

Socio-economic Conditions of Flood Affected People of the Northern Districts of Bangladesh

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Manuscript Received: 16 August 2021

Accepted: 12 Oct 2021

ABSTRACT

In 2017, the death toll from floods sweeping in the northern areas of Bangladesh had climbed above 150. In Dinajpur, Rangpur, Lalmonirhat, Kurigram, and Thakurgaon, more than 57.18 lakh people have been affected by the flood, and 6.11 lakh hectares of land is damaged by the floods in 32 districts. Flood is an important natural disaster that deeply destroys the infrastructure and socio-economic conditions of the area. After the flood, the flood victims feel very unlucky. Their crops are destroyed. They are uncertain about their future. They do not know what will happen tomorrow. This study is conducted to find out the real situations of the flood victims of the said areas. The primary purpose of this study is to provide a review of the socio-economic conditions of flood-affected people of the northern districts in Bangladesh. To develop the paper, primary as well as secondary data is used. The quantitative and qualitative analysis is conducted for the study. Primary data is collected through a set of well-structured questionnaires. To collect the primary data, a personal survey method is used. Computerized modern technology is applied in coding, tabulating, and processing data. The victims are asked for their perceptions towards life. It reveals that no victim is extremely pleased with their life before and after the flood, and 35% of victims were pleased before the flood, but after the flood, that rate reduced to 8%. On the other hand 5% of victims were extremely displeased, but after the flood, that increased to 17%. Floods have huge consequences on people, economics, and the environment. Flooding of regions used for socio-economic activities produces a variety of negative effects. The government has various programs for food, housing, medical, and education, but that is not enough. It is very little than the affected people. Providing adequate support for flood-affected people and preventing floodwaters can save the people of the river basin. It also reveals that by solving some problems locally, some nationally, and some internationally, it is possible to fill the lives of flood-affected people with laughter and joy.

Keywords: Flood, Socio-economic Conditions, Social Safety Net, Flood Victims

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INTRODUCTION

The people of Dinajpur, Rangpur, Lalmonirhat, Kurigram, and Thakurgaon were flooded in 2017. The death toll from floods sweeping the northern areas of Bangladesh has climbed above 150, and in South Asia, it has climbed above 1,000. The flood washed away the seedbeds in many areas, and many seedlings were needed to grow new crops on the damaged 6.11 lakh hectares of land. Many of the flood-hit people could not return home from temporary shelters as their houses were badly damaged.

Flood is an important natural disaster that deeply destroys the infrastructure and socio-economic conditions of the area (Rahman et al., 2020). The people of the northern region of Bangladesh are in difficulties. After the flood, they feel unlucky. Their crops are destroyed. They are in uncertainty about their future. From all aspects, they are very unhappy. They do not know about their future. They lost everything in flood in August 2017. This research is conducted to find out the real situations of the flood victims of the said areas.

LITERATURE REVIEW

Nott (2006) studied that a flood event is not considered to be a natural hazard unless there is a threat to human life, and property. The extent of a flood has a direct relationship for the recovery times of crops, pastures, and the social, and economic dislocation impact to populations. Floods are the most cost, and wide reaching of all natural hazards. They are responsible for up to 50,000 deaths, and adversely affect some 75 million people on average worldwide every year. Disease outbreak is common especially in less developed countries. Malaria, and Typhoid outbreak after the floods in tropical countries are also common. It has been estimated that in India and Bangladesh 300 million people live in areas that are affected by floods.

Dixit (2003) pointed out that vulnerability are the condition of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard. Even in normal times people live in vulnerable conditions. Vulnerable conditions and families find it hardest to reconstruct their livelihood following a disaster.

Ninno (2003) revealed that the 1998 floods in Bangladesh caused severe damage to the rice crop, and threatened the food security of tens of millions of households. Government food transfers to the affected people helped limit the impact of the flood on household access to food. The flood led to major crop losses, losses of other assets, and lower employment opportunities, and thus affected household income as well as market prices.

Sinclair and Pegram (2003) stated that floods cannot be prevented but their devastating effects can be minimized if advance warning of the event is available. With large increase in population, and increasing urbanization (mainly driven by poverty) there are more people living in informal settlements, which are often on flood plains as this is the only undeveloped land available near cities.

Kundzewicz, et al. (2002) argues that floods are natural phenomenon for which the risks of occurrence are likely to continue to grow, increasing levels of exposure, and insufficient capacity among the factors responsible for the rising vulnerability. Water related events such as floods have been a major concern since the dawn of human civilization.

