

## **Implication of Agriculture and Rural Economy nexus in Rural Planning: A Case Study of Nimpara Union, Charghat, Rajshahi**

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### **Abstract**

Bangladesh is predominantly an agricultural country and this sector plays a pivotal role in accelerating the economic growth. But this sector is beset with many problems which causes low rate of return, seasonal unemployment etc. Because of low economic return, many farmers and agricultural labors have bound to shift in other occupations and/or migrate to another region. This paper is an initiative to find out whether agriculture is supporting rural economy satisfactorily or not. The research is based on primary and secondary data. Participatory Rural Appraisal (PRA) has been used as a tool in primary data collection. The primary data suggests that there is seasonal unemployment in agriculture sector that induces migration. The secondary data analysis has concluded that owing to lower wage and economic benefit, human involvement is being reduced in this sector day by day.

### **Introduction**

Farming is the most primitive and common occupation in Bangladesh. Most of the rural people of Bangladesh are involved in farming. Agriculture constitutes the single largest share in GDP. Its sub-sector, crop production dominates the agriculture sector contributing about 72% (fisheries, livestock and forestry are 10.33%, 0.11% and 7.33% respectively) of the total production (Agriculture, 2006).

Though the agricultural sector is being developed day by day, still agriculture has some present and future challenges. Major challenges includes over Population, lowering ground water level in dry season, seasonal unemployment, loosing fertility and excessive land use, excessive use of fertilizer and pesticides etc (Shaon, 2007). The major problems of the sector are financial problem, natural disaster, non use of new inventions, mono-crop production, inaccessibility to weather report, higher input cost of production, transportation problem, lack of coordination between government and private stakeholders (Shaon, 2007). Owing to these problems and challenges economic contribution of agriculture on rural economy has been lessened.

Rajshahi is one of the metropolitan cities, which is located in northern part of Bangladesh. Owing to rapid growth of population, decreasing trend in availability of cultivable land, and changes in socio-economic pattern, some substantial changes have taken place in agriculture sector over the past few decades in this region. This research is an attempt to find out the economic contribution of agriculture on rural economy in Rajshahi.

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### Literature Review

The economy of Bangladesh is developing day by day from its impendence. But yet the economy is unable to extract the full potential of its land resources due to lack of appropriate human capital and technology adoption. About 47 million people are still below the national Poverty line (Helal and Hossain, 2013). Average unemployment rate from 2000 to 2010 was 4.6 (BBS, 2011).

About 65 percent of labor force in Bangladesh is engaged in agriculture which contributes about one fourth of nation's gross domestic product (GDP). The projected annual rice production is estimated to be 26.53 million tons, while fish production is 2.32 million tons. In 2009-2010, agriculture accounted for 23.5% of the country's GDP. Average share of agriculture in national GDP is 26.13% in Bangladesh since 1980 with a highest 32.77% in 1985 and a minimum of 18.29% in 2011. So agriculture is still the lifeline of Bangladesh economy. For that reason, the development of growing economy depends largely on the development of agriculture (Bishwajit, Barmon, and Ghosh, 2014).

The main agricultural sub-sector is crop production and it yields about 14 per cent of the country's GDP. Rice is staple food of Bangladesh hence, the major agricultural product. It provides livelihood for 13 million farm households in the country. Bangladesh is the fourth largest rice producing country in the world (source: IRRI). It is also the fourth biggest rice-consuming country. Because of huge domestic consumption, there is rice deficit in the country, in fact, a net rice-importing country (Raihan, 2012).

One of the major consequences of seasonal unemployment is migration. Internal migration most often occurs when there is inadequacy or absence of suitable employment or livelihood opportunities in the local areas. People migrate to another region with expectations of higher wages, better employment alternatives and factors which maximize family employment in the destination areas (Khandker, Khalily, and Samad, 2012).

Seasonal migration can be considered as a strategy to minimize seasonal hardships, such as the lack of food or income during certain months of the year when local markets do not offer income earning opportunities. A study from Vietnam shows that, among other factors, social network influences a lot in deciding in migration (Khandker et al., 2012).

In northwestern Bangladesh, 5 million extreme poor people living below the poverty line have to cope with a regular pre-harvest seasonal famine. It is locally known as Monga. This is widespread lean or "hungry" seasons experienced throughout South Asia and Sub-Saharan Africa, in which households are forced into extreme poverty for part of the year. The proximate causes of the famine season are easily understood—work opportunities are scarce between planting and harvest in agrarian areas, and grain prices increases during this period (Bryan, Chowdhury, and Mobarak, 2014).

