an important share of their income from non-farm activities (Davis and Bezemer, 2004). Considering the gravity of this issue, several researches have

conducted on rural occupation structure, income or livelihood diversification and its impacts on rural economy. Akter *et al.* (2020) conducted a study on livelihood diversification in Sunamganj district of Bangladesh and found that people have diversified livelihood depending on their age, education, and physical assets. Salam (2020) conducted a study on rural livelihood diversification in Bangladesh by using a panel dataset covering three different years 1988, 2000 and 2008. Findings of his study showed that diversified livelihood through change in income sources have an impact on the poverty and inequality among rural households. She also found that farmers radically reduce their poverty by diversifying their livelihood from only agriculture to part-time farming and the others. Another research was conducted (Ahmed *et al.*, 2015) on diversification of rural livelihood in Bangladesh and found that remittance contributed highest to the household income followed by business, caste occupation and rice farming. Moreover, the small and medium farmers are more likely to diversify their livelihoods. Salam *et al.* (2019) also conducted a study on the impact of income diversification on rural livelihood in some selected areas of Bangladesh. Findings of their study showed that involving in any type of non-farm activities, jointly with farming, has a significant positive impact on the households' welfare. The study also reveals that among different non-farm activities, participation in wage employment along with agricultural activities ensured significantly higher per capita household expenditure.

Though, all the cited researches have addressed numerous issues regarding rural income and livelihood diversification but still ample issues in micro level has not yet explored. Present study is an endeavor to grasp such issues; nature and extent of occupational diversification, its changes over time and impacts on household income.

## Materials and Method

### Area and sample selection

For this study, primary data was collected from a village, Lebutala under Sadar upazila of Jashore district in Bangladesh in 2000 and 2017. A list of farm households was collected with the assistance of local Union Parshad. In 2000, a total number of 107 households were selected using simple random sampling technique. Sample includes all type of farmers- landless, small, medium and large. Moreover, special attention was given so that the representatives of different marginal or occupational groups (fishermen, potter, hair stylist and blacksmith) were ensured. In 2017, the data were collected from the same households again. During these times number of households split and became 107 to 124. The entire 124 households were taken for the study. Data were collected on a 17 years gap for better understanding the changing pattern of rural income diversification.

### Preparation of questionnaire and data collection

The preparation of questionnaire is prerequisite for any types of socio-economic research. A standard interview schedule was prepared for collecting data on the extent of rural occupational diversification, its changes and impacts on household income over time. Data regarding characteristics of the households- occupation, land ownership, family size, education and its associated information were collected using pre-tested interview schedule during May to June, 2000 and October to November, 2017. Besides, focus group discussion (FGD) and participatory rural appraisal (PRA) were

conducted with local leaders and neighboring people to assess the status of occupational diversification in the study area and also to cross check the collected data.

### Analytical technique

Collected data were organized, coded, compiled, tabulated and analyzed by using descriptive statistics. Various descriptive statistical measures such as sum, average, percentages, etc. were used to attain the objectives.

## Result and Discussion

### Changes in the socio-economic characteristics of the sampled respondents

Cultivable land is one of the most precious assets in rural areas of Bangladesh. However, per capita land holding size has been gradually reducing due to rapid growth of population and some other socio-economic and environmental reasons. Table 1 shows the farm categories, farm sizes and family sizes in 2000 and 2017 in the same study area. Result revealed that landless farmers have increased from 17% in 2000 to 29% in 2017. Other categories of farms have reduced gradually like small farms were 58% in 2000 which became 54% in 2017. Similarly, medium farms reduced from 22% to 15% and large farms reduced from 3% to 2% between the stated time periods.