From the reviewed literature, it's clear that the people living along the river banks in the study area has increased over the years, and has made them susceptible to the flooding. The evidence is that flood risk is increasing, and continuing vigilance is needed to ensure

that existing systems are maintained, and improvements introduced. From the above study, it is said that there is a gap in existing literature. Thus, the present study is designed to overcome the above gap, and add some new findings with its existing literature.

RATIONALE OF THE STUDY

The people of the northern region of Bangladesh faced a serious flood. The following table shows an unbelievable situation of flood-affected people in 2017.

Table 1: Flood at a glance

Flood at a glance	
Population affected	57.18 lakh
Families affected	13.22 lakh
People in shelters	2.97 lakh
Crops affected	6.11 lakh hectares
Districts affected	32

Source: Daily newspaper

Now it is high time to assess the present situation of that flood-affected people. It is time to assess the level of nutrition of the affected population (Faruque, 2021). Food security is to ensure for the people. The affected people have the problem of shelter, health, and education. To give the proper recommendation, it is a must to assess the real situation of the flood-affected people. This study seeks to bring the real situation in flood-affected people, and at the same time to find a recommendation for the betterment of the victim people.

Objectives of the Study

The objective of the study is to provide a review on socio-economic conditions of flood-affected people of the northern districts in Bangladesh.

The other specific objectives are as follows:

- To analyze the socio-economic conditions of the flood-prone areas of the northern districts in Bangladesh
- To trace out the problems of the study areas.
- To find out the possible measures to minimize the problems.

METHODOLOGY OF THE STUDY

To develop the paper, primary as well as secondary data are collected. The quantitative, as well as qualitative analysis is conducted. 57.18 lakh people of Bangladesh in the northern region were affected by the flood in August 2017. The flood-affected people of Dinajpur, Rangpur, Lalmonirhat, Kurigram, and Thakurgaon are considered as the population for this study purpose. Among a large number of flood-affected people, 100 flood victims with a convenience sampling method is selected as the sample of this study purpose. Primary data are collected through a set of well-structured questionnaires. To collect the primary data, a personal survey method is used. This process is focused on a group meeting with the various stakeholders. The secondary data is collected from the daily newspaper, economic news, related journals, books, official statistics, published brochures, prospects, and websites.

FINDINGS AND DISCUSSION

The collected data shows the socio-economic conditions of flood-affected people of the northern region of Bangladesh. These conditions are evaluated through many separate indicators, like personal security, health, shelter, education, medical facility, number of animals, and crops.

Comparison of personal security for flood victims before and after the flood

The income per day, savings per day, and the consumption pattern show the basic socio-economic conditions of the people (Lashari & Mohyuddin, 2012; Chowdhury, 2016; Khanum, 2013; Karmakar et al., 2018). The income, saving, and consumption pattern of flood victims is an important indicator to assess the socio-economic conditions of flood victims. The following tables show the personal security level of flood victims of the northern region of Bangladesh.

Personal income and savings

The data shows that before flood only 5% of flood victims had fallen in below 100 taka income per day, but after the flood this number increased to 25%. Before the flood, the 47% of people earned taka 200 to 300, but this person is dropped to the lower level, i.e., 100 taka to 200 taka with a percentage of 49%. On the other hand, before the flood, 64% of people have saved nothing, but after the flood, it increased to 86%.

Table 2: Income per day of flood victims for flood victims before and after the flood

Income per day				
Before Flood		After flood		Change (+/-)
Income (Tk.)	Frequency	Income (Tk.)	Frequency	
00-100	5	00-100	25	-20
100-200	35	100-200	49	-14
200-300	47	200-300	18	29
300-400	5	300-400	4	1
400-500	6	400-500	3	3
500-600	2	500-600	1	1
600-700	0	600-700	0	0
>700	0	>700	0	0
Total	100	Total	100	0

Source: Field Survey

Table 3: Savings per day of flood victims for flood victims before and after the flood

Savings per day				
Before Flood		After flood		Change (+/-)
Savings (Tk.)	Frequency	Savings (Tk.)	Frequency	
0	64	0	86	-22
50-100	21	50-100	8	13
100-150	8	100-150	5	3
150-200	5	150-200	1	4
200-250	1	200-250	0	1
250-300	1	250-300	0	1
300-350	0	300-350	0	0

>350	0	>350	0	0
	100		100	0

Source: Field Survey

Consumption pattern

The consumption pattern is one of the most important indicators of identifying the socio-economic conditions of flood victims. The data shows that before flood, flood victims expensed 80% of their earnings on inferior goods,; but after the flood it increased to 95%, that shows that flood makes bound to the 15% of more people to expense their earning on the inferior goods consumptions. It indicates that their income reduced at a significant level.

