

## **Climate Change and Unsustainability of Material Life of Char People in Bangladesh**

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**Abstract :** Climate change has a devastating impact on the material life of Bayer Char people of Bangladesh as they live near the river. Due to climate change, the severity and frequency of natural disasters like cyclones and floods are increasing day by day, taste and size of food are changing and production is decreasing. There is a relationship between their landlessness and climate change. They are the innocent victims of this man-made ugly curse. They are deprived of food, education and basic health services. Most of the time they do not get the early warning of natural disasters. After disaster they need most food and capital to meet their basic needs and to manage it they need institutional support of government but they are deprived of that and local NGOs capitalize their vulnerability of livelihoods by engaging them in a vicious cycle of conditional loan. Climate change causes the unsustainability of their material life or economic subsistence activities.

**Keywords:** Climate Change, Material Life, Livelihoods, Income Poverty, Disaster, Unsustainability

### **Introduction**

Approximately 10 million people live in close proximity to the three prime rivers of Bangladesh as the Padma, the Meghna and the Jamuna.<sup>1</sup> And about 17,506 people live in Bayer Char, an agro ecosystem under Lakshmipur district.<sup>2,3</sup> Though CDSP and five local NGOs including Upama, N-RAS-under BRAC have been working for seventeen years for the social and infrastructural development of the inhabitants, almost all the development ventures could not create any permanent positive impact on the life pattern of the population in Bayer Char.<sup>4,5</sup> Life is still very uncertain, and often they fell prey of power conflicts between the 'Jotdars', food shortage, ill health, severe economic crisis and so on.<sup>6,7</sup> This has made the life and living of the population in this char constantly more challenging than any other chars of the country.<sup>8,9</sup> Inhabitants of the Bayer char are marginal and destitute people, who could be categorized as the poorest of the poor living in the country.<sup>10,11</sup> It should be kept in mind that for a sustainable development, every citizen must have access to resources to meet their basic needs without violating ecosystem quality.<sup>12,13</sup> So, to ensure the

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right of secure livelihoods of this deprived people it is essential to study and explore the existing impact of climate change on their material life so that government and national and international NGOs could take an appropriate plan and strategy to incorporate them actively in mainstream development activities to materialize sustainable development.<sup>14,15</sup>

### **Objectives of the Study**

The objective of the study was to explore the impact of climate change on the material life of char people, to examine whether their material life is sustainable or not and to assess their coping strategies to climate change.

### **Methodology of the Study**

In this study the method was quantitative and to collect data survey technique was followed. An interview schedule was used and both structured and unstructured questions were incorporated in the interview schedule. The people of Bayer Char, a riverine char located in the coastal district of Lakshmipur, in Bangladesh, were the population of my study. Heads of the households were the respondents of the study. The households of the study area were the unit of analysis of this study. From 479 households, 160 households were selected using the technique of systematic sampling.

### **Results of the Study**

#### **Demographic Characteristics of Respondents:**

In this study, a significant number (101, 63.1%) of respondents are illiterate and 23.8% (38) can sign only. The primary and secondary passed respondents are only 16 (10.0 %) and 5 (3.1%) respectively. A significant number of respondents (70.0%) are male where only 30.0% (48) are female. From age aspect, a notable number (45.0%) of respondents fall between 20 and 40 ages and a nominal figure (5.0%) fall at 80 age or above. In religious perspective, 96.9% respondents are Muslim and Hindus are only 3.1%. . From marital aspect, most of the respondents (80.6%) are married where only 4.4% respondents are unmarried.

#### **Climate Change and Its Impact on Production:**

Being asked whether climate change has any impact on their production reduction, about total respondents replied positively; of them 12.0% respondents informed that it causes floods/tides; 39.59% respondents mentioned that it causes more tornados/cyclones and 35.72% mentioned the decreasing production as the consequence of climate change; 8.0% respondents said that it causes changing taste of foods and 4.69% mentioned

it causes distorted size of fruits and trees. It indicates that though most of the respondents are illiterate they have local knowledge and experience. It also implies the devastating impact of climate change. Only 5.0% respondents said there is no relation between climate change and production.

