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## **Livelihood status of Gher farmers of Beel Dakatia in Khulna district, Bangladesh**

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**Abstract:** The present research work was carried out to determine livelihood conditions of fish and Prawn/ Giant freshwater prawn (*Macrobrachium rosenbergii*) Gher farmers at Beel Dakatia in Dumuria, Phultala and Daulatpur thana under Khulna district from April to September 2013. From the survey the community indicated that 21-40 age groups made maximum strength and majority of them were Muslims (58%). It was found that 16% of them could sign only and the percentages of school going children were high (86%). In the study area, it was found that 88% were married, 62% of people lived with unit families and highest households were 5-7 people per family. The majority of families (72%) had one person for earning and highest income of the people (44%) were 128 to 256 US dollar (\$). About 62% people lived in local house and the construction materials were nipa palm and mud, 72% used electricity. The result also showed that 84% peoples main occupation was fish farming. Majority of the people (52%) used others tube well water for drinking, 56% used closed half build toilet. 52% fishermen got health service from Upazila health complex which was the most preferred place. For their recreation 76% used TV/ Radio. About 78% people used lease land for the fish and prawn farming. Thus to achieve better social structure, the government and its development partner needs to re-orient their programmer and to implement to an affirmative action for the fish and prawn Gher farmers.

**Key Words:** Livelihood Status, Gher Farmers, Beel Dakatia, Khulna, Bangladesh

### **Introduction**

The role of fisheries sector to national economy has always been significant. It provides the main source of animal protein,

employment opportunities, food security, foreign incomes and socio-economic improvement (Siddiq *et al.*, 2013). This sector

contributes 4.39% to Gross Domestic Product (GDP) and 22.76% to agricultural GDP. Fish products consists of about 60% of our daily animal protein intake. About 10% of the population is dependent directly and indirectly on the fisheries for their living (Department of Fisheries, 2013). It has already been renowned as a vital income and employment-generating sector in Bangladesh, as cheap sources of healthy food for the population of the country (Ali *et al.*, 2014).

Total fish production in our country during the 2011-2012 was about 3.26 million metric tons of which 2.68 million metric tons were produced from freshwater including cultured fisheries and 0.05 million metric tons from marine water including shrimp (Department of Fisheries, 2013).

Beel is one of the best natural habitats for the indigenous fishes of different food habits in Bangladesh. Most of the aquatic species specially the fish and prawn enter in the inundated areas of the beel from the adjoining rivers and canals to feed and grow during the monsoon months (Akteruzzaman *et al.*, 1997).

Beel Dakatia is one of the very large saucers like water bodies of the coastal area of Bangladesh (Rahman *et al.*, 2010). It is located in the southwestern region of the country covering gross area 11,609 hectares (Rahman, 1995). It lies between longitudes 89°20'E and 89°35'E and latitudes 22°45'N and 23°00'N under the administrative boundaries of

Dumuria, Phultala and Daulatpur Upazilas of Khulna district (Banglapedia, 2004).

Until the 1980s, Beel Dakatia was a place of green peace with its flourishing agro-based economy and colorful socio-cultural enrichment. All around the year with crops in the field and fish in the adjacent canals and ponds and overall steady assurance of wage, people of Beel Dakatia wore a look of satisfaction. But unfortunately their good days did not last long.

The numbers of fish and fish species in the open water bodies in the Beel Dakatia area have declined since water logging became an acute problem. Agriculture suddenly stopped. Most people have changed their main occupation and turned into fishermen. Men and women from wealthy families started fishing in the Beel with its limited fish stock. The shrubs and bushes were the breeding grounds of fish. With the intrusion of saline water, these have been destroyed. Therefore, the fish stock has not increased, but more people have now become fishermen. So more fishes are caught reducing the fish stock. In addition, the quality of water in the Beel has been deteriorated recently. Diseases, sometimes leading to epidemics have attacked fish (Rahman, *et al.*, 2010).

In recent years, shrimp culture is introduced in the Beel Dakatia area and the practice of the culture is increasing day by day in the area. Now this area is prominently in favor of shrimp culture and it has emerged as dominant income

of the local people of the area. Integrated culture is much benefited. The production is possible through proper management, so the livelihood status like education, sanitation, housing condition, health condition, earning activity is possible to increase through proper management. Therefore, considering the above mentioned facts, the present study was designed to find out the factors affecting the peoples livelihood pattern in terms of income, primary and secondary occupation, health and sanitation and to find out the participation of people in fish and shrimp aquaculture and other activities in economic development.

## Materials and Methods

### Study area

The study was conducted at the Khulna district in the south-west of Bangladesh. It is located in the southern area of Bangladesh and situated on the banks of the Rupsha and Bhairab River (Fig. 1). The River port of Khulna is one of the oldest River ports in Bangladesh. It occupies an area of 4395 Sq. kms. The total population in Khulna district is 2378971 (BBS, 2010). But Beel Dakatia is located in the southwestern region of the country covering gross area 11,609 hectares (Rahman, 1995). It lies between longitudes 89°20'E and 89°35'E and latitudes 22°45'N and 23°00'N under the administrative boundaries of Dumuria, Phultala and Daulatpur upazilas of Khulna district (Banglapedia, 2004).

