BEING DISPLACED: LIVELIHOOD AND SETTLEMENT IN THE INDIAN SUNDARBANS

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"**BEING DISPLACED: LIVELIHOOD AND SETTLEMENT IN THE INDIAN SUNDARBANS**", submitted by me for the award of the Degree of Doctor of Philosophy in Arts at Jadavpur University, is based upon my work which has been carried out under the supervision of Prof. Amites Mukhopadhyay. And that neither the thesis nor any part of it has been submitted before for any degree or diploma anywhere/elsewhere.

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ABSTRACT

The role of environment in instigating population movements, is only gaining prominence in the present contexture of global warming and climate change. The aim of this thesis was to analyse how environment-induced displacement and its subsequent resettlement and rehabilitation is apprehended in India, taking natural hazards as the phenomenon in question. Based on a qualitative methodology and with Sagar Island of the Indian Sundarbans in West Bengal as the study area, the thesis examined the interlinked yet convoluted relationship between environment and humans in a natural hazard prone region. The thesis analysed the ways in which livelihood strategies, mainly undertaken at the household level are dynamically structured to cater to alterations in their immediate environment, presented by both sudden and slow-onset hazards and where they are threatened by displacement. However, the persistence and the existence of the households is uncertain, considering the short-term orientation of the coping measures, of which voluntary migration, 'planned' and 'unplanned' resettlement also play significant roles. Grounded on the overarching theoretical paradigm of the social construction of disaster, the thesis delved into its varied definitions and risks involved amongst stakeholders, where such perceptions were observed to be diverse and also conflicting with each other. Thus, apart from the local households, the thesis also addressed the role of government ('first sector') and non-government organizations ('third sector'), within the milieu of 'politics' of disaster, risks and its responsibility and how in the absence of concrete legal framework or protective measures, do the environment-induced displaced (existing and probable) population envision their future status quo. The perception of risks varied and how they were constructed affected the household's decision on whether to stay, leave (displaced or migrate) or even to resettle elsewhere. The household's socio-economic position in the vulnerability spectrum is interlaced with the political activeness and/or passiveness of government and non-government organizations. Households engaging in 'planned' and 'unplanned' forms of resettlement, as one of the coping mechanisms in situations of disaster, rests on these constructions, thereby making displacement also socially constructed. However, the 'impermanency' of these coping strategies not culminating into 'adaptive' practices, is leading to situations of 'trapped' populations, a predicament considering the present context of climate change.

NOTE ON TRANSLITERATION

The language spoken in the study area is Bengali. Bengali is derived from Sanskrit and is written in a version of the Devnagari script, similar to most North Indian languages. The English vowel 'a' whose sound in Bengali is, in most cases, closer to 'o'. Based on convention, the terms such as 'panchayat' and 'zamindar', is written in their anglicised version with an 'a' as found in the Oxford English Dictionary. However, these terms are pronounced regionally and locally as 'ponchayet' and 'jomidar'. The names of the islands, village/mouza has been written as they would generally appear in English. These words whenever mentioned in the text appears in *italics*.

GLOSSARY OF LOCAL TERMS

Aangshik khati	partial loss
Aman	rice variety harvested in winter
Baadh/Bund	embankments separating land from water, marking the boundary of the fishery and also marking the boundary of one's land
Bhata/Bhaati	low tide
Bhat-bhati	motor boat
Bhangan	river erosion and breaking away of land
Bhoomihin manush	landless people
Bigha	a measure of land area varying locally roughly equal to a third of an acre
Bonna	flood
Boro/rabi	rice variety harvested in summer
Char	tract of land formed by accretion
Dweep	island
Ghat	jetty or dock
Gram sabha	village meeting
Ghurnijhar	cyclone
Jami/jamin	land
Jowar	high tide
Katha/katta	a measure of land area where 1 katta is equal to 0.05 bigha
Khal	canal
kharif	monsoon crop
Khoi/khoikaran	erosion
Kutcha	not concrete
Malik	referred to the landlord
Meen	prawn seeds
Meen chaas	prawn seed collection
Mouza	revenue village
Nadi	river
Nauka	boat
Panchayat	three-tier rural self-government in India functioning at the village, block and district levels
Pucca	concrete

Purno khati	complete loss
Samudra/samundra	sea
Satak	a measure of land area where 1 satak is equal to 0.03 bigha
Thikadar	broker/middleman/contractor that assists the migrants to find jobs in receiving areas and benefitting from deals between parties
Zamindar	landlord

LIST OF ACRONYMS

CADA	Coastal Area Development Authority
CPR	Common Property Resource
CZMA	Coastal Zone Management Authority
DDMA	District Disaster Management Authority
DM	Disaster Management
DRF	Disaster Response Force
DRR	Disaster Risk Reduction
EOC	Emergency Operating Centre
HRVA	Hazard Risk and Vulnerability Analysis
ICZMP	Integrated Coastal Zone Management Project
IDP	Internally Displaced Persons
ISD	Indian Sundarbans Delta
LARR	Land Acquisition Resettlement and Rehabilitation
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NAC	National Advisory Council
NAPCC	National Action Plan on Climate Change
NCRMP	National Cyclone Risk Mitigation Project
NDMA	National Disaster Management Act
NDMP	National Disaster Management Plan
NGO	Non-Governmental Organizations
NPRR	National Policy on Resettlement and Rehabilitation
NSSP	National School Safety Programme
PMAY	Pradhan Mantri Awas Yojana
PMNRF	Prime Minister's National Relief Fund
PRI	Panchayat Raj Institutions
R&R	Resettlement and Rehabilitation
SBR	Sundarban Biosphere Reserve
SDB	Sundarban Development Board
SEZ	Special Economic Zones
SGSY	Swarojgar Swarnajayanti Gram Yojana
SHG	Self Help Groups
UN	United Nations

UNFCCC	United Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
WBDMP	West Bengal Disaster Management Plan
WBLA	West Bengal Legislative Assembly
WBSDMA	West Bengal State Disaster Management Authority
WBSAPCC	West Bengal State Action Plan for Climate Change

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

Humans from time immemorial have always been on the move. Erstwhile, the drivers for this mobility may have been for the accrual of food, protection against physical threats such as wild animals, external enemy groups, epidemics or even natural hazards. Contemporarily, the factors oscillate from the hankering for social and economic upliftment, to seeking refuge against political, religious or ethnic conflict and implementation of development projects. Natural hazards, though an age-old factor for population movements, is only now gaining recognition, primarily due to its considerably debated association with the phenomena of global warming and climate change. These population movements are effectuated by an amalgamation of push and pull factors working alongside, in both the sending (outgoing) and receiving (incoming) areas. It involves people moving from one place to another, either voluntarily or involuntarily, a question of employing or denial of one's own 'choice'. Displacement, then can be viewed as a type of involuntary movement, involving compulsion or coercion and triggered by diverse factors (IOM, 2019). These movements may transpire within a country (internal) or across national borders (international) and those undergoing categorized as either Internally Displaced Persons (IDPs) or Refugees respectively. It would be an ideal scenario to rigidly compartmentalize the varied push and pull factors of population movements, as well as the typology in terms of forced and voluntary, but in reality, such well-defined distinction is rather complex.

The Independence of India in 1947, witnessed the hurried drawing of boundaries and the partition of the nation. This resulted in massive displacement of people and the crisis of refugees. About 14 million people have been assumed to be displaced and nearly 1 million killed, due to the turmoil created by this event[1]. Adding on to this huge number were also international events like the Chinese invasion of Tibet and Tibetan refugees seeking sanctuary in India. The refugee influx continues even post-1983, with the eruption of ethnic and political violence in Sri Lanka and the consequent displacement of people. India is neither a party to the United Nations (UN) Convention on Refugees (1951) nor the Protocol Relating to the Status of Refugees (1967) and does not have a national legal framework on refugees in place. This has made India independent in its dealing with refugees and is a matter of administrative and

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[1] According to the webpage of British Red Cross. Last accessed on 14.08.2022.

political decision making. As a result of which there are differential handlings of various refugee groups seeking asylum in India. Some enjoy legal assistances whereas others have been criminalized and deprived of basic necessities of life.

Simultaneously, India, was also gearing towards the pathway of development. This manifested in the form of multipurpose river valley projects, urbanization, creation of Special Economic Zones (SEZ), mining, conservation related projects etc. These ventures perceived as the symbol of national progress was also contrarily disconcerting. Under the ambit of globalization, privatisation of the development process further mounted pressure for faster growth, thereby threatening the lives and livelihood of millions of people in India. According to the Working Group on Human Rights in India and the United Nations' Report, India has the highest number of development-induced displaced populations in the world (WGHR, 2012).

There is a huge amount of discrepancy in the estimates of the number of IDPs in India. World Refugee Survey indicate a figure of 507,000 (Lama, 2000); the Indian Social Institute, Delhi at 21.3 million and the Global IDP project shows a figure of 59.1 million people (IDMC, 2021). Even though, these are estimated statistics, but it is staggering. However, reliable comprehensive data on the number of people truly displaced is lacking. The adverse social, environmental and economic impacts of such displacement have been well studied. Displacement entails exclusion of the oustees from their economy, livelihood, social systems and their culture, rarely providing the alternatives to subsist and rebuild their dismantled lives in the new environment. Such inadequacy of coping mechanisms results in further marginalization and prevents a sustainable reconstruction of lives. With time, the affected people internalize this dominant philosophy that assumes their own community as mediocre and incapable of development. Equally dismal is the data on the number of people that have been subsequently resettled and rehabilitated.

The issue lodges in the fact that the satisfactory quotient of any resettlement program in India is almost negligible. The government's action towards resettlement issues over the years was a mere response to the growing protests and agitations by the oustees against the acquisition of their land and disruption of livelihood. Sociologist Michael Cernea propounded eight impoverishment risks to resettlement viz., landlessness, joblessness, homelessness, marginalization, increased morbidity, food insecurity, loss of access to common property and social disarticulation (Cernea, 1997). One of the major issues pertaining to resettlement in India, is the paucity of the actual records of people or families being displaced, the initial utmost

hindrance to resettlement and rehabilitation (R&R). Research on the issue of resettlement and rehabilitation has brought to the limelight numerous concerns that, ranges across a gamut of repercussions, from economic, cultural, social, environmental to political. Resettlement and Rehabilitation are usually taken to be synonymous by the authorities concerned, who fail to understand that the two are related but disparate in terms of their attained result. Very often monetary compensation is treated as the only solution. The basic essence of resettlement and rehabilitation requires opening up dialogue or creation of spaces of such interactions between affected parties and the initiator of the process. This seems to be non-existent in the case of resettlement and rehabilitation in India.

Environment as a driver for human mobility is not something novel. One of the theories of the decline of the Indus valley civilization has been attributed to natural disasters. Movement of people and civilizations due to environmental changes has been assessed as an important coping mechanism or an adaptive practice. Globally, millions of people are affected due to sudden or rapid-onset hazards like, cyclones, floods etc. The Internal Displacement Monitoring Centre (IDMC) reported that between the period 2008-2021, about 342.3 million people were internally displaced due to various natural disasters, across 202 countries and territories (IDMC, 2021). Much of the disaster studies prioritize these non-routine events, overlooking the other section of the population, for whom slow-onset natural hazards like erosion, are a routine arrangement in their everyday lives. Disasters involves outward inconsistencies and internal intricacies as well, and the understanding of this phenomenon cannot be disconnected from the studying of the everyday living of people. The experiences of sudden and slow-onset disasters are different for different people. The action of individual (or households here) is contingent upon his/her/their elucidation of the situation and which is continuously construed and negotiated (Hertz & Thomas, 1983). As such, the definition of disasters and its risks varies across groups. In this thesis, disaster is then perceived as a process rather than an event. How a disaster is defined, is therefore imperative for the conceptualization of environment-induced displacement, which would influence the subsequent resettlement and rehabilitation process.

Human mobility (voluntary or involuntary) is assumed to be one of the major impacts of global warming and climate change. However, the multi-causality nature of migration makes it difficult to assess this relationship. This dynamics of human mobility and climate change continues to be a much-deliberated topic. Natural disaster (both sudden and slow-onset) is believed to induce a complex nexus of voluntary migration and displacement. As such, presently finding a remedy to this crisis is quite far-fetched. This is further problematized by

the issue of resettlement and rehabilitation. India's approach to resettlement and rehabilitation due to other causes have not been so commendable in the past or in the present and the cases of natural disaster-induced is meagre, for one to make a comparative analysis. The problem becomes heightened with the inability of the scientific world even to come to an agreement of a unanimous terminology for categorizing such population displaced by environmental factors – 'environmental refugees' (El-Hinnawi, 1985) 'ecological refugees' (Gadgil & Guha, 1995), 'environmentally-displaced' or 'environmental-migrants' (IOM, 2009).

The Sundarbans, a UNESCO world heritage site, an archipelago of islands, fashioned by the rivers Ganga, Brahmaputra and Meghna, presents a unique deltaic eco-region, which is currently shared between the nations of India and Bangladesh. The total area of this deltaic region comprising of water, forested and cultivated islands and some sections of the mainland, is 40,000 sq.km. Of this whole area, the total land area of the Indian Sundarbans is about 9,630 sq.km. of which nearly half is forested (Jalais, 2004, p.13). The Indian Sundarbans comprises of a total of 102 islands[2] of which 54 are variably inhabited. The people of the Sundarbans can be aptly described as the 'ecosystem people' (Dasmann, 1976). Sundarbans' human-nature dynamics presents a symbiotic yet dialectic relationship. The inhabitants are heavily reliant on their local natural environment for basic sustenance and meeting their socio-cultural, economic or livelihood needs. Nonetheless, very often this interaction also leads to conflict between the two.

The region is however, prone to extreme storm events which are common during the months of April-May[3], and from the months of September through November, interspersed by high frequency of weather events, like cyclones. These cyclones bring strong wind, heavy rainfall and flooding, resulting in severe coastal erosion and embankment[4] breaches. Analyses of cyclonic events over Bay of Bengal indicate a 26% rise in the frequency of high to very high intensity cyclones over the last 120 years (Singh, 2007, p.59). The northern half of the Bay of Bengal has been a witness to at least four cyclones in between 2007-2009, Sidr, Nargis, Bijli and Aila (Danda et al., 2011, p.28). The recent occurrences being Cyclone Amphan in 2020 and Yaas in 2021, that wreaked havoc in the lives and livelihoods of thousands of people and

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[2] Recently this figure has been contested due to the submergence of islands over the past few decades.

[3] This is the pre-monsoon period that brings in torrential downpour, violent thunderstorms, hailstorms and even cyclones, also known as Nor-westers or locally as *Kalbaishakhi*.

[4] A 3500 km embankment serves as the lifeline for the inhabited islands.

the scale of devastation is yet to be fathomed. Millions of people are killed during the incidences of sudden-onset hazards like a cyclone. The irony of the situation is, that the population of the Indian Sundarbans Delta (ISD) has grown significantly since 1951[5], due to a combination of natural growth and migration. However, the overall land area has been steadily decreasing - since 1969 there has been a loss of 210 sq.km. and the beginning of 2001, shows the net loss at 44 sq. km (Danda et al., 2011, p.29).

Additionally, the Sundarbans has been identified as a 'climate change hotspot'. Climate change is expected to affect the movement of people, in diverse ways. The Inter-governmental Panel on Climate Change (IPCC) reports reiterates the notion that the impact of climate change and the character that it assumes, exposes the human societies and natural systems to risks. According to IOM (2009), climate change is predicted to directly impact the livelihood of these 'vulnerable' population and is further projected to undermine food security and sustained provision of resources. Further influenced by an interconnected but varied range of unequal non-climatic elements in society, it results in differential but interrelated elements of exposure and vulnerability. This furthers the shaping of differential risk decision-making within the context of climate change. It thus becomes obvious that people who are socially, economically, culturally, politically or institutionally marginalized, are more susceptible or vulnerable to climate change. It is anticipated that climate change would augment the known existing risks and create new ones, equally for both natural and human systems. This interconnectedness of climatic and non-climatic factors, therefore, makes it tremendously problematic to establish a direct relationship between climate change and migration and/or displacement (IOM, 2009).

The paucity of regional and local studies on the resettlement of rehabilitation of environment-induced population in India, adds to the crisis. The thesis hopes to uncover whether the consequences of environment-induced displacement and issues of resettlement is similar or disparate to those exhibited by other causes. But augmenting the problem of environment-induced displacement, is the lack of protective safeguards. An analysis of the national and state (West Bengal) legal enactments concerning displacement and R&R reveals the primacy given to acquisition of land for developmental projects over natural disasters. The state relevant for ISD - West Bengal, still lacks an R&R policy. The Disaster Management (DM) plans and policies- National, State and Districts, focus more on short-term relief and resettlement and under emphasis on the long-term measures of rehabilitation. The Disaster Management Plans

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[5] According to census 2001, the total population in the 19 Community Development Blocks was 3.8 million (Ref. Danda et al. 2011). In 2011, the size has increased to 4.4 million (Ref. Mukhopadhyay, 2016).

of both South and North 24 Parganas, administratively covering Indian Sundarbans Delta, have no strategies for rehabilitation of displaced population due to disasters. Furthermore, even the National Action Plan on Climate Change (NAPCC, 2008) and the West Bengal State Action Plan for Climate Change (WBSAPCC, 2012 & updated in 2018) does not address the issue of displacement, let alone relocation and resettlement. The question remains whether the government would consider resettlement due to such natural disasters, a preventive or a post-event strategy. The failure to accept displacement or even migration as one of the impacts of climate change in the Climate Change Action Plans- National or State, adds to the woes.