Migration has recently increased significantly. Nearly two-thirds of emigration from is rural to urban areas. The major problems that migrants are faced are- lack of low cost housing, physical insecurity, skewed distribution of the delivery of basic utility services and subsequent health problems. About 53% of poor migrants live in private slums and 44% squat on public land. Average per capita space is 2.7 square meter. The water and sanitation services are worst in migrant's squatter, which determine health and environmental safety. One water tap is shared by 5-6 families and a female slum resident

must travel an average distance of 69 m daily, which affect her health and productivity. About 90% of the slum dwellers use hanging or non-sanitary toilets in Dhaka city. The dwellers and female worker in a garment factory morbidity rate is estimated at 52% and 42% respectively. Problems of accommodation, sickness and disease, robbery and physical harassment loom large for migrants at destination (Afsar, 2003).

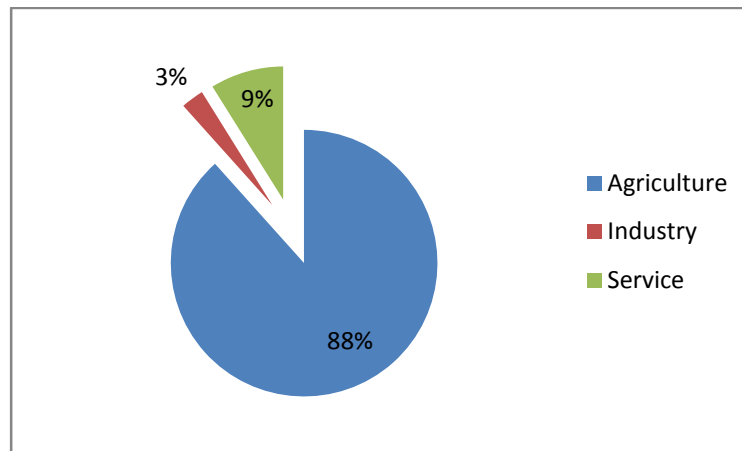
### Objectives and Methodology of the Study

The main objective of this paper is to make an overview of agricultural contribution on rural economy in Bangladesh. It tries to analyze whether this sector's fulfill the basic need of rural economy and what are the consequences of inadequate support to this sector on overall socio-economic condition of any region. The research is mainly based on conceptual ideas, secondary information and empirical field observation. Field observation has been done with PRA (Participatory Rural Appraisal) including key informants and group discussion. The secondary information is collected from BBS and a survey of literature and relevant Internet based websites. The study is conducted on Nimpara which is one of the six unions of Charghat Upazila, Rajshahi. It has 3 wards consisting of 28 villages. The total area of Nimpara union is 9,136 acres. Number of total household is 9,136 and average size of household is 4. The union has the population of 35,768 and the population density is 967 people per sq.km. (BBS, 2011).

### Data Analysis and Discussion

#### Analysis of Occupation

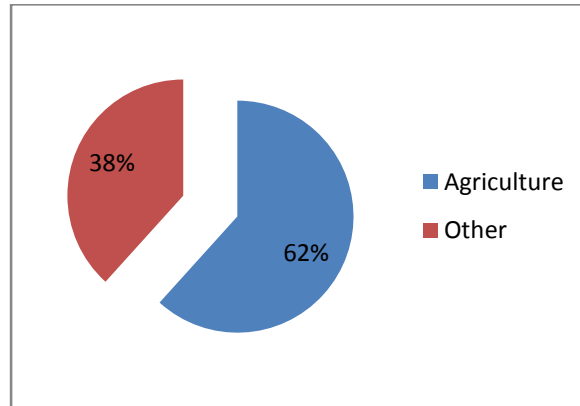
Bangladesh is an agricultural country. About 63% of the labor force of Bangladesh is involved in agricultural sector. From Figure 1, it is seen that about 88% labor force of Nimpara union is involved in agricultural sector (BBS, 2011).



Source: BBS, 2011

Fig. 1: Field of activity in Nimpara union

But from the field survey 2015 (Figure 2), it is seen that 62% people of Nimpara union is involved in agricultural sector. The data varies from the BBS statement. So, it is clear that the involvement in agriculture has decreased than before.



