

# DISASTER, FLOOD AND ETHNOGRAPHY: THE DIMENSIONS FROM RURAL WEST BENGAL

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## Abstract

The present ethnographic account tries to explore the dimensions of vulnerability, the crises and response of human actors, the role of different institutions, the issues of resilience and the perception of loss, and above all the politicization to the issues of relief and wellbeing for better policy and actions centering 'flood' and its disastrous impacts in the local living. Perceiving 'disasters' as socially constructed phenomena, the stand of the current research is to explain the multiple facets of vulnerability, livelihood, and resilience issues in two rural settlements of the state of West Bengal, India.

**Keywords** *Flood, Disaster, Resilience, Vulnerabilities, Politics, Ethnography*

## Introduction

The studies on disasters are not at all an exclusive study on natural 'hazards'-like flood, famine and earthquake (Quarantelli, 2005). Disasters are seen as a process or an event that combines the potentiality of disruption/destruction of natural agent(s) and a population in socially or technologically generated conditions of vulnerability (Oliver-Smith, 1996; Oliver-Smith and Hoffman, 2002).

This view opens two significant ways to understand disasters-(a) to understand the natural agent(s) and its potential to create disruption, and (b) to explore the human conditions with its social and technological vulnerabilities (Bankoff, 2007). Framing disasters from the perspectives of target agents is popular in geography and other geo-physical sciences, whereas the view from social science perspectives (specially in sociology and anthropology) indicates-the meaning of disasters are socially constructed and can be best understood in reference to its social, economic and political contexts (Mercer, Kelman, Lloyd and Pearson, 2008; Perry, 2007; Vayda and McKay, 1975; Torry, 1979; Quarantelli, 2005).

Anthropological studies on disasters were initiated in almost 1950s (Drabek, 1986). The discipline possesses a long tradition of studying the adaptive strategies of the societies in stressful and hazardous environments (Torry, 1979), traditionally known as 'Anthropology of Suffering' (Davis, 1992). The source of hazard(s) is not necessarily present in the natural environment; rather they are controlled by the social, economic and political forces to a given context (Vayda and McKay, 1975).

The studies on adaptive strategies lead the question of adaptation to hazard and disasters is paralleled by a similar concern about the long term sustainability of resource(s) use along with present levels of environmental degradation and pollution (smith, 1999). However, the studies on adaptive strategies guided a new pathway to anthropological research regarding

disaster. The new trend showed that any disaster involves loss of property and means of livelihood, calls for a change in the modes of subsistence and the social organization that regulates them (Firth, 1959). The era reflects an idea that disaster as a social phenomenon disrupts and constitutes cultural meaning(s) to a given cultural milieu. The transformation of cultural meaning(s) due to disaster as a central meaning shifted the focus of contemporary anthropological research to the study of the crisis and everyday life (Winchester, 1981).

Individual's social position and response are taken into account as the unit of study of disasters like wars and famine (Moser, 1989). The contemporary disaster researches in anthropology focuses on the concept of vulnerability in terms of the social, economic and political conditions which differently affects individuals and groups, as well as the overall capacity of the community to absorb shock and recover (O'Keefe, Westgate and Wisner, 1976). From the mentioned context, it is clear that the 'shock' related to a disaster and its system of recovery, needs an interdisciplinary attention. There have been many research efforts of using social psychological theories to unify and expand current conceptions of access in ethnographic research-the process by which researchers gather data via interpersonal relationships with participants/informants (Harrington, 2003).

A number of researchers have begun to recognize the increasing importance of broader anthropological and social psychological issues in the study of humans in extreme environments (Johnson and Finney, 1986; Harrison and Connors, 1984; Pierce 1985). In addition, the social- psychological issues of reactions and negative emotional experiences (like- fear, anxiety, anger, impatience, irritability, grief, shame, guilt, stress, and trauma) to disasters and mechanisms of resilience may be an effective means for contemporary anthropological researches, theory building and policy making on well-being.

### **Present Ethnography: Contexts, Dimensions, and the Objectives of the study**

The state of West Bengal of Indian subcontinent has not been an exception of sufferings inflicted by disasters and has been frequented by cyclones, floods, droughts, landslide, subsidence and occasional earthquakes (Nath, Roy and Thingbaijam, 2008), the present researcher purposively selects the state of West Bengal for conducting the study on the dimensions of disaster. Conceptualized 'flood' as a natural agent with its destructive potential and power over the human agencies and their livelihood.

The focus is not the 'flood' and its 'nature of destruction', rather the research are inclined to reflect the dimensions of vulnerability, the crises and response of human actors, the role of different institutions, the issues of resilience and the perception of loss, and above all the politicization to the issues of relief and wellbeing for better policy and actions. Perceiving 'disasters' as socially constructed phenomena, the stand of the current research is to explain the multiple facets of vulnerability, livelihood, and resilience issues in two rural settlements of the state of West Bengal, India. To explore the gaze of the vulnerabilities and resilience due to flood the entire research is alienated into the following heads of the objectives.

## The Objectives

- 1) To explore the nature, sources and interpretation of emotional experiences centering a disaster in certain local people and its impact on their cultural survival, social interactions and issues of wellbeing.
- 2) To understand the perception of the concerned local people to a disaster that acts as a significant denominator to the mentioned categories.
- 3) To observe the mechanism of resilience, through which people perceive, create and categorize the meaning(s) to cope up a disaster and tries to reorient them in a changing circumstances in post-disaster situations.

## Research Design and the Methodology

The present effort is grounded by the ethnographic approach and methods, which become the principal pathway for collecting, sorting and interpreting data and which an ethnographer senses to be applicable as the exploration progresses (Murchison, 2010). The theories mentioned above were not pre-supposed, rather they appear as modes of observation and interpretation as the research gradually developed and multiple channels and roots were coming up.

The entire research design if we briefly focus is framed into four situations i.e. the *pre-hazard conditions and warning systems*, the *process of preparation*, the *situations on the time of impact of hazards and people's vulnerabilities led disaster*, and the *post-disaster situations*.

These four situations has been captured by following ways-

### a) The Area under Study

The present researcher purposively selects the state of West Bengal for conducting the study on the dimensions of disaster. Perceiving 'disasters' as socially constructed phenomena, the stand of the current research is to explain the multiple facets of vulnerability, livelihood, and resilience issues in two rural settlements of the state. The first one is 'Sukhchandrapur' of Ghatal Block, of Paschim Medinipur District of West Bengal is a closed area by the river Silabati, old Kangsabati and Dwarakeswar including Jhumi one of the distributaries of Dwarakeswar River those are non perennial in character. The major factors of the flood of this area are- intense storm precipitation, high antecedent basin, soil moisture, rainfall over areas, and occurrences to medium and major storms in quick succession, failure of dams resulting in a very rapid release of large quantities of water and water-blocked by heavy rainfall, poor drainage and sewage system and a long term water stagnation over the area.

The second is a coastal rural settlement, namely- 'Durgagobinapur' of Patharpratima Block of Sunderban, South 24 Parganas District of West Bengal affected by 'coastal flood' with river's tidal effects. Patharpratima block is situated in the southern part of South 24 Parganas district. It is bounded by Thakuran River in the east, Kakdwip and Namkhana blocks on the west, Mathurapur 1 and 2 blocks on its north and Bay of Bengal in the South.

### b) Sampling

The present ethnographic account is based on two sampling methods as the source for collecting data that is very contextual to meet the objectives of the research successfully i.e. purposive sampling and Snow-ball sampling method. Thirty (30) individuals from each settlement were selected for data collection with their verbal consent.

### c) *The Techniques of Data Collection*

The study uses semi-structured interviews, in-depth case studies, observations (direct and indirect), and Life-history, and photography as the principal ways for collecting data. To understand the historicity of the settlement and other contextual issues secondary data sources have been used in this study that is mentioned in the section of reference.

### d) *The Transcription, Categorization of Themes, and Interpretation of the Findings*

After collecting the rich data set, it has been transcribed verbatim to get a deep insight of the issues concerned. The transcribed data led to emerge themes and sub-themes that are contextual to the objectives of the research. The interpretation of the data has been done by using narrative data analysis method.

### e) *The Ethical Issues and Consent*

To get empirical and emphatic data, more and more interactions are needed with the participants that would also help to go through the 'insiders' perspectives. To reflect the sensitivity and protect the privacy of the concerned participants of this research the names have been changed as their direct opinion has been quoted in this publication to sense the deeper reality. The author has always been concerned to the consent of the participants to discuss and explain the concerned issues of the entire research. Verbal consent has been taken into account to record their versions of crises, and livelihood in the face of disasters.