This thesis is circumscribed to the Indian Sundarbans delta, notably the island of Sagar or also known as Sagardwip or Gangasagar. Administratively, Sagar Island is known as a Sagar Community Development Block (CDB) under Kakdwip sub-division, South 24 Parganas district[6]. The reason for selecting this island is that it has a history of 'planned' resettlement of people, initiated during the late 1960's, by the local government (Panchayat) of West Bengal, due to displacement caused by erosion and submergence of certain islands and village of ISD. However, post the period of planned resettlement, the perpetual slow onset disaster interspersed with sudden-onset hazards, leading to subsequent loss of land, have continued to generate displaced population in the selected regions. The purpose of this research is descriptive in nature and the study would adopt a qualitative methodology for empirical understanding of the research problem. The thesis further orients to transform from a descriptive to a prescriptive study. The researcher through the insights gained from this study hopes to contribute towards policy formulation for sustainable resettlement and rehabilitation, pertaining to environment-induced displacement, which is the need of the hour in the era of global warming and climate change.

1.2 Problem statement

The importance of protecting the Sundarbans' natural resources has been recognized by the National & State Government, as well as international organizations like the UNESCO, the International Union for Conservation of Nature (IUCN), and the World-Wide Fund for Nature (WWF). There is an impressive extant body of knowledge on the biological and geo-physical aspect of the area. The focus on nature-human dynamics in this eco-region is slowly gaining

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[6] The Indian Sundarbans is administratively divided into two districts- North and South 24 Parganas. The Indian Sundarbans had been proposed to be transformed into a district by the Chief Minister, West Bengal in 2015-2016, but the plan has still not come into execution. In this study, Sagar Island would be assessed as a part of the South 24 Parganas only.

ground. The region is characterized by poor infrastructure in terms of inefficient and expensive transportation, inadequate healthcare and education, and lack of access to modern energy services, misaligned institutional arrangements, few economic prospects, and unfortunate administrative control. This dreary situation persists despite the creation of a specialized agency – the Sundarban Development Board (SDB) in 1973, (initially under the Planning Department of the Government of West Bengal) and later revamped as the Department of Sundarban Affairs in 1994, for socio-economic development of the area. For some social scientists, beginning with the colonial to post-colonial period, conservation of animals has been prioritized over the lives and settlement of humans in the Sundarbans, creating differences in the social construction of development (Mukhopadhyay, 2016).

The Indian Sundarbans, particularly the study area of Sagar Island presents a 'contested space' between environment and humans. WWF-India, (2009) opined that the total number of 102 inhabited islands of the Indian Sundarbans have condensed to 98 islands because 04 islands have been submerged, with about 6000 families displaced (WWF-India, 2009). The question that is broached through this research is - how then do the people constantly negotiate and re-negotiate their existence in this contested space? By contested space here, the researcher means a perpetual state of conflict between man and the environment, in this precarious region of the Indian Sundarbans. How does disaster, displacement and the risks involved form a part of this negotiation? This subject of nature-society conflict or interaction has been of much dissension in environmental sociological discourses. As such, this thesis endeavours to contend from a 'New environmental paradigm (NEP) and demurs the age-old 'Human exemptionalism/exceptionalism paradigm' (HEP), that comprehended society as isolated from nature or dominant over it (Dunlap & Catton, 1979; Hannigan, 1995). Not being oblivious of the beneficial relationship between the natural resources and human beings, it is rather the conflictual interaction between man and the environment that would be the pivot of this thesis, delving into the imbalance in the socio-ecological interrelationship between the two forces. Further, the disaster that is dealt in this thesis may be a result of natural forces but the scenario that unfolds has major social underpinnings.

Every research has a central research question(s) that the study aims to answer. This research endeavours to delve into the following three overarching research questions.

- What are the livelihood strategies and risks people constantly construct and negotiate in a natural hazard pre-disposed region, living under the threat of environmental

displacement? How does the dynamics of displacement and voluntary migration feature in this context?

- What significance does these constructions and negotiations have on the resettlement and rehabilitation outcomes, whether 'planned' or 'unplanned'? What works and what does not when the total structure of these dismantled transitioning societies, tend to reassemble within new environments?

- Does the conceptualization of natural disaster and the perception of risks of displacement and resettlement involved, align between the local people, government and non-governmental organizations, within a social context?

Based on the overarching paradigm of the social constructions of disaster, what are the strategies that the people adopt in order to administer the situation? How do the people under the threat of likely environment-induced displacement, perceive their uncertain existence? How are the risks then 'calculated' and defined? The changing environment enforces a change in livelihood options, where it is now being structured to cater to such transformations and make their stay in the region viable. How does displacement and resettlement feature in these dynamics? In analysing such strategies and risks, the interrelatedness between displacement and (voluntary) migration would also be assessed. It has been observed that in the lived experiences of disaster-affected populace, forced displacements and (voluntary) migrations are not so easily separated but are complex decisions made by individuals or households and overall communities in response to economic and social pressures, deteriorating infrastructure and discourses of risk, based on their differential positions in the vulnerability spectrum. The perception of risks is varied and how they are constructed will affect the household's decision whether to stay, leave (displaced or migrate) or even to resettle elsewhere. When undertaking this decision, what bearing does it have on the household's resettlement outcomes? As such, the study examines the interlinked yet convoluted relationship between environmental vagaries, life and livelihood risks and the phenomenon of displacement and subsequent resettlement, planned or otherwise.

Keeping the 'old resettlers' as an instance of a 'planned resettlement' process, the researcher is interested to understand the dynamics of the people in the existing circumstances and those who take matters in their own hands. The Indian Sundarbans, in particularly the island of Sagar, posits a study area where such phenomenon can be witnessed. This thesis therefore explores the narratives of disaster and the dynamics of environment-induced displacement, from three vantage points – (i) historicity of the oustees who underwent 'planned resettlement' initiated

by the state; (ii) 'unplanned' or 'self-resettlers' – those who are undertaking the resettlement process themselves and where the continuum of displacement and voluntary migration would be analysed (iii) 'trapped' population- those who are unable to relocate themselves for varied reasons. The role of the government and non-government organizations in this context will also be addressed in this study. In the absence of concrete legal framework or protective measures, how do these environment-induced displaced (existing and probable) population envision their future status quo? In the attempt to understand risk definitions and responsibility of varied stakeholders, the thesis delves into the question of the 'politics' of risks and the onus of responsibility, where the interventions and the lack thereof can be assessed. It has been observed in few literatures germane to resettlement that the coping mechanisms of community-based resettlement, enabled the oustees to rebuild their livelihood more successfully, as they could adapt much better. Finding such mechanisms in the study area would further add another dimension to the study.

Apart from its unique coastal zone ecology, the mangrove forests of the Sundarbans also offer protection against storms, tidal surges, and erosion to not only local communities but also to the city of Kolkata (Calcutta), about 130 km away. This was evident from the Tsunami disaster of 2004, the calamitous Cyclone Aila of 2009 and the recent havoc rendered by Cyclone Amphan in 2020 and Yaas in 2021. However, Sundarbans is in a state of crisis for a number of reasons - historical and current, natural and anthropogenic including global climate change, and it is vital that a more sustainable path is found for development in the eco-region. Moreover, it is equally important to find solutions of tackling the looming issue of displacement in the region and developing pathways for sustainable resettlement.

1.3 Significance of the study

The respondents chosen for this study represent a category of population who have either been 'environmentally displaced' or are either threatened by hazards. As mentioned earlier, environmental changes have played a major role in acting as an agent for human mobility. Furthermore, environment-induced displacement has received far lesser attention in resettlement and rehabilitation literature, than the other 'conventional' causes of displacement like development projects or conflicts. Resettlement is a process of having to restructure one's life or one's existing social reality. The literature on the link between environmental disaster and displacement or even (voluntary) migration, reveals greater research devoted towards sudden-onset disasters like cyclone, hurricane or tsunami and lesser on the slow-onset disasters

like soil erosion. Thus, there is also a dearth of empirical studies on the regional and local impacts of slow-onset disasters.

The complexity of the issue is however not just limited here. These categories of people lack protective policy and other legal safeguards at both the global and national level, placing them in an even more vulnerable position. One of the causes of this lack of protective safeguards could be the lacunae of such empirical studies, that also hinders the international and national avenues for response. Thus, such a study is important to tap into the strategies undertaken by households under the looming threat of environmental hazards and whether or not displacement and/or voluntary migration plays a role in such a process. This can be utilized to develop a larger understanding of the multi-dimensionality nature of involuntary movements. This study attempts to look into the displacement and resettlement process of natural hazard affected population of the selected study area, resulting into disasters and delve into how risk and uncertainty forms a part of their everyday life. The thesis sheds light on the social construction of disaster and how such interpretations diverge across a spectrum of stakeholders from local people to government and non-government organizations. Attempt has been made to analyse the efficacy of 'planned' or 'unplanned' resettlement as a strategy for disaster risk reduction through this study. Therefore, the study becomes crucial in enabling us to build on the question of whether or not 'preventive resettlement' can be the panacea for this issue and most importantly for appropriate policy formulation to deal with environment-induced displacement.

1.4 Conceptual and theoretical underpinnings

Migration

The Human Development Report of 2009, employs the term 'migrant' to refer to "*individuals who have changed their place of residence either by crossing an international border [international migration] or by moving within their country of origin to another region, district or municipality [internal migration]*" (p.15). An individual is considered as a migrant if he/she remains away from their original place of residence for a period of at least three months. Theoretically, **Migration** is used as an umbrella term that incorporates two broad types of movement: voluntary migration and involuntary migration. The causes, consequences, trends and forms of migration are extremely dependent on the social and ecological circumstances of both the places of origin and destination (Locke et al., 2000). Studies maintain a conventional distinction between **voluntary** and **involuntary** forms of migration. Movement with the utilization of the element of 'choice' is regarded as voluntary migration. Involuntary migration

is movement that is not out of one's volition but where 'force' is involved. Displacement in numerous literatures is often regarded as an involuntary form of migration.

Household's decision to migrate are based upon numerous 'push' and 'pull' factors (Kolmannskog, 2008). Besides the economical dimensions of these movements, classical migration theories and models have also utilised non-economic aspects in migration decision-making processes at the household level. Environment can be a major determining cause for 'push' or 'pull' of migrants. Based on this, Petersen (1958 & 1975) delineates two types of migration behaviour –or 'conservative' or 'innovative'. In the former days, conservative responses would result in nomadic predispositions within the risky zone, avoiding long-distance movement. Innovative response on the other hand, involved fleeing from the risky area to a relatively lesser one (Petersen, 1958). The 'stress-threshold' model of Wolpert (1966) regards migration as, a response to the numerous 'stressors', including environment, experienced at the existing residential setting. As these results generate 'strain' on the population, alternatives are sought (Wolpert, 1966). This decision of the migrants is shaped by an assessment of the 'place utility' of alternative residential sites, built upon by the expected gratification consequential from resettling in a specific location (Wolpert, 1966).

Beddington (2011) categorized five drivers of migration: social, political, economic, demographic and environmental, but which are not exclusive and in certain settings can interact in numerous ways. For instance, as Khan et al., (2012) remarks, this interaction can be observed in the post-Cyclone Aila scenario in 2009, where the government inadequacy to respond rapidly and effectively, appeared as 'political drivers' that fashioned 'environmental drivers' of food and drinking water quandary, thus compelling populations to migrate (Khan et al., 2012). The neo-classical microeconomic frameworks, with their emphasis on human and economic capital aspects of migration decision making, comparatively provides less attention to environmental context (DaVanzo, 1981; Harris & Todaro, 1970; Todaro, 1976). However environmental elements like climate, may contribute to the attraction or rejection of a particular place in the migration decision-making and settlement of people (Gardner, 1981; Knapp & Graves, 1989; Speare, 1974).

Displacement

The generally employed definition of displacement can be located in literature on development and refugee studies. This has been elaborated more extensively in Chapter 4 of this thesis. From the stance of development, displacement infers to not only physical exclusion from a place of

residence, but also from cultivable lands and other accrued assets in order to indulge in alternative developments (Cernea, 1999). As such the eviction extends beyond the geographical relocation of people to their economic and social exclusion as well. However, in reality such socio-economic expropriation is denigrated and physical relocation is prioritized in resettlement (Cernea, 1999). According to Cernea (2006), displacement in the context of development, is neither an unanticipated or unintended consequence. Displacement, results in a situation where the individuals are forced to move against their will. The Guiding principles of UNHCR stresses on this forceful nature of movement, that distinguishes voluntary from involuntary. International criminal and humanitarian law equate this lack of voluntariness, as the lack of personal consent of an individual within a certain context. Both the subjective and objective dimensions are essential for analysing the meaning of displacement and 'force'.

This movement could transpire either within the country of origin, referred to as internal displacement or crossing national boundaries - international displacement. Thus, displaced populations are delineated into two contrasting categories of 'internally displaced persons' or IDPs and internationally displaced or refugees. The IDPs according to the UN Guiding principles on Internal displacement (2004), are persons or groups that have been forced to leave their place of origin due to fleeing or avoiding armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters but those that have not crossed any internationally recognized state border (UN, 2004). This definition highlights two basic points – the movement is forced and not by choice and that it involves people residing within the borders of a country. This definition also acknowledges that people can become internally displaced caused by both natural and anthropogenic forces or life-threatening settings, persuading them to move. However, the international consensus about a definition that comprises these two essential components, coexists with state-to-state variations in elucidations and practical translations (UN, 2004).

Based on the EU & UN (2018) categorization, the well-addressed causes of IDPs are as follows: (a) Armed conflict, occurring at both the national and international front, involving impact on physical, economic, social, cultural and psychological aspects. Such IDPs are provided protection by both national and international laws. (b) Generalised violence situations – includes conflicts that are lesser in threshold than armed conflicts of widespread criminal, ethnic, political, and inter-communal nature. (c) Human rights violations - may include violations of general international human rights covenants, specific international human rights treaties, or national human rights provisions that are related to land alienation especially due to

large scale development projects, terrorist attacks, threats etc. (d) Natural or human-made disasters – or a combination of both (EU & UN, 2018). But in reality, displacement is often multi-causal.

The movement of IDPs within national borders distinguishes it from refugees (those crossing international boundaries) and accorded a certain amount of protection by international and national statutes (EU & UN, 2018). A distinction between IDP and Refugees is crucial for policy requirements. IDP is inclusive of situations where people despite being homeless, settle nearby their original areas, which could either be because of individual choice or incapability to attain accommodation in other locations. This creates scenarios of temporary return or frequent visits to their original homes (EU & UN, 2018). The guiding principles provides no specifications for the length of time that the people should be displaced in order to qualify as IDP. The status of IDP extending to their future generations is much debated. According to the IASC Framework, this status ends when IDPs have secured a durable solution to their displacement. Both the Guiding Principles and the IASC Framework emphasizes on the granting of IDPs voluntary and informed choice of settlement option and the full enjoyment of their human rights without discrimination despite displacement (EU & UN, 2018). The negative consequences of displacement can perpetuate even if the people are physically resettled and the risk of re-displacement can also exist. As such it is imperative to understand the sustainability of the strategies utilized and how the end of displacement is assessed. Displacement therefore involves the necessity of various external interventions in the forms of protection and/or assistance.

Sociologist Michael Cernea, as an advisor to the World Bank, during the 1990's developed an Impoverishment Risks and Reconstruction (IRR) model (Cernea, 2002). This was created to act as an aid to diagnose intrinsic risks and plan for a more wholistic, inclusive and better form of resettlement practices, where such risks of displacement are reversed and stratagems for rehabilitation are developed. The model was fashioned to be in contrast to the then execution of displacement occurring in development projects, especially in the developing countries. The IRR model would serve interrelated functions to estimate feasible risks, guiding resettler's rehabilitation and further research (Cernea, 2002). The model operationalized the risks of displacement through several variables which are interrelated and dependent on each other. This model is useful in corroborating the risks at the macro and micro level through targeted risk reversal or mitigation (Cernea, 1995) The IRR model is also flexible in its nature and can

be modified to changing contexts. The model was applied to reviewing the displacement scenario and the resettlement strategies of more than 200 development projects undertaken by the World Bank between 1993-1994.

The process of displacement is predisposed to certain socioeconomic risks. However, inability to initiate suitable counteraction to such risks, could result in concrete impoverishment of those displaced and could over-extend to even the local (regional) economy as well (Cernea, 1995). The intensity of the individual risk, of course depends on the local settings. Risks are often directly perceptible, and also measurable through science, as they are an objective reality (Adams, 1998). Displacement is often synonymously used with involuntary migration. In this thesis, however, the researcher refrains from using the term forced or involuntary migration for displacement, simply to avoid the confuddling of the two concepts of migration and displacement (which occurs often in literatures) and for further ease in identification and assessment.

