

“Food Security and Livelihood: An exploratory Study on  
the Cyclone Affected People in the Selected Coastal  
Regions of Bangladesh”

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# Abstract

Coastal area of Bangladesh is threatened due to various problems like population explosion, poverty, unemployment, low literacy, frequent disaster, food insecurity and so on. Regarding the present scenario, the aim of the present study is to explore the pattern of livelihood and food security of the cyclone affected people in Barguna district which is severely affected By Sidr (November 11, 2007).

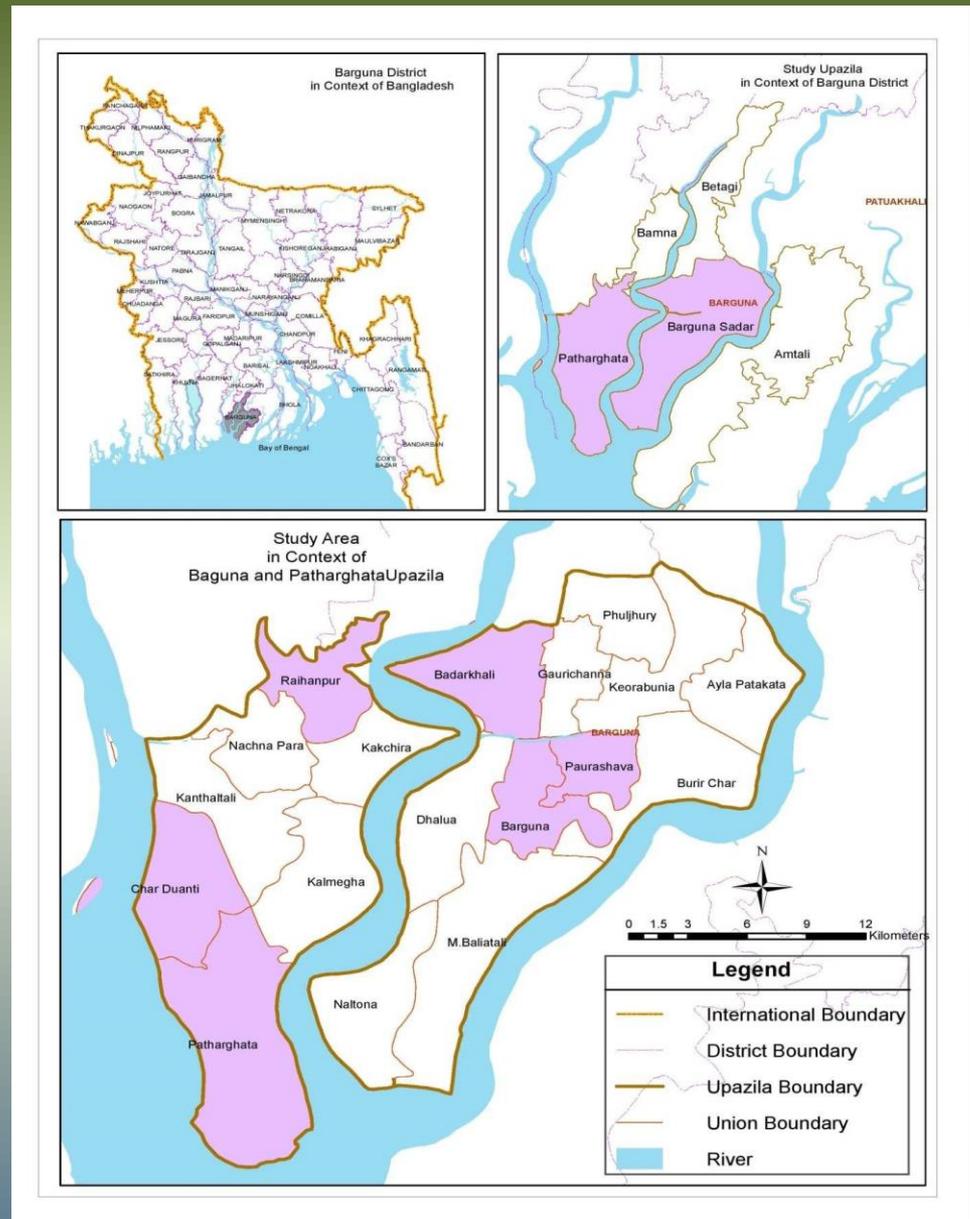
The study has been conducted multi dimensional approach which in this piece of work giving importance on sociological method in terms of broad objective of the study. In the context, the study uses qualitative and quantitative method of data collection simultaneously to understand overall status and aspects of food security and livelihood of the people living in the coastal area.

