Examining Climate Change Perception and Coping Mechanisms in Coastal Communities of Bangladesh

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Abstract

Climate change flounces a significant challenge to Bangladesh for concentration of hard core poor people in its coastal areas where a cogent number of livelihoods exclusively rely on climate sensitive sectors, face high exposure to climate change induced calamities and develop very vulnerable coping strategies to it. The study examines the climate change perception of coastal community of Bangladesh, explores their experiences of climate change impact at their national and local level and looks into their coping mechanisms. The study perused that a substantial number of coastal people heard about the concept of climate change. The climatic impact they heard most is cyclone and damage of infrastructure. The prime source of hearing is private TV channels. The coastal communities are affected most by cyclone in autumn and summer and tidal surge in late autumn. They adopt highly vulnerable coping mechanisms with the impacts of climate change. It is very unprecedented that as major coping strategy to cyclone they stay home to keep houses strong instead of going to cyclone shelters.

Keywords: *Climatic Impacts, Perception, Coping Mechanisms, Livelihood Assets, Strengthening House.*

Introduction

Globally 80% of extreme poor and 75% of moderate poor live in coastal and rural areas affected by fragility, conflict, violence, salinity, flood and different natural disasters caused by climate change and 1.2 billion people are at high risk from climate change (WB, 2024/2025; UNFCCC, 2025). Bangladesh is one of the most climate penetrable countries in the world from the perspective of its disadvantageous geographic location, topography of high levels of poverty and population density and reliance of robust numbers of livelihoods on climate sensitive sectors specially agriculture and fishing (BCCDR, 2023; BCCSAP, 2009, Noman, 2013). The people of Bangladesh encounter increased frequency and severity of various natural and man-made disasters caused by climate change as cyclones, floods, land and coastal erosion, salinity intrusion, tidal surge, droughts, the thunder storm, water logging, arsenic contamination, tornadoes, cold waves, earthquakes, landslides, insect attacks, hailstorm etc (Islam and Shafie, 2017; Noman, 2021). The coastal zone of Bangladesh covers 47,201 km² which is 32.0% of the country. Around 29.0% of the total population lives in the coastal zone of the country (AFR, 2015). Livelihood options and the natural environment of coastal communities of Bangladesh will severely be affected by the anticipated one meter sea level rise and different natural calamities caused by global warming and climate change, which will lead to the national food insecurity of Bangladesh (Veer, 2025; Sarwar, 2005). About 10 million people live in the coastal

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areas of the three major rivers of the country-the Padma, the Meghna and the Jamuna, and approximately 17,506 people live in *Bayer Char* coastal area, a poverty and natural disaster stricken agro-fishing ecosystem (CDSP, 2022; Noman, 2024).

The coastal community living in the *Bayer Char* remained secluded from the people living in main lands of Bangladesh. They have their own life style, own laws and own economic system. Chars are another Bangladesh within the political boundary of Bangladesh (CDSP, 2022; Noman, 2025). The impacts of future climate change on many ecosystem services are not certain, but it is very clear that those who depend most on natural resources (coastal-char community of Bangladesh) are likely to be most severely affected (African Development Bank et al., 2003; Burton et al., 2002; Simms et al., 2004). World Bank estimates that, with more than 3 meters of inundation depth, vulnerable area in coastal Bangladesh may increase 69.0% due to climate change while 8.06 million people in coastal Bangladesh are vulnerable to 3 meters inundation depth resulting from cyclonic storm surges now (Dasgupta, 2011; Noman, 2025). Thus, the coping strategies of coastal community like *Bayer Char* people is limited by historical, socio-cultural and ecological factors (Finan T.J and Rahman, M.A 2006/2016; Noman, 2022). These changes threaten the significant achievements Bangladesh has made over the last 20 years in increasing incomes and reducing poverty, and will make it more difficult to achieve the SDGs (BCCSAP, 2008; Noman, 2023).

So, the perception of climate change of coastal community of *Bayer Char* and their coping mechanisms with it were examined. The findings of this study are expected to help government, national and international NGOs to form appropriate climate change adaptation policies and programs where coastal communities will be incorporated so that these poor coastal people can successfully cope with the upcoming more critical and vulnerable situation of climate change and save them from being 'environmental refugees'.

Objectives of the study

The general objective of the study was to explore the Climate Change Perception and Coping Mechanisms of Coastal Communities in Bangladesh. The specific objectives were to examine the perception of coastal communities about climate change to assess their experience about the climatic impacts and its severity and to to look into their coping mechanisms with climate change induced natural hazards.

Methodology of the Study

This study is basically basically exploratory-cum-descriptive in nature. the present study site is *Bayer Char* located in *Char Gazi* Union of Ramgati Upazila in Lakshmipur district of Bangladesh. This area is selected for the study because it is the most disaster prone area as near the congruence of Meghna river and Bay of Bengal. The study was conducted on integrative frame of analysis (integration of qualitative with quantitative) based on primary data and some secondary data are collected to compare with primary data. In selecting sample, systemic sampling is used in quantitative and purposive sampling is used in qualitative. Out of 6709 households, 100 households i.e., every sixty seventh households (Sampling interval (k) =N/n=67) were selected as sample using the technique of systematic sampling. After determining sampling

interval (67th) starting point was selected using simple random sampling (lottery) from 1 to 20 households of sampling frame and household number 3 was selected as starting point of systematic sampling.