The probability of the risk of impoverishment is high, if all of the variables of risks of displacement are not reconstructed or reversed during the process of resettlement. The risks of displacement as identified by Cernea (2002) are as follows: (i) Landlessness – displacement results in the uprooting of people from their land, the essential element on which the lives and livelihood of the people are constructed upon. Inability to reestablish land and livelihood, could result in the risk of landlessness. (ii) Joblessness – losing employment and greater proportion of time taken in providing newer prospects. (iii) Homelessness –losing of a house (in the physical sense) of a family but a home (socio-cultural sense) as well. The persistence of homelessness in some resettlement cases, produces alienation and status deprivation of the household. Time and financial constraints, disallows resettlers to reconstruct their houses, forcing them to reside in temporary shelters or camps. Prolonging of this, shapes the shelters into more concrete structures and thereby simultaneously extending the period of homelessness. (iv) Marginalization – occurs in various dimensions. A situation of 'downward mobility' of families with the forfeiture of economic stability. This can occur even prior to initial displacement, where upcoming investments are curtailed in the project areas. This marginalization then extends beyond economy and touches upon social or psychological dimensions as well. This transpires through diminishing social stature and faith in society, heightened vulnerability, sensation of helplessness. The resettlers are perceived as a social stigma and as such opportunities are denied to them in the new area, creating conflict between host and resettlers (v) Food insecurity – the risk of undernourishment along with the risks of

landlessness and joblessness could extend the temporary problem to a chronic one and even impact morbidity and mortality rates. (vi) Increased morbidity and mortality – numerous physical, social and psychological issues especially in infants, children, women and elderly. Lack of timely intercession often results in increasing the vulnerability and mortality rate as well. (vii) Loss of access to common property resources (CPR) –reflected in both natural as well as artificially created CPRs. The risk of loss of naturally occurring CPRs has a greater significance for the rural poor – the landless. This segment of the populace is directly dependent upon CPR for their socio-cultural and economic needs. The loss of CPR is usually not compensated by the developers. Even the access to artificially constructed CPRs like schools, hospitals which are enjoyed by the general population is often promised but not granted. In the new resettled area, the pressure on these resources increases, thereby causing social conflict between the host and resettler and also environmental deterioration. Lastly, (viii) Community disarticulation – caused by the fragmentation of the community through displacement. The social capital of the people in the form of social organization, interpersonal ties, kinship groups, informal networks, voluntary associations are all disintegrated. Thus, this disarticulation influences not just physical, natural and human capital but social as well. The compensation of the loss of social capital is never expressed in resettlement proformas. The dispersed resettlement of families makes the process of rebuilding of such capital extremely difficulty. Through intensive strategies like methodical planning, suitable financing and policy initiative, such risks of displacement can be prevented or mitigated (Cernea, 2002). However, the reconstruction is also dependent on the equal participation of the displaced population and other related state and non-state actors. Therefore, risk assessment and management at every level are crucial steps, not just for displacement but also for resettlement and rehabilitation.

In this thesis, the conceptualisation of displacement and its distinction to (voluntary) migration was refined during the course of the field work. Displacement in this sense, is the state of affairs in which a household is *forced* to relocate from their original place of stay but *without the option of return* to the said place. This contrasts it to the '*voluntary*' nature of migration and the household or its members can utilize the *option of return* to the original sending area. The other definitive difference that thesis maintains is that (voluntary) migration has the potential to transform the lives of the migrants for the better when they leave their place or origin either temporarily or permanently in search of income. Displacement on the other hand, as literature implies, always leads to downward mobility, the deterioration of an individual's life circumstances, often culminating to impoverishment. Displacement, at least the kind caused by

'conventional' forms may find reprieve in legal enactments which may not be the case for voluntary migration. A contrast between voluntary migration and displacement is also maintained in this research on the lines of the definition by Kartiki (2011) in terms of the former involving the movement of selective members of the household while in the case of the latter all the members of the household move (Kartiki, op cit). In this study, the households that have undergone displacement are then referred to as 'environmentally displaced persons' and the movement as 'environment-induced displacement', as referred by the International Organization for Migration (IOM, 2014).

Resettlement & Rehabilitation

In the context of development-induced displacement, prior to 1980's, resettlement or rehabilitation was practically non-existent in legal frameworks. It was only when the World Bank reviewed their working policies, they formulated a formal initiative on resettlement practices in Bank aided projects and therefore the concept of Resettlement Action Plan or RAP came into existence (Cernea, 2006). However, the concepts of Resettlement and Rehabilitation (R&R) have always been used in conjunction with each other. In most of the development-displacement projects, there occurs a tendency to use the two terms synonymously. This thesis looks at the two concepts as interrelated but differentiated in their end outcomes.

Resettlement here, refers to the actual process of physical relocation of those displaced. Resettlement planning in development projects involves the provisioning of resources in the form of resettlement packages, to the displaced and project-affected population. Cash compensation is the dominant form of resource offered to the oustees and those affected. Accommodation facilities are the immediate necessity that is to be provided in these packages. When such amenities are not provided for the resettlers, they are impelled to utilize various efforts to build durable homes like taking loans due to inadequate monetary compensation or even utilizing part of the compensation allotted for purchasing land (Cernea, 1999). According to Cernea (2008), land-to-land resettlement has far more success potential and sustainability than cash-based compensation, provided that technical assistance and favorable social policy measures are also included. However, when it comes to land compensation, the loss of dwelling is prioritized over other uses of land, mainly economical. Land, for those affected, is not just a means of livelihood but an identity in itself. Loss of livelihood due to displacement does not just involve losing work, but the affected people are forced to transform to an alternative living. With the provision of these services in the resettled area, the resettlers strive to improve their

living standards over past levels. The strategies for resettlement often fall short when the emphasis is on monetary compensation and feeble institutional arrangements. Analysis of literature on displacement provides a grim picture of resettlement and rehabilitation practices in India. Resettlement should be understood not merely as providing housing solution, but involves a complex, multidimensional process. Infelicitous resettlement planning and implementation can result in greater likelihoods of negative impact. Thus, resettlement can lead to both positive as well as negative impacts on the receiving as well as the sending area (Stapleton et al., 2017).

Most of the development projects in their planning and execution, tend to miss out on their core essence and the importance of distinction of these two concepts. Rehabilitation as viewed in this thesis, refers to an impact that extends beyond resettlement denoting the socioeconomic re-establishment of family/household or other micro-units and also larger communities. It encompasses the processes of reconstructing the physical and socio-economic circumstances of the oustees by guaranteeing a proper livelihood, developing assets and being receptive to their state of affairs (Fernandes, 2008). The extent of success of any resettlement project would be, if it effectively managed to rehabilitate the oustees in a holistic manner - not just at the economic and physical level, but also at the social and cultural. In many instances, resettlement does occur but without rehabilitation. Empirical evidences are indicative of the weightage awarded more to physical resettlement than the socioeconomic rehabilitation of the displaced population by the resettlement and rehabilitation project developers (public or private). Resettlement therefore would involve the process of settling the displaced population in a new area.

Rehabilitation on the other hand encompasses the restoration of such resettled population to their former state or even better. But the process of reconstruction to the normal order, of maintaining and strengthening new relationships, of reorientating the ways of living, at the personal and community level, is an arduous one. All this, would fashion a new social structure that assists in the return to normalcy, and therefore rehabilitation will be successful (Moore, 1956). Recurrent occurrences of resettlement without rehabilitation, signify the innate shortcomings in the domestic policies of many countries, starting with the formulation, planning and thereafter perpetuating down to even execution and monitoring. Thus, it is imperative to view these two concepts as distinct and accentuate on maintaining it.

Resettlement can transmute into rehabilitation, if it moves away from the conventional top-down approach where the state or the developers plays a one-actor strategy. The active communication and involvement of all actors concerned, in each and every level of such a process is imperative (Cernea, 2002). The notable position of Non-Governmental Organizations (NGOs) in displacement and resettlement cannot be ignored. From being the voices for the affected communities questioning the developers, to even implementation of the resettlement programs, the NGOs have played a formidable role. The grassroot connectivity of the NGOs gives them an upper-hand over governmental organizations. As such, a robust collaboration between the two can be an important strategy for resettlement management (Mathur, 2006). Literatures on displacement, resettlement and risk reiterate that there exists a difference between the would-be resettlers and decision makers or other experts (here NGOs) on risk-perception of displacement (Mairal & Bergua, 1996). Therefore, resettlement has to extend beyond the mission of relocating people from one location to another, but towards risk management and the continuous balancing of innate risks of displacement with prevailing counter risks measures (Cernea, 2006).

Resettlement is encompassed as a post-disaster strategy in the milieu of natural disasters. The post-disaster reconstruction is characterised by complexity and dilemmas and can be both temporary or permanent. The bedlam in the society is evident as those affected, struggle to fashion the original pre-disaster state of order (Parida, 2018). The resettlement and reconstruction process is instantaneous in the case of sudden-onset disasters than slow-onset. Due to various reasons, such disasters entail resettlement of populations, when the impossibility of returning to their original area arises. Community relocation, has been one of the most utilized types of disaster reconstruction strategy undertaken by affected communities (Mileti & Passerini, 1996). This reconstruction entails restoring the community, at least to the level of a pre-disaster socio-economic situation, in areas that are deemed less hazardous; to a state of some-what normalcy (Fothergill, 1996). The community is also restructured to take recognition of the variations of risks (Mileti & Passerini, 1996). In developing countries, extensive community relocation is not a common phenomenon. Hunter (2005) believes that a lesser ordered type of environmentally-indmituced permanent migration is said to occur in these nations. In cases of internal or international displacement, strategies of emergency and mandatory evacuations or resettlement is crucial. The situation is itself complicated when the assessment of the event and its impact are based on probability. As noted earlier, in scenarios of population movements related to slow-onset disasters, the element of 'force' is difficult to

determine, where it is regarded as one of the approaches of 'adaptive migration' (EU & UN, 2018).

It is only of late that some countries now are experimenting with preventive methods of resettlement. The resettlement process should not append to the varied dimensional risks of people, exposed to disaster, and further enhance vulnerability of such population. Remittance in a post -disaster situation, is considered as an important pull factor due to its crucial role in guaranteeing the subsistence and recovery of households and their maintenance in origin locations (Stark & Lucas, 1988; Savage & Harvey, 2007). The central tenet of resettlement management should be the managing of risks, decision making from planning, implementation to monitoring, including multiple stakeholders. The ignorance of grassroots' understanding of their own environment in disaster arbitrations, upsets the local adaptation practices and in turn weakens disaster recovery (Oliver-Smith & Hoffman, 2020).

Risk management involves its careful identification and assessment at the micro-macro level and also of short- and long-term strategies. For Cernea (2006), resettlement process entails a gamut of three interrelated but discrete methods – (i) pre-emption and eviction of people (ii) resettling people in the new resettled area (c) rehabilitation of people and their integration into a new social setting. A significant issue that occurs is the prominence of technical and financial matters in such risk management and a tendency for 'risks denial' or 'risk escapisms' especially social risks (Cernea, 2006; Mathur, 2006). These risks if left unchecked, would exacerbate the situation, leading to catastrophic impoverishment realities. Thus, risk assessment and management in displacement and resettlement is an incessant process.

The resettlement in this thesis is looked at from two standpoints. One is the 'planned' resettlement that occurred after the displacement of people from islands and villages of the Indian Sundarbans Delta. In this thesis, 'Planned' resettlement refers to a method of prearranged movement of people that is initiated, administered and executed by the state (Stapleton et al., 2017). This 'planned' resettlement from the vanishing islands to the neighbouring larger island of Sagar, was undertaken through the initiative of the then local government – Panchayat of West Bengal. In this research, this undertaking of the local government forms a microcosm of the State itself. The other perspective deals with the 'unplanned' form of resettlement (or here referred to as self-resettlement), one that is undertaken by the people themselves and the strategies that they undertake in order to achieve

such a resettlement. This thesis then delves into analyzing the efficacy of the rehabilitation of the resettled households in both situations of planned and unplanned resettlement.

The social construction of natural disaster

In the domain of disaster research producing a uniform definition of disaster is marred with ambiguity due to the multiplicity of causes and with equally numerous consequences. This section highlights how disaster has been defined and perceived in particular reference to policy dictates at the national and international context. This is followed by the categorization between the two general types of natural disaster – sudden and slow onset. UN Office for Disaster Risk Reduction defines disaster as a grave disorder in the working of a community or a society involving widespread human, economic, social or natural and man-made environmental losses and impacts, that surpasses the capacity of the community or society to deal with its own resources (UNISDR, 2009). These impacts may then result in the necessity for external succor of both national and international dimension, to cope with the repercussions by those affected (UNISDR, 2009). The definitions of well-known international organizations like the World Health Organization (WHO) and the International Federation of Red Cross and Red Crescent Societies (IFRC), also reiterates the same understanding. Disasters are also a part of their priority agenda, but these definitions do not delineate or distinguish between the causes of disasters. The emphasis is rather on the impacts that such a phenomenon causes and the limitation of the local community to effectively deal with it.

The perception of disaster at the national scenario, can best be understood through the definition provided by the Disaster Management Act of India (2005). According to this Act, disaster is defined as, "*a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area*" (GoI, 2005, Act No. 53 of 2005, p.4). Disasters tend to vary in their momentum of manifestation. This definition acknowledges disasters that are a consequence of both natural and anthropogenic elements. The latter in many cases may have a direct or indirect influence on the former. The focus is also on the impact that such a calamitous event has and the limiting 'coping capacity' of the community in the disaster affected areas. Several criteria have been developed to categorise

disasters – type of process, speed of onset, duration, predictability and likelihood of warning, scope of impact, reappearance interval and consistency (Glade & Alexander, 2013, p.79-80).

In the context of natural disasters, studies maintain two broad categorizations - sudden or rapid-onset disaster and slow-onset disaster. According to the UN Office for Disaster Risk Reduction, a **sudden or rapid-onset hazard/disaster** (hereafter in this thesis referred to as sudden-onset disaster) is one that is prompted by a quick or unexpected hazardous event. These could be in the form of earthquake, volcanic eruption, flash flood, storms, extreme temperatures, industrial accident, biological threat etc (Stapleton et al., 2017). All of the ten largest disaster displacement events in 2016 were related to floods and storms. Between 2008 and 2016, sudden-onset events were responsible for 99% of internal displacement: an average of 21 million people annually (ibid.).

A **slow-onset hazard/disaster** is defined as one that emerges gradually over time, instigated by slow degradation of the environment and depletion of resources. Slow-onset disasters could be associated with, hazards like drought, desertification, sea-level rise, epidemic disease. (UNDRR, 2022), salinisation, ocean acidification, glacial retreat and changing trends in seasons (Stapleton et al., 2017). In this type of disaster, the impact may often go undetected where its cumulative repercussions often become apparent only after a prolonged period of time (Glade & Alexander, 2013, p.79; Oliver-Smith & Hoffman, 2020). Both the forms of disaster lead to a variety of responses in particularly relating to human mobility. However, in the light of this research these categorisations could be termed as 'hazards' that transforms into a disaster situation, interacting with the socio-economic dimensions of the society. Natural hazards in this case are external events that interacts with the internal characteristics of a society, culminating into disasters. This reason behind such a distinction is the central focal point of this study and has been elaborated further later. Thus, the definitions focusing on the 'quantity' of impacts of disaster have received severe criticism (Glade & Alexander, 2013, p.78).

The International Federation of Red Cross and Red Crescent Societies (IFRC, 2006), claims that in the previous decade, especially in the developing countries, weather related natural hazards resulted in 90% of natural disasters, with 98% overall impact on people and 60% associated mortality. From the period between 1980 to 2000, about 141 million people lost their homes in 3,559 natural hazard events, where 97% lived in developing countries (Boano, et.al., 2008). During 1975-1998, environmental natural hazards, is estimated to have resulted

in a loss of $300 billion in property and crop damage and nearly 9000 deaths (Mitchell & Thomas, 2001). In term of death tolls, the rate is much higher in developing nations compared to the developed, while in case of economic losses, developed countries offset developing countries (van der Wink et. al., 1998). Based on the report of Centre for Research on the Epidemiology of Disasters (CRED), from 20th century onwards, there have been about 22,455 natural disasters, resulting in mortality of 38.57 million people and injuring 8.7 million others (CRED, 2017). Between 1900-2016, a total of 7.5 billion and even higher population were affected and almost $3 billion property destroyed. Asia (especially the South), a disaster-prone region, was victim to about 9351 disasters that resulted in 27 million deaths and 5 million people injured. South Asia also falls within the category of the poorest region of the world, being the centre for one-fifth of the world's population. (Badatya, 2018).

The above paragraph gives us a glimpse of the global prevalence and extent of disasters. For the social scientists, the interest in the subject began only in the early 20th century, through the doctoral work of Samuel Prince (1920) on the social consequences of the munitions shipping explosion in Halifax harbor in Nova Scotia, Canada (Drabek & McEntire, 2003; Perry, 2018; Oliver-Smith & Hoffman, 2020). Following 1950's, this debate has been fueled by the advent of political, economic and cultural ecological standpoints in the social sciences' analysis of disaster. This was especially augmented by the availability of funding for research and application by the Disaster Research Centre (DRC) - USA, from the subsequent decade onwards and to occurrences of incidences of exceedingly discernible and disparaging disasters (Tierney et al., 2001).

The complexity of disaster has made it a difficult concept to define, with little agreement amongst the research community. The definitions of disaster have not remained static and has changed over time, perceived from diverse contexts (Perry, 2018). The earliest research emphasised on the unpredictability and riskiness of the physical agents of natural and technological events and sought methods to administer the affected population. Disasters was regarded as anomie and measures towards quick retrieval of the pre-disaster position, was dealt with. They were unfortunate incidents, that for few invoked supernatural elements or religious-fatalism and for others the unpredictable character of nature (Sims & Baumann, 1972).

