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Constraints Faced by the Fishermen in Flood Prone Areas of Jamalpur District

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Abstract

The main objectives of the study were to determine the constraints faced by the fishermen of flood prone areas and to explore the relationship between the constraints faced by the fishermen of flood prone area and their selected characteristics. The study was carried out at *Kalikapur* and *Borkhal* village under Dewangonj Upazila of Jamalpur district. Data were collected from a sample of 77 fishermen by using interview schedule during 20 September to 15 October 2009. Constraints faced by the fishermen was measured on the basis of their constraints in response to fishing, livestock and poultry, housing and shelter, health and sanitation and affect of muscle man. Constraints in each of the sub-sections were measured firstly and then overall constraints were measured by adding the score of the sub-sections. Pearson's Product Moment Correlation Coefficient (r) was used to explore the relationship between the concerned variables. On the basis of total score obtained, majority of the fishermen (81.8 percent) had faced medium constraints, 16.9 percent had high and the rest 1.3 percent had faced very low constraints. Out of the nine selected characteristics of the respondent age, cosmopoliteness and duration of living showed significantly positive relationships whereas education, extension media contact, and knowledge on constraints of flood showed negative significant relationship with their faced constraints. During flood most the fishermen faced high constraints. Thus, it could be concluded that the concerned authority should take necessary actions against the problems based on the finding of the study.

Keyworks: *Constraints, fishermen, flood prone.*

Introduction

Bangladesh suffers from flood every year and is normally associated with the yearly monsoon rains that pour into the entire Ganges-Brahmaputra-Meghna basin. About 60% land of Bangladesh is flood-prone while 25% areas in Bangladesh are inundated by monsoon flood water between June and October every year (Anonymous, 2002). Many problems arise out of flood. Flood makes life miserable and causes a big loss of life, property and crops. The peasants also loss their stocks of food grain, seed and agricultural implements. Many people have to leave their houses and take shelter on high road or ground where they have to depend on charity. Flood also often leads to the disruption of the transport and communication system. In short, the effects of flood are manifold and immeasurable.

The fishermen who are living in the river areas always fight with the disaster like flood, cyclone, river erosion etc. Flood is the phenomenon that has negative consequences. A hazardous flood claims lives of the fishermen, disrupts their livelihoods, destroys roads, bridges, and induces disease like, dysentery, and severe gastro-intestinal and cholera outbreaks. The fishermen of Dewangonj Upazila are drifting with a lot of problem such as- inadequate quantity of

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fishes in the area, lack of sufficient gear and boats, lack of knowledge of using modern gears and boats, river become dry during drought, deprived of proper price of fish due to poor marketing and transporting facilities, deprived of basic educations, shelter, clothing and health facilities, and lack of provision of alternative income sources. Moreover, some unidentified problems as well as the identified problems are the main reasons for low production of fisheries in the study area. Despite having such problems fishermen in the study area are struggling continuously for their livelihood on fisheries production. Thus, based on this reality the present research was undertaken in order to (i) determine the constraint faced by the fishermen in flood prone area; and (ii) explore relationship between fishermens' selected characteristics and their extent of faced constraints.

Methodology

Dewangonj Upazila under Jamalpur district was primarily selected as a suitable area for the study because this upazila comes under regular flood and people are really vulnerable to flood damages. Two villages namely *Kalikapur* and *Borkhal* were selected as the specific study location. The selection was made on the basis of suggestions made by local Upazila Fisheries Officer (UFO), Union Parishad Members and Officials of Dewangonj upazila. The villages situated in flood prone area which is naturally low land. Every year flood occurs in these villages and causes human sufferings and damages to crops, livestock, fisheries and other resources. An up to date list of all the fishermen of the selected villages was prepared with the help of UFO, and the ward member. Thus, a total of 210 fishermen (one from each household) of the selected village constituted the population of the study. A sample of 77 fishermen or 37% of the total fishermen was randomly selected from the population. Moreover, a reserve list of 10 fishermen was prepared for accidental use. A pre-tested and structured interview schedule was used to collect data from the fishermen during the period from 20 September to15 Octber 2009. The researcher did not face any major problem in collecting data. Data collected from the respondents were compiled, tabulated and analyzed in accordance with the objectives of the study.