Figure-1: Study Method, Sample Size and Techniques of Data Collection

Study Area	Study Methods and Sample Sizes						Sample Selection Method	Method of Data Collection
	Case Study	FGD	KII	In-depth Interview	Oral History	SampleSurvey		
Bayer Char	20	20	9	13	6	100 k=67	Purposive (Qualitative) Systematic(Quantitative)	Triangular

(Sources: Field Work, 2022-2023)

In quantitative data collection, sample survey technique is followed and a semi structured interview schedule is used as a tool. In qualitative data collection, the techniques of participant observation, case studies, focus group discussions (FGDs), Key Informants Interviews (KIIs), in-depth interview and oral history were used. People of *Bayer Char* under Lakshmipur district are the population, heads of the households are the interlocutors and the households of the study area are the unit of analysis of the study. Data are analyzed using software of SPSS 24.0 version and the report is prepared. All the names of interlocutors mentioned in the present study are fictive. The study was conducted in coastal areas and heads of the households were respondents, the approval of university IRB or institutional body was not required. As ethical standards were maintained and scientific methods were ensured in every stage of sampling, data collection and interpretation, the result of this study is reliable and valid.

1. Findings and Discussion

4.1 Demographic Characteristics of the Interlocutors

4.1.1 Sex and Religion

Figure-2 shows that, out of the total interlocutors, a significant number of interlocutors (78.0%) are males while 21.0% are female and only 1.0% is third sex (*Hijra*).

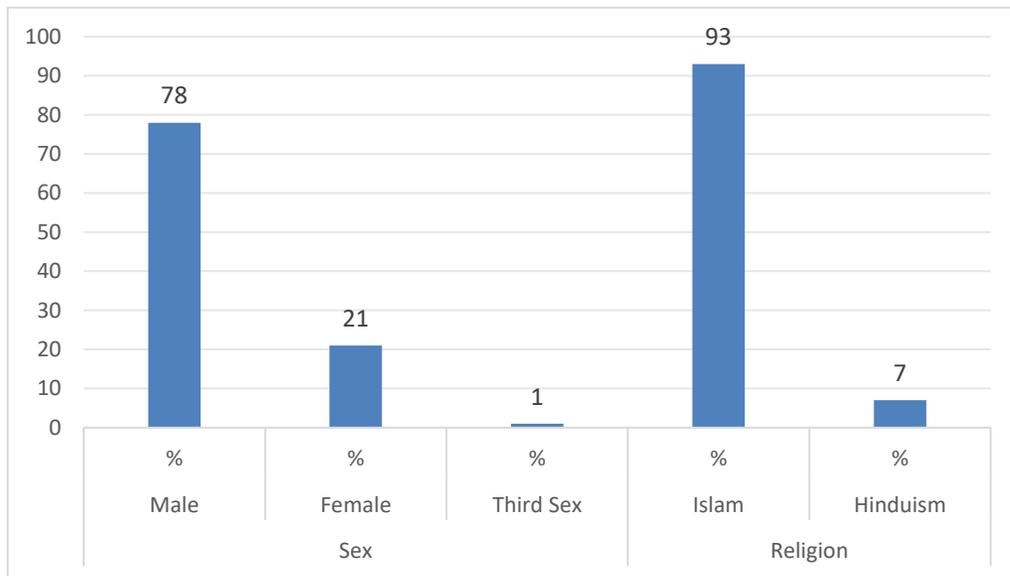**Figure-2: Interlocutors Based on Sex and Religion (in number and per cent)**

Figure-2 also points out that from religious aspect a substantial number (93.0%) of interlocutors are Muslim (Islam) while 7.0% of interlocutors are Hindu (Hinduism).

4.1.2 Marital Status and Age of Interlocutors

Table-1 exhibits that from age perspective, a substantial number (41) of interlocutors fall between 30 and 45 age group, of them 31 interlocutors are married interlocutors who are the 47.0% of married interlocutors and 31.0% of total interlocutors. The second highest number of interlocutors (20) fall between 18-30 age group, of them, 16 and 2 interlocutors are married and divorced respectively. A narrow figure of interlocutors (4) fall at 75 age or above and all of them are married. 14 interlocutors' age is between 45 and 60. The number of interlocutors fall between 60-75 age group is 10. 11 interlocutors' age is less than 18 years; of them, 5 interlocutor are married, which indicates that there is a practice of early marriage in *Bayer Char*. Out of the total interlocutor a significant number (66) are married

Table-1: Marital Status of Interlocutors Based on Age Group

		Marital Status (percent within row)						Row Total
		Married	Unmarried	Widow	Widower	Separated	Divorced	
Age (in years)	<18	45.5	45.5	-		9.1	-	11.0
	18-30	80.0	5.0	5.0		-	10.0	20.0
	30-45	75.6	2.4	9.8	2.4	-	9.8	41.0
	45-60	35.7	14.3	21.4	7.1	-	21.4	14.0

	60-75	50.0	20.0	10.0	10.0	-	10.0	10.0
	>75	100.0	-	-	-	-	-	4.0
Column Total		66.0	11.0	9.0	3.0	1.0	10.0	100.0

(Mdn (Married Interlocutors: 66) =3 5.80, Mdn (Total Interlocutors: 100) = 45.46)

where a narrow figure (1) is separated. Explaining the age of interlocutors it is noticed that the median age of married interlocutors (66) is 35.8 and the median age of total interlocutors (100) 45.46 while the median age of population of Bangladesh is 26.3 and the median age of global population is 30.3. So, in the present study, the age of 50.0% married interlocutors is below 35.8 years and the age of 50.0% total interlocutors is below 45.46 years. At national and global perspective 50.0% people live below the age of 26.3 and 30.3 years respectively. In the study the median age is greater than national and global values because all the interlocutors in the study are heads of the households.