Table 4: Consumption pattern of flood victims for flood victims before and after the flood

Consumption pattern				
Before Flood		After flood		
Consumption pattern	Frequency	Consumption pattern	Frequency	Change (+/-)
Inferior goods	80	Inferior goods	95	-15
Necessity goods	18	Necessity goods	5	13
Luxuries goods	2	Luxuries goods	0	2
Total	100	Total	100	0

Source: Field Survey

COMPARISON OF HEALTH, SHELTER, AND EDUCATION FACILITIES FOR FLOOD VICTIMS BEFORE AND AFTER THE FLOOD

Health, shelter, and education are the very important fundamental rights of a human. It should be free for everyone, though it is purchased by the people in most cases. In the following tables, the change of health, shelter, and education facilities are shown.

Health condition

The health facilities of flood victims are compared with the before and after of the flood. The data shows that before flood, 66% of flood victims' were extremely dissatisfied with health facilities; but after the flood it increased to 71%. So, there was no doubt, the health facilities of flood victims were reduced.

Table 5: Health condition of flood victims for flood victims before and after the flood

Health				
Before Flood		After flood		
Indicator	Frequency	Indicator	Frequency	Change (+/-)
Extremely Pleased	0	Extremely Pleased	0	0
Pleased	7	Pleased	2	5
Neutral	10	Neutral	12	-2
Displeased	17	Displeased	15	2
Extremely Displeased	66	Extremely Displeased	71	-5
Total	100	Total	100	0

Source: Field Survey

Shelter satisfaction

The shelter facilities of flood victims are compared with the before and after of the flood. The data shows that before flood, 48% of flood victims were extremely dissatisfied with

shelter facilities; but after the flood it increased to 53%. On the other hand, before flood, 2% of flood victims were extremely pleased with their shelter facilities; but after the flood it reduced to 0%. So, there is no doubt, the shelter facilities of flood victims reduced.

Table 6: Shelter satisfaction of flood victims for flood victims before and after the flood

Shelter				
Before Flood		After flood		Change (+/-)
Indicator	Frequency	Indicator	Frequency	
Extremely Pleased	2	Extremely Pleased	2	0
Pleased	15	Pleased	6	9
Neutral	10	Neutral	4	6
Displeased	25	Displeased	35	-10
Extremely Displeased	48	Extremely Displeased	53	-5
Total	100	Total	100	0

Source: Field Survey

Child Education

In flood-affected areas, it is a common phenomenon that the region is suffering from fewer facilities of education. The flood also reduces the education facilities of these areas. The roads and other physical infrastructure are destroyed by the flood.

The data shows that before flood, 8% of flood victims were extremely displeased with child education facilities; but after the flood it increased to 13%. On the other hand, before flood, 4% flood victim people were extremely pleased with their child education facilities; but after the flood it reduced to 3%. So, there is no doubt, the child education facilities of flood victims reduced.

Table 7: Child education satisfaction of flood victims for flood victims before and after the flood

Child education				
Before Flood		After flood		Change (+/-)
Indicator	Frequency	Indicator	Frequency	
Extremely Pleased	4	Extremely Pleased	3	1
Pleased	25	Pleased	20	5
Neutral	40	Neutral	45	-5
Displeased	23	Displeased	19	4
Extremely Displeased	8	Extremely Displeased	13	-5
Total	100	Total	100	0

Source: Field Survey

Shelter Structure

Most of shelter of the flood-affected people is made of tin walls with a percentage of 78. The other shelter structure is made of slums, mud. Only 8% of shelters are building. But the result after the flood shows a different figure. The slums shelter increases by 28%, and the tin wall house reduced to 45%. So, the result also shows that most of the flood victims lost their shelter, whether partially or fully.