Findings and Discussion

Constraints Faced by Fishermen of Flood Prone Area

Detailed discussions of constraints faced by the fishermen in flood prone area have been presented in the following sub-sections:

Different Aspects of Constraints

The constraints faced by the fishermen in flood prone area were conceptualized as consisting of five aspects. These aspects included: i) housing and shelter; ii) livestock and poultry; iii) affect of local musclemen; iv) constraints of fishing and v) health and sanitation facilities. For each aspect of constraints the respondents' actions were arbitrarily judged from 0 (no constraints) to 12 (very high constraints) continuum. The salient features of the different components have been presented in Table 1.

Table 1 Salient features of the different aspects of constraint faced by the fishermen in flood prone area

Aspect of constraints	Observed score range (Possible range: 0-12)	Mean	Rank
Housing and Shelter	1-6	4.51	5
Livestock and poultry	1-12	4.53	4
Affect of local musclemen	5-10	7.44	3
Constraints of fishing	4-11	9.03	2
Health and sanitation facilities	11-12	11.91	1

Data contained in Table 1 shows that the constraints of the respondents in respect of health and sanitation was relatively higher than compare to other four aspects. It was noted that constraints with flood damage in respect of housing was among the lowest. Moreover, the respondents' categorizations according to constraints score of all five aspects have been presented in Table 2.

Table 2 Distribution of the respondents according to their constraints across five aspects

Aspects	Category	Respondent's percent (n=77)	Mean	Standard Deviation
Housing and Shelter	Low constraints (0-3)	9.1	4.506	1.071
	Medium constraints (4-7)	90.9		
	High constraints (8-12)	0		
Livestock and poultry	Low constraints (0-3)	23.4	4.532	1.95
	Medium constraints (4-7)	71.4		
	High constraints (8-12)	5.2		
Affect of local musclemen	Low constraints (0-3)	0	7.441	1.219
	Medium constraints (4-7)	57.1		
	High constraints (8-12)	42.9		
Constraints of fishing	Low constraints (0-3)	0	9.026	1.622
	Medium constraints (4-7)	19.9		
	High constraints (8-12)	80.1		
Health and sanitation	Low constraints (0-3)	0	11.909	0.289
	Medium constraints (4-7)	0		
	High constraints (8-12)	100		

Housing and shelter

Data contained in the Table 2 show that an overwhelming majority (90.9%) of the respondents 90.9% had medium constraints as compared to any 9.1% having low constraints and there was no respondent having high constraints. Flood causes great sufferings to fishermen in relation to housing and shelter. Respondents of the study area face severe problem in this aspect every year.

When water enters their houses they make high stages in their houses and live on it. They also keep their agricultural products and other household assets on the same stage. They use portable clay hearth or stove, or make hearth by tin to cook their food when their hearths go under floodwater. Some people use sand bags to protect soil erosion of their household area. All the fishermen do not posses the same constraints with flood in relation to housing and shelter. The present study conducted to ascertain the constraints in relation to housing and shelter gives the above observation.

Livestock and poultry

Data contained in the Table 2 show that an overwhelming majority (71.4%) of the respondents had medium constraints as compared to any 23.4% having low constraints and there was no respondent having high constraints. People of the study area not follow remedies of constraints in relation to flood to protect their livestock from devastating flood because of their limited assets. Most of the respondents sell the livestock and poultry during flood. They cannot make high stages with bamboo, wood etc and can not keep their livestock on the stage when the livestock house is inundated with flood water. Some respondents keep their livestock and poultry on their own living place. They are given straw, kitchen products, leaves of bamboo and banana as fodder when grass is not available during flood period.

Affect of local musclemen

Data contained in the Table 2 shows that more than half of the respondents (57.1%) had medium constraints compared to 42.9% having high constraints and no one having low constraints in this respect. As the respondents are poor, they live under the poverty line. Most of the family head's major occupation is fishing. So they face the extreme level of 48 food crisis. During flood most of the fishermen had no scope fishing in open water due to interference of local musclemen and made their livelihood miserable. Thus, most of the household heads migrate to other place for earning money.

Constraints of fishing

Data contained in the Table 2 shows that majority of the respondents (80.1%) had high constraints compared to 19.9% having medium constraints and no one having low constraints in this respect. Most of the fishermen of the selected area had no net, boat and other fishing equipments. On the hand, they have no abilities to buy net, and boat. For this, they can not catch sufficient fishes during flood.

