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Abstract

Since independence in 1971, Bangladesh has endured almost 200 disaster events – cyclones, storm surges, floods, tornadoes, earthquakes, droughts and other calamities. The cyclone Sidr is the superset cyclone in Bangladesh. The study has been conducted at Hizla Upazila in the Barisal district of Bangladesh. Natural disasters are increasing day by day according to the opinion of the participants of the study. The local government does not act systematically as per government rules. Damage and losses assessment was not systematic according to standing orders on disaster. The dwellers of the study area continue their livelihoods very miserable after Sidr. The farmer lost their all crops and crops value was 45,75,362 dollar. The fisherman lost their net, fish and boat and their wealth value was 35735 dollar. 39 education institution fully and 66 education institution partially were damaged. But all sectors cannot recover properly from their losses. Some national or international NGO and Bangladesh government provided relief like dry foods, seeds, fertilizer, rice and old clothes etc. Relief was not sufficient for the dwellers in the study area. The study area has no Disaster Management Committee or no Red Crescent members to recover from the impacts of natural hazards during the disaster period.

Index terms— cyclone sidr, assessment, damage and losses, recovery and rehabilitation.

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2 Introduction

angladesh is one of the most disasters prone and particularly the worst flood-affected countries of the world. About one tenth of the global tropical cyclone occurs in the Bay of Bengal (GOB, UNDP, World Bank, 1993). Therefore, about one-third of the country is flooded almost every year. It is one of the most densely populated countries in the world, with more than 1000 people per square kilometer. As Cyclone hits almost every year, the people who live in the coastal regions as well as in the Coastal Chars areas are suffering from different types of social, physical and environmental problems.

Sidr was the strongest named cyclone in the Bay of Bengal. It is known as super cyclonic Storm Sidr. The fourth named storm of the 2007 North Indian Cyclone season, Sidr formed on November 9, an area of disturbed weather developed southeast of the Andaman Islands, with a weak low-level circulation near the Nicobar Islands (Wikipedia, 2008) and gradually strengthened to reach peak one minute sustained winds of 260 km/h. The storm eventually made landfall in Bangladesh on November 15, 2007. The cyclonic storm of hurricane strength, Sidr was one of the 10 fiercest cyclones that hit the region of Bangladesh in the 131 years between 1876 and 2007. Almost 9 million people in 30 southern districts were affected by the cyclonic storm. Current figures report a death toll of 3,406 people, with a further 871 missing, over 55,000 injured (Assaduzzaman, 1986). Of the 30 districts affected, the government has classified four as the "worst" affected -Bagerhat, Barguna, Patuakhali and Pirojpur and eight districts as "moderately" affected -Khulna, Madaripur, Shariatpur, Barishal, Bhola, Satkhira, Jhalakathi, and Gopalganj.

3 Source: weather.com

On the other hand, according to the calculation by the Local Consultative Group, the total number of houses damaged was estimated at 1,522,077. Extensive damage to roads (8084 km), bridges/culverts (1687), protection embankments (1875 km) and public buildings, including 2,240 educational institutions destroyed and another 11,490 partially damaged (Islam & Neliam, 2010). Electricity and communication were knocked out. Roads and waterways became intransitive. The cyclone caused contamination of drinking water sources, in particular wells and ponds, which were Source: Banglapedia, 2008 The selected study area is situated in Barisal city and is vulnerable to tidal inundation, cyclone, storm surges and monsoon floods under the coastal area of Bangladesh. The people of the area faced different kinds of the problem by natural hazards like Cyclone, storm surges, river bank erosion, water logging and heavy rainfall etc. Climate change puts extra burdens on the social and economic challenges that the poorest people already face.

The main objective is to assess damage and losses in the HizlaUpazila.

The specific objectives of the research are (i) To describe the processing of assessment system damage, losses and need (ii) To explore damage and losses assessment in the study area, (iii) To assess recovery and rehabilitation programs during/postdisaster period, (iv) To assess disaster preparedness activities.

II.