Table 8: Shelter structure of victims for flood victims before and after the flood

Shelter Structure				
Before Flood		After flood		Change (+/-)
Indicator	Frequency	Indicator	Frequency	
Slums	5	Slums	33	-28
Mud huts	7	Mud huts	10	-3
Tin wall house	78	Tin wall house	45	33
Building	8	Building	8	0
Others	2	Others	4	-2
Total	100	Total	100	0

Source: Field Survey

Animals farming, crops producing, and price of seeds

Most of the villagers keep animals and produce crops. They live on farming and producing life. The village woman depends on animal farming, like goats and cows. So, it is an important indicator to assess the socio-economic conditions of flood victims. The price of seeds also determines the living standard of flood victims.

Price of seeds

The data shows that before flood 27% of people thought that the price of seeds were high, 65% of people think it was average. On the other hand, after the floods 92% of victims think that the price of seeds increases. No one thinks that the seed price is decreased.

Table 9: Price of seeds at flood-affected areas before and after the flood

Price of seeds			
Before Flood		After flood	
Indicator	Frequency	Indicator	Frequency
High	27	Price increased	92
Low	8	Price decreased	0
Average	65	No change	8
Total	100	Total	100

Source: Field Survey

Livestock

Livestock is commonly defined as domesticated animals. Farming livestock is an important source of income for the villager (Faruque & Siddiqua, 2019). They sell the livestock for their survival. Cattle are one of the important livestock in Bangladesh. The flood destroyed the livestock. On the other hand the flood victims sell the cattle in the market. The data shows that 65% of people hold one to three cattle, but out of these 26 victims sells their cattle for their survival. Before the flood it is shown that only 15% of victims hold no cattle, but after the flood this percentage increased to 52%.

Table 10: Number of cattle of flood victims before and after the flood

Cattle				
Before Flood		After flood		Change (+/-)
Number of cattle	Frequency	Indicator	Frequency	
0	15	0	52	-37

1-3	65	1-3	39	26
3-6	12	3-6	6	6
6-9	8	6-9	3	5
>9	0	>9	0	0
Total	100	Total	100	0

Source: Field Survey

Farming poultry is another daily work of the village people. For some families it is a hobby. There are two families who held no poultry before the flood, but after the flood it increased to 42%. It indicates that they sold their poultry for their short-term survival.

Table 11: Number of poultry of flood victims before and after the flood

Poultry				
Before Flood		After flood		Change (+/-)
Number of Poultry	Frequency	Indicator	Frequency	
0	2	0	42	-40
1-3	18	1-3	29	-11
3-6	57	3-6	19	38
6-9	17	6-9	8	9
>9	6	>9	2	4
Total	100	Total	100	0

Source: Field Survey

Damage in flood

Flood destroyed life, property and crops. Sometimes flood sets an ultimate bad example with its destructive power. In some areas it destroyed extensively. On the other hand it is damaged partially.

Nature of damage of property and crops

The data shows that 73% of victims think that their property and crops are damaged parts and rest think that the flood destroyed everything of them.

Table 12: Nature of damage by flood before

Nature of damage	%
Fully damaged	27
Partly damaged	73
Total	100

Source: Field Survey

Sales of Property

Table 13: Sales of property at flood-affected areas

Sales of flood after the flood	%
Land	5
Other assets	30
Sales no property	65
Total	100

Source: Field Survey

For survival, the people sell everything of them. In some cases, they sell their land and other important property. The data shows that 5% of victims sell their land and 30% of victims sell their other important articles for their existence.

Victims Fallen in Micro-credit

Micro-credit is an important source of funds for rural people. Though micro-credit facility is too easy to access, it is highly cost. It is also very risky for the borrower. The study shows that 92% of victims increase their micro-credit from the various loan providers in their region. It indicates that the victims have fallen in high financial pressure.

Table 14: Micro-credit of flood victims

Increased after flood	92
Decreased after flood	0
No change	8
	100

Source: Field Survey

Victims’ Perception towards the Life

The victims are asked for their perceptions towards life. It is a very important indicator that no victim is extremely pleased with their life before and after the flood. 35% of victims were pleased before the flood, but after the flood that reduced to 8%. On the other hand, 5% of victims were extremely displeased, but after the flood that increased to 17%.

Table 15: Perception towards the life of the flood victims

Perception towards life				
Before Flood		After flood		Change (+/-)
Indicator	Frequency	Indicator	Frequency	
Extremely Pleased	0	Extremely Pleased	0	0
Pleased	35	Pleased	8	27
Neutral	42	Neutral	21	21
Displeased	18	Displeased	54	-36
Extremely Displeased	5	Extremely Displeased	17	-12
Total	100	Total	100	0

Source: Field Survey

PROBLEMS OF THE FLOOD-AFFECTED AREAS

Floods have huge consequences on people, economics, and the environment. Flooding of regions used for socio-economic activities produces a variety of negative effects. The magnitude of adverse effects depends on the activity, and population vulnerability, and the frequency, severity, and extent of flooding.