Health and sanitation

Data contained in the Table 2 shows that all the respondents (100%) had high constraints of health and sanitation. Flood causes serious health hazards to human being as well as livestock and poultry. Outbreak of diseases occurs during and immediately after flood. Pure drinking water and toilet facilities were a great problem during flood. Some time they use water purification tablet or use boiling water for drinking purposes. They set up their toilet on high land. In case of emergency during flood they make temporary toilet with bamboo, wood and gunny bags or polythene sheet. However, all the fishermen don't have the same constraint faced ability. It varies from one to another for their personal and socio-economic condition. Among the five aspects, the fishermen had much high constraints in health and sanitation aspect. Because of government priority and relief work in study areas. Some tube well was placed from the government for drinking water and health worker was actively worked in this area and advice about different types of diseases which were appeared during and after flood.

Overall Constraints Faced by the Fishermen in Flood Prone Area

The constraints scores of the fishermen ranged from 25 to 48 against the possible range of 0 to 60, with an average score of 37.22 and standard deviation of 4.067. The distribution of the fishermen according to their constraints scores has been presented in Table 3. Only 1.3% had slightly constraints on flood prone area and (16.9%) had high constraints on flood prone area.

Table 3 Distribution of the fishermen according to their constraints on flood prone area

Categories of the fishermen with their score values	Respon-dents % (N=70)	Mean	SD
Low constraints (below 30)	1.3	37.22	4.067
Medium constraints (30-40)	81.8		
High constraints (above 40)	16.9		

Data indicates that majority of the respondents (81.8%) had medium constraints during flood.

Relationship between the Selected Characteristics of the Fishermen and their Extent of Faced Constraints

The summary of the results of the correlation analysis between the selected characteristics of the respondents and their and their extent of faced constraints has been shown in the Table 4. Findings reveal that out of the nine selected characteristics of the respondent age and cosmopoliteness showed positive significant relationship and education, extension media contact, and knowledge on constraints of flood showed negative significant relationship with their faced constraints.

Table 4 Relationships between selected characteristics of the fishermen and their faced constraints on flood

Independent variables (selected Characteristics)	Correlation coefficient (r)
Age	0.264*
Educational level	-0.533**
Family size	0.074
Local orientation	0.382**
Farm size	0.014
Annual family income	-0.104
Extension media contact	-0.664**
Cosmopoliteness	0.289*
Knowledge on constraint of flood	-0.408*

** Correlation is significant at 0.01 level of probability
* Correlation is significant at 0.05 level of probability
Dependent variable: Constraints faced by fishermen of flood prone area.

It was found that age of the fishermen was significantly and positively related to their constraints on flood. Education of the fishermen showed negatively significant relationship to their constraints with flood. This implies flood constraints decrease with their increasing educational status. Islam (2005) found that education of the farmers had a significant and positive relationship with their constraints. Local orientation of the fishermen was directly related to their constraints on flood. Thus, it indicates that by the passing of time fishermen faced more constraint on flood. Farm size of the fishermen had significant and positive relationship with their constraints. Extension media contact of the fishermen was directly related to their constraints on flood. Thus, extension media contact of the fishermen was directly related to their constraints with flood. Cosmopoliteness of the fishermen was directly related to their constraints. Knowledge on constraints of flood of the fishermen was significantly related to their constraints with flood.

Conclusion

The study reveals that majority (81.8%) of the fishermen in the study area faced medium constraints on flood prone area while 1.3% of them had very low constraints on flood prone area and 16.9% of the respondents faced high constraints. This led to the conclusion that if majority of the fishermen in a flood prone area have faced constraints, their livelihoods will not be free from vulnerability. It was found that fishermen faced constraints on flood prone area slightly better in livestock and poultry, housing and shelter, but this was not better for constraint of fishing, health and sanitation and influence of musclemen. They had nothing to do for any income generating activities for the betterment of their family throughout the year. It could be concluded that without minimizing the constraints faced by the farmers it is impossible to improve their livelihood status. Out of the nine selected characteristics of the respondent age, cosmopoliteness and duration of living showed positive significant relationship and education, extension media contact, and knowledge on constraints of flood showed negative significant relationships with their faced constraints. So, to minimize the extent of constraints faced by the fishermen the above mentioned characteristics may be considered for future plan. Thus, necessary programmes should be made by the DoF those can be run with the present condition of the fishermen.

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