## **The Findings**

In this section the findings are represented under some themes and sub-themes for two rural settlements under study and are highlighted contrastingly as the nature of flood, vulnerabilities and other contextual issues that are unique in nature that are as follows-

## **SETTLEMENT-I**

### **A. Self-Perceived Vulnerability to Floods**

According to smallholder farmers who live in flood prone areas, their perspective of the floods is influenced by the location where they live, their personal interaction with the floods, age, the timing and severity of the floods, and loss of life. The next sections expand on these factors to present an understanding of how they influence self-perceived vulnerability to floods in the flood prone areas.

#### *1. Self-Perceived Vulnerability to Floods by Location*

Some smallholder farmers derived their self-perceived vulnerability based on the location where they live, which they referred to at different scales, from the district level to village level. During focus group discussions, some of the indicators of vulnerability that were mentioned included the extent of damage caused by the floods are exposed due to the location. Settling in flood prone areas, changes in land use is one of the major factors that have caused global vulnerability to floods.

#### *2. Self-Perceived Vulnerability based on Personal Experience of Interactions with floods*

The findings illustrate the way that smallholder farmers have personally experienced floods, in terms of the actual suffering and number of times they have experienced severe floods, have also contributed to the way smallholder farmers perceive their vulnerability. Personal experience of floods influences the way the affected people perceive their personal vulnerability and risk to floods, in addition to their perceptions to climate change and the way they respond to floods.

### 3. *Self-Perceived Vulnerability based on severity of damage and loss of assets*

During all the focus group discussions it was indicated that there are differences in the timings of the disastrous floods that led to relocation in the District. During focus group discussions, smallholder farmers that were relatively rich indicated that they do not perceive floods as a great risk to their lives and livelihood because of the variation in their occurrence. Whilst also indicating that there are other factors that influence their self-perceived vulnerability, smallholder farmers indicated that floods that cause displacement and damage to household assets and houses do not occur annually.

### 4. *Self-Perceived Vulnerability based on Loss of Life.*

Apart from losing agricultural land, loss of life during the floods also determines how smallholder farmers perceive their vulnerability to floods in flood prone areas. The smallholder farmers realize that living in the flood prone areas is dangerous after losing their loved ones. This statement suggest that previously, the danger of living in the flood prone areas was not considered seriously until the smallholder farmers witnessed loss of lives.

## B. Local respondent predictions of future disasters and climate change

All climatic factors such as temperature, rainfall, humidity and wind movement will change in future. These scientific studies claim that temperature and rainfall will increase and sea level rise may increase incidence of tropical cyclones and their related human impacts along the Bangladeshi coast. The respondents of the study were asked about their own predictions of future climate change impacts. Their perception regarding increasing cyclone risks is similar to scientific projections.

### 1. *Deconstructing people's vulnerability to disasters and climate change*

Early hazards and disaster studies employed a human ecological approach predominantly driven by geographers to understand how people and societal organization adjusts with the nature of natural hazards. In more recent times, particularly since 1970s, the scholarly community has been not only analyzing hazards and disasters but also exploring the notion of vulnerability. Evidence shows the need to analyze integrative vulnerability such as social- ecological, socio-economic and related aspects as a paradigm of hazard and disaster studies. This holistic and dynamic approach not only explores the multiple dimensions of vulnerability but also focuses on temporal and spatial analyses. People's vulnerability often fluctuates in different places over the years due to environmental change.

### 2. *Impact of seasonality*

Seasonality has a great impact on local people's lives including agricultural production, food security and rural livelihoods. To identify the impact of seasonality, first it is important to define 'season'.

The flood situation varies with season that directly relates to the time of their scarcity and felicity. If people can harvest Kharif crops including Aman rice and plant their desired winter crops in time, the next couple of months (mid-November to mid-January) are considered as 'felicitous months'. After mid-January the household food stores of many respondents are gradually being depleted and the time of survival starts. Thus, the next four months (mid-January to mid-May) are considered as the months of survival. However, the well-off families still have sufficient food to live in a modest way. Conversely, the poor often start to take loans from relatives and neighbours from February with the hope of a standard yield of pre-Kharif crops including Aush rice.

### 3. *Natural resource dependency*

Natural resource-based communities are often exposed to natural hazards and disasters through the distinctive interface between environment and society. The respondents of Aila village stated that all rice fields in their area were converted into shrimp farms within the last few decades. Such natural resource dependency has already generated livelihood related vulnerability in the study areas. Natural resource dependency may create a threat to people's skills and knowledge.

## C. Local 'Negative' Perception and Experiences during Flood

### 1. *Flood as a Dreadful Phenomenon*

The local perception regarding flood varies a wide range of expressions and experiences as individual actors perceive flood from multiple angles, like- as a 33 years old housewife senses the flood very 'negatively'. She is of opinion that-

'I have two children who suffers a lot with their schooling during flood...a long term (sometimes 5-6 months) water stagnancy makes them to be very irregular in schools and private tuitions...our two rooms became our world for several months...we have to collect drinking water from a long distant neighbour's house regularly...we became captive during flood'.

In this context, a 51 years old medical practitioner opined that-

'flood comes with horrible experiences in my professional life almost every calendar year in this place...a number of water borne diseases spread out during flood....It became very difficult to attain too many patients a day...in night the situation became very critical....I have to attend the patient's call at night in the ground of humanity...but there are great risks at night in the flooded areas.

### 2. *Absence of Electricity and Communication under Crisis*

The absence of electricity in night made the situation very dreadful to the villagers, as a 46 years old farmer was of opinion that-

'due to absence of electricity we suffer a lot...in the last year an old man was going to the town by a 'dingi' (a Special kind of boat made up of wood) of his own....at night the situation was jet black as there was no light and there was full of water everywhere...even the light posts and the electric connections were invisible due to water....the old man got shocked from a faulty electric connections and died immediately...frankly speaking thinking the situation we really scared to go to anywhere at night during flood.'

Gour Maity, a 60 years old person stated another stance of difficulties in communication during flood. According to him-

'At the time of flood, the prime concern is the arrangement of 'donga'. There are some risks associated with it. Our children don't know swimming which makes us anxious. Other one is when the weather deteriorates severely, at the time of storm and heavy rain...then we have to choose this school road to go to the markets. If we have to there, then...there is a field, it is approximately 1 km. If you go straight 1 km through this field, after that you will see a Krishna mandir.'

Further he added- 'It is close to the dam. When we cross the dam then...there we bind the 'donga' with any tree. After that we go to the market. For that we again have to travel 1 more km. If you go from this side it is 2 km, if you want to go from there, then you also have to cross 2 km. In either way, for 1 km we have travel on water. The remaining 1 km I can walk or can go with cycle. Near the dam, in the adjacent areas there are some houses. There we keep our things and go to the job, again at the time of returning we pick our belongings from them.'



### 3. *Difficulties in obtaining Drinking Water*

Absence of electricity 'stops' all types of electronic communication and put the residents under darkness for several month. A 38 years old housewife pointed out that-

'at night maintaining household activities became tough...we have to share three oil lamps for the different purposes....at the time of immediate danger we cannot even make a call for help as there is no charge in mobile phones...we have to go to the town for mobile phone charging...and to store the battery for immediate use we have to switch off the phones in the maximum time in a day....switching off the phone for a long time sometimes make my relatives worry about us at the flood situation.'

Another important inconvenience occurs with the drinking water. As the maximum water taps on the road remains under the water, the villagers has to depend on the tube well that is been owned by a few villagers. The rest of the villagers have to go to a long to collect drinking water by their personal boats. A 41 year old housewife mentioned that-

'we have to go a long to a neighbour's house for drinking water...we have to wait there for a long time as many villagers are there before us to collect the drinking water.'

In this context, a 51 years old medical practitioner opined that-

'we have to meet a great crisis of drinking water at flood situations...people have to collect water from long distances...the improper way to protect and store the drinking water makes people ill with water borne diseases.'