4 METHODOLOGY

The study has been conducted at HizlaUpazila in Barisal. The selected area is divided into six unions. About 40 In-depth Interview has conducted among six chairmen, male and female Local government member of the study area, Thana Nirbahi Officer of HizlaUpazila, Upazila Agriculture Officer, Upazila Fisheries Officer, Secretary of all of Union Parishad and Manager of BRAC. Three FGD has conducted among dwellers of the study area (three unions out of the six unions). Secondary data was collected from different organizations like Disaster Management Bureau (DMD), Compressive Disaster Management Program (CDMP), UpazilaNirbahi Office, Upazila Agriculture Office, Upazila Fisheries office, all Union Parishad of HizlaUpazila, Environment and Population Research Centre(EPRC), Bangladesh Statistical Bureau (BBS), Central library of JagannathUniversity, Central library Dhaka, Public Library and BRAC. Secondary data was collected from different websites related to the department of environment, disaster and government. The database was created using the data collected from the field. The data was analyzed by using Micro Soft Excel. The results are presented in tabulated forms. Arc GIS 9.2 software was also used for preparing map purpose. Source: Fisheries office of HizlaUpazila iv. Infrastructure Sector An estimated 2245 houses were fully and 3221 houses were partially damaged, 16 km road were fully and 186 km road were partially damaged in the study area by Sidr. 16 culverts were partially damaged, 5km embankments were fully damaged,36 education institutionswere fully and 66 education institutions were partially damaged by Sidr in the study area (Details table 3.3).Most of the people used ponds water for bathing, washing and cooking but all of the ponds were flooded by water. TW is main source for drinking water but TW was partially damaged by Sidr. Sanitation condition was very poor and most of the sanitation was fully damaged by Sidr in the study area. ii. Relief items Different type international organizations like save the children, Red Crescent and national organizations like BRAC, Bangladesh Army and Bangladesh government distributed relief items among the study area peoples. According to Project Implementation officer

(PIO) of HizlaUpazila reported that Save the Children provided rice among 6500 families and each family was got 30 kg rice, BRAC provided among 2050 families and each family was got 20 kg rice, Red Crescent provided among 700 families and each family was got 5kg rice and Bangladesh army provided among 1000 families and each family got 5 kg rice. Save the children provided pulse among 6500 families and each family got 9kg pulse, BRAC provided pulse among 2050 families and each family got 5 kg and Bangladesh Army provided among 400 families and each family got 1 kg. About 300 bottles and 0.30 tone of safe drinking water provided among 1500 families by BRAC. Save the Children provided oil among 6500 families and each family got 2 kg, BRAC provided oil among 2050 families and each family got 2 kg (Details table 3.2). Volume XVIII Issue IV Version I The study area is natural disaster prone area. But disaster preparedness activities were very poor of the area. There were no communications local governments with general people. But one chairman out of the six chairman said that he was announced with hand mike among the dwellers and shifted general dwellers to safety place. Cyclone centre was not sufficient. In spite of few cyclone centres, it was very difficult to reach cyclone centre because most of the cyclone centre beside the river and there were no road to go cyclone centre. The dwellers did not want to go security place because they have house, domestic animals and birds. Some dwellers kept faith on Allah. Sanitation system was not good in the cyclone centre. Safe drinking water was very crises in the cyclone centre. Some dwellers thought cyclone centre was not security place because there was not separate room for female or children. was not available in the area. Alarming system was very poor. They do not get any alarm from local administration. The dwellers did not reserve any kinds of food for future. But some dwellers valuable matters like gold and money deposited under the soil with polithian.

5 III

IV.

6 DISCUSSION

Bangladesh is among the world's most disaster-prone countries and the frequency of natural disasters has increased in recent years. Since independence in 1971, the country has endured almost 200 disaster events -cyclones, storm surges, floods, tornadoes, earthquakes, droughts and other calamities -causing more than 500,000 deaths and leaving serious impacts on quality of life, livelihoods and the economy. The cyclone Sidr is the superset cyclone in Bangladesh. Bangladesh is also one of the world's poorest and most densely populated countries, where poverty often compels families to settle in areas that are particularly disaster -prone, such as coastal areas and lands newly emerged from riverbeds (char-lands).

The local government member contribution had not systematic per government rules according to standing orders on disaster. Most of the member reported any kinds of decision have taken by only local chairman. Damage and losses assessment system was not systematic according to standing orders on disaster. The chairman influenced to assess damage or losses on member most of times for writing their relative or support party peoples. When all member submitted their report to chairman, the chairman would write report by own view. As a result the actual information or data did not arise of the area. Most of the families were attacked by Sidr. The dwellers of the study area continue their livelihoods very miserable after Sidr. The farmer lost their all crops and crops value was 45,75, 362 dollar. The fisherman lost their net, fish and boat and their wealth value was 35735 dollar. 39 education institution fully and 66 education institution partially were damaged. But all sectors cannot recover properly from their losses. Some national or international NGO and Bangladesh government provided relief like dry foods, seeds, fertilizer, rice and old cloths etc. Relief was not sufficient for the dwellers in the study area. Generally fisheries sector did not get any kinds of help from Government or NGO. It would like to mention that 18 cyclone centre built up after Sidr. Disaster preparedness activities were very weak in the study area. The study area has no Disaster Management Committee or no Red Crescent members to recover from the impacts of natural hazards during disaster period. As a result local administration cannot strong contribution in pre, during and post disaster period for dwellers of the study area.