### **Landlessness and climate change**

When the respondents were asked if there is any relation between landlessness and climate change, in spite of their illiteracy, 144 respondents (90%) out of the total

Table-1: Relation between Landlessness and Climate Change

		Relation to climate change		Total
		Yes	no	
Pattern of land ownership	Landless	80	16	96
	Marginal	32	0	32
	Small	14	0	14
	Medium	10	0	10
	Large	8	0	8
Total		144	16	160

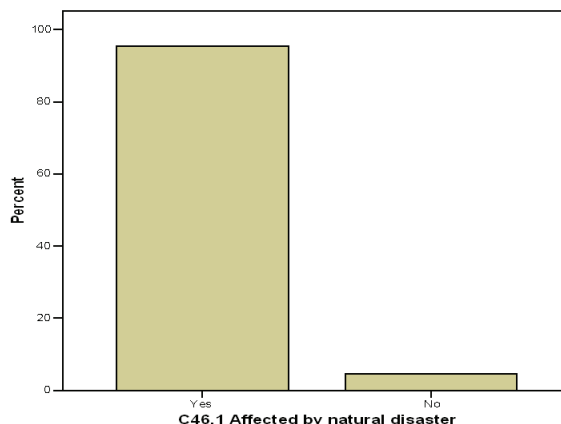
stated positively and of them 80 (55.6%) are landless. They said it from their practical experiences (Table-1).

### **Disaster and Coping Strategies**

In response to the question whether they were affected by disaster, out of the total respondents, 96.25% responded positively as they are the inhabitants of a new char that is very near to river. And only 3.75% responded negatively. The cause of their negative response may be they are new immigrants in this char. Of them, 40.0% respondents affected by natural, 40.0% by manmade and 20.0% by both disasters. When all the respondents were asked what are the causes of manmade disaster, 55.0% (88) of them informed that land is the main cause of manmade disaster.

When the respondents who were affected by disaster (96.25%) were asked whether they affected by any kind of natural disaster, 147 (95.5%) of them replied positively. They are the 91.88% of total respondents.

Graph-1: % Affected by Natural Disasters



Source: Compiled by the Researcher Based on Primary data

Out of the disaster affected respondents, only 5.5% are not affected by natural disasters who are the 4.38% of total respondents (graph-1)

Table-2 shows that natural disaster affected respondents (147) were asked whether they get early warning, only 21.8% respondents informed positively. Of them, 15% (24) of them got the warning by radio and they are the highest percent of respondents who got warning. Only 9.4% (15) got

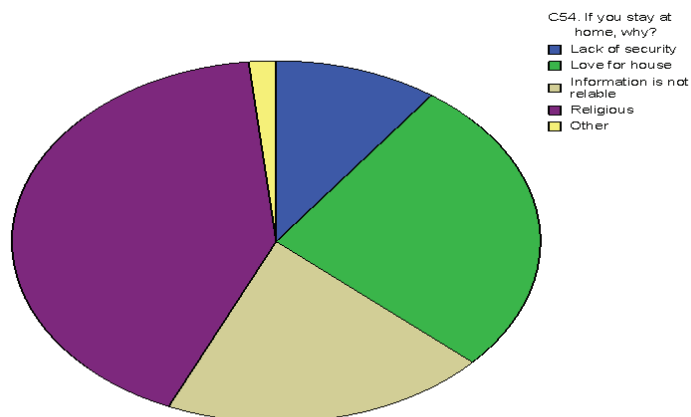
Table-2: Getting Early Warning and the Places of Taking Shelter during Natural Disaster

		Places of taking shelter			Total
		Stay at home	Cyclone center	Relatives house	
Got early warning	Yes	8	21	3	32
	No	112	0	0	112
	Some times	0	0	3	3
Total		120	21	6	147

Source: Compiled by the Researcher Based on Primary data

the warning by miking and they are the 9.38% of the total respondents. 2.0% of the total respondents said some time they got warning some time did not get. Though it is believed that the people who live in the bank of river, most of them get the warning of natural disaster by miking of Red Crescent in Bangladesh, it is not true in case of this char people. Graph-2 describes that

Graph-2: Reasons of Staying at Home during Disaster



75.0% people stay at home during disaster because of lack of security (7.5%), love for house (26.7%).lack of reliability of information (20.0%) and religiosity (41.7%).

In response to the question whether they need any help to overcome the disaster, 94.14% of disaster affected respondents replied positively. When the respondents, who got help (11) during disaster, were asked who help them during this crisis, 81.8% of them informed that not GOs or NGOs but other people help them in this crises. These helpers are their relatives. When the respondents who got help (11) were asked whether the support is sufficient or not, 72.7% (8), of them, replied negatively and 27.3% respondents asserted that the help they get is sufficient.

### Educational Qualification & Coping Strategy during Disasters:

When all the respondents were asked where they take shelter during natural disaster, 91 respondents (75%) out of 101 illiterate respondents responded that they take shelter at house during disaster & only 9 respondents said that they take shelter in cyclone shelter in this category. The total number of respondents who stay home during disaster are 121 (75.6%) and only 31 respondents (19.4%) take shelter in cyclone shelter out of the total respondents.