### 4. *Issues of Health and Emerging Crises*

Health became a major concern to the flood situations. Severely ill patients and pregnant women suffer a lot during flood. Mrs. L. Santra experienced a case with her neighbour who was a pregnant lady-

'In five years back Parvati (the pregnant lady) felt pain at night...around 11 p.m.....me, Parvati, her husband and her father-in-law were in the boat to the way to town hospital..Parvati was almost senseless...the situations became very dreadful...we have reached to another village and by the help of other women and a local nurse of the same village made the delivery of the child successful...you can imagine what were the risks then??.'

Mr. S. Pramanik has experienced a dangerous situation with his son during 2007 flood. He told that-

'my son was infected by cholera...at a night he was almost senseless due to multiple times loose motion and vomiting....a local doctor put him saline and referred immediately to the town hospital...we felt anxious about how to move my child in a boat in such a dangerous situations...my neighbours helped me a lot at that night...we three along with my son in a boat started our journey to the hospital...water level was rising and the water current was very strong...it was raining heavily and constantly...my son started to vomiting again...for a single second...

I felt that I have lost my son...after an hour we reached to the hospital...my son has almost lost his sensation...after a few hours my son got back his senses...the doctors of the hospitals was too good to treat my son...It's God's blessing that we were enabled to getting back my son in the home.'

#### D. The Alteration in Living Space

In Sukhchandrapur, an important issue due to flood and its impact is the alteration in living space and architecture. The previous experiences instigate the residents to alter their living space; means to lift up the residential space as the height of water reached in the previous years.

Mr. Maity, a 59 years old farmer is of opinion that-

‘In the previous year...the height of the water was almost 7 feet from the main land. Though my house is built up in a high space...but the limit of the water raising was extensive...the rooms were almost under water...we temporarily built up a larger wooden bench, locally called ‘mancha’ above the room for the then situation. In that ‘mancha’ we spent almost three weeks...oh...what a situation you never been felt.’

This alteration of the living space generates a new problem; i.e. the living surface area became reduced that compel the residents to move away from their birth place. Not only that the lifting up of the residential spaces and alteration in architecture shape the area like a big ‘pot’, where stagnancy of the water stays over a long time.

#### E. The Issues of ‘Relief’ and ‘Local Politics’

The issues of relief from any Governmental and non- Governmental agencies in the setting are very poor during flood. Mr. L. Santra told that-

‘nobody cares for us at flood situations...many surveys have been done in the area...but we faces the same critical conditions during flood...there are no space to pass the stagnant water due to the poor drainage and sewage system...sometimes the municipality offers some dry food for first two or three days of a flood...but is that enough???’

The fundamental problem due to flood in the area is the long term water stagnancy that disrupts the life and living of the local people. Communication became very tough due to overflow of water. All the villagers do not have their personal boats. For communication, the villagers either have to depend on the neighbour’s boat or have to wait for other private boats that are been used for business not for relief. Mr. S. Pramanik was of opinion that-

‘the municipality offers boat for first few days of a flood for relief...but...there are no such relief for long term flood over the area...communication became impossible to us...the children do not attain school regularly...if they reach to the school anyway... but not in time.’

There are no health camps or mobile health services at the time of flood. The villagers have to depend on the town hospitals or to the local doctors. The municipality sometimes distributes some relief aids like-dry food, large plastic covers, and bleaching powder etc. but these aids hardly reach to them who really need this. Mr. J. Santra opined that-

‘There are some political brokers in our village that negotiates between us and the municipality...actually they decide who needs aid at flood situations....unfortunately... their near and dear ones receive the relief aids...and those who need the relief aid really does not get anything.’

Local politics centering relief in the settlement under study is desperately practiced. The names form the victims list in flood became changed and altered through the local political influences. Mr. J. Santra told that-

‘the house of my elder brother was severely affected by flood a few years ago...the verification after flood was done and the name of my elder brother had been registered in the victims list...after a month...when my brother enquired



about his claim...found that his name became altered with the name of another person who has lost nothing in the flood.'

Political colour became a significant factor for relief in flood situation. In this context, Mr. S. Pramanik said that-

'We expect nothing from the municipality or from the Govt...the issues of relief is strictly depended on the political colour we belongs to'.

Data shows that the concern of relief in the village is depended on the political milieu and the dominant political players of the place.

#### **F. The Resilience Issues**

The settlers are well accustomed with flood and its dreadful effects since years. They exactly what to do after they sense that the flood is coming, what effects it can be done and what will be the approximate scenario after the dreadful situation is over. When they sense that the flood may have to create a big trouble in the so called 'current calendar year', they first start to store the foods that may be expendable for at least four to six months.

Mantu, a 48 years house wife is of opinion that-

'We know very well that flood is our destiny, so when we got the warnings and/or can sense that the flood is coming, we store the foodstuff, the fuels and prepare our personal boats for ease of communication.'

There is another important issue that some of the residents of the settlement under study, borrows loan from local cooperatives to build their houses concrete. As Uttam Maity, 49 years old, local cooperative member stated that-

'Our house...you will be very much astonished to know how we built this house. There was one of our bosses in 'somobay'; he was a very kind man. He extended his help. We requested him "Babu please give some money we will also arrange some amount" In this way, by arranging monthly installments and taking loans from different people we finally able to build our house before the flood strikes.'

The settlers themselves maintain a very strong social network that extended the issues of social capital throughout the year that it became cultural dispositions to them-'habitus'. They know that something unexpected will occur at monsoon that needs a strong social bonding among them. In this perspective, Mrs. Sondhya Maity, a 55 years old housewife opined that-

'We know very well that there will be no hands at the dreadful situations of flood impacts for help...we maintained a strong unity among us...as for an example my house was almost under water last year...we collected the drinking water from a neighbor whose house is near about 2 km from my house...they helped me a lot.'

In spite of too many negative experiences, the settlers have had a 'positive' attitude to disaster issues centering flood. According to them, after the stagnant water had released the soil of the settlement became very fertile that is very helpful for cultivation and farming. Mr. Sanatan Maity, a 47 years old farmer stated that-

'After the flood is over, the soil of this area became more fertile over the area that benefits a lot for large scale cultivation....and the products are sold out in the market in a very rising price due to crisis of need and supply post flood situation.'

The present study reveals the issues of resilience from multiple layers of flood and its orientation among the participants who are the actors to live the phenomenon. Different frames have been reflected in the study from the subjective stories of the respondents to relate their perception about flood with the wider issues of politics, welfare and development in a flood

prone area of West Bengal. The study from its discussion is placing a hint to include the insider's perspective of loss and suffering to construct any policies and action on flood and/or disaster issues.

## SETTLEMENT-II

'Durgagobinapur' of Patharpratima Block of Sunderban, South 24 Parganas District of West Bengal affected by 'coastal flood' with river's tidal effects. Patharpratima block is situated in the southern part of South 24 Parganas district. It is bounded by Thakuran River in the east, Kakdwip and Namkhana blocks on the west, Mathurapur 1 and 2 blocks on its north and Bay of Bengal in the South. In the very beginning of to detail the findings, it is worth to say that all the residents of this settlement are emigrated from the district of Midnapore since 100 years ago, as- Bishnupada Pal, a 51 years old farmer opined that-

'Our ancestral home was in Kathi, Kolagachiya. Our previous landlord, he also belonged to there. The one who acquired this lat also came from there, in Kathi. Dasbabu, this gentleman here...brought the 7000 bigha area. This is a lat of 7,000 bigha. This lat is very much older. Here we have a temple. It is constructed 95 years earlier. That means the acquiring of lat was started since then. Our this...I mean the temple of our 'malik' (landlord)...there it was documented that both the temple and the lat of this area is 95 years old.'

Further he also added that-

"...we all are from Midnapore. The owners of all the lands and other properties in this lat area actually belong to Midnapore. Then there was the 'malikani bandh' (Dam of the landlord). That was the same dam. Other than him, there wasn't anyone who was able to construct this dam. The landlord of this lat secured the lease of the 100 bigha land in exchange of a hefty amount. The then landlord would have to give tax or something like that to the government for this land. After obtaining the lease, everything in this lat was his. This dam, the boundary wall surround the river...everything was his. Then there was no one. He assemble people from there...pulses, rice, vegetables...even the water he transported through boat from Midnapore...the water also...here the water is saline. Then here was no water. He had to carry the water through boats. He got boat full of water, food, and boat full of the instruments like bamboo, ropes and whatever materials required for the construction of the houses. The landlord arranged all these and he then got near about 25 'praja' (tenant) to settle down here. He brought them here. We all are under his authority. In the preceding years there came a number of acts which eventually dethroned the landlord...'