Beginning with the 1950s to the 1970s, the focus moved towards behaviour of individuals and organizations spanning from early warning stages, to the effects, and immediate repercussion of disasters, with minimal emphasis on historical and sociocultural context (Oliver-Smith &

Hoffman, 2020). However, it was only from the 1980's onwards, disasters, and the hazards were perceived as enduring elements of environment and therefore socially constructed (Hewitt, 1983). Over the years, numerous conceptual and theoretical frameworks from diverse disciplines have been developed, that emphasised disaster. According to Gilbert (as cited in Jigyasu, 2005), the theoretical approaches to disaster can be classified into three main paradigms: (i) as a 'war-like situation' (ii) as a 'countenance of social vulnerabilities' and (iii) as a 'state of uncertainty'. Jigyasu (2005) elaborating on the two sides of disaster-reality – the spatial and temporal as propounded by Dombrowsky (1998), added a third dimension – the experiential. The definition of Quarantelli (1998), utilises four constituents: agent description, physical damage, social disruption, and negative evaluation (Kreps 1998, p.110). Buckle (2005) distinguishes between 'mandated' (those created by the government) and 'community' or 'interpretivist' definitions of disaster. Shimoyama (2003) delineates six characteristics that are present in all kinds of disasters - (i) initiation, (ii) immediate causes, (iii) local conditions, (iv) damages, (v) assessment, and (vi) actions.

Perry (2018), emphasising on the definition of disaster as an evolving concept, summarizes the variations in perspective from three different paradigms. First, the C*lassic approach*, initiated after the disastrous events of World War II. The definitions oriented towards this worldview, characterised disaster based on the impact of an agent and emphasised on social disruption (Killian, 1994; Wallace, 1956). Fritz (1961) visualised disaster within a temporal and spatial characterisation and as affecting the whole or part of society by either threat or actual impact, where the "essential functions of the society are prevented" (Fritz, 1961, p.655). The adoption of the definition of Fritz by many disaster researchers have either been literal (Lowendahl, 2013; Peacock & Bates, 1987; Perry & Lindell, 1997) or includes slight variations (Buckle, 2005; Cisin & Clark, 1962; Drabek, 1986; Fischer, 2003; Smith, 2005). These have also been utilised in contemporary studies (Kreps, 1998; Porfiriev, 1998; Stallings, 1998). The central point of contention of these classical definitions is that, they perceived the causes of disaster as external to social system and even beyond human control (Dynes & Drabek, 1994).

Second, the *Hazards-Disaster* tradition has strong interlinkage to human ecology (Barrows, 1923; Burton, et al., 1968; Kates, 1962). Studies adopting this tradition, views disaster as an extreme event that is a consequence of a hazard (here natural) as a cause that interacts with the human social system (Hewitt, 1998; Paton & McClure, 2013). Within the ambit of this tradition, studies have also focused on the nature of consequences and the primary force or process of social vulnerability (Alexander, 1993 & 2005; Cutter, 2005; Wisner, et al., 2012).

The agent focused definitions, makes variations on dimensions like speed, scope of onset, duration and therefore creating mutually exclusive but collectively exhaustive categories like natural, anthropogenic, sudden, slow etc (Perry, 2018; Shaluf, 2007). For Perrow (2006), these typologies needs to be theory-based or divisions based on 'phenotypical' (apparent) and 'genotypical' features (discreet/theory based) (Quarantelli, 1982). But the categories prescribe a technique for categorization of situations and scenarios into conceptual comparisons (Barton, 1969; Perry, 1989). For some, the nature of physical agents influences disaster impact and the social interaction during and post-disaster.

The third paradigm looks at disasters within a '*Social Phenomenon*' framework. This tradition embroiled in an inter-disciplinary platform, downplays the agent-based and physical obliteration emphasis of earlier conceptions. Under this paradigm, disaster was conceived as a social construction, focusing on even vulnerability as constructed, situated within social systems and relationships, that were subject to change (Ait-Chellouche, 2015; Boin, 2005; Carter, 2008; Clausen, 1992; Dombrowsky, 1998; Gilbert, 1998; Hewitt, 2016; Jigyasu, 2005; Mayner & Arbon, 2015; McEntire, 2015; Pescaroli & Alexander, 2015; Quarantelli, 2000 & 2005; Rodriguez & Barnshaw, 2006; Wisner et al., 2014). However, this social change is not the only defining characteristic of the social phenomena tradition. The precariousness of the environment combined with the social, economic, political and historical nexus of a setting, sections the population based on their vulnerability (Oliver-Smith, 1998). The assessment of their physical setting, means of livelihood and the risk were all based on this link. The importance of comprehending the impact of disaster and the solutions sought for reconstruction were dependent on both the physical and social aspects. Thus, disasters can be seen as all-inclusive phenomenon, that can either occur suddenly or may accrue over time and builds out of the relationship between environmental, biological, and sociocultural dimensions (Oliver-Smith & Hoffman, 2020). Disasters are initiated by a specific cause that affects the people. The local economic, social, cultural and temporal conditions either exacerbate or minimise a disaster and where the nature and extent of damage can vary from mild to severe. This in turn influences the people's assessment of the damage and how they develop their strategies towards it. The actions of the people will vary widely depending on the characteristics. The above three approaches tend to intersect in time and content and each observer may formulate different paradigms and varied definitions types (Perry, 2018). The definition of disaster by Anthropologist Anthony Oliver-Smith then becomes relevant here. He opined that disaster

transpires when an agent intersects with a vulnerable population disrupting, "*social needs for physical survival, social order and meaning*" (Oliver-Smith & Hoffman, 2002, p.4).

Disasters have been classified on the basis of their consequences as well. According to Queen and Mann (as cited in Carr, 1932), the division is on the basis of loss of life and individual injury and the other that comprises devastation of assets. In addition to the distinction based on consequences, Carr (1932) includes the character of the triggering event and the possibility of subsequent cultural collapse. Thus, disasters based on these aspects are of an (i) 'instantaneous-diffused type', (ii) 'instantaneous-focalised type', (iii) 'progressive-diffused type' and (iv) 'progressive-focalised type' (Carr, 1932).

Presently, the focus of disaster-research rests on the concepts of human ecology, vulnerability and resilience framework. Researchers based on this perception employs a macroscopical stance, where both the causes and consequences of disaster are situated within a wider community setting (Oliver-Smith, 1996). According to Faupel (1987), the role of environment in influencing social processes that consequently results in disasters, is significant. The prevalence of the use of these concepts in disaster research initiated from the 1970's onwards. The concepts were initially used in the hazard-disaster tradition (Singh-Peterson et al., 2015) and in anthropology, but over the course of the years in various other disciplines, like even Sociology (Donner & Rodriguez, 2008). Studies have highlighted the importance of clarifying the ambiguity of the concept of vulnerability (Aguirre, 2007; Alexander, 2016; Lindell, 2013). Although essential in disaster-research it lacks clarity and agreement on matters of meaning and situations (Aguirre, 2006; Aldunce et al., 2014; Amundsen, 2012; Barrios, 2014). For the researchers working with this framework, vulnerability features within the definition of disaster itself (Bradshaw, 2014; Wamsler, 2014). The prominence is placed over conditions that create the situation and where disaster is implied (Perry, 2018). Others view vulnerability as a cause, state or consequence of disasters, or allied with the scale of disruption, but does not single it out as a specific feature of the definition (Alexander, 2016; Blaikie et al., 1994; Konukcu et al., 2015).

The previously dominant human-exceptionalism paradigm (HEP), that emphasized on the dichotomy between human and nature is challenged by the new environmentalism paradigm (NEP), that perceives the intricate and undeniable bond between man and nature. Society and environment cannot be thought of as distinct entities. Just as nature is physically transformed along with its socio-cultural constructions, likewise societies originate and are molded in nature

(Mukherjee, 1945; Bookchin, 2006. This reciprocated relationship is however not static but complex, and developing (Ingold, 2000; Oliver-Smith & Hoffman, 2020). The union is reflected more, when natural disasters interact with society's 'vulnerability'. Hazards are ineluctable and at the same time vulnerability and coping stratagems of individuals/households in a social context, differs (Blaikie et al., 1994; Cutter, 2001; Smith et al., 2001; Hunter, 2005). The social construction of disaster can be better explicated through the concepts of *vulnerability* and *risk*.

Vulnerability is measured in terms of an individual/community's capacity to forestall, cope, fight and convalesce from the effect of a hazard. Those at the lower rung of the socio-economic scale in a society, are highly vulnerable ('at risk' population) and, a universal phenomenon in both the developing and developed countries. In southern Florida, United States, the households with lower level of income have a high probability to reside in vulnerable accommodations, with least initiative towards disaster preparedness and reconstruction (Peacock & Girard, 1997). In the developing regions, the situation is grim with the underprivileged populations, enforced to take residence in areas such as urban fringes, high-risk of coastal flood or low-lying (Badatya, 2018; Chan, 1995). However, neither this vulnerability or coping capacity is static and has the possibility of changing over time depending on the constructions (Stapleton et al., 2017). Thus, vulnerability establishes itself in accordance to the socio-economic context and nature of hazard (Hunter, 2005). The natural hazards and the ensuing disaster then cannot be fathomed in a simple manner due to the intricate interaction between the natural and human dimensions of disaster (Blaikie et al., 1994, p.13).

The central tenet of anthropologist (and now even sociologists) working on disasters, is that they comprehend disasters and their consequences as principally socially constructed situations (Button, 2010; Oliver-Smith, 1996). Human vulnerability is one of the vital aspects in influencing their responses to natural hazards (Hutton & Haque, 2004). These are exacerbated when a geophysical hazard interacts with the already existing socio-economic, political vulnerabilities of the people (Cannon, 1994; Hewitt, 1997; Oliver-Smith, 2004). According to Mizutori (2020), disasters supervene when a community is "*not appropriately resourced or organized to withstand the impact, and whose population is vulnerable because of poverty, exclusion or socially disadvantaged in some way*" (as cited in IFRC, 2022, para.10). Though the outcome of these disasters could be instantaneous and localized, it is often widespread and its existence in the community may be prolonged. In all facets, disasters hold on trial the adaptive resilience of a community within its environmental context (Oliver-Smith & Hoffman,

2020). The hazardous events exacerbate the issues of development in a society and pushes the vulnerable further towards the margins (Parida, 2018). It is not only the hazard that leads to disastrous consequences, but the incapacity of people to prevent or cope from such an event. The effects of a sudden-onset hazard of flooding, combined with a slow-onset hazard of river-bank erosion is therefore a process of social construction, consequential due to the inequitable access to resources along with the unequal experience to risk (Hutton & Haque, 2004). Thus, the question that this section and even the overall thesis dwells upon is, should disaster be perceived as an objectively perceptible phenomenon or a subjectively constructed one?

Despite the differences in framework, few areas of accord do exist in disaster definitions. Disasters for many, originate in factors under human control. There is some consensus on certain significant characteristics of disasters. Many contemporary researchers agree that disasters disrupt the social system rendering futile, the patterns of social interaction. This does not entail judging the state of normalcy of the patterns of such interactions, preceding or following a disaster. Two variants emerge out of this understanding - while some claim that social inequality is the source of all disasters, others believe that sometimes a different but novel pattern of social interaction emerges out of the disaster (Perry, 2018). The latter trend is perceived as a 'coping' mechanism to disaster. This can be seen as occurring in phases – original pattern followed by an alternate pattern which is then standardized. This is however criticised by few who perceive that the phases are not necessarily discrete in time and such description complicates the issues of labelling 'normal'. An alternative approach emerges that emphasises on social disruption but not splitting them into phases of before and after, rather acceptance of the likelihood or unlikelihood of occurrence of different or alternate patterns which may or may not continue (Perry, 2018).

Disasters have been defined more in terms of the 'physical' – the causes as well as the impact (Quarantelli, 1985). The debate on the whether or not there should be emphasis on physical damage as central to disaster definitions, still remains to be solved. Despite objections by many on the centrality of physical damage, there are others who associate it with social disruption and type of agent. Here too the issue of inclusion of damage as a part of definition has been pointed out. However, there exists an agreement on the notion that the extent of a disaster is to be calculated not on the physical damages of life and property but on the disruption of the 'normal' social and cultural system which can be varied depending on the individual and social context. These individual and community responses then vary across dimensions (Perry, 2018). Disasters involves changes that embroils a situation of physical, social and

psychological/emotional chaos. The social and cultural responses of individuals and groups to calamity are also modified in association to the issues that have to be dealt with in the entire period of a disaster beginning with warning to reconstruction. This is due to the assortment of forces, leading to diverse consequences, that varies across temporal and spatial scales. Disasters arise from the intricate human-environment relationship and its socio-cultural construction, impacting the physical assets, that assumes manifold personalities across multiple spaces. It has been argued that the definition of disaster is varied considering the dichotomous perception and allied responses of people and groups (Britton, 2005) at a specific time and space context (Dombrowsky, 1998; Dynes 1993). The assorted yet analogous definitions of disasters are formulated, conferring to the definite purposes or goals of disaster ventures (Oliver-Smith & Hoffman, 2020).

Disasters are usually depicted as nonroutine, instigating chaos and sociocultural breakdown. These imageries stress on contrasting disasters from ordinary, everyday realities that are more predictable (Hewitt, 1983; Oliver-Smith & Hoffman, 2020). This assumes an overall pre-disaster societal equipoise, which would discount the fact that disasters are often explicable according to normal order. Based on this notion, the risks that people deal with in their natural environments could be managed. However, the dynamics of everyday life with its accompanying drawbacks and underdevelopment in many cases, augment this risk and the consequential impact of disaster. As such, every aspect of the social systems and its relations is affected. This internal intricacy of disasters compels to take into account the numerous and shifting socially constructed realities and into their diverse subjective interpretations. Kasperson et al. (1988), in their framework on 'social amplification of risk' opines that disaster is a phenomenon that augments the tribulations that people encounter on a daily basis, especially in relation to management of economic resources. Buckle (2005) distinguishes between 'mandated' and 'community' or 'interpretivist' definition of disaster. The former reflects legal definitions that are a part of public policy; these are event-based circumscribed to a geographical boundary and temporal periods of onset, emergency and reconstruction. This type of definition determines the response of the government and various forms of relief or aid provided by other organizations as well. Community or interpretivist definitions of disaster reflects the laypeople's perspective and are comparatively open-ended to space and time constrictions, than the mandated ones. Thus, for the local people, the definition of disaster relies on mutually agreed common sense (community/interpretivist definition); for the policymakers and voluntary organizations (mandated definitions), the emphasis is on the technical (Buckle,

2005). Thus, for the government and other relevant formal institutions who would regard the disaster as an emergency, for the lower income group it is a part of a continuum of everyday risks and their social constructions. The 'at risk' population are more exposed and vulnerable to hazards and have a lesser ability to cope and recuperate (Boano et al., 2008). Therefore, the technical perception of disaster may vary from that of the designated decision-makers and of the lay person (Kasperson et al., 1988) and are also contested. This disparity in perception also influences government and non-government initiatives towards disaster affected population. This disputation over the meaning and implication of events portends the power struggle intrinsic in constructed systems of meaning and discloses the social arrangements of society (Button, 2010).

The definitions and paradigms as mentioned in the above sections also had a sudden-onset disaster bias, in comparison to the lesser attention focused on slow-onset. Empirical differences does emerge in situations associated with the agent (Perry, 2018). Slow-onset disaster caused by erosion, drought, saline intrusion etc, is a 'long-term, low-grade, and slow-onset cumulative process'. Unlike the sudden-onset, the impact of these hazards are not instantaneous, but can over time turn into a disaster situation (Nguyen-Trung et al., 2020; Anschell & Tran, 2020). Factors like inadequate or untimely government intervention or lack of alternative livelihood options can force people to move (Adamo, 2003). The basis of disasters then no longer dwells in the environment. The people, due to the echelons of environmental stress and vulnerability intensified by political, economic, and social elements, now have to acclimatize to a natural as well as an institutional environment (Vayda & McKay, 1975). Thus, the causes maybe natural and inevitable, disasters are not. The question of universality of experiences of disaster victims encounter, has been much disputed (Hoffman, 2020). As mentioned in the previous section, varied factors - natural or anthropogenic, could result in disasters. Disasters therefore possesses external inconsistency and internal complications (Oliver-Smith & Hoffman, 2020).

The social construction of disaster spans from the early formative phase of assessment, determining perceptions, explanation and response to even recovery and reconstruction. Carr (1932) propounds three phases of a disaster – the preliminary or prodromal period, the dislocation and disorganization period and finally the readjustment and reorganization phase. Vulnerability due to natural hazards thus affects not just during the event of a disaster but even in the relocation phase, making the experience of displacement also socially constructive (Hutton & Haque, 2004). The recovery process is gradual, systematic, complex and contextual where it varies according to the type of disaster, characteristics of people. Thus, disaster

impacts require response that varies from biological to philosophical (Oliver-Smith & Hoffman, 2020). These responses to natural disaster, especially in the case of slow-onset may not be all of an abrupt decision but a planned one that has developed out of accrued experiences of the people (Parida, 2018).