4.1.3 Occupations Based on Sex

Table-2 displays that in coastal communities of Bangladesh, agriculture and fishing are two major primary occupations and both are male dominated occupations (92.9% and 100.0% respectively). This result is supported by the study of Mahbubullah (1996) as he found that the survivability of coastal and char people depends on agriculture and fishing. Moreover, in Bayer Char coastal community, homemaking and driving (rickshaw pulling, van, auto rickshaw and motor cycle driving) are gender specific professions where females (100.0% females) play role in the former and males play role in the later like other parts of Bangladesh.

Table-2: Occupation of Interlocutors Based on Sex

		Primary Occupation of Interlocutors (percent within row)									Total
		Agriculture	Fishing	Day Labourer	Home maker	Business	Driver	Service	Jobless	Household worker	
Sex of Interlocutors (in number)	Male	50.0	20.5	10.3	-	5.1	6.4	-	2.6	5.1	78.0
	Female	9.5	4.8	4.8	61.9	4.8		4.8		9.5	21.0
	Third Sex	100.0	-	-	-	-	-	-	-	-	1.0

| Total | 42.0 | 17.0 | 9.0 | 13.0 | 5.0 | 5.0 | 1.0 | 2.0 | 6.0 | 100.0 |

(χ^2 = 65.77   Degrees of freedom (df) = 16   p-value = 5.42 × 10⁻⁸)

Among the total interlocutors, 6 interlocutors' primary occupation is house working; where a significant number (66.7%) are males who are called *kamla* (Worker) and 33.3% are females who are called *Jhi* (Aunt).

4.1.4 Household Size Based on Education

Table-3 points out that 6 members and more than 6 members families compose the 71.0% (32.0%+39.0%) of total households in coastal communities of Bangladesh where 62.5% and 51.2% respondents are illiterate. Out of total interlocutors, a significant number of interlocutors (50.0%) are illiterate; of them, 40.0% interlocutors' family members are more than six, another 40.0% have six-member-family and only 2.0% interlocutors' family members are less than four.

Table-3: Household Size and Educational Qualification of Interlocutors

		Household Size of Interlocutors (percent within row)					
		<4	4	5	6	>6	Total
Educational Qualifications of Interlocutors (in number)	Illiterate	2.0	2.0	16.0	40.0	40.0	50.0
	Can Sign Only	7.1	14.3	14.3	35.7	28.6	14.0
	Can Read Only	-	-	28.6	42.8	28.6	7.0
	Below Class 8	-	-	44.4	-	55.6	9.0
	Below SS	-	40.0	20.0	20.0	20.0	10.0
	SSC	-	-	-	25.0	75.0	4.0
	HSC	-	-	50.0	-	50.0	2.0
	Graduation	-	-	33.3	-	66.7	3.0
	Masters	-	-	-	100.0	-	1.0
Total		2.0	7.0	20.0	32.0	39.0	100.0

(χ^2=41.86, df= 32, p-value = 0.137, r=-.027, x̄ of Household Size= 3.99)

The interlocutors whose educational qualifications are SSC, HSC and Graduation, of them, 75.0%, 50.0% and 75.0% families have more than six-member family. The interlocutors who passed masters are (1.0%), 100.0% of them have six-member family. Based on the study data it is observed that, the average household size is 3.99 in *Bayer Char* coastal community which is less than the national average of 4.06 (BBS, 2016). This finding is not supported by the study of ISPAN (2000) as ISPAN found the average household size in char areas larger than the national average. The cause behind smaller size of households in *Bayer Char* is the char is a coastal char, comparatively young families live here as the youths can easily face the calamities of climate change.

4.2 Climate Change Perception and Impacts at National Level

Table-4 reveals that a significant number of interlocutors (96.0%) heard about climate change and their 46 respondents are illiterate 14 respondents can sign only. The interlocutors who did

Table-4: Educational Qualifications of Interlocutors and Their Hearing about Climate Change

		Whether Interlocutors Heard about Climate Change (percent within row)			Total
		Yes	No	Don't know	
Educational Qualifications of Interlocutors	Illiterate	92.0	6.0	2.0	50.0
	Can Sign Only	100.0	-	-	14.0
	Can Read Only	100.0	-	-	7.0
	Below Class 8	100.0	-	-	9.0
	Below SSC	100.0	-	-	10.0
	SSC	100.0	-	-	4.0
	HSC	100.0	-	-	2.0
	Graduation	100.0	-	-	3.0
	Masters	100.0	-	-	1.0
Total		96.0	3.0	1.0	100.0

(χ2=4.17, df= 16, p-value = 0.999, α= .05, t-value= 26.296)

not hear about climate change (3) or responded as they did not know about climate change (1), all of them are illiterate.

Statistical Interpretation:

Since the **p-value (0.999)** is **much greater than 0.05**, we **strongly fail to reject the null hypothesis**. That means there is **no statistically significant association** between **educational qualification** and **awareness of climate change** among the interlocutors in this data. So, irrespective of educational qualifications, the people of *Bayer Char* heard about climate change.