### A. Determining stress from the perspectives of rural smallholders

Previous experience with different climatic stresses may encourage community members to innovate and adapt new techniques or to change their land use practices (i.e., adaptive learning). In such cases, the community may perceive the stress within their tolerance limit, although historical climatic data may show considerable change. Community members' perceptions regarding livelihood exposure to climatic stresses often go beyond the meteorological considerations (e.g., frequency, extent, duration) of traditional exposure studies, and are mediated by resources access and use.

### 1. *Stress calendar of the study areas*

Climatic events are perceived as being a stress on livelihoods when they take place or extend beyond the expected period. Agriculture was the major livelihood activity which reported to be affected by diversified climatic stresses, including flash-flood and seasonal flood, at different times of the year.

### 2. *Communities determine the severity of climatic stress based on production losses and contextual features*

Although the major literature on disaster considers exposure as the extent, frequency and duration of climatic extremes; communities in the study areas also strongly considered the potential of any climatic extreme to cause investment and production loss when determining their livelihood exposure. For example, this study observed that the effects of flash-flooding—which are short-term but often considered the most destructive climatic event in the study area—were determined by the amount of production loss. The results suggest that when we observe livelihood exposure to climatic stresses, it is equally important to know the failure of production arising from the stress rather than concentrating only on the nature of the climatic events (e.g., extent, frequency and duration).

## **B. The Major Effects on Economic Living**

### 1. *Instability of agricultural production*

Agriculture is the main economic activity of the people under the study-area regularly affected by floods. Crop production depends on the magnitude and timing of floods. Thus, the farmers of the area adjust their annual crop calendar depending on the flood situation.

But if it is a severe flood, the farmers experience miserable conditions. This is because all crops are completely damaged (esp. Kharif (pre-monsoon) crops). After the Aila, the crop production dramatically decreases in this area which accelerates a price hike. The farmers often experience a crisis of agricultural inputs such as seeds and fertilizer. The instability in rice prices and distribution of fertilizer is a critical political issue in this area.

### 2. *The effects cultivation as the major subsistence strategy*

Agriculture is the major subsistence of the settlement. The increasing rate of natural

Calamities and hazards instigate the occupational shifts among its residents. Mr. S. Maity, a 48 years old farmer stated that-

‘In our locality we faces three prodigious flood...including Aila, three massive floods...there was also one drought...but it is not that much severe in magnitude. It was on an average rated drought which majorly affected the agriculture. The flood of ’83 was equally tremendous. In the year of ’83, the river boundary broke down and the flood destroyed all the paddy fields and others. After that, in the ’88, there also happened another flood. That also damaged the river boundaries.....’Here in this lat area, if any damage will be occurred then the majority of them will be caused by saline water. People are mentioning a number of different names of this river. In the past time in different places...the then landlord...like here it is our Gobidiyasai...in the irrigation department it is mentioned as Gobidiyasai. Suppose in Patharpratima, Shibgoya and so on...there is one. There in ‘astamibhata’ our landlord has property.’

Biswanath Sarkar, the 66 years old farmer told that-

‘Previously...before Aila we also have the agricultural lands. The agricultural fields are also shifting back, houses and everything others has been abraded by the river.’

Later he also included that-

‘At that time people lived in great distress. Near about one year later people started to live in normal their tempo. In that year people farmed their land...we got the crops but the quality deteriorated drastically. The paddy was in a very bad shape, whatever we have, we had to live on those resources. Later people got some good paddy...but that was in very low quantity. Here the total area was covered with trees. Then we had 52 mango trees. In this house we have lemon trees...6 and 3...total 9. Within these 9 lemon trees 7 died in that disaster. Now we have only 2 of them. Among the mango trees two were of superior quality, none of them survived.’

In this region...One of my brothers has his house there. I came to know that up to that area people faced the calamitous effects of Aila. This region faces the major destruction, I mean along the river bank. In this direction the destruction continue whereas at that direction the Aila created havoc. There, near the dam, Aila smashed the dam boundary. After the dam wall crumbled down water invaded within the lat area. The total lat area submerged within the water.

Tapan Das, the 72 years old van driver shared-

‘No, not before... Alia just happened...we didn’t get to know that Aila will come. It destroyed everything...previously my father lived here. So, here he had 6.5 bigha lands. Among them if you add all the remaining, now there are only 6-7 katha...nothing else. approximately like 7-8 katha remains. (The person besides him said-“Everything others wash out in the river.”) Yes...everything just abraded in the river.’

‘When my father came from Midnapore, here he obtained 12 bigha. Here 6 bigha and over there was another 6 bigha. One of his relative told him-“We don’t have any other relatives here...and you are constructing your house here near this land, so why don’t you give me that 6 bigha land inside the village. This part is near the river, it will be easier for you to cultivate this land compare to that one.” That person was an intelligent one, whereas my father thought that he was very needy and desperate so he gave up that land to his relative. It was his decision but we are facing its after effects. Now with the eroding land near the river we are nearly bankrupt. With two sons, two daughter-in-laws, and two of us-husband and wife; with this big family we became nearly indigent. Now what will the boys do to earn their breads in this village? Now there remains 6-7 katha land, by relying on this we have to survive. Life becomes so stressful.’

Juhi Das, the 38 years old daily labour disclosed-

‘I had quite a lot experience of flood. Among them, some were horrendous. Those were hell of an experience. Besides disrupting our regular schedules, in long run these flood actually a slow poison for us. Traditionally we are farmers. More all less every household possessed lands which were allotted to them by the landlord of this lat. But in course of time the river started to shift its way, as a result the river banks erodes every year which is a first indication of flood. When the saline floodwater invades our land it submerges the whole area. Though it doesn’t

stand for too long but repeated infiltrations of saline water into our agricultural lands make them infertile. Normally we have monocrop land but due to this mishap since 5 years our lands are barren. This is the common scenario of all the villagers who live along the riverside.'

Shreekanta Mayti, the 38 years old farmer narrated-

'Our village is flooded whenever the dam has been imploded. There...in that Aila in the month of Jyoshtho...Again there was another one in the month of Bhadro. Once again it happened in Ogrohayon. There are one after another...there...where the construction of Aila dam is in process, there isn't any alternative way out for the river...eventually our agricultural fields at the bank of the river became barren and it slowly abraded with the erosion of riverbanks. After Aila, it has been 5...6years, since then cultivation has been stopped in my lands.'

'In this land where I am now residing is approximately of 2-3 Katha. On this plot only I am surviving...there in between these are my brothers' lands. There, at the bank of river I had lands, pond...all of them washed away. Now there are no other lands.'

Manosh Mullick, the 34 years old mason shared-

'Here, everyone faces the havoc caused by the Aila somehow. Only the magnitudes differ from individual to individual. It's just that, we faced the most. In this area it causes the major depredation. Here, the saline water will invade the land often which causes the distress. Here, none of the households were intact. But in that side, the saline water infiltrates within a limited the lands. That area had been flooded but the water drained from there very quickly. Here the dam breaks, means...it becomes a routine, that with the tide and ebb-tide in the river the water will invade the land again and again.'

'At that time the land erodes, means...its stretch up to a sheer amount of lands. It causes massacre...many lands has been wear away. If the water invades here...at that time the water level of the river is so high. So think what it can cause! Now we don't even have a piece land to live here.'

### 3. *Livelihood diversification*

The people of Sukhchandrapur are involved in, with diverse occupations (including both on-farm and off-farm activities) to survive because of the uncertainty of their primary livelihoods. Though they have one main occupation, they also carry out temporary and seasonal works. For example, the farmers and agricultural workers are mainly involved in two seasons in a year; the major portion is from February to June and the comparatively minor portion is during October and November.

A major portion of agricultural workers move to earth-digging especially in the months of December and January. The most significant feature is that almost half of the earth-diggers are female. Furthermore, some fishermen live in this area usually catching fish in the open water of the River throughout the year. They hardly shift to other occupations as most of them have no additional skills that would apply to doing other jobs. Though the number of fishermen has been unchanged for last 10-12 years, it was seen to be likely from this fieldwork that they will shift their livelihood in the near future as fish production from the river continues to decline. The fishermen also claimed that they faced problems catching fish as some local elites of the area controlled major portions of the river. "Food for work" is a vital livelihood option for the women of the poor and the extreme poor families including the widow headed families.

