

Survival Strategies of SIDR Affected People: A Study on Coastal Belt of Bangladesh

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Abstract

Bangladesh is a disaster prone country and in almost every year, it is affected by many natural disasters. Due to geographical location, nature of disaster varies from place to place and its management also varies. Bangladesh has already been set as an example for developed countries in respect of disaster management. But due to the global climate change, the number of disaster occurrence has been increased significantly that already puts great impact on people's livelihood. In the recent time, Government of Bangladesh and other non-government organizations have given more emphasis on structural mitigation measures to reduce casualty than earlier years. But risk reduction initiatives are not enough to cover the whole area due to scarce resources. So people exercise their indigenous knowledge as a survival strategy to recover from disaster damage, which is most cost effective as well as scientific.

Introduction

Bangladesh suffers from various natural disasters, like flood, drought, cyclone and river erosion in almost every year. A disaster is a severe or catastrophic situation in which the pattern of life, in many instances, is suddenly disrupted and people need protections; food or water, shelter, clothing, medical and social care (UNISDR, 2009). Due to the geographical location, cyclone is the most catastrophic threat for coastal areas of Bangladesh. The category 4 (level of intensity) cyclone "SIDR" stroke the south-west coast of Bangladesh on 15th November, 2007 with wind velocity up to 240 kilometers per hour and accompanied by tidal waves up to five meters high and surges up to six meters in some areas (Rumana, 2009). Tidal surges of six meter higher than normal tides and sea water may reach up to 200 km inland (Nizamuddin, 2001). As a result, SIDR flooded low-lying areas and caused extensive physical damage. Electricity and communication means were knocked out, roads and water communication were blocked and sources of pure drinking water were contaminated by saline water while sanitation infrastructure was totally destroyed, especially in the coastal areas of Bangladesh.

Total 2.3 million households were affected by the effects of cyclone SIDR and among them, 1 million were severely affected. The estimated total damage by the cyclone is US \$115.6 billion (Rumana, 2009). A total of 3,406 people died during this event and over 55,000 sustained physical and psychological injuries (GoB, 2008). The number of victims was relatively lower due to improved prevention techniques, like construction of cyclone shelter center and embankment, and plantation. It is estimated that about 2 million people had lost income and employment in the most affected districts including Barguna, Bagerhat, Patukhali, Pirojpur and Barisal districts (GoB, 2008). According to the household survey, 2005, these affected districts have also notable poverty ranging between 30-50% of the population.

Within the first three months of SIDR, the Government of Bangladesh, international and national development and humanitarian agencies responded to the emergency shelter need for 200,000 families by distributing plastic sheets, corrugated iron (CI), sheeting and tents for 100,000

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families. The government also provided a one-time housing grant of BDT 5000 (US\$ 70) per family to 100,000 families with fully destroyed homes in the worst affected areas. This was mostly used for emergency food, shelter and livelihood recovery (MoFDM, 2008).

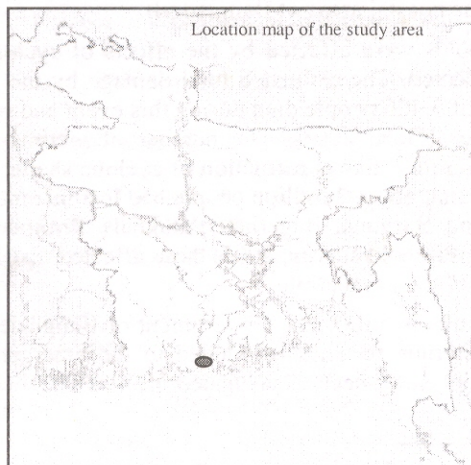
Objectives and Methodology of the Study

The objective of the study is to examine the survival strategies of the SIDR affected people. To achieve this objective, it is tried to explore the risk of community addressing disaster, to find out the community survival mechanism to cope with cyclone and as well as to identify community good practice on survival strategies in this study. Sociological approach to disaster research has been taken in consideration to conduct this research. As a result of disaster, normal social life is disrupted; destruction of social infrastructure which causes the ultimate social disorder. Disaster research may be viewed as the study of 'social pathology' (Babbie, 2004). In order to get the real picture of the disaster, affected people of the coastal belt region both qualitative and quantitative methods are used. For this purpose, a semi-structured interview (sample survey) as the quantitative tool has been used to measure some variable relating to the socio-economic conditions and to realize the community people survival techniques.