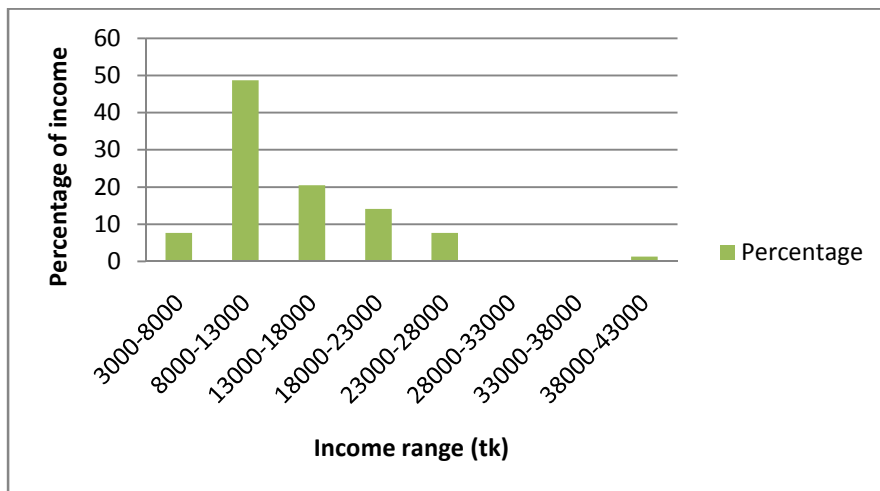
Source: Field survey, 2015

Fig. 2: Occupation pattern of Nimpara union

**Daily Income**

The per capita income means the average annual income of an individual in an economic unit, such as a country or city. According to BBS, per capita income of Bangladesh is \$1,190 in 2015. That means daily average income is 260.27 taka (1 USD=77.83 Taka).

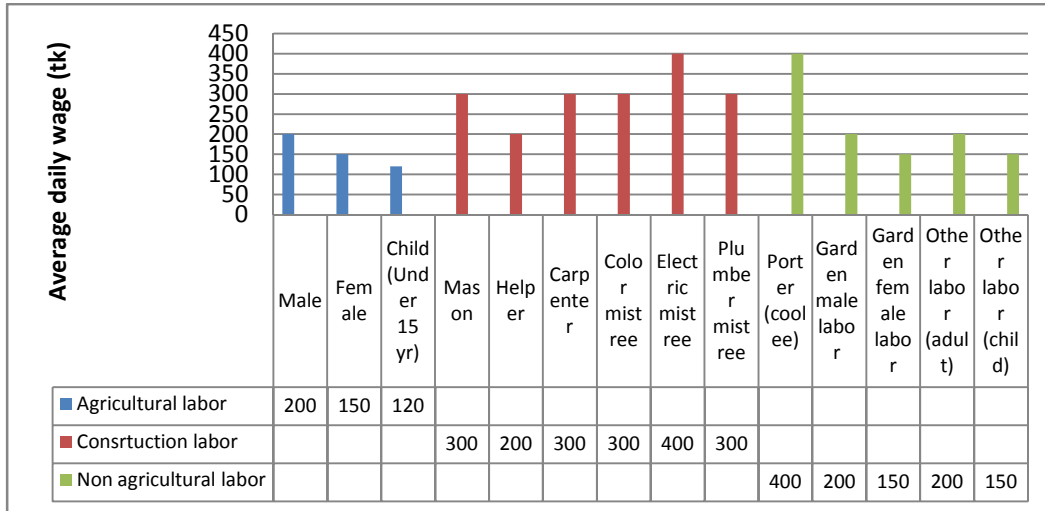
Figure 3 shows that the minimum monthly income is 3,000 taka and maximum monthly income is 43,000 taka in Nimpara union. Most of the participant family’s yearly income is 8,000-13,000 taka. In daily consideration, it is only 22-36 taka and it is not enough to maintain the basic needs in terms of today’s market price of essential commodities. So, present per capita income for the people of Nimpara union is less than the country’s overall per capita income. It is therefore understood that the economic condition of Nimpara union is worse and people cannot enjoy the basic needs.



Source: Field survey, 2015

Fig. 3: Yearly income in taka

Figure 4 shows that daily average wage of male agricultural labor in Charghat Upazila is 200 taka, and for female the average wage is 150 taka.