Table 3: Educational &amp; Place of Shelter during Disasters

		Place of Shelter			Total
		stay at house	cyclone shelter	other	
Educational Qualification	illiterate	91	9	1	101
	can sign only	26	5	7	38
	primary	3	13	0	16
	SSC	1	4	0	5
Total		121	31	8	160

Source: Compiled by the Researcher Based on Primary data

Out of the total respondents who take shelter in cyclone shelter, 41.9% are primary passed and out of the total SSC passed respondents (5), 75.0% take shelter in cyclone shelter during disaster (Table-2). It implies that the more people are educated, the more they are conscious. It is applicable in char people also. When the respondents who stay at house during disaster were asked why they do not go to cyclone shelter, they stated the cause as religiosity (41.7%), lack of reliability of information (20.0%), love of house (26.7%) and lack of security (7.5%).

### **Prime Needs after Disaster**

A significant number of respondents (64) informed that after disaster they need food and rice is the staple food here like any other places of Bangladesh, the percentage of them is 41.6% out of the disaster affected respondents and 40.0% out of the total respondents. Of them 64.6% respondents' most need after disaster is food. Out of the disaster affected respondents, 39.0% asserted that after disaster they need most capital and 13.0% said seed.

Out of the respondents, who said they need capital most, 56.7% (34) managed it by taking loan from NGOs and only 43.3% (26) managed by savings. We know seed and food are related to capital. Without these three a person's livelihood cannot be imagined but to manage it they have to take loan and engage in vicious cycle of loan. Only 3.2% of them informed that after disaster, they need most fuel. The cause of small size of this category is that most of the char people have livestock besides human beings cannot survive for a day without food.

### **Disaster and Gender**

In response to the question to all respondents in this matter that who are the vulnerable to disaster, 67.5% (104) of them expressed their opinion that females are the most vulnerable but 81.7% of them give the boys more importance than girls. 59.7% of the total respondents give the boys more importance than girls during disaster but 92.4% of them asserted that females are the more vulnerable during disasters. The cause of it is poverty and illiteracy religious superstition.

### **Health, Hazards and Vulnerability of Char Life**

In response to the question what diseases are broken out in this char, a significant number of respondents, out of the total, replied diarrhoea; of them 72.5% (58) informed that they were affected by diarrhea. Second highest number of respondents said that fever is frequently broken out here; of them,

75.0% (36) asserted that they were affected by it. Out of all respondents, 73.8% affected by diseases because of lack of safe drinking and cooking water, lack of quality food, and poverty. Only 26.3% (42) of total respondents said they were not affected by diseases, the cause of it is they are new comer in this char. When the diseases affected respondents were asked whether they took medicine, 78.5% (92) respondents informed that they did not take any kind of medicine and they are the 57.0% of the total respondents. Only 16.3% (26) of the affected respondents said that they took medicine. The cause of their not taking medicine is that they are living in a char which is a remote area from the main land; so they are deprived from medical facilities

Being asked what the types of their medicine are, a significant number of medicine taken respondents (84.7%) responded that they took traditional medicine i.e., Jad, fuk the juice of trees etc as these are available in this char; of them, the highest number of respondents are Primary passed and 27.8% are illiterate. Only 15.4% asserted that they took modern medicine and they are the only 2.5% of the total respondents. They are rich men and they have to expend a lot of taka to manage it.

### Health Service System and Vulnerability of Char Life

When the total respondents were asked whether there is any qualified physician in this char, about all of the respondents (88.1%) replied negatively; of them a significant number of respondents (97.2%) inform that they did not hear about HIV/AIDS and only 2.5% said they heard about HIV/AIDS. Out of the total number of respondents, only 5.6% said they heard about HIV/AIDS and of them, 55.6% said there is qualified physician in this char and 44.4% said there is no qualified physician in this char. 94.4% of the total respondents replied that they did not hear about HIV/AIDS; of them, 90.2% said there is no qualified physician in this char. 8.8% of the total respondents.

Out of the total respondents, 91.9% respondents informed that they do not get proper health services; of them 59.9% are landless who are the 91.7% of total landless respondents.

**Table 4: Land Ownership and Proper Health Service**

		Getting proper health service		Total
		Yes	No	
Ownership of land	Landless	8	88	96
	Marginal	4	28	32
	Small	0	14	14
	Medium	1	9	10
	Large	0	8	8
Total		13	147	160

Source: Compiled by the Researcher Based on Primary data



Only 8.1% of the total respondents 8.3% of landless and 12.5% of marginal land owner respondents said they get proper health services. It indicates that the landless poor char people are deprived from proper health services. The total number of large land owner respondents also said they do not get proper health services. It proves that in spite of having been money, char people are deprived from expected health services (Table-4).

In response to this question whether they practice family planning or not, out of all the married respondents, only 5.9% replied positively and a significant number of respondents replied negatively; of them, 50.4% said do not use it because of unavailability and 28.7% responded that they do not use it because of religious prohibition. It indicates that they are deprived from modern family planning devices and they practices religion strictly. That is why while the fertility rate in the country is 2.05, in char it is more than 6.