This research paper analyses data from house hold survey of 285 respondents using systematic random sampling in two Upazillas of Barguna, southern part of Bangladesh. These respondents are coping with demographic, economic and environmental changes due to cyclonic impact. Qualitative approaches uses five case study, four focus group discussion (FGDs) and four key informant interviews (KIIs) while quantitative approach involved a survey questionnaire.

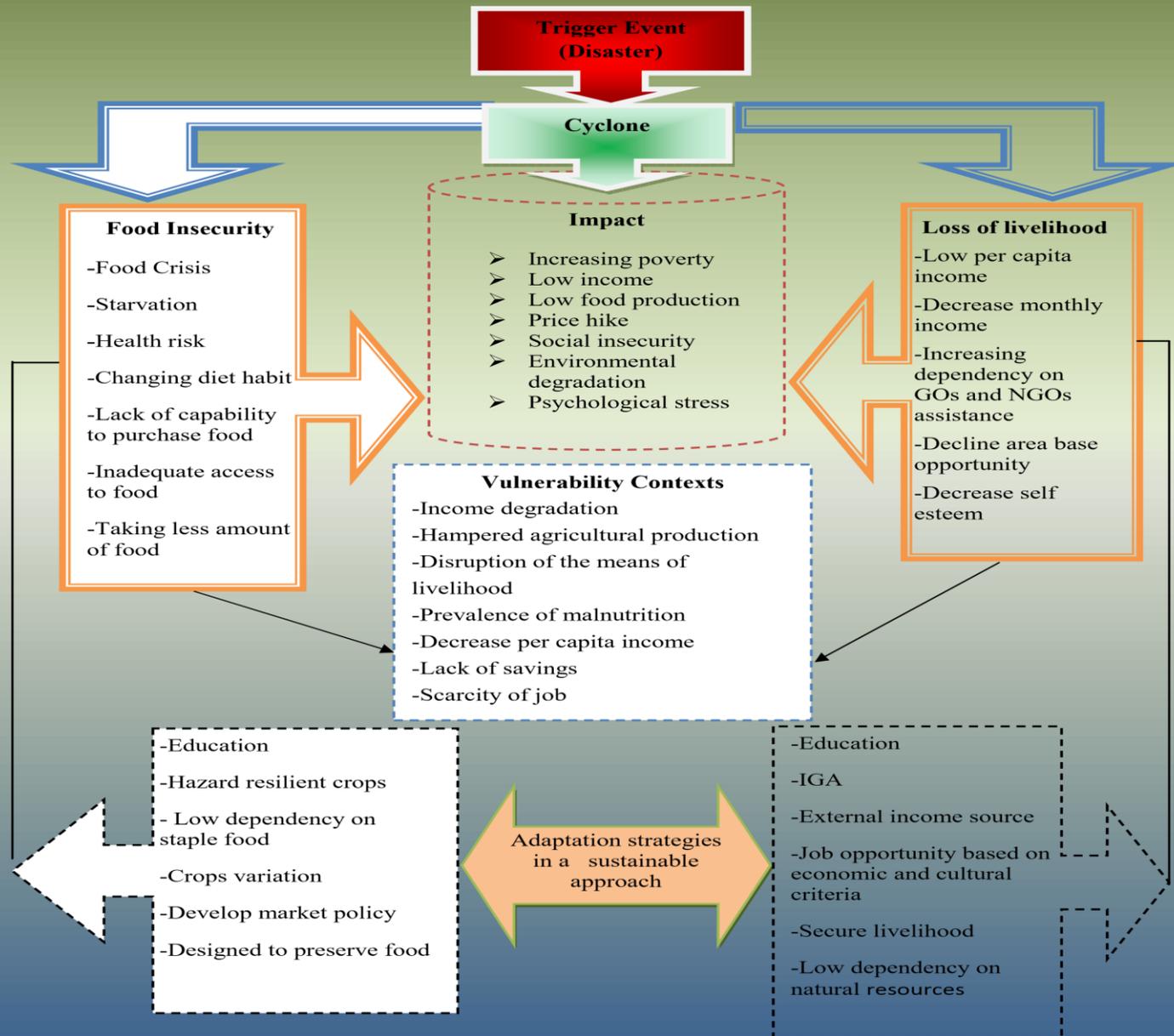
# Study area

Barguna is selected because it is always affected by storm surge, coastal flooding, and other hazards associated with the cyclone. In the year of 2007, 2008, 2009, 2010, 2011 Patharghata and Barguna Sadar were severely affected by the occurrence of storm surges (District statistics, 2011).