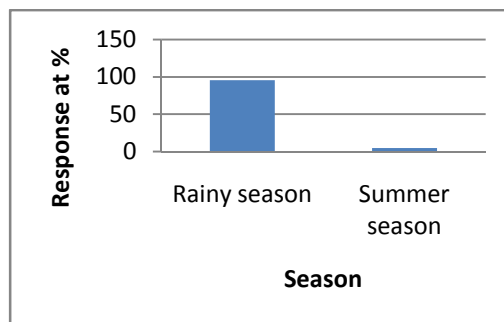
Source: BBS, 2011

Fig. 4: Wage rate of different labor class people of Nimpara union

Average daily wage rate of construction labor in Charghat Upazila shows that an electrician gets the highest daily wage of 400 taka on average. A Plumber, a painter, a carpenter, a mason also get higher daily wage compared to an agricultural labor. It is shown that sometimes, a non agricultural labor (e.g. porter) gets higher daily wage than an agricultural labor. Thus an agricultural labor easily induces to shift his/her agricultural sector to construction or non agricultural sector.

**Period of Unemployment**

The period of unemployment in Nimpara union was obtained from field survey. Figure 5 shows that people remain unemployed mostly in the rainy or monsoon season. More than 95% respondent has said that rainy season (Ashar, Srabonand, Vaddra) is the season of unemployment. Most of the people are involved in agriculture related works. During the rainy season, the crop lands go under water and people cannot grow any crops in their fields.

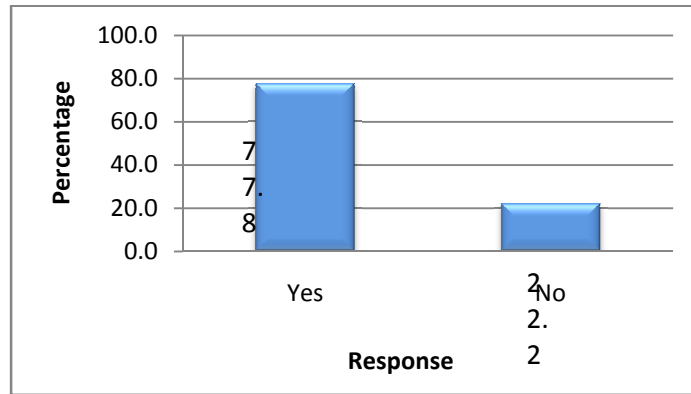


Source: Field survey, 2015

Fig. 5: Season of unemployment

**Migration**

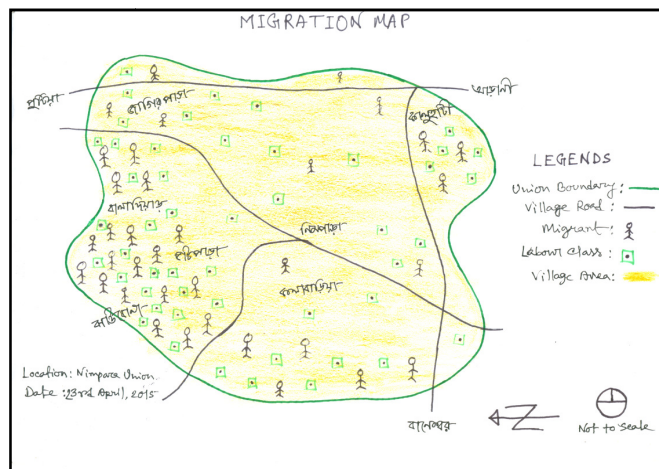
In Nimpara union, majority of the people are involved in agriculture. In different seasons of the year, mainly in the rainy season most of the agricultural laborer goes to another region for the betterment of their economic condition. From Figure 6, it is seen that near about 80% agricultural laborer are migrated to other regions. They work in different sectors as brick factory, garments factory, mason work and different types of business. In this region, there is no well developed factory or industry to consume local manpower, so many people are migrated to other regions and sometimes, they shift from agricultural sector. Thus agricultural economy of the region goes down.



Source: Field survey, 2015

Fig. 6: Migration rate of Nimpara union

The map prepared by a key informant named Md. Zafor Ali shows that the areas of Baladiyar, Vatpara, Jhaubona and Kaluhati have larger number of migrated people than the other regions. The map also shows that the previously mentioned areas also contain greater number of agricultural labor class people. So the study signifies that the regions which have greater agricultural labor class people also have a greater migration rate.