**4.2.1 Climatic Impacts Reported at National Level**

Figure-3 (Pie Chart) asserts that the climatic impacts the interlocutors heard mainly at national level are cyclone and damage of infrastructure (19.8%), water salinity and flood (13.5% each), sea level rise (11.5%), thunderstorm and drought (8.3% each), soil salinity, insect attack and declined plants and trees (7.3% each).   In multiple responses, cyclone and damage of infrastructure (84 and out of 594) and flood (72) are the climatic impacts the first and second highest number of interlocutors heard at national level (Figure-4). While in single response question, 11.5% (11)

Figure-3: Prime Impact of Climate Change interlocutors Heard at National level (in per cent)
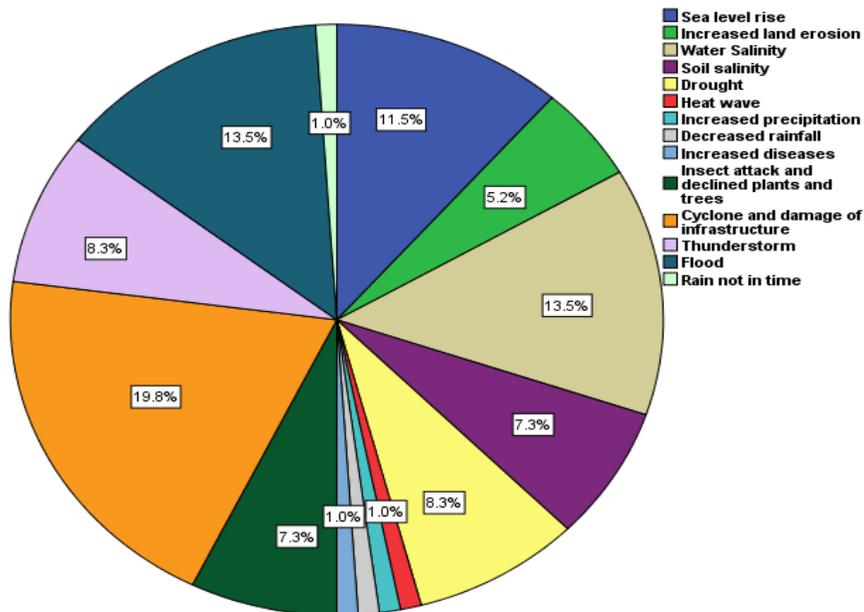
interlocutors mentioned sea level rise as the prime climatic impacts they heard at national level (Figure-3), in multiple responses question only 5.2% (31) interlocutors mentioned it (Figure-4). Where in single response heat wave, increased precipitation, decreased rainfall, increased diseases and rain not in time were mentioned by only 1.0% interlocutors each (Figure-3) in multiple responses these were mentioned by 3.5%, 4.9%, 4.4%, 3.5% and 4.0% respectively (Figure-4). In single response, no interlocutors mentioned hailstorm or increased hailstorm as the prime climatic impact they heard at national level (Figure-3) but in multiple response, increased hailstorm was mentioned by 3.4% interlocutors (Figure-4). Out of 594 interlocutors, 52 (8.8%), 67 (11.3%), 55 (9.3%), 41 (6.9%) and 43 (7.2%) interlocutors described increased land erosion, water salinity,

Figure-4: Different Climatic Impacts the Interlocutors Heard At National Level (in frequency of multiple responses)
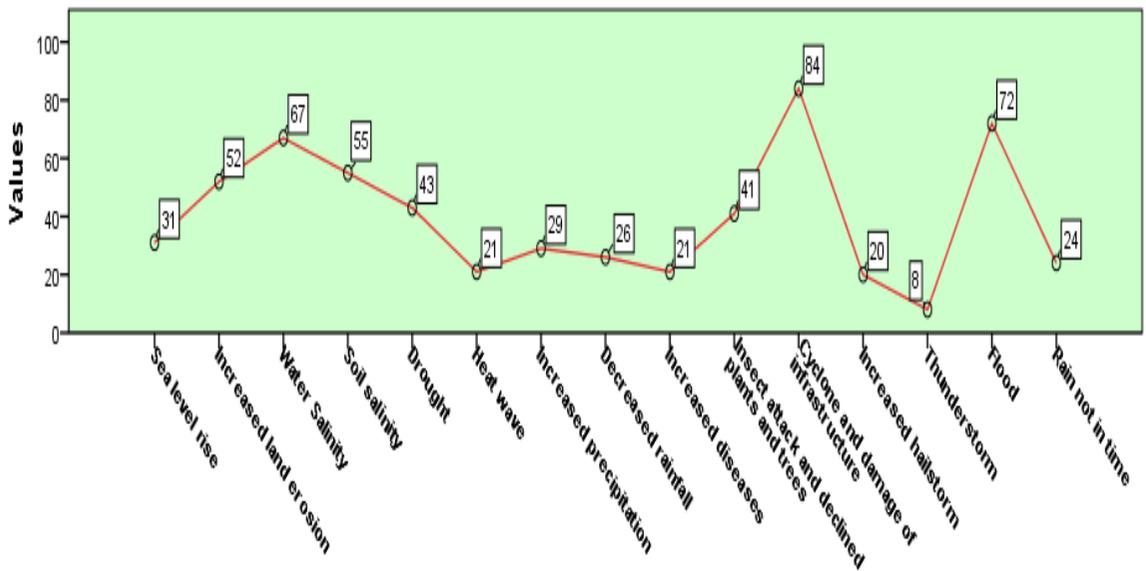

soil salinity, insect attack and declined plants and trees and drought respectively as the climate change induced hazards they heard at national level. While in single response, 8.3% (8 out of 96) mentioned thunderstorm as the prime hazard of climate change (Figure-3), in multiple response only 1.3% (8 out of 594) interlocutors mentioned it as the climatic hazard they heard at national level (Figure-4). These findings are supported by the report of World Bank (WB, 2024/2025).

