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Socio-economic Effect of a Super Cyclone on Some Selected Coastal Villages of Kalapara Upazila under Patuakhali District

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Abstract

The study was undertaken to determine the extent of economic and social loss caused by a super cyclone in some selected coastal villages. The locale of the study was five selected villages namely Niamatpur, Gamoirtala. Islampur, Majidpur and Newapara of Kalapara upazila under Paruakhali district. The sample size of the study was 78 randomly selected respondents. Data were collected using interview schedule during 10 to 20 December, 2007. The maximum loss was reported to be caused to tree resources (21.94%) followed by houses (16.38%), livestock (3.21%), monthly income (2.69%), furniture (1.47%) and home amenities (0.722%). Majority (51.3%) of the respondents had medium social loss, where as 24.3% low and 21.8% had high social loss. Top three aspects of social loss in rank order were participation in social ceremonies, ability of receiving medical treatment, family peace and collaboration. Giving economic assistance (51), disbursement of loan on easy terms and conditions (27) and construction of cyclone center (24) were top three suggestions provided by the respondent to compensate economic and social loss caused by the super cyclone.

Key words: *Economic loss, social loss, super cyclone.*

Introduction

Bangladesh is a disaster-prone country that is affected almost every year by a natural disaster of some kind. Located between the Himalayas and the Bay of Bengal with three mighty rivers (The Ganges, The Brahmaputra, and The Meghna) covering its territory, Bangladesh is prone to floods, torrential rains, erosion and cyclones (Anonymous, 2008). Over a period of 100 years, 508 cyclones have affected the Bay of Bengal region, of which 17 per cent made landfall in Bangladesh. A severe cyclone occurs almost once every three years (Ali, 1999). Sidr is considered as fierce a cyclone as the ones that hit the country in 1970 and 1991 killing 5 lakh and 1.5 lakh people, respectively. The highest wind speed of Sidr, meaning 'hole' or 'eye' in the Sinhalese language, was recorded at Patuakhali was 223 km/hr, compared to the 225 km/hr wind speed of the 1991 hurricane and 222 km/hr wind force of the 1970 hurricane.

The property loss caused by cyclone Sidr is so far estimated at Tk. 6,500 crore by prominent economists of the country. Sidr left thousands of people economically ruined in the coastal zone, turning many of them into real paupers. Many people do not have any means left for earning a single paisa since the cyclone had ravaged the coastal belt of the country (Roy, 2007). According to the reports prepared by the Deputy Commissioners of 24 affected districts, crops on 1,42,176 acres of land have been damaged completely while those on 3,54,850 acres partially. The reports showed that the cyclone has left at least

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2,61,972 houses flattened while another 3,90,817 damaged to some extent. The district officials said around 2,42,000 livestock have been killed in the storm that has razed at least 50 educational institutions and caused partial damage to another 29,991. The Deputy Commissioners also reported that trees uprooted will approximately 3.45 lakh. (Byron, 2007)

Records of cyclones and tornados maintained by the Met office revealed that, a terrible cyclone packing a hurricane speed of 222 km/hr ravaged the coastal districts of Barisal, Patuakhali, Noakhali and Bhola, washing away a million of people under 10 meter high waves on November 12, 1970. It has since been remembered as the 'fearful November 12. In 1985, a cyclone ripping through Urir Char at 154 km/hr with 15 feet high tidal waves killed about 11,000 people. On April 29, 1991 a 225 km/hr cyclone swept over the coasts of Chittagong with 25 feet high waves killing 1.4 lakh people. The November 29, 1997 cyclone also swept through Chittagong at a speed of 224 km/hr generating a 6.1 meter high tidal waves killing about 1.5 lakh people. Other severe cyclones hit Bangladesh in 1960, 1966, 1974, 1985, 1986, 1988 and 1997. 'Ain-i-Akbari' and 'Riaz-us-Salahin' recorded the oldest account of a similarly violent cyclone in 1582. (Roy, 2007)

It is evident that cyclones cause massive damage to the economic property of the coastal people. Besides, cyclones also disrupt the social life of the coastal people. But unfortunately different media along with government over look social loss as it is not as the apparent as economic loss. Keeping the above view in mind, the following specific objectives were put forward for the present study:

1. To find out the extent of economic and social loss caused by a super cyclone on some selected coastal villages.
2. To describe some selected characteristics of the coastal people.
3. To find out the ways to compensate the losses caused by a super cyclone in coastal area.

Methodology

The study was conducted in some selected villages namely Niamatpur, Gamoirtala, Islampur, Majidpur and Newapara under Kalapara upazila of Patuakhali district. Total sample size was 78. Interview schedule was used to collect primary information. The data collection process took place during December 10 to 20, 2007. The collected data were analyzed as per objectives of the study.