#### 4. *Seasonal migration*

Men often migrate to urban areas, particularly Kolkata city to find a job for a few weeks during lean periods. The present study also found that seasonal migration is an important and ultimate adaptation strategy of the dwellers. Wage workers migrated temporarily outside of the village over the next few months after the flood especially from November to April.

Migration for harvesting crops (e.g. rice, jute) is a common practice even in normal flood years. When the availability of local agricultural work decreases due to increased floodwater in their lands, the wage workers migrate to the mainland for harvesting crops. In a severe flood year, the farmers cannot harvest their standing crops due to sudden increases of flood water and they plant winter crops if the flood prolongs. This is often the cause of a shortage of livelihood opportunities for the wage workers and increases unplanned migration to urban areas for informal economic activities such as rickshaw-pulling and working in brick fields and construction sites.

Around 50-60 percent of males migrate temporarily to Patharpratima, Kolkata, Burdwan and other urban areas for rickshawpulling and assisting in construction sites due to the lack of work in the village after the heavy flood. Most agricultural workers also migrate for paddy harvesting in different districts and a few go to work in brick fields.

#### 5. *The effects on fishing*

Baby Pathak, 35 year old housewife disclosed-

‘My losses include...the abrading of the house; there were fish in the pond, all of them died. There I have many big fishes. It was it due to the infiltration of the saline water of the river inside. After nearly 2 years later we have some of them, the fish cultivation is just started.’

Jiten Suri, 45 years old daily labour explained-

‘Now our pond doesn’t have the saline water. All are replenished. I Mean...after draining all the saline water we restored it with fresh water. That really cost you a fortune. But there were some people under Singh, that Singh bore all the expenses. What’s his name... Sukumar Singh. They came to us and said “it’s okay, the saline water must be drained out from here...”. They gave us something like 1200/- rupees. They assured us “you make arrangement to drain the saline water...we will give the money”.’

Sheetal Barui, 49 years old housewife briefed-

‘We culture the fish only for ourselves, only to eat at home. If you will go to the market to buy fish that will be too expensive. Our pond is mainly designed to irrigate the paddy field and to culture fishes. As we don’t have any lands remains so now it is used only for culturing fish. But now a day, that is also disrupting due to frequent saline water infiltration. Even the quality and test of the fish is also deteriorating.’

‘The biggest hazard was happened at the time of Aila. Then we have to move out from our houses as the total area...even the ground floor of our house was inundated with in flood. At that situation we were primarily concerned with our food and other expenses. So, the pond was the least concerned issue. But when the sanity was restored a number problems were started to resurface. Among them, the prime one was the pond. All the fish died in the flood and we couldn’t use that saline water for any household purposes. The worst of them was, until you pump out the contaminated water and rejuvenate it with fresh water you can’t use the pond for any purposes and it



would cost a fortune. At that time that was impossible for us. Then Sukumar Singh...do you know him? He resides over there...he gave us money to revive the pond. More all less, all of us got money from him to restore our ponds.'

Raju Dutta, the local plumber stated-

'Here, when our water bodies were filled with saline water due to Aila, then Sukumarbabu gave us money to drain out that water. Someone got 1200/-, whereas someone got 2000/- rupees...it was according to the size of their pond. Whichever amount he gave us, on that basis somehow we managed the household expenses. At that time we didn't even have the place to bath. There the tube well, after thoroughly washing it...water for cooking and other purposes we got from there...at that side there was pond, it didn't get flooded. From there we get the 'misti jol' (sweet water), water for cooking, drinking, bathing and more miscellaneous purposes we had to fetch from there.'

#### 6. *The Shifts from traditional occupation*

The breakage and damage of the river dam (poorly structured) due to cyclone and regular tidal effects allows the salty water into the cultivable land resulting- the loss and damages of the crops and permanent infertility of the cultivable lands, and loss in fishing simultaneously force people to shift and alter their occupational status. Emerging an inclination towards- *daily labour*, shifts towards the city for new job opportunity like- gold and jewellery works.

Mitali Pramanik, the 54 years old female stated-

'What will they do otherwise? So, my two sons work in our lands. Now we cultivate paddy and small amount of...but mostly they work in the local bazaar, otherwise with us they work together. If not they would work there we all could have died in destitution.'

Partha Poddar, the 47 years old daily labour divulged that-

'In Arambagh, there I worked for 8-9 years...in potato store. What option was left for me? To sustain my family I have to move out from here. Along with me, there were 35 people from here also went to Arambagh. That was a very hectic schedule, from there we came to home in every Sunday then again went there on Monday. We had to cope up with this'

Brijesh Dey, the 31 years old sharecropper briefed-

'Actually in these circumstances you can't really rely on any single source of income. You have to engage into multiple businesses. To support us in a very early age my elder son dropped out from school and went to Bombay. For 2 years he was there. He learnt there gold jewelry works. Not only him, but majority of our youngsters here has been engaged in this gold jewelry work. First of all it isn't a seasonal job. Throughout the year long they can earn something. And once you grasp the mastery over this work...there they have a good fortune. Now my son is here. He works in Patharpratima. Even my younger son also joins his brother. As for my husband, previously he drove van in Patharpratima but now a day he works as a daily labor. Maximum time he with our neighbors went to Kolkata, Barrakpur to join the construction sites. Some are helper or laborer there.'

Romen Sen, the 29 years old van driver shared-

'After the flood of Aila, I went from here to Delhi for work because at that time there isn't any job opportunity here and the agriculture had been totally ceased. Now I drive van in Patharpratima...but previously I worked at

mills and other sites. After going to Delhi eventually I started to gather things for my home, before that we didn't have any possession like cot, table, wardrobe and other items here.'

Uma Das, the 44 years old daily labour shared-

'Here...you see these houses...every household has only 2-4 bigha lands. Everyone has to work on a number of chores to survive himself with his family. Here, do you see any bigger houses. No...here no one is that landlord type. More all less everyone is daily labor here...all us have to do vigorous labor to eat three meals in a day. Here the people are belong to poor' class...you can't call them as middle class.'

Sritama Pal, the 48 years old housewife told-

'Our children in Kolkata are engaged in construction job, some are helper or laborer whereas here we are engaged in digging soil, agriculture, sometimes carrying the bricks, and sand...in this way somehow we are surviving here. In this region the common people has to live like this because the opportunities are very much limited. In this region there are a limited number of servicemen. Maximum people here are daily labor...may be 2%. At the city in durga puja generally they go for jobs.'

#### 7. *Due to income instability, efforts to recover from direct loss create indirect loss*

Recovery from flood disasters largely depends on income stability. At this time, the community people often suffer from income instability. Due to income instability, community peoples' effort to recover from direct economic loss often results in further asset losses. The direct loss and damage include property, crops, livestock, fuel, fodder, and economic loss due to post-disaster health problems. To rebuild their houses, people often sell other assets like cows, agricultural and non-agricultural land, or they take loans from the local *mohajans*. To pay the installments of the loan, they are often bound to sell property due to the lack of income.

### **C. The Problems of Legal Record of the Residents and Issues of Land Grabbing for Dam Construction**

Robi Malakar, 37 years old the landless farmer explained that-

'Here, people are residing in their ancestral property. In that case suppose, one portion has been worn down...I mean we don't have registered paper of mutation. We got our lands according to that distribution of lat. So that means, at this time of construction of dam, land acquiring is became a very problematic issue...esp. those who have to give up land for the construction of this concrete dam.'

'Recently the government announced that whichever land will be required for the governmental work that land has to be brought. But everywhere they don't buy every land. In that case I think they must maintain some kind of governmental list. Like here for this construction many people have to vacant their lands and property...many lands. We went to the BDO officer. He then said -"the irrigation department will not give any money for this encroachment. Apart from the Department of Alia no one can buy this. But one thing can be provided to you, i.e., suppose if you vacant the place then you can be provided an amount of money or Indira Awaas through the panchayat. Like these can be arranged. But it doesn't mean you will get the righteous amount of money in exchange

of your land. Only the Department of Aila can do that. What will happen with this? If my 2 bigha land is snatched from me, what will I do with the small amount of money allotted for the Indira Awaas?’

‘You will give money for one small room, but still do I have the land? That is the main concern. These are the issues here. The people who are living in the lat are...hmm...they are living in very distress, in a great misery...but the suffering will start from the monsoon season, especially those who live along side of the river bank. Those who live inside the village, they don’t have any problem. Yes, if the water level increases that will not affect them as such. In case of these people they are living very closer to the river bank. They will face many problems. This is the scenario here.’