**Table 1. Farm categories, its sizes and family members of the studied households (H.H.)**

| Farms categories | Distribution of H.H. and its sizes in 2000 |           |             | Distribution of H.H. and its sizes in 2017 |           |             |
|------------------|--|-----------|-------------|--|-----------|-------------|
|                  | No. of H.H.                                | % of H.H. | Family size | No. of H.H.                                | % of H.H. | Family size |
| Landless         | 18   | 16.82     | 4.20        | 36   | 29.03     | 3.86        |
| Small            | 62   | 57.94     | 4.50        | 67   | 54.03     | 4.27        |
| Medium           | 24   | 22.43     | 4.80        | 19   | 15.32     | 4.63        |
| Large            | 3  | 2.80      | 6.67        | 2  | 1.61      | 5.50        |
| All farms        | 107  | 100.00    | 4.58        | 124  | 100.00    | 4.23        |

**Note: 1. Landless farm** indicates 0.0 – 0.49 acres of cultivable land, **small farm** is with 0.50 – 2.49 acres of land, **medium farm** is with 2.50 – 7.49 acres and **large farm** is with 7.50 acres and above. **2. H.H.** indicates **Household**

Additionally, numbers of farms have increased from 107 to 124 during these seventeen years. Findings of the study also show that the family size (number of persons per family) among all categories of farms have decreased from 4.58 in 2000 to 4.23 in 2017 which are found consonant with results of Bangladesh Bureau of Statistics (BBS, 2000). This result is not in the line with the findings of Kumar and Rahman (2002). The findings of our study also explore a positive relationship between farm size and family size. Result implies that the number of farms and number of landless households have been increased during the mentioned periods and family size has decreased slightly. With the elapse of time several nuclear families were formed from joint family. Previously owned large or medium farms have also been distributed among newly formed nuclear families. As a result, the household size and farm size have decreased but the number of household has increased over the time.

### Changes in level of education from 2000 to 2017

Generally, literacy rate and level of education is low in Bangladesh. However, this situation has been improving since last two decades. Findings of the study illustrate that a significant number (21%) of respondents were illiterate in

2000. But the illiteracy rate has dropped to 6% in 2017 (Table 2). This illiteracy rate is much lower than the national average (BBS, 2020). Again, the education qualification within class V, class X, class XII and graduation were about 27, 50, 14 and 4%, respectively, in 2017 compared to 20, 44, 10 and 6%, respectively, in 2000.

**Table 2. Education level of the sample households in 2000 and 2017**

| Farm categories     | Level of education in 2017 |       |        |        |          |
|---------------------|----------------------------|-------|--------|--------|----------|
|                     | Illiterate                 | I - V | VI - X | XI-XII | Graduate |
| Landless            | 8.33                       | 25.00 | 58.33  | 8.33   | 0.00     |
| Small               | 4.48                       | 31.34 | 47.76  | 13.43  | 2.99     |
| Medium              | 5.26                       | 15.79 | 47.37  | 21.05  | 10.53    |
| Large               | 0.00                       | 0.00  | 0.00   | 50.00  | 50.00    |
| All farms (average) | 5.65                       | 26.61 | 50.00  | 13.71  | 4.03     |
| Farm categories     | Level of education in 2000 |       |        |        |          |
| Landless            | 22.22                      | 22.22 | 55.56  | 0.00   | 0.00     |
| Small               | 22.58                      | 19.35 | 48.39  | 6.45   | 3.23     |
| Medium              | 16.67                      | 20.83 | 29.17  | 20.83  | 12.5     |
| Large               | 0.00                       | 0.00  | 0.00   | 66.67  | 33.33    |
| All farms (average) | 20.56                      | 19.63 | 43.93  | 10.28  | 5.61     |

It implies a positive change in all level of education between the year of 2000 and 2017 except graduation level. However, this has not yet elevated up to the level where people can find lucrative occupation out of the village or region.

**Occupational diversification**

Due to scarcity of cultivable land, lower level of income and severe competition in job market, rural people often try to find alternative sources of income. Findings of the study reveal that agriculture was predominant primary occupation (57%) in the study area in 2000 and it has reduced to 31% in 2017 (Table 3). Similarly, day laborers have reduced from 13% in 2000 to 6% in 2017. Result also shows that about 15, 24 and 11% of the respondents were engaged in dairy, business and self-employment activities respectively, in 2017 but these were about 6, 9 and 7% respectively, in 2000. Moreover, no significant changes were found among the number of salaried people in the mentioned period.