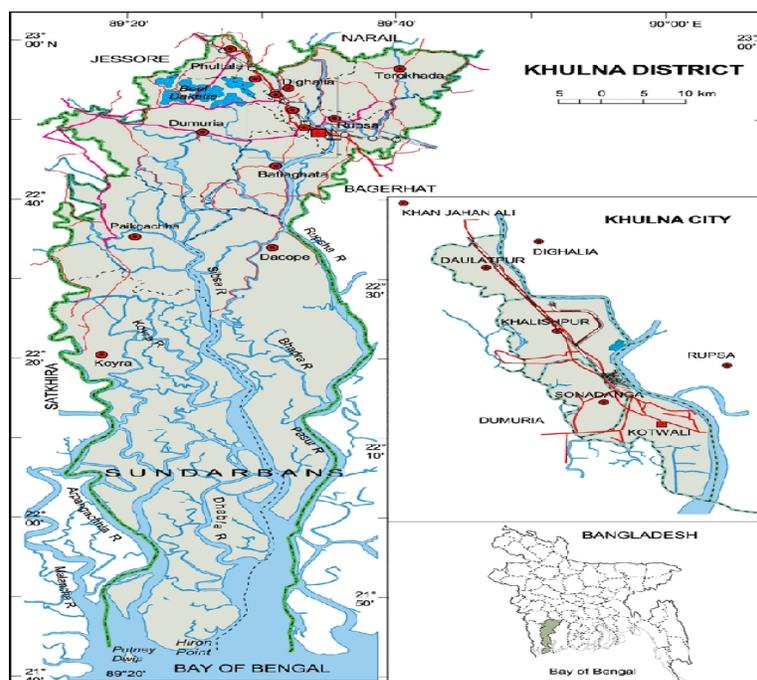


Fig. 1: Map of the Study area.

For the study of the livelihood status of the shrimp Gher farmers, in the Beel Dakatia under the Phultala and Dumria upazila of Khulna district were selected for the present study. Data were collected from 50 fish and prawn Gher farmers randomly covering the selected study areas.

### **Collection of data**

The present study was based on field investigation where primary data were collected from farmers who were involved in Gher farming. For collecting data both individual and group interviews were also applied with different degree of effectiveness of the farmers information. The data were collected from April to September 2013.

For questionnaire interview, simple random sampling method was followed for fish farmers. Data were collected through questionnaire interview. The questionnaire was designed with both closed and open form of questions. The farmers who have pond were mainly considered to collect personal information and fish farming information. Though the questionnaires were prepared in English but the farmers were asked the questions through face to face interview in Bengali during the interview.

In this research, Focus Group Discussion (FGD) was used to get an overview of particular issues such as existing fish production system, constraints of fish farming and farmers socio-economic condition. A total of 5 FGD sessions

was conducted where each group of FGD was included 5 to 7 farmers. FGD session was held in front of village shops, under the big trees, farmers houses and school premises.

After collecting the data through questionnaire interviews and FGD, crosscheck interviews were conducted with Upazila Fisheries Officer, Assistant Fisheries Officer and fry traders at their offices or home.

### **Data analysis**

The collected data were coded, summarized and processed for analysis. Tabular technique was applied for the analysis of data by using simple statistical tools like averages and percentages. Collected data has been analyzed by Microsoft Excel.

## **Results and Discussion**

### **Distribution of fisherman according to age**

The distribution of fisherman of the Dakatia Beel according to age structure ranged from 10 years to above 61 years. From this study it was found that the highest numbers of people were 21 to 40 years (62%) and lowest (4%) were 10 to 20 years age group. Ahmed (1996) in Tangail and Ahmed (1999) in coastal region reported 66% and 70% under 40 years age, respectively.

### **Distribution of fisherman according to religious Status**

In the present survey, it was found that

Muslims were featuring as the absolute majority (58%) of the fishermen and the minorities of them were Hindu (36%) and Christian 6%. In the study of Chantarasri (1994) and Rabbani and Sarker (1997) in Sundarbans Reserve Forest, it has also stated that most fishermen were Muslim. Ahamed (1999) investigated in coastal area and showed that majority of fishermen were Muslim (68.33%). Hassan and Mahmud (2002) investigated on the coastal fishing community in Kuakata and showed that the majority of fishermen were Muslim (93.94%). Hindu fishermen were found at (32%) at Sundarban (Ahamed, 1999).

### **Educational status**

On the basis of education score of the fishermen, they were classified into five categories. Most of the people were illiterate (16%). However, ability of writing name was considered as illiterate (16%). The literacy level of people involving fisheries activities were as follows: 26% had passed primary, 36% had passed secondary, 14% had passed higher secondary and only 8% were as diploma graduate. Literacy rate was evidently maximum in the communities of Beel Dakatia. Ahamed studied (1999) in Sundarbans and Mahbubullah (1986) in the polder areas obtained literacy rates as 25% and 23%, respectively.