**4.2.2 Sources of Knowing the Possible Impacts of Climate Change**

The highest number of interlocutors stated that they get climate information through private TV channels (38.5%, Figure-5) and they also like it as source (40.6%, Figure-6). Likewise, 14.6% interlocutors' source of climatic information is FM radios (Figure-5) and 17.7% interlocutors like it as source of information about climate change induced impacts (Figure-6).

Figure-5: Sources of Knowing the Possible Impacts of Climate Change (in per cent)
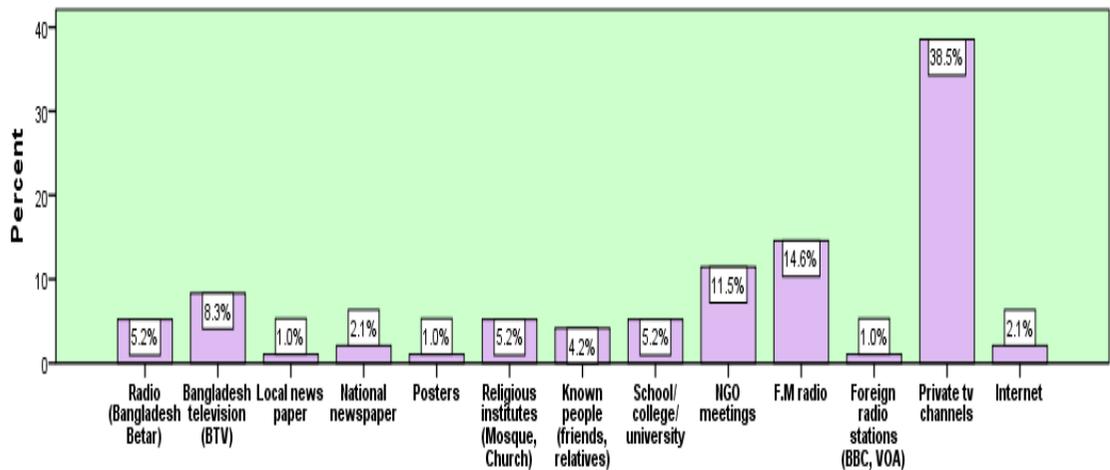
While no interlocutors mentioned Indian TV channels as a source of hearing about climate change and knowing the impacts of climate change (Figure-5), 10.4% (10 out of 96) interlocutors shared that they like or want Indian TV channels as a source of information about climate change and its impacts at national level (Figure-6). The cause behind it is described in the speech of Rahima Khatun, a 67-year old female, as she said, "***Beker age ora khobor ditare, hogol time a ogo kota mili ja"***- Before all, they (Indian TV channels) can deliver news (about climatic impacts and hazards), most of the time, their information matches the reality. On the other hand, 12.5% interlocutors like religious institutes (mosques, temples and church) as sources of getting information about climatic impacts at national level where only 5.2% interlocutors mentioned religious institutes as sources of climatic information. It alludes that the people of *Bayer Char* have an easy access to or reliability on Indian TV channels

Figure-6: Liking Sources of Interlocutors to Receive the Information about Impacts and Adaptation to Climate Change (in per cent)
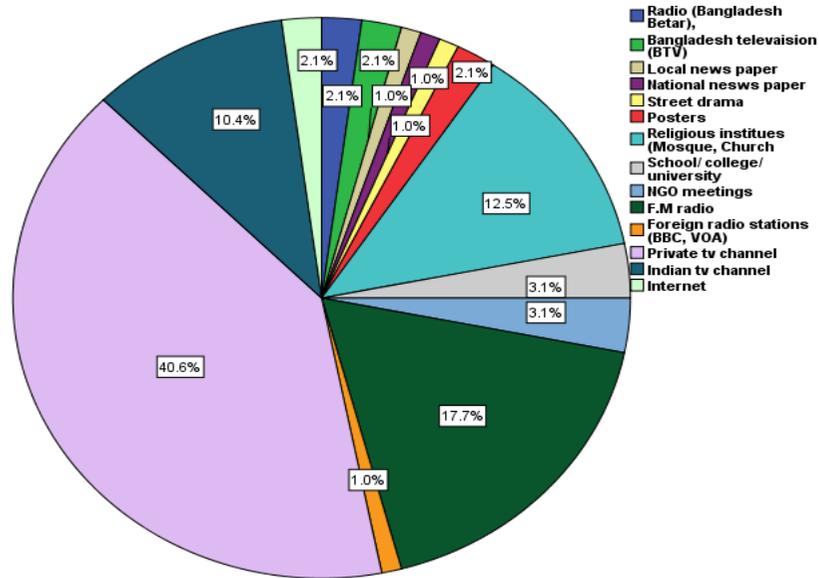
and religious institutes. Though 11.5% interlocutors mentioned NGO meetings as source of climatic information (Figure-5), only a narrow figure of interlocutors (3.1%) like it as source of climatic information (Figure-6). It indicates that the people of *Bayer Char* may have no easy access to or do not rely on information provided by NGOs. The speech of Ershad Mia, a 57-year old man, explains the context in this way: ***"Hego kotar biswas nai, ja koile hetago lab o, ta ko"*-** There is no belief in their speech, they say what benefits them. This result is endorsed by the findings of Sung (2020) as he explored that people generally get climatic information from private TV channels and FM radios and they like these sources as media of information regarding climatic hazards.