Global Tropical Cyclone Climatic Atlas (GTCCA) revealed that thirty-five depressions, storms and cyclones hit Barguna district during the last 130 years. The people of this region suffered from livelihood and food insecurity as this district is a severe cyclone prone area of Bangladesh.



# Conceptual Framework of the Study



# Results of the study

# General Results

## 1. Percentage of the children and malnourished children

Number of children	Malnourished children			
	Response	Per cent	Total	Per cent
One child	6	24.0	42	14.7
Two child	13	52.0	124	43.5
Three child	3	12.0	66	23.2
Above	3	12.0	53	18.6

**Field Survey: 2017**

**N= 285**

Number of children and malnourished children are one of the important basic individual characteristic of the respondents as food security is closely related with the malnutrition condition and the prevalence of malnutrition is acute among the children. According to the study, 24 per cent children were malnourished though they were one child of parents. Furthermore, 52 per cent of the respondent's children were malnourished. In addition, during survey it was observed that the knowledge of nutrition exists among the mother because of the active NGO activities regarding nutrition factors of health.

# General Results Contd.

## 2. Cross tabulation of disasters types and faced disasters

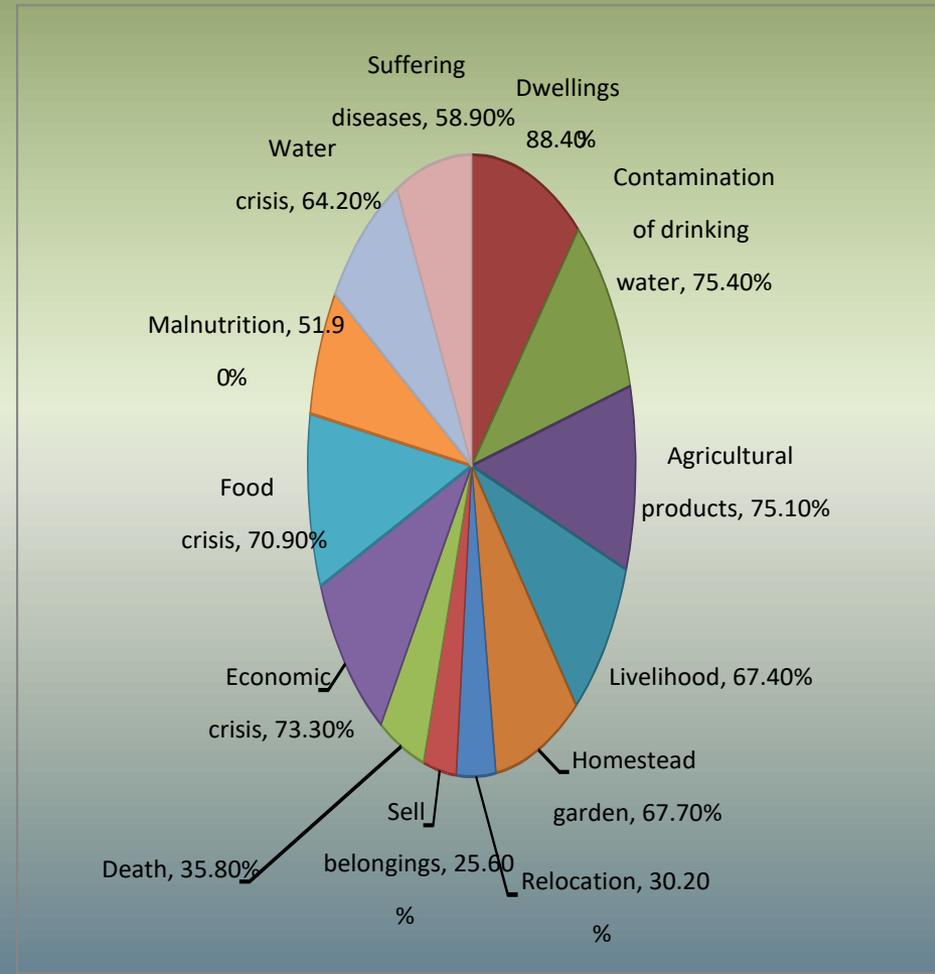
		Types of disaster							Total
		Cyclone	Flood	Drought	Tornadoes	Cold wave	Earthquake	Others	
Facing disaster	Frequency	135	131	0	2	1	10	2	285
	Percent	47.4	46.0	.0	.7	.4	3.5	.7	98.6

In this table, 47.4 per cent respondents suffered from cyclone intensively where as 46 per cent respondents suffered from flood acutely. However, a recent disaster of earth quake is mentioned by 3.5 respondents which also uphold the lack of earthquake preparedness for the community.