In order to get qualitative information from the study, focus group discussion (FGD) and case studies have been undertaken for better understanding about disaster consequence and explore indigenous techniques at the personal and community level to cope with natural disaster. In this study, total 60 respondents were selected on random basis and among them 30 were male and 30 were female from different age group, but the people under 18 years were not considered as sample. During the sampling, the affected people were given more priority for conducting this study.

Study Area

Considering the disaster vulnerability and disaster damage in the coastal belt area of Bangladesh, Barguna District had been given more emphasizing for this study purpose. Padma, the village of Patherghata Upazila was selected as a case study area for this study. It has 25610 units of household and total area of 387.36 sq km (Wikipedia, 2010). Patharghata has a total population of 134635, among them male population is 50.56% and female 49.44% of the total population and the population above age of 18 is 68751 (BBS, 2003).



Source: Wikipedia, 2010

Fig. 1: Map of Bangladesh showing the study area (not to scale)

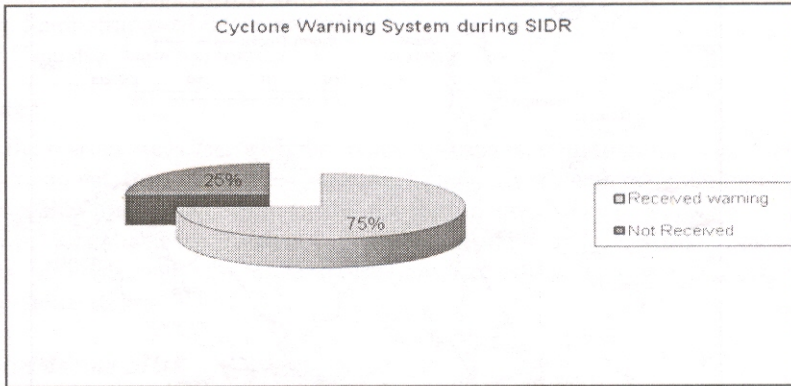
Study Area Vulnerability

Due to the geographical location, Bangladesh is the most vulnerable for cyclone. According to the previous cyclone statistics, the number of cyclone occurrence has been increased significantly in the recent year. Fig.4 shows the number of cyclone occurrence and tracks.

Community Risk Situation

Cyclone Warning System

In general, the inhabitants of Bangladesh are informed about different disaster warning signal through radio and television, but most of the coastal areas of Bangladesh are not yet under electrification process. They can not avail cyclone warning signal through television or radio. In some cases, people who have radio operated with battery can easily be informed about warning but for a very limited extent. At the local level, Union Disaster Management Committee (UDMC) is mainly responsible for disseminating cyclone warning signal. But in most of the cases, the UDMC are not fully active to perform this activity. NGOs (Non-Government Organizations) are working for this purpose through formation of community volunteer team. The people who got warning signal during SIDR are shown in Figure 2.



Source: Semi-structured interview, 2010

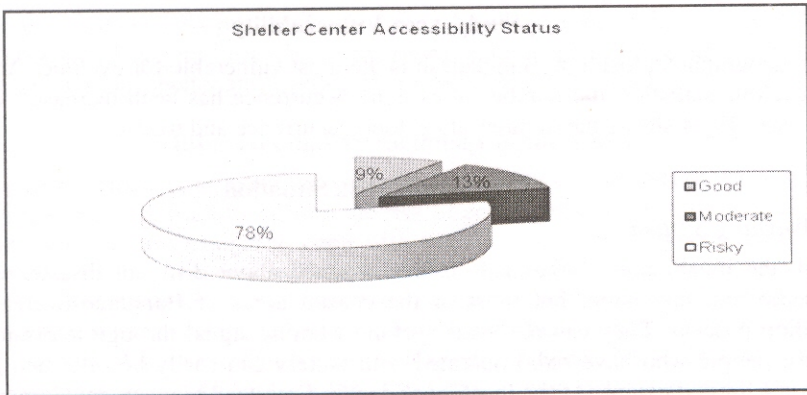
Fig. 2: Cyclone warning system during SIDR