4.3 Local Experience of Climate Change Impacts

Around all the interlocutors (96.0%) were impacted or experienced by climate change impacts in their locality and Figure-7 points out that they experienced cyclone and damage of government and private infrastructure (24.0%, 84 out of 350 multiple responses), flood (20.6%, 72 out of 350 multiple responses), water salinity (67. 19.1%), soil salinity (55, 15.7%), increased land erosion (52, 14.9%). The climatic impacts on natural assets specially soil salinity, water salinity and tidal urge are described by Tojol Hoq, a 67-year-old man, as he said, ***"Eanne aisi aij honcis bosor oise, hans soi bosor dori nuna hani je dol maertese aida age ar deino, ki at mas, ki borsha, hotto mase hoir, gor, bai baggin tolai ja, sairdige nuna madi, nuna hani, gai-girusti oina bollei sole."*-** I have been here for 25 years, how tide of saline water has been surged for 5 to 6 years which did not notice before. Pond, homestead everything is inundated every month irrespective of summer and rainy seasons. Salty soil and salty water are everywhere. There is little production.

Increased land erosion, drought, insect attack and declined plants and trees and increased thunderstorm were stated by 6.0% interlocutors each as the climatic impacts they are experiencing

Figure-7: Climate Change Impacts Interlocutors Are Experiencing in *Bayer Char* (in frequency of multiple responses)
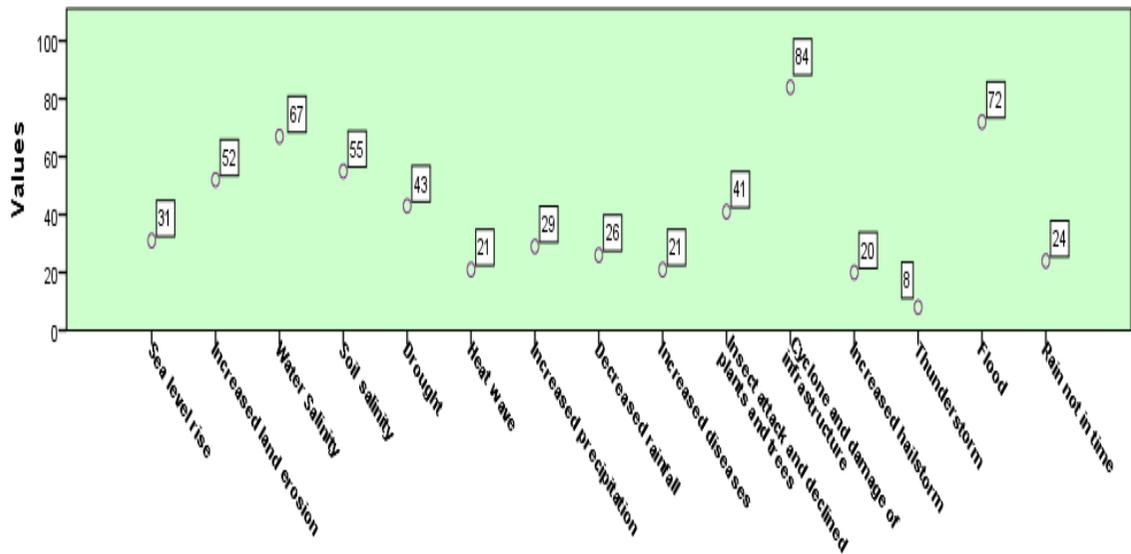
in their locality. Only a narrow figure of interlocutors mentioned sea level rise (4.3%, 15 out of 350) and increased hailstorm (3.4%, 12 out of 350) as the climate change impacts they are experiencing in *Bayer Char*. The findings regarding the climatic impacts on natural assets partially upholds the findings of Crate, S.A. (2011) as her study uncovered flood and precipitation, Islam, Shafie and Mahmood as they fished out heat waves, heavy rain, wildfire, droughts, melting of snow and ice and Alam, Rahman and Ahmed (2020) as their study explored sea level rise, intrusion of salinity, frequent and abrupt tidal surge, cyclone, water logging, infrastructural damages and internal displacements.

4.4 Most Affecting Climatic Hazards, Causes and Coping Mechanisms

Table-5 visualizes that climatic impacts experiencing interlocutors are affected most by cyclone (29 out of 96, 30.2%) in autumn (Bhadra- Ashwin, 51.7%) and summer (Baishakh-Jaishthya, 31.3%), by tide or tidal surge (16,7%) in autumn (37.5%) and late autumn (Kartik-Agrahayan, 31.3%), water salinity (15.6%) in autumn (46.7%, 7 out of 15) and late autumn (40.0%, 6 out of

Table-5: Most Affecting Hazards and When the Interlocutors Are Affected Most

	The Seasons When Affected Most	Total

		Summer (Baishakh-Jaishthya)	Rainy season (Ashar-Srabon)	Autumn (Bhadra-Ashwin)	Late autumn (Kartik-Augrahayan)	
Which CC Induced Natural Hazards Affect Them Most	Flood	2		2	3	7
	Cyclone	9	3	15	2	29
	Water Salinity	2	-	7	6	15
	Tide	4	1	6	5	16
	Drought	1	-	1	3	5
	Insect Attack on Crops	3	-	1	1	5
	Thunderstorm	-	-	1	2	3
	Hailstorm	-	-	3	-	3
	Soil Salinity	1	-	2	10	13
Total		22	4	38	32	96

($\chi 2$=36.646ª,   df= 24, p-value= 0.0475, α= .05, t-value= 36.415)

15), by soil salinity (13.5%) it in late autumn (76.9%), by flood (7.3%) in late autumn (42.9%, 3 out of 7), autumn (28.6%) and summer (28.6%) and by thunderstorm and hailstorm (3.2% each).