It can be observed that a calamitous situation which a sudden-onset disaster causes, receives rapid response and attention than a slow-onset disaster, from the policymakers. In fact, even within the categories of sudden-onset hazards, a disparity can be observed in terms of the assistance provided. The 2004 Indian Ocean Tsunami victims obtained a compensation of $ 7,100 dollars for each affected person, while the Bangladesh flood victims in the same year received only $3 per person (Boano, et.al., 2008). The management of these sudden events on how societies can acclimatize and prepare for future risks, are prioritized. This is evident by the large-scale relief work undertaken after the commencement of such a disaster. This type of disaster-affected populations is either categorized under a certain term and policies or legal enactment are formulated on their behalf. In contrast, the population exposed to gradual environmental changes or slow-onset hazard receive minimal or negligible support. Theoretically, the assessment and management of slow onset disasters should be comparatively easier. However, in actuality, these disasters are overlooked and relegated in the background, allowing it to culminate over time into critical emergencies.

Risk, dangers and uncertainties presents formidable elements in our day-to-day existence. Since time immemorial, the uncertainty of the future and events, beyond the comprehension of man have been a fixation of mankind. The pre-modern days, witnessed an attempt to distinguish between the concepts of risk and danger. Societies developed a system of strategies and beliefs to effectively deal with this danger (Muchembled, 1985). These dangers were understood either to be supernaturally mediated or taken for granted. Humans in the early era, assumed supernatural elements to be the entities responsible for such dangers (Douglas & Wildavsky, 1982) Therefore, the management of danger was directed towards the appeasement of these commonly believed and feared supernatural elements. This could likely or unlikely solve the situation, but would safeguard to irk the gods or other higher power, by one's individual decision making (Luhman,1993).

'Risk' as a concept did not form a part of the pre-modern comprehension. It was as if humans acceded to the notions of fate, overlooking the idea of human fault and responsibility and where the dangers were (super)naturally caused rather than anthropogenic. Luhmann (1993, p.9)

believes that the word 'risk' only appeared much later in German references in the mid-16th century and English in the second half of the 17th century. The coinage and the extensive use of the term can be attributed to the early western explorers, referring to the dangers that they dealt with in the course of their expeditions. During the 19th century world, risk has also been associated with the definitions determined by the state (Luhman, 1993). Like for instance, during the colonial rule where the term was attributed to specific 'dangerous classes', where criminal activities of these groups were vehemently assumed to be hereditary[7].

The meaning of the term aberrated during the mid-20th century, where it referred to the dangers manifested by anthropogenic sources, consequence of the dynamic duo of science and technology, (Denney, 2005). Changes in the meaning of risk were then associated with the emergence of modernity. Today, humans in their daily navigation of life, rely on the calculation and management of this risk. The earlier course of gauging risk irrationally, was now replaced with the commitment towards 'rationalizing' the decision-making process. It was further contingent upon circumstances in which the probability estimates of an event are either known or unknown (Reddy, 1996, p.237). As noted, the meaning attributed to risk has altered with the tides of time. The word became interspersed with spatial and temporal nuances, referring to an attempt to control the future - to take matters into their own hands rather than leaving it on fate (Giddens, 1999, p.3). It was as if the prevailing language for concepts like danger, fear etc could not satisfyingly express the unruly situation related to risk. This does not imply that life has become less hazardous in the modern society, but rather risk implies an additional emphasis on control particularly of the future (Giddens, 1991, p.110 & 1999, p.3; Luhman,1993).

But still today, attempts to define risk is marred with complexity. This could be due to the ambiguous nature of the term and the concurrent focus made in delineating risks from concepts like 'danger' and 'hazard'. Different schools of thought attempted to define risks in various ways. Young (1999) argues that the calculation of risk is not concerned with probabilities, but with harm minimization. In a more simplistic sense, risk embodies the concurrence between human apprehensions of the outcome and ambiguity of the outcome (Rosa, 1998). This ambiguousness exists due to the process of assessment, of making alternate estimations of the future, based on a calculation grounded on familiar practices and new evidences (Bradac, 2001).

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[7] For instance, the Criminal Tribes of India.

The current ideas of risk appear to comprehend an elusive way to surmount this ambiguity itself. Ewald (1991) propounded that rather than associating risk with notions of danger, it should be weighed with chance, hazard, probability, eventuality and randomness on the one hand, and loss and damage on the other. The concept of risk rests on the likelihood that the future can be tweaked by human activities. One can either take precautions or deal effectively with the aftermath of events. The rise of an increasing societal concern stemming from government, industry, the public and their representatives, with uncertainty has resulted in the development of a 'risk society' (Beck, 1992). Thus, the concept of risk and danger can be differentiated on the basis that the outcome of 'danger' is always negative. Risk on the other hand rests on probability, the chances of either having a negative or a positive impact, grounded on the choices that one makes, where the assessment rests on certain pre-existing knowledge about the world (Giddens, 1999). These calculative assessments may either rely on 'scientific' sources, or on 'common-sense' or experiential knowledge. The strategies for management of such risks based on the above assessments is hence comparatively and culturally conditional (Fox, 1999).

It becomes imperative here to make a distinction between 'risk' and 'hazard' as well. In the case of a hazard, the British Medical Association's (1987) '*Guide to living with risk*' describes it as "*a set of circumstances which may cause harmful consequences', while risk is 'the likelihood of its doing so*" (Henderson, 1987, p.13). Wells (1996) too defines a hazard as something which '*has the potential to cause harm*' (p.1). Based on hazard, approaches are enacted to abate the probability (risk) of negative consequences. According to Fox (1999), hazards then are 'natural' and 'neutral', while risks are cultural, embedded in '*value-laden judgements of human beings concerning these natural events or possibilities*' (Fox, 1999, p.17). Just as risk is socially constructed, hazards too are socially constructed. Based on individual or collective experience, anything can be deemed 'hazardous' (Wells, 1996). Thus, the construction of the two – risk and hazard- are interlinked where the existence of one depends on the other. Thus, risk assessment, takes into account the instinctive procedures and the deliberation of both advantages and disadvantages (Fox,1999).

Giddens (1999) in his article on '*Risk and responsibility*' distinguishes between two types of risk. The pre-modern days was accustomed to the idea of *external risk-* signifying the risk 'from outside', which are more foreseeable. Although unexpected, these risks are consistent in their outreach and therefore insurable in that sense. This external risk transitions to what is now known as *manufactured risk*, a characteristic of the modern world. Such risks are created by

humans through the advances in science and technology, where it unswervingly imposes into the personal and social life of the people. Newer risks require newer strategies which is dynamic and not dependent on fate like in the earlier ages (Giddens, 1999).

A more relevant contextual categorization has been made by UNISDR in their Global Assessment Report on Disaster Risk Reduction of 2009. The report segregates between two broad categories of risk related to hazards and disasters - *Intensive and Extensive risk*, depending on the geographical and time-based accumulation of losses. Intensive risks refer to the exposure of huge spatially concentrated populations and economy to acute hazards, leading to probable calamitous consequences (Correa et al., 2011). Extensive risk, on the other hand, refers to the exposure of dispersed populations to recurrent lesser intensity hazard, leading to devastating cumulative disaster impacts. This risk impacts larger quantity of persons and infrastructure, but unlike the intensive risk, has lower mortality rates or considerable destruction of economic assets (Johnson et al., 2021, p.85-86).

A differentiation has also been made between '*voluntary risks' and 'involuntary or compulsory risks'* (Denney, 2005) The former involves circumstances where the individuals can administer certain degree of choice. Compulsory risks occur in settings where individuals have little or no control. According to Hood, et.al., (2001), risks can be caused by varied factors which maybe natural or man-made. This does not mean that all classes of people who incur greater risk throughout the course of their lives, experience it voluntarily. The space and time specific socio-cultural construction of risk, can dispense all known events as either voluntary or involuntary.

The nature of risk can be further analyzed in the context of understanding why humans accentuate certain risks while discounting others. The earlier dominant individualist position of understanding risk was challenged by a British Anthropologist, Mary Douglas. Society and its culture, outline these 'collective constructs' while undertaking the process of construction of risk and its discernment. The meaning and definition of risk, will undoubtedly differ, based on the claims and moral judgments of varied cultures, about the appropriate way to produce social order. The constructionist position refutes the individualist school of thought. They object the idea of deducing risk to statistical calculations and perceiving it from a nonpartisan stance. For the social constructionist, risks cannot be perceived as objective or comprehensible outside of one's belief systems and moral positions. This obligation for sustaining group

faithfulness makes the ones in power to recant local issues, favouring global ones (Douglas & Wildavsky, 1982).

An individual identifying with a particular group or organization does influence the person's perception on what is considered as a risk, and thereby weigh the seriousness of the incidences that occur in a culture (Douglas, 1992, p.78; Bell, 2012). The essential fundamentals of a society are enmeshed in the perspective of risk and cannot just be viewed as a technical issue. Risk too has a 'function' to perform for the stability and order of the society at a given point in time (Douglas, 1992, p.51). To reiterate the function of risk, sociologist Kai Erikson opined that sometimes in situations where a group's social cohesion falters, the perception of threat can aid to lure the group together. As groups form in dissent of an assumed threat, they give its advocates a sense of association and order (as cited in Bell, 2012). Thus, the perspective on the social construction of risk also imbibes aspects of functionalism.

For Dietz et al. (2002), the perceptions of risk diverge across populations who engage in dissimilar outlook in life and that the configuring of choices primarily rests on power variances among social actors. Therefore, risk is not experienced in the same manner by different groups of people even within the same community. According to sociologist Ulrich Beck, poverty entices adverse risks whereas the well-to-do have the ability to obtain security from the same (Beck 1992, p.35). The impact of risk is differentiated across social groups. Risk perception is conceptualized by taking into account the social context in which human discernments are formed (Taylor-Gooby, 2001). An individual's perception of risk is not just his/her own. It is also shaped by an array of principal and tributary stimuli, functioning as sieves in the circulation of information in the community (Gaillard, 2008; Wisner et al., 2004). Common people's perspectives on risk differ from those understood by the 'experts'. Risk perceptions are therefore construction of opposing knowledges (Lupton, 1999). Thus, people/households employ various means to prohibit the flow of danger from entering their sagacity of risk.

In addition to understanding the matters of perception of risk and vulnerability within a social context, the social and anthropological framework exploring disaster has advanced to integrate queries of even 'ownership' of disaster. The question then arises- who is responsible for pronouncing a disaster and for what, whom and why? Who should bear the onus of those affected? Who determines the end of a disaster? Seeking answers to which instigate discourse and conflict (Oliver-Smith & Hoffman, 2020).

1.5 Outline of this thesis

Chapter 1 introduces the research problem at hand and the significance of this research. It elucidates the central research questions that the thesis hopes to answer and how they have been contextualised in this thesis. This chapter also outlines the conceptual and theoretical framework that was significant for this research. Chapter 2 delineates the objectives and the justification provided for the utilization of qualitative methodology and methods in the gathering of empirical data in this study. The ethical position of the researcher has also been explained in this chapter. It ends with the detailing of the study area and the relevant justification of such a choice has also been explained. The next Chapter 3 analyses and segregates the enormous quantity of literature on displacement in India due to 'conventional' factors like political/ethnic conflict, developmental projects, conservation areas. The last factor in this chapter has been dedicated to studies on environment-induced displacement in the national scenario. The legal undertakings of displacement, resettlement and rehabilitation of all the aforementioned factors have also been analysed in this chapter, so that the relevance of such laws and policies can be highlighted and whether or not it has any bearing for environment-induced displacement. This is deemed to be necessary to analyse the varied causes, consequences and legal mechanisms involved so as to understand comparatively how similar or different is environment-induced displacement to other causes. Chapter 4 initiates with a brief history of settlement in the Indian Sundarbans especially pertaining to the pre-colonial and colonial period. The history of the settlement in the study area of Sagar Island has also been briefly dealt with in this chapter. The scenario of disaster and displacement within the study area has also been brought forth and how they are affecting the lives and livelihood of the inhabitants, over the years. The objective of this chapter was to assess the livelihood strategies practices in this region, considering their instability in a hazardous setting and the ways of coping with it.

Chapter 5 deals with the history of the process of displacement and the implementation of 'planned' resettlement, that occurred at different time periods. It details the lived past and present realities of the resettlers and a comparison is made between the so-called 'old' and 'new' resettlers. The main aim of this chapter is to analyse the efficacy of such resettlement measures and whether or not it converts to rehabilitation of those undertaking it. The next Chapter 6, deals with the contemporary situation in the study area of Sagar Island. The chapter looks into the negotiations of the households with their immediate environment within the milieu of perennially occurring natural hazards. The chapter focuses on how in the absence of

appropriate 'planned' measures, do the people take matters into their own hands, engaging in self-resettlement practices and what works and does not in this context. The chapter concludes with identifying households who have been 'trapped' due to various circumstances in the precarious situation. Chapter 7, takes into account the role, responsibility and politics of the government and non-government actors in these complex dynamics of disaster, displacement and resettlement. It assesses the synergy, conflict and negotiations between the multiple stakeholders in the study area. The concluding chapter of this thesis – Chapter 8, attempts to summarize the findings of the thesis and attempts to place them within the broader policy context of queries relating to human mobility and sustainable resettlement, in the era of an uncertain climate change future.

1.6 Conclusion

At the onset, it is worth mentioning that the study does not imply that the scenario of displacement observed in the study area, is a consequence of climate change. Yet at the same time, this thesis is also not to question the authenticity of the claims of climate change. During the process of reviewing secondary data on the region, the researcher came across literatures that emphasized the significance and the vulnerability of the deltaic regions and its population (humans, including flora and fauna) to the vagaries of the phenomena. The researcher's sociological orientation perceives this as a social crisis that seeks immediate solutions and remedies. For the local population, climate change appears as a 'technical' or a scientific jargon. However, the contestation with nature is a part of their everyday existence, that however requires urgent intervention at various levels.

Thus, this study would be pertinent in the current contexture of climate change and also considering the susceptibility of the region to the said state of affairs. Aforementioned the fact that environmental changes have induced population movement, but what distinguishes the eras of past, present and the foreseeable future, is the global scale and rate of environmental change and thus the extent of potential impacts it will have. These ramifications will no longer be irregular or localized and human agency is undisputedly at the center of environmental change, which is likely to produce varied responses. As the thesis is ultimately oriented towards providing support to policy formulation for the region in question and considering environmental displacement as a reality that the people experience, the researcher has included the need for sustainable resettlement at the end of the thesis, which demands priortisation in the present era.

CHAPTER 2
METHODOLOGICAL FRAMEWORK

2.1 Introduction

This chapter details the procedures adopted for the process of acquiring knowledge on the research problem at hand. The explicit explanation of the methodology and methods is essential at the beginning of any social research. Qualitative methodology forms the central position of this thesis. The chapter initiates with outlining the research design, followed by the corresponding objectives to the research questions laid down in the introductory chapter of this thesis. Employing a non-probability sampling technique, it was important to divide the respondents (samples) into various categories. The eliciting of information as required in this study, has been carried out with the help of various methods and tools. Ethical requirements maintained in this study, have also been elaborated. The chapter ends with a brief description of the study area of Sagar Island that falls administratively, within the ambit of the Indian Sundarbans, West Bengal (Map.1).

2.2 The research design

This research espouses a constructivist (also referred to as interpretivist) paradigm or worldview. This epistemological framework takes into its milieu the subjective imports of the respondent's experiences towards a phenomenon, which can be diverse. The task of the researcher then is to seek the intricacies in these perspectives that have been developed through the construction and negotiation with others in a social and historical context (Creswell, 2013, p.24-25). The research design that structures this thesis is Qualitative. This type of research involves studying things within their natural settings. It attempts to construe phenomena and what meanings evolve out of it (Denzin & Lincoln, 2005, p.3). Therefore, in this process multiple realities are generated.

The initial step in this research began with choosing a research problem. The choice of the research problem bore mainly out of the researcher's engagement with the study area, since early 2011. During this period, the researcher was volunteering in a research organization named Centre for Environment & Development and its sister organization – Environment & Development (ENDEV), both located in Kolkata. One of the field bases of these two organizations was the Indian Sundarbans Delta (ISD). Simultaneously during the same period, the researcher was also enrolled in the Masters programme at the Department of Sociology,

Jadavpur University. As a part of the dissertation work required for the attainment of the said degree, the researcher had chosen the ISD as the study area. Although the work entailed an analysis of Self-Help Groups (SHGs) in the Mathurapur block of ISD, a problem and study area completely different from what is now being studied, but the connection with the people and the region remained. This relationship continued to develop during the field works and even after the attainment of the degree.

One of the main projects that the organization was carrying out at that time was the revival of the cultivation of traditional salt-tolerant rice varieties in the study area, a need of the hour considering the eminent climate change crisis. Towards 2014, the researcher was recruited as a Research Fellow in an international project that focused on comparative study of deltas of three nations in relation to their vulnerability to climate change, entitled 'Deltas Vulnerability and Climate Change: Migration and Adaptation' (DECCMA). Thus, the seed to the research problem was then sown. At the beginning of 2016, the researcher discontinued with the project, but the problem was ubiquitous in the mind of the researcher. The idea of environment-induced displacement though a known phenomenon since the dawn of civilization, yet gaining recognition only in current context of global warming and climate change, was intriguing. The Indian Sundarbans Delta is well known for its rich biodiversity and a renowned tourist destination, acknowledged through several international and national accolades. But it was not this aspect that was fascinating, rather the lesser recognised but equally an intricate part of Sundarbans – the human-nature conflict. However, what was also laudable was the resilience of the settlers of this deltaic region, despite the challenges presented to them by their immediate environment.