**Table 3. Occupational diversification and its changes over time**

| Occupational categories | Occupational structure in 2000 |           |          | Occupational structure in 2017 |           |          |
|-------------------------|--------------------------------|-----------|----------|--------------------------------|-----------|----------|
|                         | Primary                        | Secondary | Tertiary | Primary                        | Secondary | Tertiary |
| Agriculture             | 57.01                          | 31.78     | 2.80     | 31.45                          | 58.06     | 4.84     |
| Dairy                   | 5.61                           | 15.89     | 12.15    | 14.52                          | 17.74     | 10.48    |
| Day labor               | 13.08                          | 5.61      | 0.93     | 8.87                           | 5.65      | 1.61     |
| Business                | 9.35                           | 12.15     | 1.87     | 24.19                          | 7.26      | 4.84     |
| Salaried                | 8.41                           | 4.67      | 0.93     | 9.68                           | 0.81      | 0.00     |
| Self employed           | 6.54                           | 6.54      | 0.00     | 11.29                          | 4.03      | 2.42     |
| All occupation          | 100.00                         | 76.64     | 18.69    | 100.00                         | 93.55     | 24.19    |

In case of secondary occupation, 58% of the respondents were found in agricultural activities followed by about 18% in dairy farming and 7% in business activities in 2017 compared to about 32% in agriculture, 16% in dairy farming and 12% in business in 2000. Result also shows that as a secondary occupation, percentage of day laborer remained same but salaried and self-employed respondents were slightly decreased during this period. Besides, findings of the study also depict a little change in tertiary occupations as

agricultural activities has increased from 3% to 5%, day laboring from 1% to 2%, business from 2% to 5% and self-employment from 0% to 2% from 2000 to 2017, respectively. On the other hand, dairy farmers and salaried persons reduced very little over the time.

Results of the study also illustrate a significant increase in secondary and tertiary occupations as these were 77% and 19% in 2000 compared to 94% and 24% in 2017, respectively. These findings prove that farmers have diversified their occupation significantly during 2000 to 2017 and at the same time primary occupational dependency on land-based agriculture has reduced remarkably. Presently, many of the farmers have multiple income sources. Among these rural businesses and dairy farming have become auspicious alternatives. As multiple occupations are much higher among the respondents, finding of this study is not in the line with the results of Kumar and Rahman (2002). Besides, numbers of wage laborers were also reduced during the period which may provide more income generating opportunity to the existing wage earners.

**Household income and its diversification in 2017**

It is evident that almost all categories of farmers have multiple income sources to attain their livelihoods. Especially, for the land poor farmers (landless and small farmers) single income source is not enough to cover all the household expenditures. Findings of the study prove that agriculture is still single most predominant income generating source of the rural farmers (Table 4). This sector contributes nearly 29% share of the total household income of the landless farmer followed by about 42, 42 and 64% of the household income of small, medium and large farmers, respectively. On an average agriculture sector provides 40% share of family income for all categories of the rural farmers.

**Table 4. Share of household income from different sources in 2017**

| Farm categories | Share of income from different occupation |           |          |       |               | Total (%) |          |
|-----------------|---|-----------|----------|-------|---------------|-----------|----------|
|                 | Agriculture                               | Day labor | Business | Dairy | Self-employed |           | Salaried |
| Landless        | 28.87                                     | 16.37     | 22.41    | 21.20 | 6.88          | 4.27      | 100.00   |
| Small           | 41.56                                     | 2.11      | 21.04    | 13.91 | 11.34         | 10.04     | 100.00   |
| Medium          | 42.05                                     | 0.00      | 19.95    | 31.24 | 0.00          | 6.76      | 100.00   |
| Large           | 63.81                                     | 0.00      | 0.00     | 7.62  | 28.57         | 0.00      | 100.00   |
| All farms       | 40.23                                     | 4.42      | 20.04    | 18.70 | 8.92          | 7.69      | 100.00   |

Result also reveals that day labor occupation offers a significant share (16%) of household income for the landless farmers. Moreover, business sector provides a substantial share of income. The contribution of business sector was about 22, 21 and 20% for landless, small and medium farmers, respectively. Thus, this sector provides on an average 20% share of the family income for all farmers. Likewise, dairy sector has become another persuasive occupation for all categories of rural farmers. This sector contributed 21% share of household income of the landless farmers followed by 14, 31 and 8% income for small, medium and large farmers, respectively. By self-employment opportunity, landless, small and large farmers earned about 7, 11 and 29% share of their family income. This sector provides on an average 9% share of the total family income. Similarly, on an average 8% of the family income also contributed by salaried occupation. Findings demonstrate that almost all categories of farmers earned substantial share of income from agriculture sector. Besides, poorer segment of the population- landless and small farmers earned a



substantial share of family income from business, dairy farming and self-employment activities. These sectors also became promising income generating sources in the studied area. The result found this study is inconsistent with the findings of Ahmed *et al.* (2015) in which remittance was identified as the highest household income generating source and followed by business and other activities.