### **Marital status**

Investigations were made to see the marital

status of people of the study area. It was found that the majority of them 44 (88%) were married while the unmarried responded only 6 (12%). Hassan and Mahamud (2002) investigated on the coastal fishing community of Kalapara village, Kuakata and showed that 89.3 (9%) of fishermen were married and rest of them 61% were single. So the present study is more or less related with those studies.

### **Family type**

In rural Bangladesh, families are classified into two types. Unit family- married couples with children, and joint family- group of people related by blood or by law. In the study area, it was found that 19 (38%) of people lived with unit families, and 31 (62%) lived with joint family.

### **Family size**

On the basis of family size the fishermen were classified into four categories: Small family (2-4), medium family (5-7), large family (8-10) and very large family (above 10). The highest percentage was obtained in the 5-7 members family (54%). The lowest percentage was obtained in the above 10 members family (4%).

### **School going children**

It was found that the maximum children were going to school because of getting various facilities. The findings of the survey showed that 86% (43) of children go to school and 14% (7) did not go to school. The percentages of school

going children were high in this area.

### Monthly income

The study revealed that 30% of fishermen families earned 64 to 128\$, 44% earned 128 to 256\$, and the rest 26% earned above 256\$ per month. Rabbani and Sarker (1997) notated monthly income of the majority of the fishermen ranged from 25-45\$ per month. In the study area, it was found that 36 (72%) of families had one person for earn and 14 (28%) had more than one person. That result is more or less similar to the present study. Mahabubullah (1986) reported that 71% of fishermen families earned 5 dollar or above per month. Department of Fisheries (1993) stated that average income of majority of the fishermen were 192 dollar/ year.

### Occupational status

Occupation is defined as an activity that the people pursue for earning their living. As the survey focused that, fishing was obviously their main or primary occupation. It was revealed that the main occupation of the people were fish farming (84%), while 16% enjoyed secondary occupation.

### Housing condition

The nature of house was indicated the social status of the people. During the survey attempts were made to find out the condition of living house of the people. It was found that

12% lived in local house made by nipa palm and mud, 36% in tinshed house, 42% in half building and 10% in full build houses. The construction materials was nipa palm, tin, mud and brick. Samima (2000) in Gallamary fishing community reported floor materials of 94% fishermen were made by mud.

### Sanitation condition

The findings of the survey revealed that on the average 6 (12%) household used local latrines, 28 (56%) household used half build toilet and 16 (32%) household used full build toilet. As awareness of proper sanitation is closely related to ability and education. CPP (1996) in Tangail obtained 4% fishermen household had no toilet.

### Health facilities

The health facilities of the fishermen were moderately poor and it was found that 10% of the fishermen households were dependent on local health keepers who did not have any understanding and knowledge of medical science. 38% of the fishermen got health service from Union hospital and remaining 52% from MBBS doctors in the Upazila health complex which was more or less similar to the findings of Ali *et al.* (2009).

### Sources of drinking water

During the study period, it was observed that 100% of fishermen used tube-wells water

for drinking purposes. As potable water, 20% of people used own tube well, 52% used shared tube well and 28% collected water from government tube well in school. There were no people to use the river water for drinking purposes. Mahbubullah (1986) noted that 41% fishermen used tube well water for drinking, cooking, bathing and washing.

### **Use of electricity, TV/Radio**

In the survey it was found that majority of households had electricity connection (72%) and minority (28%) of households had no electricity connection. Department of Fisheries (1993) reported from "Third Fisheries Project" that 2% of fishermen household used electricity. Samima (2000) reported that 20% used electricity in Gallamary fishing community, Khulna.

In the study period, about 76% of the fishermen had television/ radio and 24% did not use television/ radio for their recreational purpose and also for getting national news. (Kostori, 2012) found 36% were used radio/ television and 64% had no way for recreation in the Chalan Beel and Sirajganj district.

### **Ownership of the land**

From the survey it was found that most of the families had no personal land for their own farming. The results also revealed that about 22% of people constructed their Gher on their own land, 78% constructed on others land. Al-

Muhit (2000) showed similar results that 97.22% of people lived in their own houses.

### **Conclusion**

Fish and Crustacean culture in the Beel Dakatia play a great role in providing animal protein in order to meet the problem of malnutrition of the local people. The livelihood circumstance of the people were presented in terms of religion, family sizes and composition, educational status, health and sanitation facilities, housing pattern, monthly average income, etc. Beel Dakatia is one of the conspicuous examples of man-made disasters. Last ten years of inhuman suffering and structure has changed the total mode of the life of Beel Dakatias people who had never thought of leaving their lush green villages are now crowding and streets and industry sites of the town for work. Villagers of Beel Dakatia are very much striving. They have shown their performance after the construction of the embankment and a stair of the struggle also found. They are now lead more or less better life by encompassing multiphase activities besides involving in farming. They thought that, it makes their life peaceful. They also face opportunity and threat by living in this area. So they require a solution to these problems. Again they want to make a changed living pattern by involving themselves alternative activities and they also want to use the natural resource of Beel Dakatia. But they do not know the

appropriate procedure to use. So there is a requirement of proper administrative involvement to make proper guideline for the proper use of resources by the communal people to safeguard their livelihood pattern.

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