Cyclone Center

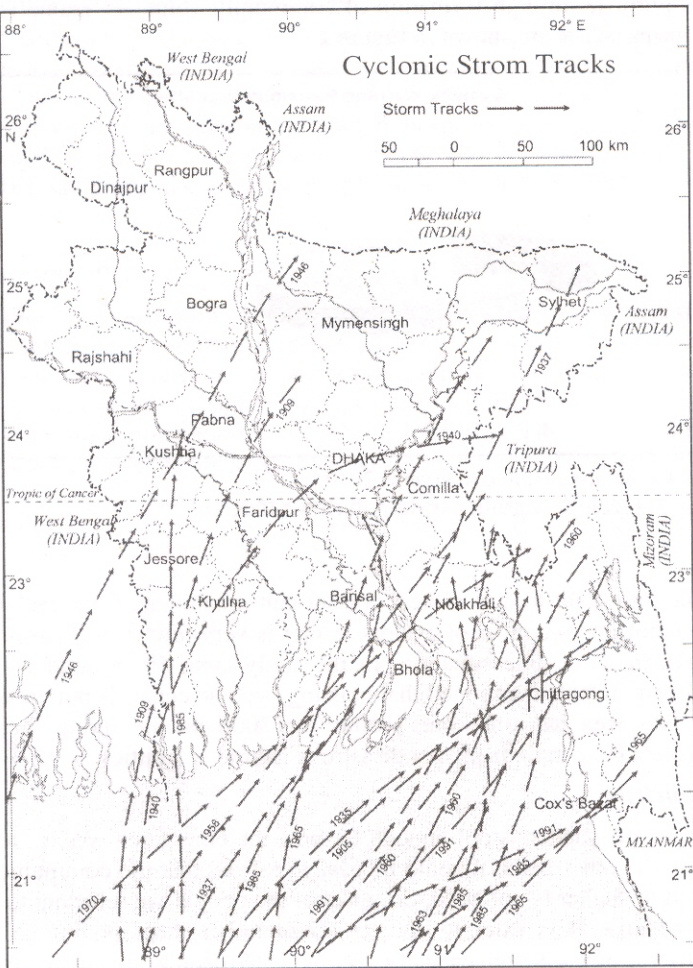
Safe shelter is the important tool to protect coastal belt inhabitants from cyclone or other natural disasters. But in reality, the number of cyclone center is very few in the coastal areas. As a result, people are always in vulnerable situation. In the study area, 60 respondents were interviewed among which 54 respondents mentioned that existing cyclone center is not enough to fight against future disaster. The area has only one shelter for 3000 people living there which is really insufficient to protect the people from any disastrous natural calamities.

Accessibility to Shelters

The number of cyclone shelter is not enough to meet the emergency shelter needs of the coastal inhabitants and on the other hand, it could be easily realized that the communication system from individual resident to shelter is not good. So, most of the people are reluctant to move shelter from their residence, because it is safer to stay at house rather than moving to shelters. This has significant impact on any disaster casualty. About 79% people are expressed that the existing accessibility condition is risky for them.