Mitali Das, the 43 years old daily labour disclosed-

‘In this dam construction... whatever land we left...we had to handover them to government for the dam construction. As you must have heard, the government gave them money in exchange of that land. You know what we get? we only get 12,000/- rupees. I know the land value of this side is much lower still...is the 1.5-2 bigha lands worth of only this amount? We tried to contest them about this. we went to the local councilor and the panchayat. From there we came to know that those who possess the registered documents of the lands, they will get the money according to the current valorization of the land but those who don’t have the legal paper...in that case the government will decide a subsidy amount.’

Sreejit Maity, the 41 years old farmer apprised-

‘All of our lands in that river bank washed away. After all those years the government gave compensation on an average 20,000/- to 30,000/- rupees for each land. they didn’t decide it against per bigha...suppose that much of your land has been abraded...those who has all the legal documents of the lands they would get according to the lands but those who doesn’t have the legal papers, suppose one’s father brought this land but failed to prepare the registration papers...in that case they would say “look as we don’t have the legal papers of the lands the evaluation of your land will be only on an average...” Then even if I had 13 bigha, I would also get that 20,000/- rupees. If I had one bigha or 100 bigha land then I would also get the same... In the past our antecedents were not always very much aware about these legalized papers now for which we are suffering a lot.’

Subho Karmokar, the 43 years old daily labour stated-

‘We don’t have many resources. We have to labor hard to manage our households. You don’t have any other options here. If the lands will eventually wash out in the river, what we will do? Suppose, after Aila the dam has been constructed, but subsequently 10 years later it will happen again. In this area land erosion is very high. But the dam is not extended up to that region. It is within the planning. After construction the dam here, there other new construction will be started. But there the people deny in giving away their lands without the proper compensation. They said “where we will go. From government the dam will be constructed...its okay but we all are living here...suppose we don’t have that much ability to shift elsewhere. In that case give us rehabilitation. Either give us money through which we will buy lands or give us lands elsewhere.” Suppose here I build my house, sometimes later you ask me to shift from here as the road will be constructed over there. Where we will go? For these fiascos we have to live under these constant threats!’

‘But definitely the dam will be constructed there. It isn’t like they oppose it, so the plan will be wrapped up. The dam will be constructed there for sure. Now where are you residing they asked them to shift there. In that place where we are residing... in front of this building there is a high school. There is a planning to shift the school from there. The new dam will be extended more for 700-800 ft. over there. That will be additional of this new construction. In this whole shambles many of our lands wither away. Again we can do nothing about that.’

#### D. The Alterations in Residential Space and Power Positions

Regular floods, cyclones and unstable natural environment alters the river embankments and turns into the settlement resulting the physical damage and loss of settlement space promotes (re)structuring the physical and social dynamics of the space- (re)structuring the spatial arrangement needs a quick adaptation to the newly settled space and that simultaneously results alternation in livelihood, the perception of neighborhood is redefined and alternative cultural practices appear in the habitus, the ‘existing’ hierarchy of the settlement is countered by the natural forces and social-economic vulnerability; that instigates re-arrangements of the values and perception of harmony and hostility, and the newly formed settlement clusters challenges the ‘existing’ axis of power and decision making within the settlements and force the ‘dominant’ groups (the *Mahisyas* in Durgagobindapur, Patharpratima) to negotiate and include the opinions of the ‘less dominant groups’ (the *Sodgop* and the *Bagdis* in Durgagobindapur, Patharpratima) in local decision making.

B. Pal the 57 years old farmer says-

‘Then the river was small. Then year after year through the river bank erosion... in my life it is the 5<sup>th</sup> ring. One ring has to be minimum 1.5 chain. 1.5 chain means...that chain which is used in case of land measurement. One chain means 100ft...[another person prompted that it will be 100 kori] 100 kori...hmm...one chain is equal to 80 kori. But every time the ring count starts away from 100-200ft away from the river bank. Then suppose...1.5 means...5 (5 indicates the 5<sup>th</sup> ring) and 1.5 equal to 750 ring goes in the river. Then think how far the lands and houses were. Those were in so far. Now see this canal, our houses are behind this. There we have ponds and everything. Now I shift from there.’

‘When I built this house, this ring wasn’t there. Then the ring was in that side. I think you guys went there... Look there the under the ‘tal gach’ (plum tree) some are sitting...behind this Plum tree the ring was there. Then I built a house here. After constructing the house...that was may be the end of Jaestha and the beginning of Ashar month; at that time the river overran, it broke that corner. Then the saline water leaked through this. Due to the periodic landslides the river comes closer to the boundary. At the time of Ashar the ring has to be constructed otherwise agriculture is not possible. Then through the dozer machines and other this dam was constructed in the month of Ashar. We didn’t expect that such incident would be happened. We thought that it (the river) was in too far. Then the construction of the house was finished. When we are discussing inside I was telling you that...the inside of my house is pakka (made of brick) [the person beside him ascertained that the inside of the house is made of brick]. As I say, the inside of the house is made of brick, but as soon as it (the river boundary) crumbled down I didn’t cemented the outside of the house. The outside is still made of soil.’

‘...because it will not long last. In that fear I didn’t...Still this construct this house, including the inside and outside and others...this house is made of 2000 tiles.’

Mamoni Singh, 27 years old homemaker apprised-

‘After the Aila, we had havoc loss. There is no limit of our loss. Where were your houses...you couldn’t identify them. Suppose this house... the furniture, household materials everything was washed out.’

Mohesh Sarkar, the 75 years old farmer told that-

‘Suppose some people whose agricultural fields had been abraded, houses had been eroded... They didn’t migrate from the village. May he has some lands inside the village...I am talking about this portion. Like in our cases, suppose there are 12-14 houses. We have to move from here. Suppose they have properties within the village, there they will construct the houses. But no one shifted from this village.’

Jiten Patro, 59 years old farmer said-

If you ask about the damages...then in case of mine, there I had a room. The flood water washed away one side of it. After scraping away the wasted soils for time being we secured it with tarpaulin...but with that it couldn’t be possible to retain the whole structure. It had tiles on its roofing...though a number of tiles crumbled in course the cyclone; with the remaining tiles again I constructed this room. Since then, with these ostensible arrangements we are surviving. Both of us, me, my wife live here and my two sons.

‘About the other privations we have to face during flood...apart from food, shelter and communication...another problem is the livestock. At the time of flood we become so indulge with our own security that we have to let them go on their own. In the high water level where do you go or how they arrange their food...we don’t bother about anything. Actually the situation doesn’t permit us. At the time of Aila, one of our cows was due to give birth. So, my husband sent it to my brother’s house in Patharpratima. But in case of other, we let them go. Due to this, at the time of flood the mortality rate of these livestock increase ten folds.’

Dinesh Dey, the 46 years old local shopkeeper revealed-

‘Here, anytime the riverbank can be crumbled. In Sitarampur and here it is happening continuously. We have a limited number of lands here. Within these limited lands if we have to let go some portions every year...they are constructing dam over here...now where do we go? Those who has money they will go from here, but those who don’t have it, what will they do? Now look at the simple thing, if you want to construct a brick house you have spend 3-4 lacs. Now all the shopkeepers, they will not give you any items without advance payment. From where you will gather this huge amount and if not then how will you construct house. Those who are well off they are building the houses. But like us, who are in destitute have to bear everything unlike others.’

‘Over there Pal... Bishnupodo Pal, they get 5-7 lacs rupees from government. For what? They got it because their lands eroded within the river, their houses also wash away in the flood. But the prime cause is they reside over there and they have a very good rapport with our panchayat pradhan and Sukumarbabu. Even after that they get that ‘Gitanjali ghor’. At that part all of the residents get the ‘Gitanjali ghor’, also they got money. If I would reside there, I would also get 1.5-2 lacs, only if I was there...There all of them got it...minimum 3-4 lacs. Those money and the facilities they get...is because of their strong political connections. This is just the matter of favoritism. All these

facilities and scope depend on how much connection you have over there. That means, who is closer to the center of power... Suppose I am the ruling party leader and both of us have a very good rapport...then I will help you to get those facilities. I will be naturally biased in your case. Look at our situation...we can't construct the house. We go there to request the panchayat pradhan "This is our situation...please help us to get a gitanjali ghor where at least we can reside securely". He would only say "yes, yes...it will happen". Since ages we are listing this "it will happen". So, now we have to wait till the end of the world. If it will possible for us to construct it ourselves, we will do it; otherwise we have to manage with it.'