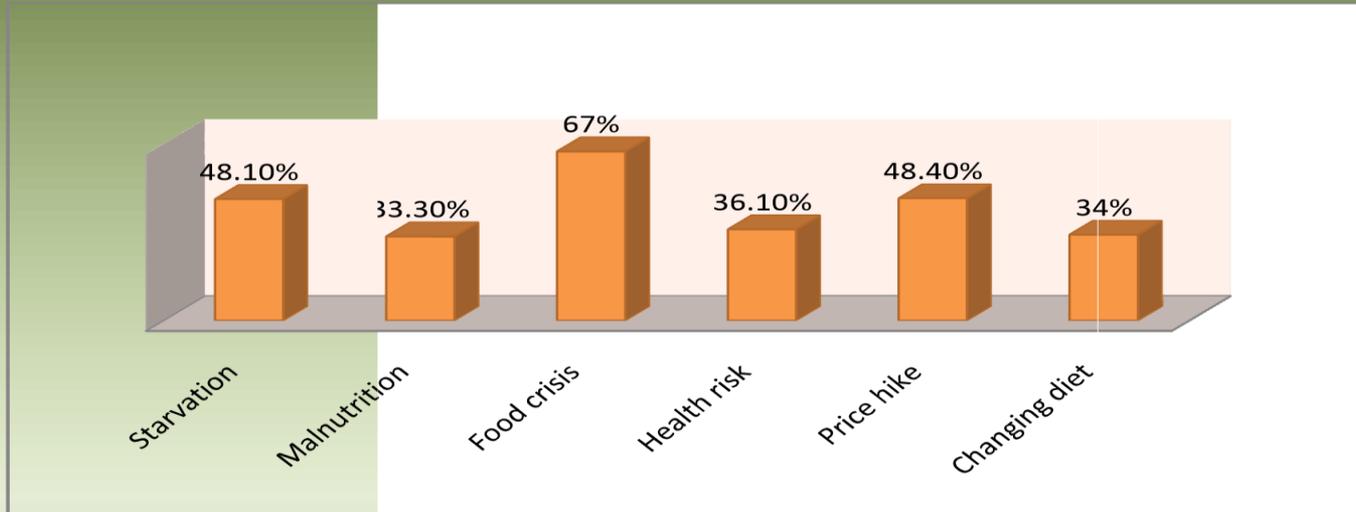
# Cyclone Specific Results

## 3. Responses to the impact of cyclone

This Figure clearly shows that the dwellings of the community people affected (88.4%) most by the cyclone, followed by economic crisis, food crisis, water crisis with a percentage of 73.3, 70.9 and 64.20 respectively. Study also revealed that 52 per cent of respondents are suffering from malnutrition during and after cyclone while 67.4 per cent of the respondents mentioned that their livelihood is affected due to Cyclone. It is also pointed out that 75.1 per cent of them were suffered by agricultural product damages where homestead gardening is affected among almost 68 per cent of the respondents.