Source: Zafor Ali, key informant, Field survey, 2015

Fig. 7: Migration map of Nimpara union

Table 1: Seasonal Diagram

| Month Parameters              | Baishakh                  | Jaistha                  | Ashar          | Shrabon        | Vadro | Ashin          | Karthik        | Ograhayon      | Poush          | Magh           | Falgun         | Chaitra          |
|-------------------------------|---------------------------|--------------------------|----------------|----------------|-------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| <b>Income</b>                 | ★ ★ ★<br>★ ★ ★            | ★ ★ ★<br>★ ★ ★           | ★ ★ ★<br>★ ★ ★ | ★ ★ ★          | ★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★ | ★ ★ ★<br>★ ★ ★   |
| <b>Production</b>             | Litchi,<br>Corn,<br>Mango | Litchi,<br>Corn<br>Mango | Jute           | Jute           | -     | -              | Paddy          | Paddy          | -              | Mustard        | Pulse          | White,<br>Onion. |
| <b>Disturbance of climate</b> | ⊙ ⊙<br>⊙ ⊙                | ⊙<br>⊙ ⊙                 | ⊙ ⊙ ⊙<br>⊙ ⊙ ⊙ | ⊙ ⊙ ⊙<br>⊙ ⊙ ⊙ | ⊙ ⊙   | ⊙              | ⊙              | ⊙              | ⊙ ⊙<br>⊙ ⊙     | ⊙ ⊙            | ⊙              | ⊙ ⊙              |
| <b>Migration</b>              | ⊕<br>⊕ ⊕                  | ⊕ ⊕                      | ⊕ ⊕<br>⊕ ⊕     | ⊕ ⊕<br>⊕ ⊕     | ⊕ ⊕   | ⊕              | ⊕              | ⊕              | ⊕              | ⊕              | ⊕ ⊕<br>⊕ ⊕     | ⊕ ⊕<br>⊕ ⊕       |

Source: Field survey, 2015

In Table, 1 it is seen that firstly the per capita income is quite well in the month of Baishakh, Jaistha, Falgun and Chaitra. But in the month of Ashar, Shrabon, and Vadro people have no work in this region. Secondly, the production rate of crops is very good in the month of Baishakh, Jaistha and Chaitra. Thirdly, the natural calamity often occurs massively in the month of Baishakh Ashar and Shrabon. So it reveals that the migration rate is increased in the month of Ashar, Shrabon, and Vadro because of the abovementioned factors. People cannot afford their daily needs in those months so that they shift to another region for the betterment of their socio-economic condition.

### **Group Discussion**

Group discussion is a tool of PRA method and it was applied in the field survey, 2015. The group discussion on economic satisfaction with agriculture and its recent consequences was held in Vatpara village of Nimpara union. People of different ages and classes from surrounding villages were present, who were predominantly farmers. In the discussion they expressed that they were dissatisfied with the yield of agriculture as the rate of return in this sector was very low. The amount of benefit after deducting production cost and labor cost was not remarkable. The farmer said that they could not grow enough crops as they were illiterate on the use of fertilizer and pesticide. They also informed that they didn't get any subsidy from government and were unable to access any bank loan. Again Owing to water logging and seasonal nature of agriculture they don't have any work for several month of the year. Because of this seasonal unemployment many labor and farmer are forced to migrate in another region by shifting occupation.

### **Findings**

Analysis of primary and secondary data concludes that owing to the lowest wage rate in agricultural sector, population involvement has reduced. Moreover, in rainy season (Ashar, Srabonand, Vadro) crop lands and roads go under water due to massive water logging. So, a large number of farmer and day laborer become seasonally unemployed. This unemployment acts as a push factor for people to migrate to other regions, especially in large cities like, Rajshahi and Dhaka.

### **Conclusion**

The study reveals that rural economy is not satisfactorily contributed by agriculture. The prime reasons behind that are unscientific way of cultivation and seasonal nature of agriculture. Owing to this problem, the ultimate result is intra-urban migration which creates extra burden on large cities. With the passage of time, population will increase and if any initiative is not taken, the problem is likely to be deteriorated. Focus should be given on establishing agro based industry like rice mill, jute mill, juice factory, cottage industry etc. to boost up more non agricultural income generating activities in the region.

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