### **Family Size, Income Poverty & unsustainability of Livelihoods**

All the respondents were asked how many members in his/ her family are related to income except him/ her, in response to this question 95 (59.38%) out of the total respondents replied that there is no member related to income in their family and of them 35.80% are the heads of those families which have more than 6 members and 26.0% are of 6 member- family households. 41 respondents said in their family income related member is one. It is evident that one the one hand most of the families (35.0%) have more than 6 members; on the other hand most of families (59.38%) are run by income of only one earner. In response to the question how much their daily income is, 48.75% respondents, out of the total, mentioned that their daily income is less than 100 taka and most of them (44.65%) daily per capita expenditure is between 20 and 40, of them 38.46% respondents' daily income is less than 50 taka. It indicates their income poverty.

### **Vulnerability of Material Life**

When support needy respondents were wanted to inform whether they get any support according to their need, only 23.70% (32) replied positively and they are the 20% of the total respondents. A significant number (76.30%) of them replied negatively. They are the 64.37% of total respondents. When those respondents who got support were asked about the nature and source of support, a significant number 25 (78.13) of them informed that the nature of support is conditional (22) and of them 53.13 % (17) got the support from NGO and 32% got from government agencies. Who got the support from other sources such as relatives; friends etc., all of them asserted that they got the support without condition. Here one thing is very significant that a small number of people of extremely poor people of this char get support from



government and NGO; and the support of both is not supportive but conditional. In this case though most of the support receivers got support from NGOs, all of their supports are conditional.

### **Capitalization of Vulnerability**

When total respondents were asked how NGOs allocate loan, a significant number of total respondents expressed that NGOs allocate loan in weekly condition and of them, 75% respondents informed that the interest of NGOs' loan is between 15% and 30% and in this category, 33.3% respondents said interest is 25% to 30%. 4.4% (7) out of the total respondents said that the interest is more than 30%. Second highest of the respondents (25.0%) informed that NGOs allocate loan in monthly condition. When the NGOs' loan takers were asked whether NGOs exploit them by this loan, 95.0% of them said positively and only 5.0% said negatively. Those who said yes, were asked how the NGOs exploit them, in response to this question 62.6% expressed their ideas as saying high interest, 27.0% said vicious circle of loan i.e., they have to pay their loan by taking loan again. 10.4% of them mentioned another process of exploitation that may be mental and social oppression to pay loan, the collateral condition etc.

### **Unsustainability of Material Life**

In response to the lead question whether their livelihood is sustainable or not, about total number of respondents (148) replied negatively. The percentage of them is 92.5 and of them 96.6% (143) respondents think that their coping mechanism is not sustainable they are the 89.4% out of the total respondents and 100% of those respondents who said their coping mechanism with poverty is not sustainable. 10.6% (17) respondents think that their coping mechanism is sustainable but of them 29.4% (5) replied their material is not sustainable and 70.6% replied as sustainable. From this result it was also proved that coping mechanism is one aspect of material life and that is why coping mechanism' sustainability does not indicate to material life or livelihood sustainability completely but partially.

### **Conclusion**

Sustainability of material life depends on the quality and quantity of food consumption. The data present that the prime indicator of sustainable livelihood is the food security which a household can provide. The respondents have categorized themselves as anath garib (helpless poor). They are characterized as having no material assets. They usually face scarcity of food (41.6%). Climate change has a devastating impact on their material life

(95.0%) as they are the inhabitants of a new char that is very near the river. The frequency of cyclone is increasing day by day for climate change (35.0%) and production is reducing (25.0%). They do not get the early warning of natural disasters and they stay at home during disaster because of lack of security (7.5%), love for house (26.7%).lack of reliability of information (20.0%) and religiosity (41.7%). They cannot fulfill the basic needs of the members of their family. There is a strong relationship between their landlessness and climate change. Though to cope with livelihood vulnerability caused by climate change, about all char people have to manage a secondary income sources as work in other's land (20.0%), rice production by non farmers (20.0% and taking livestock (30.0%), there are the poorest of the poor. Climate change causes their material life very much unsustainable and NGOs capitalized this unsustainability of material life in absence of government support. Climate change is going on by the impact of excessive capitalization and in future the life and livelihood of the char people of Bangladesh will be more unsustainable and vulnerable. It may have a devastating impact on their socio-cultural relations. To ensure a true human society every citizen must have opportunity and access to information and resources to meet their basic material needs without violating environmental and ecological quality and in this aspect the marginal and destitute char people of Bangladesh should be prioritized in including mainstream development policies and programs. Otherwise, achieving Sustainable Development Goals (SDGs) will be impossible.

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