A review of the secondary data on the study area, highlighted the problems that plagued the area. Apart from the socio-economic hardships that the people had to deal with, they had an equally challenging relationship with the nature that encompassed them. Colonial documents and reports have detailed the excruciatingly difficult and complicated process of settling the highly 'unsettled' terrain. Time and again, natural hazards continued to thwart their ambitious plans. Even as the process of settlement continued in the post-independent period, the problem of hazards persisted. Displacement had been a buzzword in the aftermath of Independence and the nation and state (of West Bengal) were grappling with how to deal with such a situation. Various legal mechanisms were developed and executed with the hopes of lessening the crisis or appeasing those affected. However, the predominant factor of environment, despite being present and active, even before the other 'conventional' causes of displacement like political

conflict or development, remained in the background. Caught in this conundrum was the Indian Sundarbans. The selection of the Indian Sundarbans, mainly Sagar Island, was due to its susceptibility to natural hazards, the displacement of households because of this and instances of 'planned' resettlement undertaken by the local government. In this study the terms 'environment-induced displacement' and 'natural disaster-displacement' has been used interchangeably, as the disaster focused here is related to natural or environmental causes. The purpose of this research is descriptive where the researcher attempts to unveil a picture of the minutiae of a particular situation or a social setting (Neuman, 2014, p.38).

In correspondence to the research questions explained in Chapter 1, the study aims to fulfil the following objectives:

- To find out the livelihood strategies and responses of the households living under the threat of environmental/natural hazards.
- To understand the process of displacement, resettlement and rehabilitation of 'planned' resettlers.
- To analyse the emerging trends of resettlement and reestablishment practices of recently displaced households.
- To assess the role of the government and the non-government organizations in these dynamics.

An initial pilot work was conducted prior to the actual field work. This was quite essential before the researcher carried out the actual field work as the area was quite extensive and also relatively new. The pilot work, was conducted in 2016, through the DECCMA project. Qualitative methods such as key informant interviews and face-to-face in-depth interviews were utilised to gather the information on the study area. The pilot study gave the researcher insight into narrowing down on the specific locations for the final field work. It also helped in developing the themes and queries for the final study. The research process, as is characteristic of qualitative research, was emergent. During the field work, certain questions had to be changed or methods adopted had to be reassessed, so that the researcher could collect the responses more effectively. The pilot work also facilitated the researcher to frame out the sampling design for the final field work.

2.3 Sampling framework

The selection of sampling design for this study was an onerous task in itself. The initial plan of work was to segregate the population into two segments – the experiences of those who underwent the earlier planned resettlement and those who live in the vulnerable areas of Sagar. The pilot study had revealed only these two segments. Later during the final field work, new categories appeared, that needed to be incorporated into the study. In order to understand the triadic relationship between the people, government and non-government organizations (NGOs) or civil society organizations (CSOs), in the present contexture, the latter two categories also had to be represented. Thus, these became individual categories and became the sample of the study. The perspective of those households that were equally affected by natural disasters but may not have been a part of displacement or resettlement was also important. Thus, they too became included as sample in the study.

In this research, Non-Probability sampling methods were utilised. This sampling design entails no certain means of specifying the probability that each unit would be included or has a chance of being included in the sample. Respondents were selected as the sub-set, utilising Purposive and Snowball Sampling methods. Purposive or a judgmental sampling technique involves the reliance on the discernment of the researcher and selects the units that are representative or typical of the characteristic in question of the population and which meets the 'purpose' of the study (Baker, 1998). The way in which this is conducted is to identify important sources of variation in the population and then select a sample that reflects this variation (Frankfort-Nachmias & Nachmias, 2000; Singleton & Straits, 1988). The other type of sampling technique utilised was Snowball sampling. The process of this sampling design begins with finding a few subjects that are characterised by the required elements. When one interviews these respondents, more units are sought with the same characteristic qualities and they then are interviewed (Bryman, 2012, p.202).

The unit of analysis used in this study can be distinguished between two types- household and organization. In case of old and new planned, self-resettlement and local populace, the unit of analysis was the household. A member of the household was selected as the representative of the unit selected. However, there were instances where in the process of interviewing one member, the researcher would be joined by other members of the household as well. This was also quite helpful in a way, as the researcher could get a shared reality of the household in question and also in cross-checking information. A family could not be taken as the unit of

analysis because of its meaning shared in the study area. The family or the *pariwar* in the study area represented even those who were not residing in the same house nor were they sharing the same kitchen, but was a part of their kinship. Household was much more succinct in this sense. In this context, it is important here to define what a household entails in this study.

According to the census definition of the Government of India, a household comprises of typically group of persons, that usually live together and partake meals from a common kitchen, unless the demands of work avert any of them from doing so (NSSO, 2001, p.18). A household can have one or more than one member. The United Nations Statistics Division (UNSD), distinguishes between a one-person household (UNSD, 2017, paras. 2.67-2.76). and; multi-person household (UNSD, 2017, paras. 2.67-2.76). In the latter type of household, the members may or may not be related to each other or a combination of both. These households may then accumulate their income and may follow a shared budget. According to the United Nations (SNA93, p.1998), a household is a small group of persons who share the same lodging, who pool some, or all, of their income and wealth and consume certain types of goods and services collectively, mainly housing and food. [UN, 1998, p.4.132 (4.20)].

The Old planned Resettlers, were selected with the help of Purposive sampling method. The researcher visited the colonies of Bankimnagar I & II, Jibantala I & II and Gangasagar I & II and interviewed the respondents (households) who had been a part of the government-initiated resettlement. Even in the case of the New planned Resettlers, Purposive sampling was utilised. These respondents mainly belonged to Gangasagar new colony, Bankimnagar new colony and Beguakhali new colony. These too were selected based on their criteria of having been a part of the government-initiated resettlement. The sampling design for 'unplanned' or as termed here as self-resettlers, was Snowball sampling. While interviewing the respondents of the old and new planned resettler category, the respondents intimated the researcher of households that that had resettled on their own, without any government or non-government initiative. When identifying such respondent and interviewing them, they pointed out other households with similar identifiable characteristics. Thus, each new interviews with the selected households revealed more respondents. The interviews for the self-resettled category are however limited only to Sagar Island- mainly Gangasagar Colony I & II, Gangasagar new colony, Jibantala Colony II and Boatkhali-Dhablat. Finding such households was not an easy task, as many of the households had moved away to the interior parts of the island or even to urban and peri-urban areas of Kolkata Metropolitan area.

Additionally, households from the mouzas (villages) of Boatkhali-Dhablat, Bankimnagar, Beguakhali, Gangasagar, Kamalpur, Mrityunjaynagar, Sumatinagar, and even the island of Ghoramara were also interviewed utilising purposive sampling. These households were excluding the planned or unplanned forms of resettlement. There were two main criteria in the selection of the respondents. According to the local population, these areas have a severe rate of erosion. This has also been validated by the maps of Bera et al. (2022), that illustrated the vulnerability and risk assessment of Sagar Island in relation to natural hazards and overall climate change. In that study, the aforementioned mouzas had been indicated as highly vulnerable and high-risk areas (Map. 2).

Another criterion of selection was that the households were selected based on their physical location i.e., in terms of them residing in the periphery of the mouza/village areas, within less than 1-2 km of the embankment or the river, *khal*[8] or sea. This process of sampling was continued till the researcher reached a 'saturation' point. This refers to the satiety of the data, where the researcher initially moving with the intention to keep on collecting the data till the point where no new data emerges from the chosen samples. The choice of selecting these sampling designs was also because of the absence of an appropriate Sampling Frame. The respondents representing the Government and Non-Government Organizations were selected utilising purposive sampling. These representatives, from various organizations were selected considering their importance for the research problem as well as the important position that they hold in the study area. As for the NGO sector, the organizations were selected due to their active role and prolonged existence in the study area.

The sample size of the different unit of analysis varies in this study. For those categorized in the Old planned resettlers (Chapter 5), the sample size was 16 households, residing in Gangasagar Colony I & II, Jibantala Colony I & II and Bankimnagar Colony I & II. The sample representing the New planned resettlers (Chapter 5) were 12 in total. For the category of Self-resettlers (Chapter 6), a total of 14 households have been interviewed. A total of 18 households were also interviewed, spread across the mouzas of Boatkhali-Dhablat, Bankimnagar, Beguakhali, Gangasagar, Kamalpur, Mrityunjaynagar, Sumatinagar. Apart from Kamalpur and Gangasagar[9], the five other mouzas are all considered highly vulnerable and are considered as high-risk areas (See Bera et al., 2022). Although, not focusing it as a specific study area, the researcher also visited and carried out interviews of households (04) in Ghoramara island as

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[8] Khal or canal.

[9] Kamalpur and Gangasagar mouzas included the colonies of Jibantala I, II and Gangasagar I, II and New.

well. Ghoramara in the post-independent period, is administratively considered as a Gram Panchayat under larger Sagar community development block. The age of the respondents (taken as the representatives of the households) ranged between 16 - 78 years, inclusive of both male and female. In terms of religion, two were the most dominant – Hindu and Muslim.

The unit of analysis for those representing government and non-government were the organizations. For the government institutions, the sample size was 10, representing the following organizations – Sundarban Development Board (SDB), Member of Legislative Assembly- Sagar, Department of Environment - Government of West Bengal, Department of Land- Government of West Bengal; Department of Refugee, Resettlement & Rehabilitation – South 24 Parganas, Department of Disaster Management-Relief, South 24 Parganas Members of Dhablat, Muriganga and Ghoramara Gram Panchayat, Member of Booth Committee, Beguakhali, Sagar. Four (04) non-government organizations were chosen based on their prolonged and active engagement in Sagar Island, namely Paribesh Unnayan Parishad (PUPA), Tagore Society for Rural Development (TSRD), Sagar Mangal. Interview was also conducted with the representative of the organisation – WWF-I, Sundarbans Landscape. This became important in the light of their 2011 published document "Indian Sundarbans Delta: A Vision", that had implication on the topic focused in this thesis.

2.4 Methods & tools of data collection

This study involves an interpretive framework. As such it was essential to utilise various methods to gather the primary data required for building on to the categories. The strategy did include going back and forth and also mixing of the methods in the process. All the interviews belonging to old and new planned resettlers, self-resettlers and trapped population, were conducted utilising a *face-to-face in-depth interview* method. The interviews in qualitative research becomes more of a conversation rather than a regimented session. These in-depth interviews are carries out in such a manner that it allows the respondents to talk in their own terms instead of the researcher imposing on them and also delivers a rich substance of their meanings (Jones, 2004, p.258). The time-period of the interviews varied between half an hour to two hours. The respondents were usually interviewed in their respective houses. But there were times when the researcher had to conduct interviews in various settings of the respondent's convenience like when the respondent was out working in the field or in local tea-stalls or public transport. Often the same respondent would have to be approached at different time periods as being a rural area, the early mornings would be engaged in doing either

household chores (for women) and going out to the fields (for men). So, the interviews had to be set accordingly. All the interviews with the households had to be ended by 5:00 pm. Being a rural area, finding electricity and adequate street lights during night-time was a problem. Add to that was the non-movement of transport facilities in these late hours. There were instances when the researcher had to return to the respondent again the next day, if the session was found to be incomplete.

One of the greater advantages of qualitative study, is that it allows the researcher to be flexible in their methods and tools as well. Earlier during the pilot study in 2016, the only point of major sudden-onset disaster that had occurred and was repeatedly referred to by the respondents, was of Aila of 2009. Based on the inferences drawn from the pilot study, the initial selection of respondents and the questions/points for the interview schedule was then drafted. During the interview process, at times, the answers of the respondents would be rather ambiguous, as much time had elapsed since the event had befallen. When the final field work commenced in 2021, it occurred at a time, though unintentionally, after the wake of two consecutive cyclonic events namely Amphan in May, 2020 and Yaas in May, 2021. The interview schedule was then altered to adequately capture the responses of the people, in the light of a more recent occurrences. It also provided the respondents with a ready point of reference and therefore enriched the interviews even more. Furthermore, almost all of the respondents denoted as 'self-resettlers' in this study, emerged after the two cyclonic events (though slow-onset hazard of erosion equally contributed; see Chapter 6). Considering the time period of Covid 19 pandemic during which the field work was carried out, apart from the face-to-face interviews, telephonic interviews also had to be relied upon. This was conducted only in the case of few respondents; cases which required triangulating of information or when conversing with the voluntary-migrant respondents then residing in various states of India, as interviewing them face-to-face was rather impossible. In the case of respondents belonging to Government and Non-government Organizations, *Key Informant Interview* method was utilised. This method initiates with the identification of key-informants. A Key-Informant is one who are likely to provide needed and relevant information on a particular topic (Kumar, 1989, p.1). The one who has first-hand knowledge about the community and can be regarded as the 'community experts'.

For the respondent's belonging to Old planned resettlers category, eliciting their *oral histories* served a valuable purpose in this thesis. This method involves the collecting of personal contemplation of events, their causes and effects of individual or several others (Plummer, 1983). As the displacement and resettlement had occurred over a considerably long period of

time, their oral histories assisted in a chronological understanding of the tentative time-frame of the occurrence of the hazard, the steps that they took to overcome the situation then and the process of movement of people and their resettlement from one island to another. The absence of written records of such an event, aided in cross-checking information.

The *Non-Participant Observation* method of data collection, was also employed in this study. While carrying out the interviews, the researcher had to engage in direct observation of the environment, the setting, the physical objects, their verbal and non-verbal interactions, behaviour. This also acted as a form of verification of statements of the respondents. Like for instance, while conducting an interview with a planned resettler in Beguakhali, and questioning on the availing of government schemes, a respondent said that she had not received any help from the government. But on direct observation, the researcher could see that the household had a *pucca*[10] four room recently constructed house and a plate was also stuck on front-facing wall of the house. On close inspection, it turned out that the house had been provided under the Pradhan Mantri Awas Yojana (PMAY), and a total of Rs. 1,20,000 had been received by the respondent-household. This when questioned further, turned out to be something that the respondent was avoiding to talk about. Thus, the choice of multiple methods was entailed in order to assist in triangulating the different perspectives of the selected category of respondents. This can then help us in analysing which information are more accurate and which ones are non-relevant.

All the interviews were carried out adopting a *Semi-Structured Interview schedule*. This tool included more of open-ended questions, that provided the scope for the people to narrate their life experiences without inhibitions. According to Kvale (1996), interviews conducted through semi-structured schedule intends to obtain descriptions of the life-world of the interviewee. By probing beyond specific answers to a question, the interviewer can derive manifold responses that may contradict each other, yet useful in condensing the myriad of narratives that allows the researcher to perceive the respondent's complex social world (Baker, 1998). The semi-structured nature of interview schedules does follow a certain structure, but this particular tool includes flexibility to construct additional queries or probes during the course of the interview. This either helped in eliciting more newer dimensions or triangulating any other.

The research undoubtedly could not only rely on primary data but also had to analyse secondary sources of information. This too became important sources for triangulation of information and

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[10] Pucca or concrete.

also developing questions for in-depth interviews and analysis. The *relevant literature on political/conflict induced or development induced displacement* and resettlement practices in India were reviewed. The volume of work on these subjects is of course, humongous. As such only certain selected literature on displacement and resettlement due to political/ethnic conflict or development projects in India have been reviewed. In comparison, the literature on environment-induced displacement and resettlement specific to India, was relatively few. These reviews helped in developing a perspective of how displacement and for that matter resettlement and rehabilitation is perceived in India. *Historical documents and records* were mainly employed to understand the history and process of settlements in the Indian Sundarbans as well as in the study area of Sagar Island. This includes documents spanning from colonial to post-colonial period. An important source of information were the *legal and official documents/reports/budget statements/speeches*. The various Acts, Plans, Policies, etc of the relevant government departments, mostly at the state (West Bengal) and the district (South 24 Parganas) or block (Sagar Community Development Block) level have been reviewed. The documents for some of the department at the central level were also analysed. This helped in understanding the enactment or lack thereof with regard to environment-induced displacement and resettlement in India, West Bengal and at the District level. Census data of past and currently available year of 2011, as well as the latest updated district (North & South 24 Parganas) statistical reports have also been reviewed. This exercise also assisted in assessing the variation between the rhetoric in the documents and their actual practices. *Media articles* and journalistic materials and sources helped in creating relevant themes during the field work and also in the analysis of the findings.

The analysis of qualitative data is intricate and occurs in stages. The initial stage incorporated transcription of the recordings as almost all of the interviews were recorded. Most of these interviews then had to be translated to English (the interviews were conducted in the local language, Bengali). The transcribed texts together with the field notes, were read and the initial separating and sorting of the data was conducted. This is referred to as coding. This helps the researcher in creating categories as well as developing themes that would be analysed later. It signifies the ways in which a researcher confers labels to segments of data that describe what each segment is about. Coding sublimates the data, sorts them, and provides a grip for making comparisons with other segments of data. Within each category, the researcher discovers numerous attributes or subcategories and looks for data to produce dimensions or reveal utmost possibilities on a continuum of the property (Creswell, 2013, p.89). For this study, the

transcribed data were coded in terms of process of displacement, socio-economic characteristics of households, condition during hazards, livelihood strategies etc. These codes were established based on frequently occurring words, concepts or ideas. This helped in structuring more concrete, axial codes. These codes related to concepts like Government initiatives, non-government initiatives, responsibility of resettlement etc. This was done by comparing the different sets of data from different category of respondents. In doing so, this also provides the interrelation between the categories developed. These were then thematically analysed represented by the various chapters in this thesis.