**Comparison of rural household income with the national rural average in 2017**

Diversified income sources contribute to enhance the overall family income. That is why, rural farmers try to engage themselves in several alternative income generating activities to meet their family requirements. In this way, few landless farmers have come up with their income level to the national average. Table 5 shows the average monthly income distribution among different categories of farmer in comparison with national rural income of BDT 13,353 per month (BBS, 2016). Result of the study shows that average household income of the landless farmers was BDT 11,711 per month. Nevertheless, many of the landless farmers (about 42%) earned similar or above the monthly national rural income level. Similarly, the average earning of small farmers was BDT 16,952 per month and about 63% of them have earned money similar to or above the national rural income level.

**Table 5. Average household income of different farmers and its comparison with the national rural average in 2017 (in BDT month<sup>-1</sup>)**

| Farms categories | No. of household | Average monthly income (BDT) | % of households earned similar to the national rural income (BDT 13,353) |
|------------------|------------------|------------------------------|--|
| Landless         | 36               | 11,711                       | 41.67  |
| Small            | 67               | 16,952                       | 62.69  |
| Medium           | 19               | 23,342                       | 89.47  |
| Large            | 2                | 52,500                       | 100.00   |
| All farms        | 124              | 16,983                       | 61.29  |

Findings of the study also reveal that the average monthly income of medium farmers was significantly higher (BDT 23,342) than that of national level. More than 89% of them came up to the average national rural income level. We also found that all the large farmers earned much higher (BDT 52,500 per month) than the national income level. Result clearly uttered that the average monthly income of small, medium and large farmers is significantly higher than the national average except landless farmers which found consistent with the result of Salam (2020). Positive impact of income sources diversification might be responsible for the higher income level in this rural area of Bangladesh.

**Change of income level over the time**

Income source diversification has become an important strategy for the rural people to increase their household income. In 2000, the average income of the studied household was lower than the national rural income level. The rural household income was BDT 4,159 per month whereas the national rural household average was BDT 4,814 (Table 6). On the other hand, the average income of the studied household was significantly higher (as BDT 16,983 per month) compared to the national rural household income of BDT 13,353 per month in 2016. Findings of the

study depict that respondents have significantly improved their level of income within the specified period. From the study, it is clear that more than 61% of the sampled households had income level above the national rural average in 2017 whereas this was lower than 34% in 2000.

**Table 6. Change of income level between 2000 and 2017**

| Survey years | HIES average national rural income (BDT month <sup>-1</sup> ) | Average income of the studied household (BDT month <sup>-1</sup> ) | % of households earned above the national rural average |
|--------------|---|--|---|
| HIES 2000    | 4,814   | 4,159  | 33.57   |
| HIES 2016    | 13,353  | 16,983   | 61.29   |

**Note:** HIES indicates Household Income and Expenditure Survey

Result shows that the present income situation of the rural farmers is significantly better than that of 2000. Obviously, this increased income is the consequence of the diversification of income sources in rural areas which creates opportunity to be involved in dual or multiple occupations in many cases.

**Conclusion**

Diversification of income sources acts as a driving force for raising the level of household income in rural areas of Bangladesh. Results of the study clearly demonstrated that people in rural areas have been significantly diversified their occupation and adapted dual and, in few cases, multiple income generating activities simultaneously. In this process, rural business, dairy farming and self-employment have become promising income generating sources. As a result, majority of the households have increased their income up to or above to the national rural household income level during last seventeen years. Yet, the poorer segment of population-landless and small farmers is still lack behind. Therefore, it is suggested to enhance further diversification through small business, dairy farming and various self-employment development activities in rural areas.

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