### **E. Post-Disaster Recovery Polity**

The Salty water damages the pond water that is to be used for irrigation purpose challenges the fertility of the soil for further cultivation. Floods cause damages of physical properties and deaths of livestock. The settlement paths are in poor condition that resists smooth communication after any natural calamities. Most of the residents do not have legal rights and documents of their lands that are lost during flood, so they do not submit any papers to claim their loss. Due to insufficient documents to claim against one's own land the land grabbing for dam construction and repairing is another issue that threatens the residents to survive with their own rights to the settlement. The owners of the land at Durgagobindapur have different disputes regarding land that resist the govt. for land grabbing for dam construction that leads to the regular and uninterrupted disastrous among the residents.

Politicizing the relief towards the closest ones promotes different faction groups within the settlements that counter the 'existing' leadership and decision making at local level. The closest to the local political leaders gains the relief and funds that are supplied by the Government and the N.G.Os though their loss is not a great deal in compare to those who do not have political contracts. Most of the residents do not have legal rights and documents of their lands that are lost during flood, so they do not submit any papers to claim their loss. Due to insufficient documents to claim against one's own land the land grabbing for dam construction and repairing is another issue that threatens the residents to survive with their own rights to the settlement. The owners of the land at Durgagobindapur have different disputes regarding land that resist the governmental initiatives for land grabbing for dam construction that leads to the regular and uninterrupted disastrous among the residents.

Manoj Manji, the electrician told me that-

'At the time of Aila, in this school, approximately 500 of us took shelter. At that time we got some grants, like food and all.'

Anu Sur, the 34 years old housewife informed-

'For 24-25 days we were there at our in-laws house, after that some people...there the school near the junction...some people was there. There they would get cooked food at noon for free. Many of them who couldn't stay there, they went to the side of the rail truck and build temporary structure with tarpaulin.'

'Unlike others, we just got that one tarpaulin, other than that we didn't get anything else for other organizations. From that Madhav mission I got that one tarpaulin.'



Babu Santra, the 66 years old farmer shared his bitter experiences-

‘In the flood of ’83...Our lands abraded in the flood. We didn’t get compensation of a single penny. That dam under process, that dam for Aila...that...near the post, there those who give their land got hefty amounts. They get heavy amounts for their land. But we get nothing. After Aila one of the ‘babu’ (may be some officials) came here and give every household 2000/- rupees. That’s all. Then there is a share-land...that is the share-land of our landlord. One assigned person was cultivating the lands...but that was very much fertile land. Now the landlord can’t say anything to them, the one who is acquiring the property. That is a very vast land. There one house is constructed...a bigger one worth 1 lac 88 thousands. From government he got the money to construct the house. You have to give 1 lac, contractor will give another 88 lac. But here in general the houses are different from that one...But now where is the contractor? I don’t know...whether he left from here or not, what is the matter god knows. There the new panchayat pradhan, other locals from there...they deal with this whole fiasco...I don’t.’

Suniti Sur, the 38 years old shopkeeper apprised-

‘Here at this side, the construction of the new concrete dam will be finished soon. May be it will be constructed but will it serve us any good? They told us “If the cemented dam will be constructed then the river erosion will be definitely stopped”. But the point is- There the river bed has the depth of 80-90 ft. There it will patently erode the soils. When I came in this lat...then there, at the place of the old dam, the there was a 22-31 bigha broad land. People had lands there. But eventually all of them were sapped by the river.’

Gobinda Pal, the 82 years old farmer mentioned-

‘Then one day, these lands will be also abraded within the river. It is happening very quickly...do you ever think why we didn’t avail any alternative arrangement. Because, here...in this region the valuation of the land is approximately 7 lacks, 9 lacks, 10 lacks...We didn’t have that much money. Now at this age how can we abandon the ancestral property to go there...will it be any good? Whatever will happen...it will happen anyways. Our days are limited, now it’s the matter of the sons, whatever they think suitable for them, will do that. If they think lands and property they have, they will sell all of them and buy lands there...it’s totally up to them.’

Gour Maity, 81 years old voiced-

‘They told us “those lands which had been abraded within the river, if you have the legal papers then you can also claim for the compensation.” Though we have the legal papers, we didn’t do anything concerning this. Now panchayat...Don’t tell anything me about panchayat. There are full of frauds. They are just sucking the money and everything from there. In spite of helping the penurious people they feed more to the well-off. My wife is handicapped. One of her leg is paralyzed. Since the childhood she was handicapped. For her I want to apply for a concession card through which she will get rebate in all the travel expenses...after a lot of persuasion we get it. There in Rakhaskhali one camp had been arranged...I asked that person there, he gave us the card. But later we didn’t renew the card...it was since 10 years...it is there as it was. But if you go on that side you will see the concrete houses. The people from those affluent houses retain the BPL card whereas we are under APL. Even if we go to the panchayat with any our demands or requirement...there they will not give an ear to us. At the end of the day, that is actually a time loss for us and also for them.

Susil Hazra, the 40 years old sharecropper opened up-

‘You have to persist within this situation. There those newly made tube wells, from there we fetch the drinking water. There also some planning to dig a tube well in this side as here we have tube wells only at that side. They promise us to bore a tube well here. Sukumrababu dig many tube wells within this area. But here, we don’t have that much rapport with him. We asked our pradhan multiple times to dig some tube wells within this part, every time he would say “patience, we will do it”. But still now there is only one tube well here. It exists much before than the Aila, may be since 30-35 years. The shades over the tube wells, it was constructed approximately one year earlier. After Aila, instead of digging up freshly the tube well was thoroughly washed. Here no other new tube wells were dig up since Aila, only the existing tube wells are washed to rinse the salinity. At first water hadn’t been come out from the tube well, but after washing it now we can somehow get water from it.’

‘No, within our village we don’t have any well. Within this Patharkhana there isn’t any single well. I don’t know why but in our Patharkhana, they arrange for tube wells, there isn’t any single well. But if they construct well here, the water scarcity will be reduced to an extent. But who will tell them...Here we have tube wells and ‘timekol’ (public water tap) from where time to time we get water.’

Samrat Malakar, the 35 years old shopkeepers recalled-

‘When the water assailed here, then at house my mother was ill. Then and there I had to shift her to my brother’s house before the water level increased more. I can’t fully express how much torment we had to face then. The most convincing thing is that...the water permeated...but didn’t permeate at night, if that would happen then...Then we would sleep, some of us would sink in the water. We can’t even trace were they went. But this happened at the morning...that was a relief. All of us became alert. Whoever was inside the house could shift some of the items securely, which to some extent decrease the loss.’

‘By disposing the livestock...there along the line-road we disposed them. We didn’t know then where they would go. At that moment the cardinal concern was to somehow survive your own self. We didn’t even have the time to think about them. We just let go of them, they lingered here and there...we didn’t know. Some of them went to some secure places, others... At that time a number of our livestock died. Then I had cows, goats and other livestock. What you will do at that time of crisis. You have to secure yourself first. I let go all of them...them dispersed wherever they...but what I can do, I have to let them free. The level of devastation here in this region is too high.’

Mukul Mahato, the 45 years old local van driver mentioned-

‘At the time of Aila we were there at my brother’s house. Some days later we came from there. After that I was at my grandfather’s house. At that time from we arrange the drinking water from the tube wells. At the front of this road there is a tube well. The relief is, the tube wells didn’t submerge within the floodwater. Some saline water also entered into the tube wells but that was bearable. Actually we had to...because the total area was flooded with the overflowing river, even the ponds. Another problem of that time was the abundance of mosquitoes. In that year there were multitudinous mosquitoes everywhere for which sometimes we had to sit within the mosquito nets to eat. Some days later the number escalated further. At the year from the government bleaching powder, phenyl was

distributed. Even from the office of Ramkrishna mission and other missions, money, cloths, foods like puffed rice, molasses, and powder milk were distributed among us. They gave for the initial days...actually I couldn't remember but they gave us throughout the flood.'