Since, the p-value of these data is less than 0.05, it parades that there is a statistically significant association between the types of climate change-induced natural hazards and the seasons when the interlocutors are affected most.

Table-6 reveals out that the prime cause of climate change is excessive use of fossil fuel as coal, oil, gas etc. As described by a significant number (65.6%, 63 out of 96) of climate change impacted interlocutors (96 out of 100) where 47.6% (30) are illiterate and 15.9% can sign only. This result is sanctioned by the findings of Bendell as he theorized that, in modern industrial societies, the fallout from Covid-19 feels like a dress rehearsal for the kind of collapse that climate change threatens (Saijel and Kishan, 2020).

  Other prime causes of climate change are deforestation (22.9%, their 54.6% are illiterate) and natural (8.3%, their 37.5% are illiterate and 37.5% are SSC passed or more that SSC). It is very inquisitive that though a negligible percentage of respondents (8.3%) mentioned God will as the

prime cause of climate change, 33.3% of them are HSC passed. Abdur Rab Mia, a 75-year old male, stated the causes of climate change as **"*Aije joarer dol, ban-boinnya, nuner hani, beggin ango haper hol*"-This tidal surge, floods, salt attack, everything is the consequence of our sins. To** rationalize his speech he added, **'*Ango hap ato bai gase hailai urper ola ango urpe bejar, heilai on aink gojob thada, jegin jibone o deino*"-** Our sins are so more that the entity staying up (the God) is dissatisfied with us. That's why now such hazards are sent that we did not notice in our life before.

Table-6: Causes of Climate Change Based on Educational Qualifications of Interlocutors

		Causes of Climate Change (in number)				
		Excessive use of fossil fuel	Deforestation	Will of God	Natural	Total
Educational Qualifications of Interlocutors	Illiterate	30	12	1	3	46
	Can sign Only	10	2	1	1	14
	Can Read Only	4	2	-	1	7
	Below Class 8	6	3	-	-	9
	Below SSC	8	2	-	-	10
	SSC	3	-		1	4
	HSC	-	-	1	1	2
	Graduation	2	-	-	1	3
	Masters	-	1	-	-	1
Total		63	22	3	8	96

($\chi 2$=34.263[a], df= 24, p-value= 0.0801, α= .05, t-value= 36.415)

The interlocutors who are illiterate (46), 65.2% (30) of them mentioned excessive use of fossil fuel, 26.1% (12) mentioned deforestation, only 2.17% (1) mentioned will of God and 6.5% mentioned natural phenomena as the causes of climate change. Here, statistical data intimate that around all the interlocutors rightly addressed the causes of climate change irrespective of their educational qualification.

4.5 Coping Mechanism with Climatic Impacts

All climate change impacted interlocutors (96) took coping mechanism with the impacts of climate change and the most used type of their coping mechanisms is taking shelter in cyclone

centre (25.0%) where 91.7% are male and only 8.3% are female (Table-7). Other most used types of mechanism with climate impacts are formation of temporary cluster house on embankment (22.9%), consuming seeds saved for next season (14.6%), eating one meal a day and taking food on credit from a local shop or use credit to purchase food (12.5% each), eating two meals a day and taking loan (5.2% each). It is negligible in percentage but inquiring that some people (2.1%) in coastal communities taking no meals a day as the most used coping mechanism to climatechange and all of them are males (2 out of 2). These findings are almost similar to the findings of Biswas and Khan (2003) and Biswas, et al. (2022) studies as they theorized that rural people create their own mechanism for coping with their vulnerability to climate change induced natural hazards. The findings are also permitted by the study of Adzawla, et al. (2019) as they

Table-7: Most Used Coping Mechanism of Interlocutors with Climate Change Impacts Based on Sex

|		Most Used Coping Mechanisms with Climate Change (in number)								Total
		Eat two meals a day	Eat one meal a day	Eat no meals in a day	Take food on credit from a local shop or use credit to purchase food	Consume seeds saved for next season	Take loan	Formation of temporary cluster house on embankment	Take shelter in cyclone centre	
Sex of Interlocutors	Male	5	6	2	8	12	4	15	22	74
	Female	-	6		4	2	1	6	2	21
	Third Sex	-	-	-	-	-	-	1	-	1
Total		5	12	2	12	14	5	22	24	96

(χ2= 15.453ª, df= 14, p-value= 0.348, α= .05, t-value= 23.685)

carried out their study in South Tongu (a coastal district) and Zabzugu districts of the Volta and Northern regions of Ghana respectively and explored that climate impacts on the livelihoods of females are severer than those of males and the climate adaptation strategies are mostly adopted by both males and females but the adaptive capacity of males was found to be higher than those of females. Here, some different coping mechanisms are noticed because coping mechanisms and adjustments differ from region to region and local solutions are explored to the recurrent problems of climatic variability. Looking on the statistical data, it is noticed that, there is no significant association between sex of interlocutors and their mode of adopting coping mechanisms.

In Figure-8, it was informed that the highest number of interlocutors (21.5%) plant trees around the house as a major adaptation strategy to climatic impacts (specially cyclone) on physical assets while the lowest number of interlocutors (6.5%, 6) take loan as a major adaptation strategy. This finding is visualized by Wood (2005/2001) who theorized that poor coastal people are able to call upon the support of patrons, neighbors and kin by process; personalized networks become institutionalized into a framework of informal security.