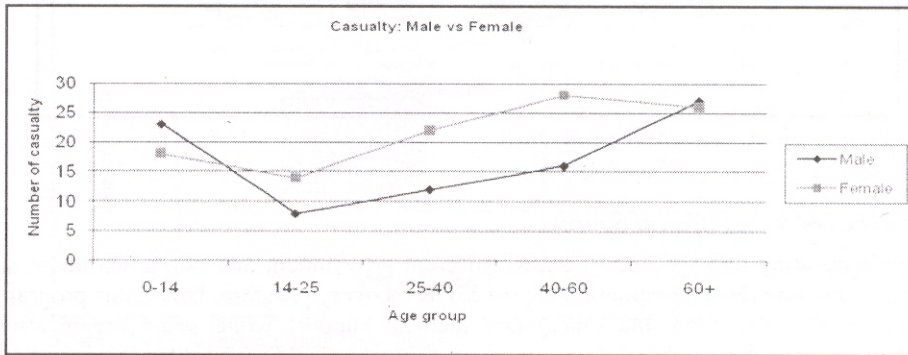
Source: Semi-structured interview, 2010
Fig. 3: Shelter center accessibility status



Source: BUET, 2008
Fig. 4: Cyclone Storm Tracks over Bangladesh at different times

Age Distribution of the Victims

Due to incorporation of multiple factors like insufficient shelter, poor accessibility etc., the people are not interested to move to cyclone shelter. As a result, the number of victims increases, sometimes in a great extent. In this case, the study findings explicitly conclude that both male and female who fall under 60+ age group show similar vulnerability to disaster.



Source: Semi-structured interview, 2010

Fig. 5: Casualty: male vs. female

Types of Damage

The people of the coastal areas face different types of damage including homestead, crops, cattle, small business, boat, net, trees, over flooding pond, human life through different types of casualty. The study shows that after SIDR, most of the people's houses were partially or fully damaged. Fishermen lost their boat and net, farmers completely lost their crops and small businessmen lost their all forms of investment. So, it is transparent that all sectors were affected by SIDR considering the vulnerability.

Average Damage during SIDR

In the study area, almost every sector was affected during the disaster. In this case, due to distance from the passing route of SIDR, all the places were not equally affected. Table 1 shows the average damage in terms of monetary value by taking consideration of crops, trees, fisheries, cattle and homestead damage of the study area.

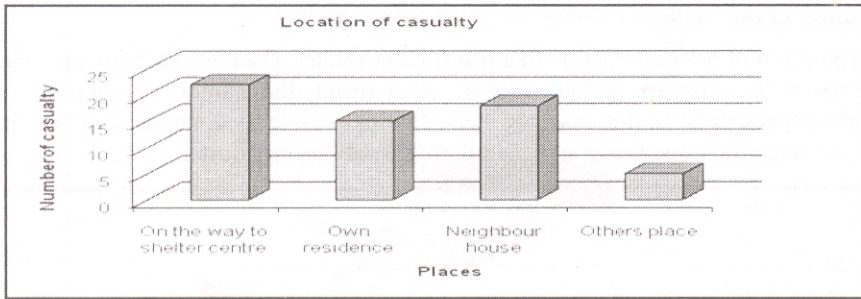
Table 1: Average damage during SIDR

Sl. No	Damage (Taka)	% of respondents
01	30000-45000	50
02	45000-60000	25
03	80000-120000	13.33
04	120000+	11.67

Source: Semi-structured interview, 2010

Location of Casualty

The study shows that due to the poor accessibility to the shelter, most of the casualties occurred on the way to shelter while some causality locations were own residence and neighboring houses.

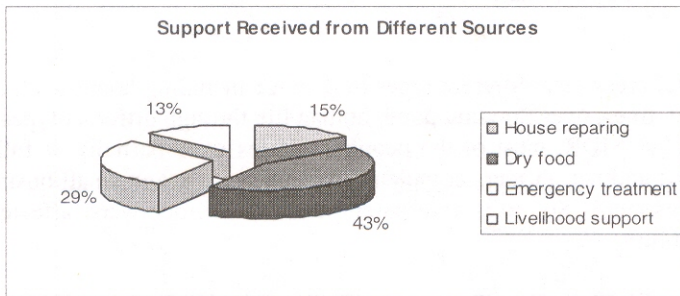


Source: Semi-structured interview, 2010

Fig. 6: Location of casualty

Support Received from different Sources

After the devastating damage due to SIDR, different government and non-government agencies were involved in emergency response and post SIDR recovery program. Under this program, some agencies provided dry food and emergency medical support while some organization were involved in the long term rehabilitation program through providing livelihood support and core shelter program.