'After the flood...at the time of that catastrophe we all were homeless, who would cook? There you see that school, near the school more? From there...the businessman association of Patharpratima, there the shopkeepers...at that time Patharpratima was not deluged. The shopkeepers from there contributed a lot of different food items, like mustard oils, rice, pulses, puff rice, molasses and so on. All these reliefs were stocked in that school, from where we were provided with foods. There they provided us cooked food. How could we cook in those circumstances? There in that school, every day they cooked for approximately 700-1000 people. There all of us were living on the line in a makeshift structure of tarpaulin. Here cyclone means the river water will must overflow. But with the tide and ebb-tide the water level in the land increasing and decreasing subsequently. After that fateful day the water didn't come to this part, in this line-road. At the time of the flood, here they anchored the boat launch to light the whole area. The boat launch entered here...even the then MLA, he also came here. He was from CPM party...actually he didn't take any actions for us. After that when we noticed that...Only made appearance at that time, when the flood was in full swing.'

'After that when the Trinomool Government representatives came here, we requested to them... That was in 2009...till then the power wasn't shifted to them. Then we vehemently protested...that here you have to build the dam. If you can extract fund from BDO office its well and good; otherwise we, the common people ourselves will construct the dam with bamboo. But then we will not allow any governmental projects on our properties...like the railway track on my land, Pradhan Mandri Sarak Yojona on my land...we will never allow any of these. It wasn't just give threats to them we implemented the whole agenda. The lines had been disrupted. They came with spade, axes to cut the line. They thought that if they could mess up this line then from that side the communication would be obstructed. All these public facilities were constructed upon our land, whereas we didn't get any protection in return. How could this possible? There was MLA, other high rank officials...but none of them did anything. Later all this movement they came and assured us "Please don't do these. You start the construction of the dam here. We will definitely arrange the funding for this project". At the end this dam construction was commenced. In total 700-800 labor were engaged in the construction. These labor force didn't come from outside. All are from our locality. All of them live here in this village. They sincerely paid off all our wages regularly. They gave us the remuneration based on the 100days work. After all these calamities people engage into a number of subsistence activities to survive because the agricultural production has been decreased drastically. Now we barely have any savings left. At present, suppose I earn 500/- rupees, from that I have to spend 400/- for the family and at the end of the day only 100/- rupees will be left. This is our current situation.'

### F. Resilience: A Focus on the Bouncing Back the 'Vulnerabilities'

(Re) structuring the relationships and extending social capital at intra village level Inclining the interest to participate different meetings from local Gram Panchayat meet to Block level. Different layers and groups within a settlement (Mahisyas, Sodgops, and Bagdis at Durgagobindapur) exchange their ideas and supports to resist the threats of flood and natural calamities in a united way by altering the 'traditional' local hierarchies of power and practices. The meaning and perception of leadership in intra-settlement level have been changed and altered.

The experiences in emergency situations and good contacts with administration are majorly accepted in leadership and decision making instead of the traditional form of numerical and social dominance of the groups in a space under constant flux of changes. The residents are inclining to expose their situations and interested to interact with the researchers and with members of different N.G.O.s to unearth the alternative strategies to survive and to gain different sort-term benefits from the N.G.O.s.

Sumita Mitra the 42 years old housewife says

'We can perceive beforehand that in which year the water will overrun due to the flood. Initially...I mean the sudden occurrence. Suddenly when you will feel the change in environment...suppose since 8-10 days one area is being continuously eroded...then suppose from the Aila office it was announced that in that place there would come a cyclone. If there will be a cyclone, then you can be certain that the water level of the river will must increase. Just in half an hour to one hour from the starting of cyclone the level will rise.'

[That person beside her says-At the time of cyclone people abundant their houses and moves elsewhere]. But in this lat area there is one advantage. That is...in case of Kolkata if the water invades within the main land it will take 8 days for drainage. Everything is storing in the middle of this area... Their situation is terrific. Why this situation happen... because after invading the water within the mainland there isn't any passage for drainage. In our lat area one thing is there; if water permeates today, in the next day you will not find this. But the sudden assails destroy everything. It ruins everything. But here you will not find the stagnant water. Within 2 hours the water will be channelized and within 2 hours the water can invade here. Why? Because the surrounding area has a number of trench and drainage channels.

Biswanath Sarkar, the 66 years old farmer told that-

'Now if you consider the other side, it becomes much developed. When the productions are amplified...then there was only one type of crop, only one crop. What was that? That is the production of paddy. If you ask the quantity of the production, then according to my knowledge there, one would get 3-4 mon paddy by irrigating 1-1.5 bigha land, not more than 3-4 mons. In later years when the agricultural department came into the picture, then eventually the productions are escalated through scientific techniques. Suppose the watermelon, paddy everything has been produced two times larger than earlier.'

Bishnupada Das, the 31 years old shopkeeper took a retrospect-

'The situation at the time of Aila...I have a firsthand experience of this disaster. Suppose, the day when I first heard the announcement of Aila, then...the situation was tremendous...very bad, peoples are shattered everywhere. But I told you previously, the water drained within the river instantly. One week long this periodic infiltration and drainage of water continued. Suppose people who have their houses in comparative high elevation were living

there, some moved forward in search of secure place, some people resided with other people who have houses in comparative high elevation. Later the Aila...here this new under construction dam for Aila, there one...under this there was another dam. Then the rescue teams came from everywhere and as soon as possible they construct the dam. After that people returned wherever they lived. Suppose my house was here but it submerged totally, but someone has some vacant places there...then people temporarily build their houses there.'

Sukanta Pramanik, the 34 years old mason told-

'Anytime the cyclone can come here. Now a day, in every year there is a cyclone. Some of us are taking the measures for that, those who have that economic strength. About the measures...that I can't tell you...It varies from individual to individual. Every family has their own perspective in this matter. Suppose you put two cement pillars at the base of the house. But they will not sustain in the tremendous water pressure. But whatever we can do, we did it. If that will not persist...what we will do?'

## Conclusion

The nature of livelihood in the situations of catastrophe and/or natural and man-made hazards has been discussed from multiple angles of long disaster literature. Perceiving 'disaster' as purely a social construct, the dimensions varies from the studies of management to political economic research, and/or from sociological to anthropological discourses. Theoretical and empirical situations of crises of the affected people in most of the cases evidenced as examples of victimization due to natural and man-made potentially target agents.

It is now been shaped as a form that all the hazards not necessarily became disasters. It depends on many factors within the society and cultural performances. When we talk about cultural performances an obvious generalized picture came into our mind that culture has had alternative mechanisms to control, shape, and reshape the performances; and its normative aspects in changing situations, as because things are somehow-'expected'. But, the entire system of values and power-centric positions of humane is under threat and gets a challenge when something suddenly runs in an 'unexpected' way and smashed not only the material aspects of human livelihood, but the entire social system, decision making and above all facing the crisis for an existence in the face of that rapid changing situations in the background of an interplay between 'socio-cultural', 'technological', 'psychological' vulnerabilities and the power of the potentially destructive agents, perceived as disasters.

The present ethnography is grounded by three major theoretical concepts that intertwined in the frame of ethnography during the entire research process. Since the fieldwork started, the gaze of the data from the interactions with individual agencies to group discussions, the entire depiction of the variations of vulnerabilities in two different rural settings centering flood made my framing of the research before the fieldwork directly challenged my (over)confident 'presuppositions' about the outcomes of the concerned research.

The findings strongly varies in two settlements under study and so their vulnerabilities due to the nature of flood i.e. in case of settlement-I, the flood occurs due to stagnation of water for long time as because of 'poor' sewage and drainage system is an 'expected' phenomenon for its dwellers. Thus the perception of loss is somehow an embodied experience for the respondents. They manage the crisis with strong social network that we are very used to term as social capital with self and group schemas of resilience. The present research finds out two referential points for the settlement- (a) the immediacy of

implanting 'master plan' over the area that is most waited expectation of the settlers, and (b) the urgent need of conducting ethnographic research at micro level that may enhance the scope of better policy making over the area.

Contrastingly, in the settlement-II, the nature of flood is coastal that manifests totally different picture from settlement-I in the context of perception of disaster preparation, crises during disaster and post-disaster situations of resilience and wellbeing. The referential points for settlement-II is-(a) Mitigating the Legal Issues and Land Grabbing for Dam Construction, and (b) micro-ethnographic study to better policy and action in case of relief, wellbeing and Sustainable Livelihood.

In this book, it is reflected that the nature of flood or any natural and man-made hazards is the significant factor to conceptualize the pattern of vulnerabilities across cultures. The livelihood in both the settlements is cognizable when one can perceive the narration of sufferings at the individual level that further extends the scope to comprehend how an individual and/or a group attach meaning to the disasters.

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