Measurement of economic loss

Economic loss was measured by estimating the cost of the lost resources. The cost of lost resources in each section was estimated by deducting the post cyclone cost from the pre-cyclone cost. A score of one was assigned for loss of each thousand Taka.

Measurement of social loss

Social loss was measured by using a 5 point scale such as very good (4), good (3), moderate (2), not good (1) and not good at all (0). A scale consisting of 6 items having 5 points each was used. Total score after cyclone was discarded from the total score before cyclone to estimate the social loss.

Results and Discussion

Table 1 provides some basic statistics of socio-economic background of the respondents. It was found that most of the respondents were middle aged (33-55) having agricultural farming as the principle occupation with secondary level of education, comprising medium family, had small farm size with medium income.

Table 1 Characteristics profile of the respondents (N=78)

Selected features	Categories	Respondent		Measure-ment unit/ scale	Range		Mean	±SD
		No.	%		Possible	Observed		
Age	Young(20-32)	26	33.33	Year	-	20-89	42.43	16.02
	Middle aged(33-50)	36	46.15					
	Old(51-89)	16	20.51					
Occupation	Agriculture/Farming	31	39.74	-	-	-	-	-
	Business	14	17.94					
	Farming and business	5	6.41					
	Day laborer	22	28.20					
	Service	2	2.56					
	Others	4	5.12					
Education	Illiterate(0)	8	10.25	Year of schooling	-	0-12	5.28	3.81
	Can sign only(0.5)	15	19.23					
	Primary(1-5)	19	24.35					
	Secondary(6-10)	33	42.30					
	Higher secondary (11-12)	3	3.84					
Family size	Small family(≤3)	17	21.79	Number	-	1-12	5.10	2.13
	Medium family(4-6)	45	57.69					
	Large family(≥6)	16	20.51					
Income	Low (upto 2.00)	17	21.79	'000' Tk/ Month	-	0.5-24.50	4.88	4.44
	Medium(2.10-6.0)	45	57.69					
	High(>6.00)	16	20.51					
Farm size	Marginal(up to 0.20)	20	25.64	ha	-	.01-10.93	1.65	2.28
	Small farm(0.21-1.0)	24	30.76					
	Medium(1.1-3.0)	19	24.35					
	Large(>3)	15	19.23					

Economic loss

Table 2 shows that 16.7% of the respondents had no change in their monthly income along with 21.8% minor, 35.89% medium and 25.6% in major loss category. Majority (58.97%) of the respondents had no loss to their furniture, while 17.94% had low and the rest 23.6% had medium and high loss in equal proportion. In case of home amenities 69.23% of the respondents fall in no loss category, where as low, medium and high loss was encountered by 16.66%, 7.69% and 6.41% respondents, respectively. 43.6% of the respondents did not become the victim of losing their livestock, while 17.9, 16.7 and 21.8% were the victim of low, medium and high loss of their livestock animals, respectively. 23.08% of the respondents experienced low damage to their houses, while 34.6% had medium and 26.9% had low loss due to damage of their residence. Loss of trees

explored that almost equal proportion (34.61%, 30.8% and 33.33%) of the respondent encountered low, medium and high category of losses, respectively.

Table 2 Economic loss caused by a super cyclone to different economic sectors.

Sector of loss	Categories	Respondent		Measure-ment unit/scale	Range		Mean	±SD
		No.	%		Possible	Obser-ved		
Income	No loss(00)	13	16.70	'000' Tk/month	-	0-18.30	2.69	3.44
	Minor loss(.10-1.0)	17	21.80					
	Moderate loss(1.01-3.0)	28	35.89					
	Major loss(above3)	20	25.64					
Furniture	No loss (00)	46	58.97	'000' Tk	-	0-13.40	1.47	3.20
	Low loss (0.01-1)	14	17.94					
	Medium loss(1.01-4)	9	11.53					
	High loss(above 4)	9	11.53					
Home amenities	No loss(00)	54	69.23	'000' Tk	-	0-10.35	0.722	1.92
	Low loss(0.01-1.0)	13	16.66					
	Medium loss(1.01-4.0)	6	7.69					
	High loss(above 4)	5	6.41					
Livestock	No loss(00)	34	43.6	'000' Tk	-	0-23.10	3.21	5.43
	Low loss (0.01-1.0)	14	17.9					
	Medium loss(1.01-6.0)	13	16.7					
	High loss(above 6.0)	19	21.8					
Houses	No loss(00)	10	12.8	'000' Tk	-	0-150.00	16.38	21.67
	Low loss (0.30-5.00)	18	23.08					
	Medium loss	27	34.6					
	High loss	21	26.9					
Trees	No loss(00)	1	1.3	'000' Tk	-	0-121.0	21.94	24.60
	Low loss(0.20-6.0)	27	34.61					
	Medium loss(6.01-25.0)	24	30.8					
	High loss(Above 25.0)	26	33.3					

Majority of the respondents showed no loss in livestock, furniture and home amenities. This is probably due to the fact that in coastal region livestock sector is not well developed due to lack of extension activities and soil salinity. Economic crisis as a result of poorly developed agriculture do not permit them to achieve modern home amenities and furniture in their houses.