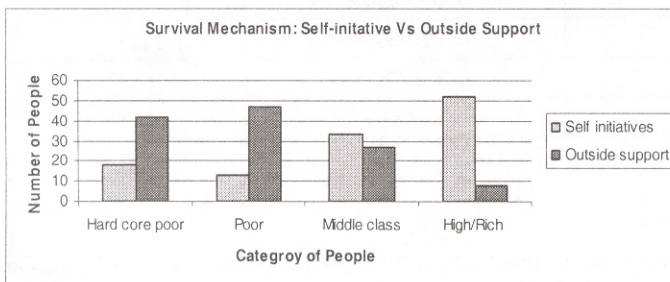


Source: Semi-structured interview, 2010

Fig. 7: Support received from different sources

Survival Mechanism

Immediately after SIDR, the victims were supported by different agencies. In some cases, the level of damage was in great extent. So, it became really difficult for the supported organization to recover fully by them. The study shows that the victims were survived by the combined effort from supporting agencies and victims own initiatives. It is also presented that the poor people received more support from outside, rather than rich people of their surrounding areas.

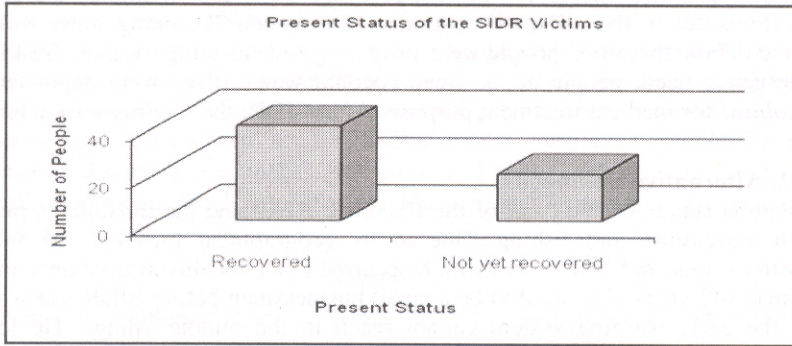


Source: Semi-structured interview, 2010

Fig. 8: Survival mechanism: self-initiative vs. outside support

Present Status of Victims

After evaluation of the damage and recovery rate of SIDR with respect to present time, the study has been identified that most of the people have already recovered and some people not yet recovered from their damage.



Source: Semi-structured interview, 2010

Fig.9: Present status of the SIDR victims

Community Survival Mechanism

Preparedness

Fighting against disaster is a life long duty for the coastal belt people. So, sometimes they accept it as an easy matter. It is also true for the people of the study area. They totally ignored the cyclone warning signal and stayed at home. They had to pay a lot through their lives and other resources for their negligence and lack of awareness. Learning from SIDR, now they are aware about cyclone warning signals and other preparedness activities.

Case Study 1: Awareness

The District of Barguna is located at the coastal belt of Bangladesh. Due to its geographical location, this area is not only prone to cyclone but also prone to storm surge. This combined vulnerability led this area as the most vulnerable for people's life and livelihoods. So, the people of this area are affected almost every year by this natural disaster.

Asiya Khatun (50 years old), female, resides with her family members at Padma village under Patherghata Upazila of Barguna district. During the SIDR, though most of the people of that area got cyclone warning signal, due to lack of awareness, most of them were staying in their own residence instead of shelter. As a result, like other people, Asiya lost her husband in storm surge and one of her sons was wounded by a broken tree.

According to Asiya, local Union Parishad and NGOs disseminated early cyclone warning in this area but she completely ignored the cyclone warning and when the SIDR started, she understood that her decision was wrong regarding staying at residence instead of shelter. Now she is realizing the penalty of a wrong decision.

She said that after SIDR, some NGOs and local government started their initiatives to build awareness on cyclone warning system, while they also prepared community based hazard map, risk map for increasing community awareness. Now they know the meaning of cyclone warning system about the risk area of the community, location of cyclone shelter as well as road accessibility with cyclone shelter.