As this was a qualitative study, the researcher had to adopt more than one method to triangulate, at different phases of the research. Triangulation assists the researcher to combine multiple data sources, research methods, theoretical perspectives in the collection, inspection and analysis (Denzin, 1978, p.101). The use of only one method in qualitative research can prove to be an issue. Each method can assist in obtaining multiple façades of the common symbolic reality. The combination of methods then offers the researcher a richer and substantial representation of the phenomenon being studied (Berg, 2001, p.4). The study thus entailed a triangulation of data sources, of methods and perspectives during the course of the field work.

2.5 Ethical considerations

In every social research, ethical dilemmas form an inherent part, occurring throughout the research process. Maintaining a value-free axiological position is not quite conceivable or even entirely possible, especially in qualitative sociological research. Research is value laden and that biasness are equally extant. Throughout the analysis, the researcher's presence is discernible and represented by an amalgamation of the narratives of the respondents and an interpretation and presentation of the researcher. But the personal values of the respondents are also respected and negotiated (Creswell, 2013, p.21-36). However, the thesis has been sensitive to such ethical considerations and this section highlights the imperativeness to anticipate and plan such issues within the research design.

At the initial start of every interview, the purpose of the study was disclosed to the participants. Verbal informed consent was taken from every respondent who were willing to be a part of the study. In order to maintain confidentiality, the names of the respondents of planned settlement, self-settlement and other households who have been interviewed, have been kept anonymous in the analysis. Terms such as 'Respondent', 'Respondent-household', or 'Resettler', has been utilised interchangeably to refer to the interviewees. Topics on land, displacement, acquisition

or resettlement are extremely sensitive and have political implications, that could single out the respondents, if their names are revealed. In the case of the respondents representing government organizations, only the names of the departments have been mentioned and not those of the respective spokespersons or respondents. The mentioning of the names of the department was essential, as obscuring them would not highlight the importance of decision making concerning the study area, which is relevant for this research. The names of the NGOs have been mentioned but the key informants representing the respective bodies have been kept anonymous.

Almost all of the interviews have been recorded. Prior to the interviews, permission was sought from the respective respondent, as to whether or not the conversation could be recorded. Few instances did occur where taping the conversation was not preferred by the respondent, especially when interviewing government personnel. In such cases, the researcher had to note down the interviews and create field notes later. Such an option did present a challenge during the field work, as the researcher had to rely on her memory to prepare the notes. Earlier on, this presented a problem, as the researcher could only note them down at the end of a particular day. Often the researcher had to rely on her mobile device to note down things instantly, lest specific information would be missed. The interviews were all conducted in Bengali and the researcher had to translate and transcribe them to English. In very few cases, the access to the communities had to be done via a 'gatekeeper'- a mediator between the researcher and the probable respondent (Keesling, 2008). The process of consent taking would be followed by stating the aim and objectives of the study to the respondent. Mention would also be made of having the consent to either halt the interview midway, if it became a subject of their dislike. The respondents also held the right to not answer any question(s) in case they felt uncomfortable. At the end of the interview, the respondents were acknowledged for being a part of the study.

2.6 The setting: The Indian Sundarbans

The Sundarban region, covering an area of almost 36,000[11]sq. km, is shared between the Indian state of West Bengal and the country of Bangladesh, of which about 40% lies in the former and 60% in the latter. The Indian Sundarbans Delta (ISD) is spread between 21˚40' 04" N and 22˚09' 21" N latitude, and 88˚01' 56" E and 89˚06' 01" E longitude (Danda et al., 2011, p.1). The ISD

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[11] According to the UN website, the total area of the Sundarbans is 40,000 sq.km (UN). Hazra et al., (2002), notes the area as 36,000 sq.km in 1777 but has reduced to 25,000 sq. km (as on 2002).

in the east is circumscribed by the Ichamati-Raimangal River, the Hugli River in the west, the Bay of Bengal in the south, and the Dampier- Hodges line (marked in1829-1830) in the north. The human settlements reside on 54 deltaic islands while the major portion is under mangrove vegetation. Only two out of the eight rivers that flows across the landscape - Hugli and Ichamati-Raimangal supply freshwater (Danda et al., 2011, p.4)

In 1973, out of the 9630 sq.km., of the ISD about 2585 sq.km., was declared as a Tiger Reserve (Mukhopadhyay, 2016). In 1984, it was declared as a National Park, within the Tiger Reserve. There are three sanctuaries located in the forested areas involving Sajnekhali, Lothian and Halliday Islands. In 1987, the Sundarbans was designated as a UNESCO World Heritage Site under Man and Biosphere (MAP) programme, being the largest mangrove delta in the world with an enormous and rich biodiversity, sheltering endangered and highly threatened species; catering to about 85% of the mangrove habitat in India (Danda et al., 2011) and serving as a nursery for 90% of the coastal and aquatic species of eastern Indian ocean as well as Bangladesh-Myanmar coast. In 1989, the Sundarbans was declared as a Biosphere Reserve (Mukhopadhyay, 2016). The International Union of Conservation for Nature (IUCN) has classified the Sundarbans as Category IA (Strict Nature Reserve) Protected Area and accorded it with the highest level of official protection. Presently, the forested section of the ISD is supervised by the Chief Conservator of Forests & Director of the Sundarban Biosphere Reserve (SBR). The forested areas are managed through the Divisional Forest Officer, South 24 Parganas and the Field Director, Project Tiger - Sundarban Tiger Reserve (Danda et al., 2011). The inhabited section of ISD does not fall under the jurisdiction of the Director of Biosphere Reserve. The rich biodiversity that the ISD contains within, is sadly the well-known identifier. Overlooked are the people that makes up half of it.

In 1986, the ISD was divided between North and South 24 Parganas district for administrative purpose. There are 6 blocks namely Hasnabad, Haroa, Sandeshkhali I, Sandeshkhali II, Minakhan and Hingalganj under North 24 Parganas district; while 13 blocks under South 24 Parganas viz., Sagar, Namkhana, Joynagar I, Joynagar II, Mathurapur I, Mathuapur II, Patharpratima, Kakdwip, Canning I and Canning II, Kultali, Basanti and Gosaba. The imaginary line of Dampier-Hodges serves as the boundary that marks it off from the non-Sundarbans part of North and South 24 Parganas. Since 1951, the population of ISD has grown significantly which could be due to an amalgamation of natural growth and immigration. However, the overall land area has been steadily decreasing. From 1969 onwards, there has been a loss of 210 km^2, and since the beginning of 2001, the net loss stands at 44km^2 (Danda

et al., 2011). At present[12], ISD has an approximate total population of 4.4 million (Mukhopadhyay, 2016, p.6[13]). The geo-ecological characteristics of the two districts are believed to be responsible for the regional disparities in the district. This differentiation between the 'active' and 'stable' delta or the 'up' and 'down' islands, presents itself in the form of marked variation in the socio-economic and cultural characteristics of human settlements in the region[14] (Banerjee, 1961; Jalais, 2010).

For the purpose of this research, the island of *Sagar[15]* was selected (Map.1). The island is located in the southernmost part of the Indian Sundarbans and administratively under South 24 Parganas district. According to the 2001 census, the island has an area of 282.11 sq.km., In 2011, the total population of Sagar is 2,12,037 with 1,09,468 male and 1,02,569 female, living in 43,716 households across 42 villages. The percentage of population to the district population is 2.60%. The density of population is 752 per sq.km. The sex ratio is 937 female per 1000 male. Hindu (87.88%) and Muslim (11.73%) are the predominant religion; the rate of other religion (Christian, Sikh, Jain, Buddhist, Others) is less compared to these two. The population of Scheduled Caste (SC) is 56,261 (26.5%) and Scheduled Tribe (ST) is 854 (0.4%). The island has a literacy rate of 84.21%.

"*Sundarbans, land of eighteen tides (athhero bhatir desh), where the river rushes to meet the land for six hours a day, until, like a jealous lover, the sea claims it for the next six*" (Sobhrajani, 2018, p.xi). These lines appear to be true as one travels to the study area. The central issue for the islanders is, that the island has no road connection with the larger mainland which makes these Blocks rather isolated and remote (Danda et al., 2011). The only way of travelling from the island to the mainland or vice versa is through the Muriganga river, with vessels entry and exit points at Harwood point (mainly Lot No. 8) in Kakdwip or Kachuberia Vessel Ghat in Sagar, maintained by the West Bengal Surface Transport Corporation. The timing of the vessels that allows this movement, is dependent on the tides. The islanders tend to plan all their activities based on these vessel timings. There is another dock point at Namkhana that connects Benuban (more towards the south) in Sagar. Here, one can travel by launch which does not depend on the tides but takes a longer time to cross the river and runs on an hourly basis. Due to this problem of transport, the thriving of markets has been a problem. This has become more

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[12] Considering the census of 2011
[13] In 2001, the population was 3.8 million. Ref: Danda et al. (2011).
[14] This has been explained more extensively in Chapter 7 of this thesis.
[15] Also known as Gangasagar or Sagar dweep (meaning island in Bengali)

challenging for transport of fishes. The fishes are sold to large markets in and around Kolkata. There is an absence of mechanised processing or preservation units, apart from the provision of ice, supplied by few ice factories set up in other blocks of Indian Sundarbans.

At a height of about 6.5 m above sea level (Mukherjee, 1983), the north-south length of Sagar Island is only 30 km, while the east-west width stands at 13 km (Kumar et al., 2007, p.1498). The significance of this island to the study is of the past and present occurrences of displacement of people and the praxis of planned and unplanned resettlement. The study was conducted spanning across several mouzas. The mouzas of Mrityunjaynagar, Sumatinagar, Bankimnagar, Kamalpur, and Gangasagar were selected because the old planned colonies were located within these mouzas; Beguyakhali was later added to the study area, when instances of new planned colonies became evident; the mouza of Boatkhali-Dhablat has one of the highest rate of erosion in the island. The selection of the aforementioned mouzas was also due to the severity of erosion plaguing them. It is to be noted that Sagar in this thesis would be concurrently referred to as Sagar Island or Sagar only. The researcher has avoided using the term 'Sagar Block', as it also includes the island of Ghoramara. The island no doubt, features time and again in this study where few households have also been interviewed, but the researcher has not considered it as a specific study area.

Studies have highlighted the consolidated bouts of natural hazards occurring in the area, ranging from cyclones, high tides, floods and inundation, to erosion. The proportion of loss of land area of the island is comparatively higher than its accretion. As more and more populations stand on the threshold of displacement, it was important at this juncture to try and understand how the people visualise their present and their future in the island. The Sundarbans has been considered as one of the most vulnerable areas in the present context of global warming and climate change. With most of the islands, at a height of below sea level, it is only a matter of time to see what type of impact that the rising sea level could do this important, but volatile island region.

2.7 Conclusion

This chapter focused on the methodology and the methods adopted during the course of the present research. Being a qualitative research, measurement did not form a central component in this research, as required in quantitative research. Therefore, the technique on evaluating the reliability and validity of this study, had to be approached through alternative criteria. Lincoln and Guba (1985), delineates criteria for evaluating reliability and validity in qualitative

research – credibility, transferability, dependability and confirmability. This study ensures credibility through the tenets of good research practice and where multiple methods or sources of data have been used to cross-check the findings. Transferability of the study was developed by providing 'thick descriptions' (Geertz, 1973) – detailed accounts whereby readers could then assess whether or not there is a possibility of utilising it to other social settings. The dependability criteria analogous to reliability was addressed through keeping records of the entire phases of the research process and making it accessible. The researcher's supervisor also acted as an 'auditor' of this criteria. The last criteria is coterminous to objectivity. As mentioned earlier, maintaining complete objectivity is actually impossible in the field. The researcher has taken more of a reflexivity approach, trying to remain unbiased in the field and at the same time have been sensitive of one's role in the research. The subsequent chapters elaborates and analyses each of the objectives mentioned above in more detail.

Map. 1: The Indian Sundarbans and the study area of Sagar Island
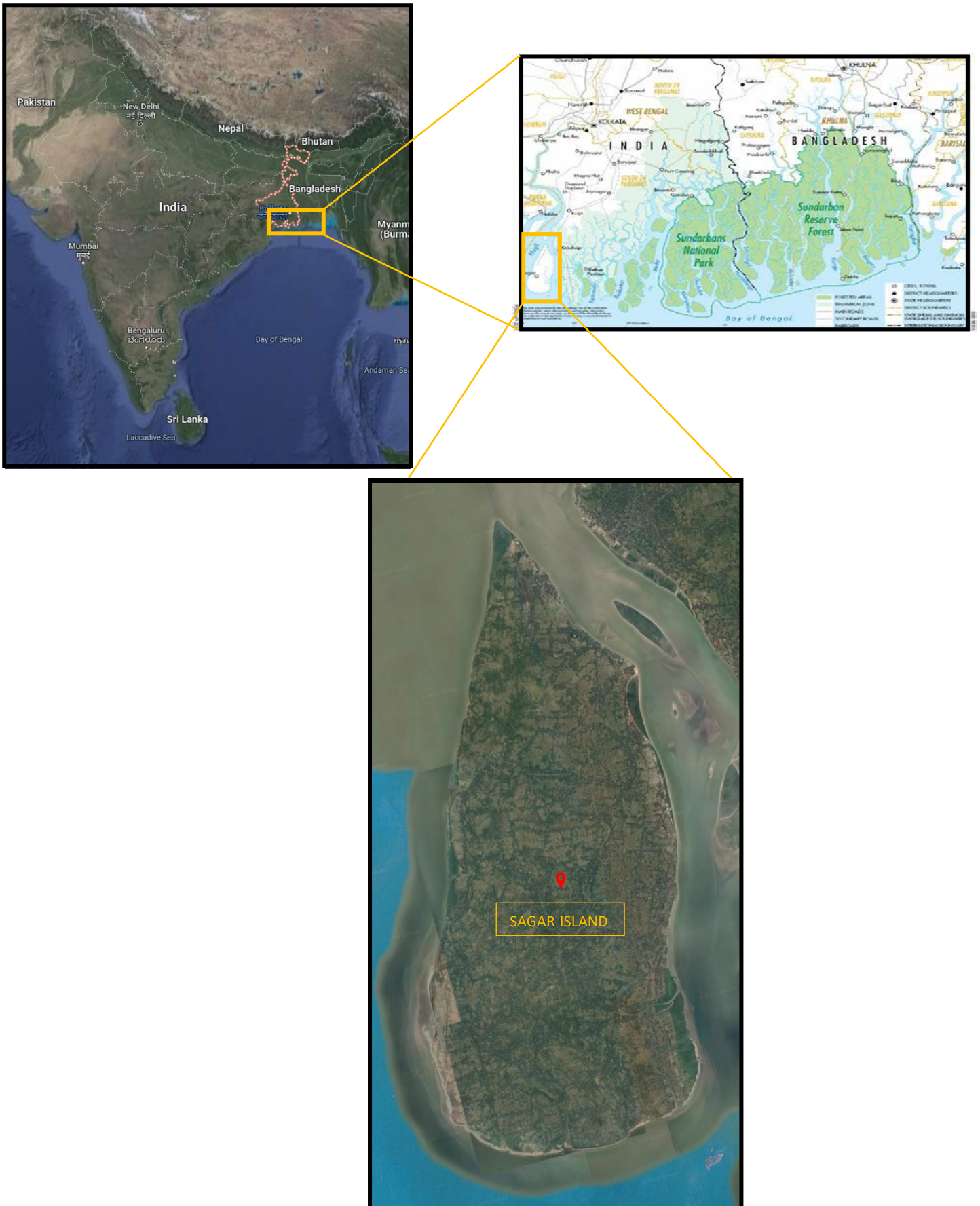
SAGAR ISLAND