On the basis of mean loss it was evident that the maximum economic damage was occurred on the tree resources. Other sector of losses in rank order were loss of houses, loss of livestock, loss of income, loss of furniture and loss of home amenities.

Social loss

It is evident from Table 3 that almost half(51.3%) of the respondents had medium social loss and the rest 24.3% and 21.8% respondents belonged to low and high social loss category, respectively. It is also found from the Table that 2.6% respondents showed no social loss.

Table3 Distribution of farmers on the basis of social loss.

Categories	Respondent		Measurement unit	Range		Mean	±SD
	No.	%		Possible	Observed		
No loss (0)	2	2.6	Score	0-24	0-16	5.97	3.75
Low (1-3)	19	24.3					
Medium (4 -8)	40	51.3					
High (9-16)	17	21.8					

Table 4 shows that social loss was occurred in almost all the selected aspects such as ability of receiving education, social status of the family, social security, and ability of receiving medical treatment, participation in social ceremonies, family peace and collaboration. Among these aspects top three aspects in rank order were participation in social ceremonies, ability of receiving medical treatment and family peace.

Table 4 Social loss caused the super cyclone on some selected aspects.

Aspects	Total score before Sidr(TS_1)	Total score after Sidr(TS_2)	Difference (TS_1-TS_2)	Rank
1. Ability of receiving education	210	147	63	5
2. Family social status	206	132	74	4
3. Social security	202	128	74	4
4. Ability of receiving medical treatment	204	113	91	2
5. Participation in social ceremonies	210	106	104	1
6. Family peace and collaboration	248	172	76	3

Suggestion of respondents for minimizing economic and social loss

A total of 24 suggestions were made by the respondents. Among them top 10 suggestions were enlisted in Table 5 on the basis of frequency. The top three aspects of economic loss were loss of trees, loss of houses and loss of livestock. To compensate these losses it is essential for a farmer to have economic support from out side. May be due to this reason majority of the respondents demanded economic support.

Table 5 Suggestion provided by the respondents to compensate economic and social loss

Sl. No.	Suggestions	Frequency	Rank
1	Giving economic assistance	51	1
2	Disbursement of loan in easy terms and conditions	27	2
3	Construction of cyclone center	24	3
4	Supply of seed, fertilizer, pesticide and agricultural equipments	18	4
5	Increased and extensive relief programme	17	5
6	Supply of housing materials	15	6
7	Food and medical assistance	13	7
8	Other assistances	11	8
9	Creation of job facilities	10	9
10	Judicial and honest distribution of relief	10	9
11	Construction of embankments	7	10

Conclusions

It is evident from the study that super cyclone Sidr caused massive damage to the economic and social life of coastal people. The maximum economic loss was occurred to the tree resources followed by houses, livestock, income, furniture and home amenities. Almost half of the respondents (51.3%) had faced moderate social loss along with 24.3% low and 21.8% high. Ability to participate in social ceremonies, ability of receiving medical treatment and reduction of family peace and collaboration are the three prime aspects of social loss in rank order. The respondents provided 24 suggestions to compensate their economic and social loss. Among them top three suggestions are giving economic assistance, disbursement of loan on easy terms and conditions and construction of cyclone center.

References

Ali, A.1999. Climate Change Impacts and Adaptation Assessment in Bangladesh. Climate Research. Vol.12.

Anonymous.2008. Damages, Loss and Needs Assessment for Disaster Recovery and Reconstruction. A Report Prepared by the Government of Bangladesh Assisted by the International Development Community with Financial Support from the European Commission. April, 2008.

Byron, R.B.2007. Six lakh Tonnes of Aman Crops Damaged. The Daily Star. Vol. XVII No.300. Dhaka, Sunday November 18, 2007.

Roy, P.2007. Economists Predict Tk 6,500 cr Loss. The Daily Star. Vol. XVII No.307.Dhaka, Sunday November 15, 2007.

Roy, P.2007. Sidr was one of the Fiercest Cyclones. The Daily Star. Vol. XVII No.299.Dhaka, Saturday, November 17, 2007.