- Many people were injured, and animals have died. Many people are homeless. Water supply and electricity were disrupted, and as a result, people were struggling and affected (Faruque & Rahman, 2021). In addition, floods bring many diseases and infections, including military fever, pneumonic plague, dermatographia, and petrous. Sometimes insects and snakes enter the area and cause a lot of destruction.
- Roads, bridges, farms, homes, and automobiles are destroyed during floods. In addition, the government has deployed firefighters, police, and other emergency equipment to assist victims. They come at the expense of the people and the

government. Rebuilding the disadvantaged population and getting the business back to normal usually takes a few years.

- In the event of floods, the environment is also affected. Floods do great harm to the environment. Various trace of it has been found in flooded areas. Roads have been broken all around, rivers have collapsed. Floods have caused huge damage to the environment and the environment. The environmental damage caused by a flood takes a long time to overcome.

SUMMARY OF THE FINDINGS

The research work finds the following findings:

- Before the flood, only 5% of flood victims had fallen in below 100 takas income per day, but after the flood this number increased to 25%. On the other hand before flood the 47% of people earned taka 200 to 300, but these people are dropped to the next lower level, i.e., 100 taka to 200 taka with a percentage of 49%.
- 64% of people have saved nothing before the flood, but after the flood it increased to 86%.
- Flood victims expensed 80% of their earnings on inferior goods in before flood, but after the flood it increased to 95%. It indicates that their income reduced at a significant level.
- The health facilities of flood victims are reduced. Before the flood, 66% of flood victims were extremely dissatisfied with health facilities; but after the flood it increased to 71%.
- 2% of flood victims were extremely pleased with their shelter facilities before the flood; but after the flood it reduced to 0%. So, there is no doubt, the shelter facilities of flood victims reduced.
- The data shows that before flood, 4% of flood victim people were extremely pleased with their child education facilities; but after the flood it reduced to 3%. So, there is no doubt, the child education facilities of flood victims reduced.
- After the flood the slums shelter increased by 28%, and the tin wall house reduced to 45%. So, the result also shows that most of the flood victims lost their shelter, whether partially or fully.
- After the flood, 92% of victims think that the price of seeds increased. 65% of people hold one to three cattle, but after the flood, out of these 26 victims sells their cattle for their survival. There were only 2 families who hold no poultry before the flood, but after the flood it increased to 42%.
- 73% of victims think that their property and crops are damaged partially and rest thinks that the flood destroyed everything of them. The data also shows that 5% of victims sell their land and 30% of victims sell their other important article for their existence, and 92% of victims' increase their micro-credit from the various loan providers in their region.
- No victim is extremely pleased with their life before and after the flood. 35% of victims were pleased before the flood, but after the flood that reduced to 8%. On the other hand, 5% of victims were extremely displeased, but after the flood that increased to 17%.

SUGGESTIONS

Floods sometimes take away everything from people. For them, only the ashes of pain remain. Flooded people dream of losing everything, and living a new life. They do not expect help from the government and NGOs. They expect the authority that not to be flooded. This study thinks that there must be some government initiatives to protect people affected by the floods. The government has to do something to reduce the flood, and at the same time, it is necessary to do something so that the people affected by the flood can quickly recover from their loss. The government has various programs for food, housing, medical, and education but that is not enough (Faruque & Rahman, 2021a). It is very little than the affected people. Providing adequate support for flood-affected people and preventing floodwaters can save the people of the river basin.

CONCLUSION

For this study the data is collected through different questionnaires, and most of the respondents may not like it to communicate the information. For the time and budget barriers it was not possible to meet more respondents. The results of this study state that people affected by floods are not good. They also had to lose some of their last assets to deal with the flood to get their food, and shelter. At each indicator of their living standard, they are declined. There are some areas in Bangladesh that are flooded every year. As a result, every year, they have to prepare to fight the floods again to not suffer the loss of the floods. The results of this study, obtained through field observation, give rise to several responsibilities in the long run for flood-affected people. Researchers believe that the sustainable development of the lives of people affected by floods is possible if the results obtained and recommendations are implemented. By solving some problems locally, some nationally, and some internationally, it is possible to fill the lives of flood-affected people with laughter and joy.

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