V.

7 Conclusion

Disaster management process in this country is not strong enough. The local level management system which is known as Ward Disaster Management Committee (WDMC), is very weak. The government has to make strong ward disaster management committee. Female ward commissioner has to be included in the committee.

The government has to take arrange training program regularly for local government and disaster management committee to improve their ability. The government should focus on the strong alarming system of the area. Local government administration, Local chairman, member and Ward disaster management committee should take responsibility in the pre-disaster period. More and more tress has to plant to protect super cyclone. The government has to include disaster-related topics in primary and secondary level books.

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Figure 1: Table 01 :

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RESULT

Figure 2: Table 2 . 1 :

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Description	Damage	Fisheries	Losses of Money (dollar)
	Sector		
Small Ponds	679 (218.61 Acres)		6000000.00 (86957)
Large Ponds	75 (47.62 Acres)		307200.00 (4452)
Boat	997		63760.00(924) (Repairing cost)
Net	3986 (kg)		103610.00 (1502) (Repairing cost)
Total			24,65,710.00 (35735)

Figure 3: Table 2 . 2 :

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Sector	Damaged	Partially
	Fully	
House	2245	3221
Road	15 (km)	186 (km)
Culvert	-	16
Embankment	5 km	-
Education institution	39	66

Source: Project Implementation officer (PIO) in HizlaUpazila

c) Assess recovery and rehabilitation programs post disaster period
 Recovery and Rehabilitation programs arevery important programs in post disaster period.
 This program depends on damage and losses assessment report from local government. After that TNO communicated with higher-level of government authorities.

[Note: Source: Project Implementation officer (PIO) in HizlaUpazila]

Figure 4: Table 2 . 3 :

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Year					
2018					
40					
(B)					
Global	Relief	Number	Provided	Country	Remarks
Jour-	items	of	/Organization		Each family get 30 kg Each
nal of	Rice	family	Save The Children		family get 20 kg Each family get 20
Hu-	Pulse	6500	BRAC Red Crescent		kg Each family get 5 kg Each family
man		2050	Bangladesh Army Save		get 9 kg Each family get 5 kg Each
Social		700	The Children BRAC		family get 5 kg
Sci-		1000	Red Crescent		
ence		6500			
-		2050			
		700			
		400	Bangladesh Army		Each family get 1 kg
		6500	Save the Children		Each family get 2 kg
	Oil	2050	BRAC		Each family get 2 kg
		700	Red Crescent		Each family get 1 kg
		-	Bangladesh Army		One Cartoon provide in the area
	Salt	6500	Save The Children		Each family get 1 kg
	Saline	2050	BRAC		Each family get 2Pack
	©				
	2018				
	Global				
	Jour-				
	nals				

Figure 5: Table 3 . 2 :

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1:

Figure 6: Table 3 .

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Source: Project Implementation officer (PIO) in HizlaUpazila

Figure 7: Table 3 . 3 :

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Distribution items	Quantity
BGF Card	15000
BGF Rice	875009 (kg)
GR-Rice	71000 (Kg)
Blanket	804
Haricane	327
Pot	40
Sari	146
Oldcloth	1500
Tin	130 (among 65 families)
Money (For repairing house)	54,30,000.00 (78696 Dollar) (among 2055 families)
Money from Chief Advisor	1290000.00 (18696 Dollar) (among 129 families)
Source: Project Implementation officer (PIO) in HizlaUpazila	
d) Assess Disaster preparedness activities	

Figure 8: Table 3 . 4 :

Name of Union	Number of cyclone Centre		
	Before	After	Total
Harinathpur	3	4	7
Borjalia	3	4	7
Guabaria	2	3	5
Mamonia	2	2	4
Dulkhola	3	3	6
Guabaria	2	2	4
Total	15	18	33
			(B)

Figure 9:

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