#### 4. Problems suffered by Cyclone:



**Field Survey: 2017**

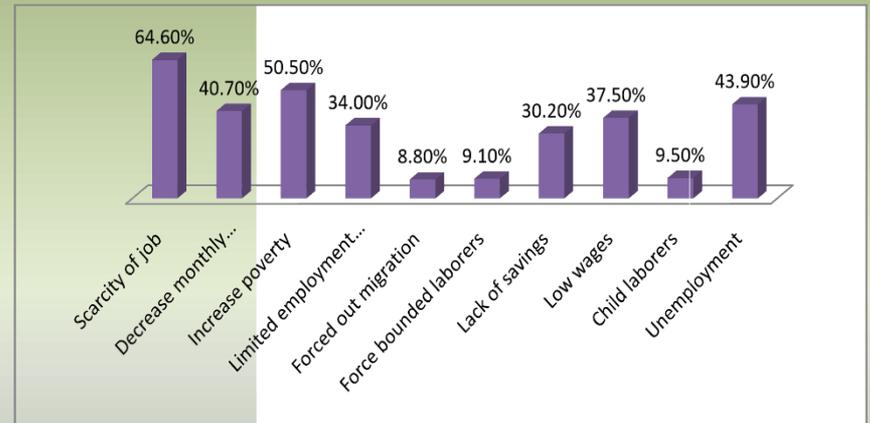
**N= 285**

When cyclone attacks the community they cannot afford their immediate food to maintain the needs and this dilemma lasts for few days. At the same time, cyclone damaged huge amounts of crops and agricultural products which create food insecurity for the community. And this insecurity makes them vulnerable to health risk associated with many factors. The following figure shows that 48 per cent suffered from hunger during cyclone where 67 per cent were suffer from food crisis but only 33.3 per cent were found malnourished because of their higher education rate as they are concerned about their food nutrition. As well as they have to decrease the malnourish rate to reach the sustainable development goals. In contrast, they acutely suffer from food crisis during and after cyclone due to lack of their income source or availability of resources to buy food.

# Livelihood and Cyclone

## 5. Nature of vulnerabilities of the livelihood

The figure indicates that though their literacy rate is high but their employment rate is very low. Because of disaster 43.9 percent, respondents suffered a lot for unemployment problem, 64.6 percent respondents faced the trouble for lack of job opportunity and 50.5 percent respondents remained below the poverty line. The people living below the poverty line had to undergo a great hardship for losing their livelihood. This poor people lose their jobs they became helpless during the occurrence of disaster.



# Reasons of food insecurity and crisis of livelihood

## 6. Factors that impact food security:

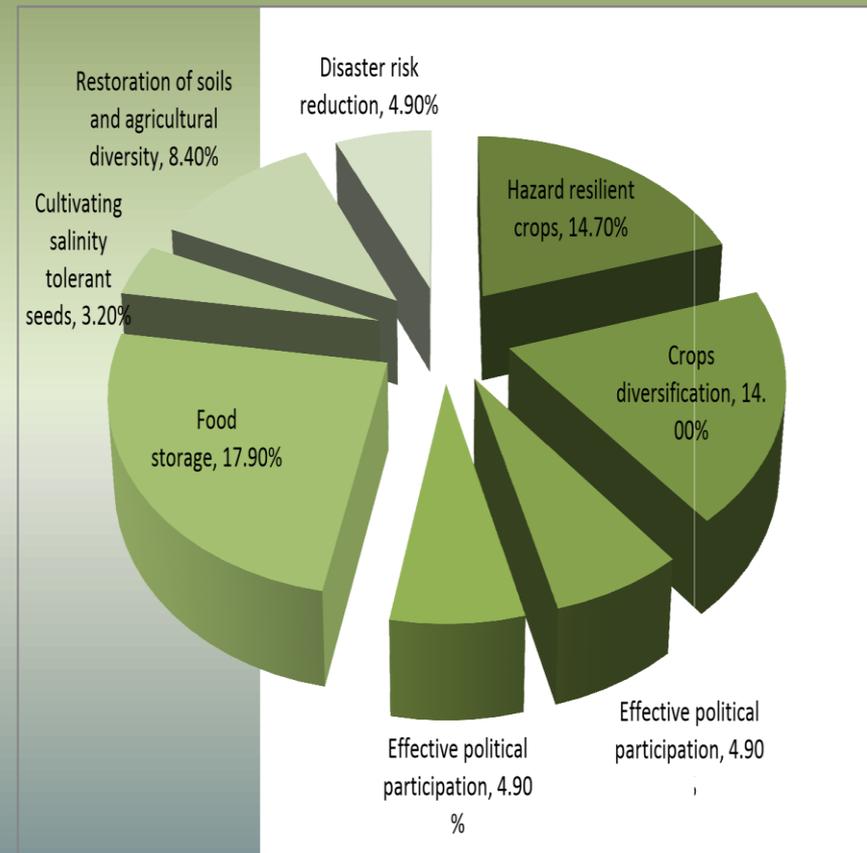
Some remarkable facts of food insecurity and cyclone have been explored by the study by asking questions to the respondents about food insecurity and disaster. Participants of the study mentioned different reasons behind food insecurity, such as; low productivity, price hike, no access to market. 79 of the all respondents marked no access to market a reason, 230 respondents mentioned about price-hike and 170 of the respondents accused low productivity as a main reason. Access to market information is not that easy in the village and it is shown by the frequency rate.