During Disaster

During the disaster, most of the people were staying at their own house or in neighboring house, because the capacity of cyclone shelter was not enough to accommodate all people of that village

and accessibility condition was also very poor. Some people, who left their house for shelter late, saved their life by climbing the tree.

Post Disaster

Immediately after the SIDR, no emergency support reached to the victims by the government or other organizations due to the collapsed communication system. Drinking water was polluted by surge water and debris; therefore, people were struggling and suffering for pure drinking water. To meet the emergency need, people drank green coconut water. They were dependent on village doctor and *Kobiraj* for medical treatment purpose. After SIDR, the victims were trying to recover their damage.

Case Study 2: Alternative livelihood

The village Padma stands on the bank of the Bishkhali River and the inhabitants mainly survive depending on agriculture and fishing. Due to its geographical location, the villagers were acquainted with cyclone and tidal surges which occurred in the locality at least once in a year. Habibur Rahman (42 years old), used to be a small businessman before SIDR. He was in his own residence as the early warning system cannot reach in the remote village. He lost his shop, residence, hundreds of trees and crops and total damage were Tk. 1,50,000. After SIDR, schooling of his two children was completely stopped for 6 months.

Immediately after the SIDR, Habibur Rahman was totally helpless due to huge loss in livelihood. He was struggling just for survival with the help of NGOs and government supported different emergency programs. But after a few days, he was not feeling comfortable to receive relief material waiting for long time. So, he was trying by himself to do something for his family. At the initial stage, he was trying to cope with SIDR damage by selling broken trees and receiving NGO support, but it was not working well as a sustainable coping strategy. After 6 months, he got loan of Tk. 15000 from a NGO and started a poultry firm as an alternative way to start a new livelihood. After the 1st month, he got Tk. 4000 as a profit. After the 2nd month he got another Tk. 15000 as a loan and now his total investment is Tk. 45000. His monthly net profit is about Tk. 7000-8000 and his two children have started to go to their school again.

Some Field Realism

Secondary documents reveal some real fact behind huge number of casualty and damage like, giving more emphasis on protecting the security of personal assets, privacy and distance to travel during cyclone (Rumana, 2009). In reality, most of the coastal families waited to their residence until the cyclone started to see whether they need to leave or not.

Location of Inappropriate Shelter Center

In most of the cases, the location of cyclone shelter is not at appropriate location and some times, located at the vulnerable site of the village.

Lack of Public Participation

In the site selection process for construction of cyclone shelter, very little public participation was found in the study area.

Nepotism at Beneficiary Selection

During the post emergency rehabilitation program, sometimes beneficiary selection process incorporated with nepotism and for this the actual victims were deprived from emergency response support.

Construction of Post SIDR Core Shelter

Immediately after the SIDR, different donor agencies were involved in the construction process of core shelter center for the disaster victims, but in this case, the shelters were constructed without considering last surge water level.

Recommendation

Considering the inappropriate location of cyclone shelters, it should be at appropriate and suitable location, so that the people can easily move towards cyclone shelter during emergency period. While the location selection for cyclone shelter should be selected through public participation. To remove mismanagement and misuse of aid and assistance, nepotism should be removed from emergency response, recovery and rehabilitation program through disclosing relevant information to the local people. For any future protective initiatives like construction of embankment, cyclone shelter etc. previous highest surge water level should be taken into consideration. Beside this, accessibility of cyclone shelter should be improved for getting better response regarding cyclone warning system from community level. Finally, public awareness should be increased at significant level on disaster preparedness, mitigation and emergency response while formation of community volunteer team and Union Disaster Management Committee should be activated to ensure efficient operation.

Conclusion

Since Bangladesh is a disaster prone country, the mass people awareness regarding disaster preparedness, mitigation, and rehabilitation is a very important matter. It should be people centered and decision making process should be followed by bottom up approach. Other wise, strategies taken by the top government officials may not work properly and vulnerable situation may remain unchanged. Moreover, indigenous knowledge of local people should be promoted for sustainable disaster management.

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