Besides, the second highest and third highest number of interlocutors make the foundation of dwelling house high and use iron or brick pillar in house respectively as two major adaptation strategies to climate change induced hazards, the percentages of both categories are 20.4 and 18.3 respectively. It is very unprecedented that, 17.2% respondents said as major adaptation strategies

Figure-8: Major Strategy the Interlocutors Use as Adaptation to Climatic Impacts on Physical Assets of Livelihoods (in per cent)
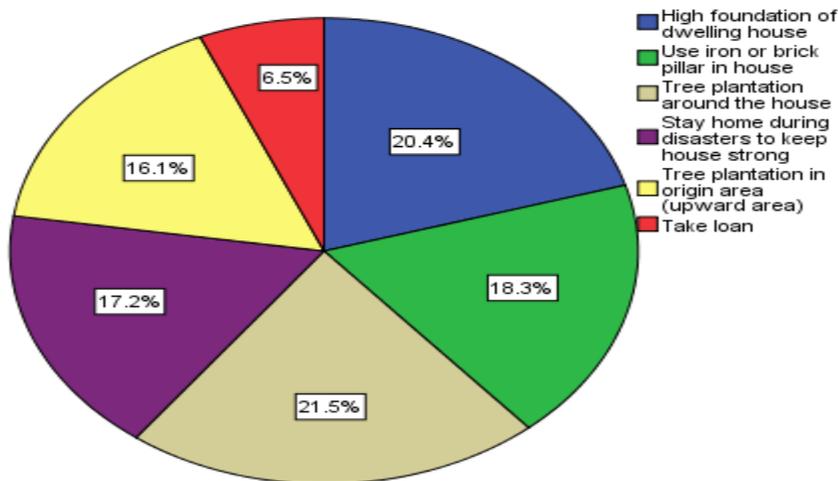
to climate change induced impacts (specially cyclone) on physical assets of livelihoods, they stay home during climatic disasters to keep house strong instead of going to cyclone shelter leaving their home.

4.6 New Findings: Staying Home to Help and Strengthen Houses

Explaining the data presented in Figure-8, it is investigated that an interesting and important finding was explored in this study that 16.1% interlocutors stated as adaptation to climatic impacts on their physical assets of livelihoods specially as adaptation to the impacts of cyclone on their houses they stay their own home during disasters to keep house strong i.e., they figure out, if they leave home and stay outside the home (cyclone shelter or any safe places) their houses become too weak to face cyclone and the houses become destroyed. They believe, if the owners of the houses stay within the houses the houses get strength from its owners or residents to fight against natural hazards or disasters specially cyclone successfully. So, they stay home to help and strengthen their houses to fight against cyclone or any other climatic impacts on houses-

their beloved physical assets.

Conclusion

About all the people of *Bayer Char* coastal community heard about climate change. Cyclone and damage of infrastructure is the prime one of the impacts of climate change the people of *Bayer Char* heard at national level and other prime climatic impacts they heard at national level are water salinity, flood, sea level rise, thunderstorm and drought, soil salinity, insect attack and declined plants and trees, increased land erosion, increased precipitation, decreased rainfall, increased diseases and rain not in time.

In *Bayer Char* community, the people's prime source of knowing the possible impacts of climate change is private TV channels and they like it most as source. Some interlocutors like Indian TV channels as source of information about climatic hazards and impacts but none of them mentioned Indian TV channels as a source of hearing. Most of the people mentioned NGO meetings as source of climatic information, but very few of them like it as source of climatic information because the people of *Bayer Char* do not rely on information provided by NGOs.
People of *Bayer Char* coastal community are experiencing climatic impacts in their locality. The climatic impacts they experience most in *Bayer Char* are cyclone and damages of government and private infrastructure, soil salinity, water salinity, tidal surge, increased land erosion, drought, insect attack and declined plants and trees, increased thunderstorm, sea level rise and increased hailstorm.

According to them, the main causes of climate change are the excessive use of fossil fuel (coal, oil, gas etc) and deforestation. Though they are poor and illiterate they were able to address the causes of climate change rightly because they get climatic information over many media as stated earlier. Though it is very negligible, some of the interlocutors stated the causes of climate change as will of God and natural phenomenon that have been attacked them for their sins.

Cyclone, tidal surge, water salinity and soil salinity are the most devastating climate change induced hazards that affect the life and livelihoods of *Bayer Char* coastal people most in autumn (Bhadra- Ashwin), late autumn (Kartik-Augrahayan), and summer (Baishakh-Jaishthya) seasons. Most of the people of *Bayer Char* community mentioned that as a climatic hazard, cyclone affects their life and livelihoods most and its severity and frequency are acutest in autumn (Bhadra- Ashwin). Other climatic hazards that affect their life and livelihoods are flood, drought, insect attack on crops, thunderstorm and hailstorm.

They took coping mechanisms with the impacts of these climate change induced hazards and in this context their most used coping mechanisms include taking shelter in cyclone centre, formation of temporary cluster house on embankment, consuming seeds saved for next season, eating one meal a day, taking food on credit from a local shop or use credit to purchase food.

Basically for the highly dynamic cultural, physical and socio-economic conditions characterizing the coastal char and coastal communities of Bangladesh, the coastal-char communities like *Bayer Char* coastal community have not been in the focus of development policies, programs and efforts of the public or the private agencies of the country. They remained as the poorest of the poor in Bangladesh.

Since the climatic impacts on coastal-char people's livelihoods are very difficult to control through structural measures, management intervention should aim at policies and administrative improvements incorporating the coastal community in the mainstream development so that these poor coastal people can more successfully cope with the upcoming more critical and vulnerable situation of climate change and Sustainable Development Goals (SDGs) in Bangladesh as well as in the world will be ensured.

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