Reason	Response	
	n	Percent
Price hike	230	32.7
Market system	120	17.1
Low productivity	170	24.2
Supply system	104	14.8
Access to market	79	11.2

# Community measures to food security

## 7. Types of community measures to food security

On the survey comprising of 89 respondents, we found out that 18% of them store food in normal days where as only 14.7% are informed about hazard surviving crops & 5% of them have awareness of disaster risk reduction. Recuperation of soil & using salinity resistant seeds (3.20%) are two of the prime measures initiated by the local people.



# Hypothesis-1

**H1: The livelihood is more exposed to cyclone which is increasing food insecurity in their life**

Variable	r	Significant level
Livelihood	0.194**	0.001

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation value at the significant level 0.001 is .194. The findings show that livelihood & food security is vastly inter-related. For this reason, if the food security is hampered due to disaster, the livelihood is also impacted. The study shows the ability of overcoming the disasters of people with higher income. Disasters hampers the crops production & thus the shortage of food triggers the inability of local people of buying food at a higher price. (Nasreen et.al. 2008).

So, we can ensure food security by bringing livelihood resilience.

# Hypothesis-2

**H2. The adaptive measures of the people to reduce the problems of food security are ensuring their sustainable livelihood**

Variable	SS	MS	df	F	Sig
Adaptive measures taken by the respondents	6.302	.274	23	1.717	.024
Community measures taken by the stakeholders	8.387	.365	23	1.802	0.015

**Table: Analysis of Variances (ANOVA) on adaptive measures of the disaster affected respondent (P< 0.05)**

The statistical result shows that the adaptive measures of the respondent's F value is 1.717, Sum of Squares (SS) is 6.302 and the Mean of Squares (MS) is .274 at 23 degrees of freedom with p is less than 0.05 ( $p < 0.05$ ) and the adaptive measures of stake holder's F value is 1.802, Sum of Squares (SS) is 8.387 and Mean of Squares (MS) is .365 at 23 degrees of freedom with p is less than 0.05 ( $p < .05$ ).

The experimental values from the ANOVA table evidently suggest that preserving food security is deeply related with adaptive measures & capacities. The data-based correlation between adaptability & food security admits the fact local community & stakeholders are doing their parts to increase adaptive capacities & ensure a better livelihood pattern. They are performing activities like homestead gardening, rearing, handicrafts and other small businesses as adaptive activities.

# Discussions and findings of the study

## Discussions and findings of the study:

The district of Barguna is heavily damaged owing to the river erosion, Salinity intrusion, flood and cyclone. The main target of this lesson is creating & understanding the method of livelihood & food security of this area. The knowledge acquired from the study is explained below according to the research purposes.

- In spite of having transparent understandings on food security & livelihood, the respective respondents do not have enough knowledge on SDG's which were adopted after the success of MDGs.
- Larger number of respondents reported that disaster especially river erosion and flood create subversive impacts on food security & livelihood.
- Price hiking & unemployment are the backbone of social problems like food insecurity & disturbed livelihood.
- Though the respondents wanted them to join in homestead gardening & small business, they could not do so due to lack of enough alternative adaptive activities.
- The study also resembles inadequate gender-based adaptive activities.

# Conclusion

Food and livelihood are the very basic needs of a human being where livelihood determines the food security. Due to the geographical setting, Bangladesh faces various kinds of disasters like cyclones, tornadoes, storm surges, floods and so on almost in every year. These catastrophes hamper the food production system. Despite of having limited working scopes, Bangladesh somehow is trying to overcome the problem of food insecurity. The study finds out that poverty is remaining at the core of all the hindrances towards the path of sustainable development. Due to inferior income ability, the poverty just keeps on penetrating into the development process.

Food security is much more yielding towards farming in under developed countries. Developing countries are stratified under the criteria like small scale & household goods production. However, it is very much essential to carry out well-defined models to categorize the economy & livelihood system of the less developed countries.

# Suggestions for the future research:

The problem of food insecurity and livelihood can be noticed all over Bangladesh. The following study was conducted in a selected area of the districts of Barguna. But this study can be replicated all over the country. Not only disasters create the problem of livelihood and food insecurity rather there are many other reasons behind these problems .In order to eradicate these problems the condition of other districts should be considered by the researchers.

The logo for GOBESHONA 5 features a stylized orange symbol on the left, composed of three horizontal lines with curved ends that resemble a flame or a stylized 'G'. To the right of this symbol, the word 'GOBESHONA' is written in a bold, black, sans-serif font, and the number '5' is written in a bold, orange, sans-serif font.

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**Thank you  
and  
Any Questions?**

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