Source: Retrieved from google earth

Map. 2: Vulnerability and risks maps of Sagar Island
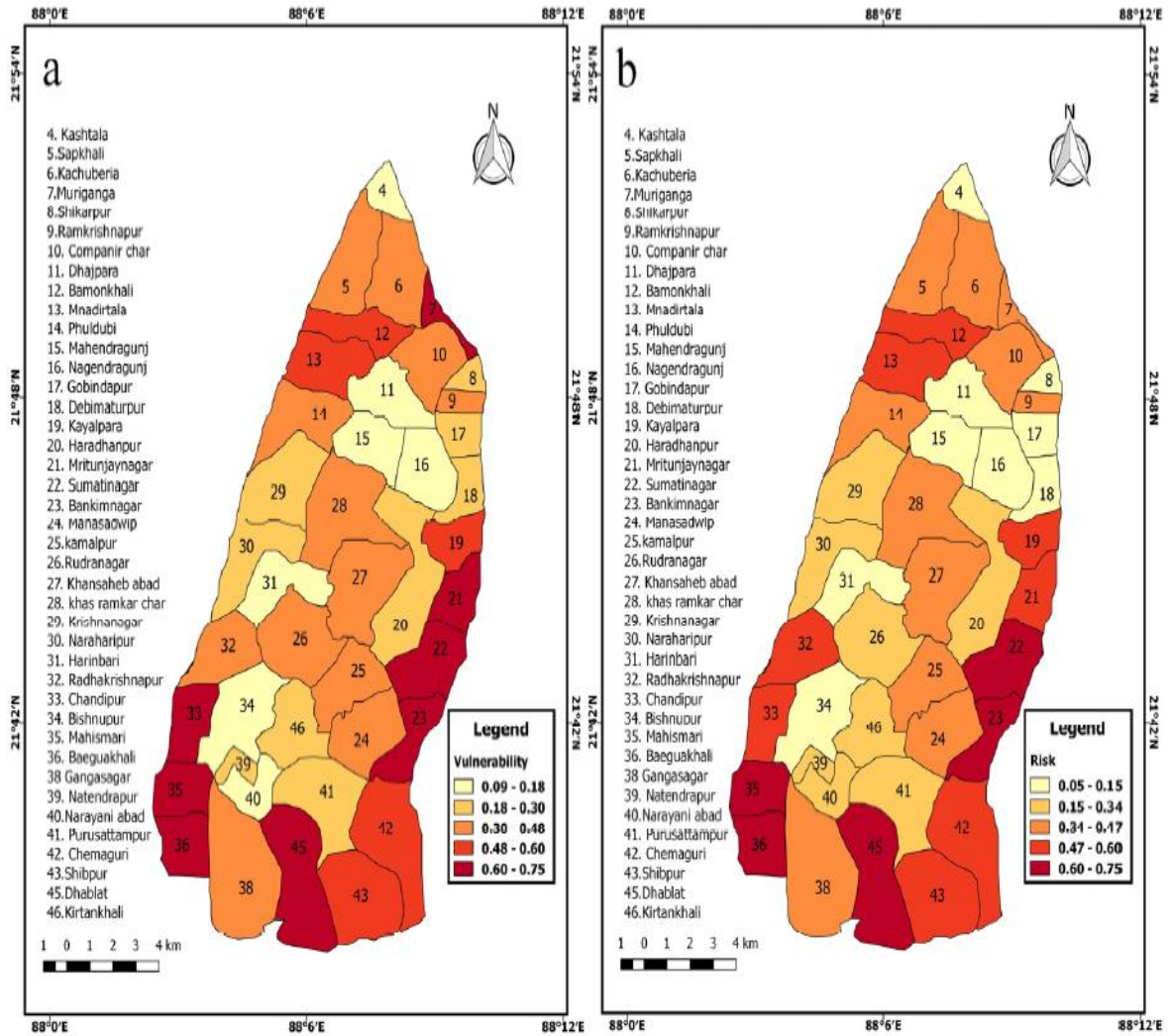
Source: Bera et al., 2022 (p.15)

[Note: Respondents from areas marked under serial no. 21, 23, 25, 36, 38 and 45]

CHAPTER 3

DISPLACEMENT AND THE NEXUS OF RESETTLEMENT AND REHABILITATION IN INDIA

3.1 Introduction

Anthropology and Sociology have been the two pioneering disciplines to systematically study human displacement and the subsequent resettlement-rehabilitation nexus. In the late 1950's, anthropologist Roy Burman conducted a one of its kind research in Odisha (then Orissa) on forced displacement produced by Rourkela industries. Over the years various disciplines have contributed towards the amassing of a corpus of knowledge through adoption of diverse methodologies and methods (Cernea, 2002). The following review of literature traces the forms of displacement that have occurred in India, sub-divided according to the various causes. These reviews are in no way exhaustive. These divisions are based on those factors that have been identified in this research, as the predominant 'conventional' causes of displacement in India. The section largely pays heed to internal displacement, where international displacement has been mentioned only in the conflict-induced section in 3.2.1.

It commences with the selective issues in post-independent India relating to displacement, resettlement and rehabilitation (R&R) that have besieged those affected through political/ethnic conflict, followed by developmental projects. The last section 3.3 focuses on environment-induced displacement due to natural disasters but within the national context. This chapter would assist in reproducing an understanding of how displacement is perceived in India, through the analysis of three important causes – conflict, development and natural disaster. Further, the legal undertakings of displacement, resettlement and rehabilitation in India has also been reviewed and the lacunas thereof for each of the causes aforementioned. These reviews would then allow the researcher to make a comparison between the two 'conventional' causes on the one hand and environment on the other, of how they differ in terms of the methodology of conceptualizing displacement and operationalizing resettlement in India.

3.2 Displacement in India: Factors, outcome and legal undertakings

The practice of displacement in India has been prevalent even during the pre-colonial days. The definition and utilization of land has always been according to the requisites of those in power and where displacement has been perceived as justified, imperative and judicious.

During the British colonial period, the acquisition of land in India was amassed in greater proportions, unlike its former era. The introduction of numerous incapacitating land revenue systems, with varying processes, was a precursor of this acquisition. This along with the various forms of taxation systems, structured the exploitation of the peasants. The draconian Land Acquisition Act of 1894, acted as the medium for the encapsulation of state power, legitimizing all forms of state sponsored acquisition and thus contributing in propelling the marginalized population to further indigence. The 'divide and rule' policy of the colonial powers segregated the community and capitalized on the strategy of exploitation of one by the other. All the factors amalgamated into disrupting the traditional community-based lives. The displaced population, were forced to migrate to other profitable areas producing pressure on existing resources, work and even social conflict (Parasuraman, 1999).

In the Post-Independence period, the predominant factors of displacement (largely internal displacement) in India, in this study have been envisaged as – political/ethnic conflict, developmental projects and natural disasters. The focus of this chapter is thus on the post-independent period of how displacement, resettlement and rehabilitation is perceived in India. At the onset it is worth mentioning that there is a plethora of literature on the subject of displacement (the reason being due to its multiplicity of causes). However, inclusion of all the events that have occurred in India over the course of the years, under the various sources mentioned above, is a formidable task, considering the limitations of time and space of this research.

3.2.1 Conflict-induced

India's history in the post-Independence period (after 1947), is replete with instances of large-scale international displacement of people, triggered by political and ethnic conflicts. The United Nations High Commissioner on Refugees (UNHCR) reported more than 200,000 refugees from various countries are residing in India[16]; the US Committee for Refugees and Immigrants[17] indicated a much higher figure of more than 400,000 refugees. The United Nations in their Convention on Refugee held in 1951, defined 'Refugee' as a person who due to sound reasons of conflict, violence and fear of persecution, because of belonging to a particular race, religion, nationality or a particular social group or having a certain political

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[16] http://www.unhcr.org. Last accessed as on 20.12.2022 at 7.49 pm (IST)
[17] http://www.refugees.org/. Last accessed as on 20.12.2022 at 7.49 pm (IST)

opinion, has been forced outside of his/her country and is incapable or unwilling to gain the protection of his/her origin country or return to it.

Dasgupta (2016), in his analysis of the state of refugees in India states that, about 7-8 million Hindus and Sikhs from West Pakistan to India and a little over 80 lakh from East Pakistan, sought asylum in India between 1947 and 1971. The invasion of Tibet by China during the 1950's, equally added to the crisis. In 1971[18], this predicament took a new turn, as more than 10 million East Pakistan or Bangladesh refugees arrived in West Bengal, Tripura, and Assam. The refugee crisis resurfaced in 1983, due to the Sri Lanka's anti-Tamilian Programme, in the south Indian state of Tamil Nadu, that served as a refuge for displaced Tamils from Sri Lanka. However, in all these events, displacement did not occur in a single period but in waves (Dasgupta, 2016). According to the World Refugee Survey of 1999, India had a total of 292,100 refugees belonging to Afghanistan, Bhutan, Burma, Sri Lanka, Tibet, countries in Africa and West Asia (Vijaykumar, 2000).

In 2009, there were approximately 1,10,095 Tibetan refugees in India, settled in 45 resettlement camps (first settlement was set up in early 1960 in Bylakuppe, Mysore), in phases, scattered around in mainly ten states of the country and provided with several facilities. For the East Bengal displaced population, the newly created state of West Bengal became one of the prime states to receive those people. Being not just physically proximate but also a sharing of the socio-cultural characteristics between the people of the now partitioned countries. In the case of Sri Lankan conflict, the first wave of resettlement initiated between 1983 and 1987. The next waves were between 1989 and 1991 and finally between 1995-2009. The journey from the sending to the receiving country has been documented as an arduous one. At the end of 2010, it was seen that India had about 1,00,000 Tamil refugees, of which 70,000 had been relocated in refugee camps, while the remaining resided with their friends and relatives or in rented accommodations (Dasgupta, 2016; OfERR, 2003). Just as diverse are the volume of the people displaced, their resettlement and rehabilitation process also differed.

The R&R facilities rendered to the displaced population diverged. In case of the Tibetan refugees, they were provided with leased land for housing and income generation, which however could not be sold by the allotees, educational facilities[19], benefits of government schemes like National Rural Livelihood Mission (NRLM), Public Distribution System (PDS)

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[18] Bangladesh Liberation War in 1971
[19] Exclusive Central School for Tibetans, funded by the central government.

to name a few (GoI, 2014). In 1981, His Holiness the Dalai Lama's Central Tibetan Relief Committee (CTRC) was formed for the effective R&R of these refugee groups. For the East Bengal resettlers the experience of resettlement varied depending on their social, economic and cultural capital (Mallick, 1993, p.97; Guha, 1959; Dasgupta, 2016; Mukhopadhyay, 2016). The ones who belonged to the lower castes and marginal categories mainly the untouchable castes, were solely reliant on government support (Mukhopadhyay, 2016). On arrival at the transit point in India, the refugees were provided with documents that would allow them to receive relief from the government and disseminated to various camps. Many makeshift camps were also created at the transit points, which took several years for final resettlement of those settled there. The temporary camps for the oustees included small huts, school buildings, abandoned government buildings, cyclone shelters, prison-like forts, which were either created for a longer time span or shorter (Dasgupta, 2016).

As for the Sri-Lankan displaced population, the sudden exodus of people did not offer the state much opportunity for its effective management. There also exists a disparate handling of the government towards those relocated in camps and those living outside. A strict process of registration was followed. Those that arrived were provided with relief in the camps. Special camps were also set for those suspected of having links with militant groups and to confine mobility of refugees and keep continual scrutiny on the inmates (Dasgupta, 2016). The camps were created in various districts of Tamil Nadu and with the provision of basic amenities. By the end of the 1990's, it was reported by the UNHCR that about 40,000 people were living outside the camps utilizing their social capital. Such refugees were not entitled to receive any assistance from the Tamil Nadu state government or from the centre. In the initial period, these refugees were provided with visas for 3-6 months and receive extensions if they could produce their clearance certificates. Tax clearance certificate was also required by these refugees (Suryanarain 1986, p.54).

The consequences of R&R process were more or less similar and divulge numerous issues. The situations in temporary relief camp sites of the Tibetan refugees have been described as appalling. Congested living spaces that were unhygienic and deficient of basic facilities. As the employment opportunities are only confined to the informal sector, these are often low paying, labour intensive and dangerous. The infrastructure for health and medical are also inadequate (Chaudhury & Dey, 2009; HRLN, 2007; Raizada, 2013). With regard to the permanent resettlement colonies, one of the central problems is that of socio-cultural

integration with the host population (original settlers) and the resettlers in the resettled area. Ecological incompatibility of the resettlement areas to what the refugees were accustomed, often leading to alteration of livelihoods. The lack of information about government schemes which they were allowed to avail. The misuse of funds and resources by the intermediaries in implementation of scheme. The lack of social support network systems. Denial of full rights that are granted to the other Indian citizens. (Balasubramanian, 2009; Bhatia et al., 2002; Chaudhury & Dey, 2009; Hans, 1993; HRLN, 2007; Samling et al., 2015; Sharma, 2009; Tarodi, 2011; Tibet Justice Centre, 2011).

The camps of East Bengal resettlers, had turned into locations of conflict or a site where community life gets reconfigured with intricate power relations. Instances of mistreatment and depravation of the refugees in these camps have also been reported. Women who were single with or without children, widows, old or weal or that came with no male relative were relocated in 'permanent liability camps', depending on benefits from the state. But these camps became a mechanism for socio-cultural isolation for the women (Bagchi & Dasgupta, 2003). For those who had resettler on their own relocated themselves towards rural areas and new satellite towns. The experience of host-resettler relations have also been varied for these refugees, where some experienced hostility while others cordial. The rehabilitation process was messy and chaotic, with no proper planning. The resettlers in certain camps even claimed that the government had given them a 'false hope of rehabilitation' (Mukherjee, 2020, p.63). The influx of refugees to West Bengal was larger than those being rehabilitated outside the state. As such, West Bengal had reached a saturation point and creating pressure on the available resources. Towards the end of 1960's, the refugees were being directed to settle elsewhere outside the state and rehabilitation benefits could be accrued by such settlers (Dasgupta, 2016). As for the Sri-Lankan refugees, the camps too revealed appalling situations, especially those created in cyclone shelters in the coastal regions. The refugees in camps were under strict surveillance and were forced to remain in isolation and with less or negligible interaction with the civilians (Suryanarain, 1986, p.54; Dasgupta, 2016).

Further scrutiny of the process also reveals terminological and definitional discrepancy of the displaced population, arriving from different countries, here in India. According to the Central government, refugees were people displaced from their homes due to communal disorder (The Statesman, 25 January 1950). As for the Government of West Bengal, the definition of a 'displaced' person laid down the following criteria – (i) a resident of East Bengal but due to

communal conflicts taking place after 1 October 1946, left East Bengal and arrived in West Bengal on or before 31 December 1950 (ii) owned no land in West Bengal (ii) confirmed through an affidavit filed in the office of the competent authority that he would not return to East Bengal (Department of Refugee Relief and Rehabilitation, Government of West Bengal 1998, p.1-10). This tag of displaced was believed to be less politically sensitive than refugees or evacuees and also evident by the titles of legal acts formulated, like the Displaced Persons Claims Act, 1950, and the Displaced Persons Compensation and Rehabilitation Act, 1954.

This definition of 'displaced' was contentious due to the limit year of 1950, as there were hordes of people crossing the borders, beyond the set year as well (Dasgupta, 2016). It was only later that in 1954, an official notification was published that defined a refugee, for effectively implementing the R&R. They were officially recognized as anyone who had been a resident of newly created West and East Pakistan[20] and who arrived between 1st June 1947 to 31st December, 1954 because of civil unrest or threat thereof and were consenting to reside permanently in West Bengal. The proof of identity for the refugees were – for those that arrived till March 1951, census records of 1951 where the persons voluntarily declared themselves as refugees during the census surveys; border slips for those persons arriving between March, 951 and October, 1952; those arriving after and to the end of 1954, migration certificates. Such migration certificates were introduced in order to distinguish between 'citizens' and 'non-citizens' or 'migrants', where the citizenship of the latter was to be decided in the future (Dasgupta, 2016).

During a brief moment in time, the tags such as 'refugee', 'displaced', 'evacuee' etc were done away with. The refugees were mentioned as 'migrants' – categorizing between old migrants, those that arrived in India between 1946-1958 and new migrants, between 1964-1971 (Department of Refugee Relief and Rehabilitation, GoWB, 1998, p.1). However, the officials were given absolute power of declaring an individual as a refugee or even deny rehabilitation if the situation demands so. This uncertainty and discrepancy in official terminology, no doubt, made the R&R process arduous (Dasgupta, 2016).

In the case of Tibetan refugees, the most significant resettlement amenity was the issuance of Registration Certificates (similar to Identity Cards), that conferred them the liberties enjoyed by an Indian citizen, except for the right to vote and work in government offices (Bhatia et al.,

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[20] East Pakistan or Bangladesh

2002; HRLN, 2007; Tarodi, 2011). In 2018, it was pointed out that the total number of Tibetan Refugees in India has reduced from 1.5 lakhs to approximately 85,000 in a span of 7 years, emigrating to other countries or even returning to Tibet (Tripathi, 2018[21]). One of the reasons mentioned for the declining population is the recognition of the Tibetans in India as 'foreigners' in official policies and not as 'refugees' (Purohit, 2019[22]). In 2022, the Union Government has extended the scheme for expenses towards Tibetan settlements in India to provide Rs. 40 crore grants-in-aid to this Committee for upto 2025-26[23]. But the refugees of other origin in India have not been so fortunate in this regard, like for example the Afghans (migrating in the early 1980's), who although have been given refuge in New Delhi have not been accorded a legal status nor the formal right to work or establish business in India and have also been denied resident permits (UNHCR, 2000).

The refugee resettlement had become a political contention since the independence of the country and the formation of states. It should be mentioned here that the refugee resettlement in India also coincided with the implementation of land reforms. In the later 1970's, the coercive refugee resettlement of the East Pakistan refugees (Bangladesh) in West Bengal took a violent turn. A reference can be made here of the infamous Marichjhapi Massacre in Bengal of 1979. With the increasing population as well as the dearth of land, it was decided by the government to resettle these refugees (roughly about 42,000) in different states of the country, particularly in 'Dandakaranya' (shared between Madhya Pradesh and Odisha). This region was physically and culturally unlike from the place that refugees were habituated to. The main livelihood of these refugees was semi-aquatic and plain-land agriculture. It was naturally tremendously trying for them to make ends meet in a contrast rugged and shallow environment therefore losing their economic prospects. Incidents of clashes between the resettlers and host population were also gaining ground (Dasgupta, 2016). Prior to the rise to power of the Communist Party (CPI-M) in West Bengal, one of their important demands was the re-resettlement of the refugees in the unoccupied Sundarbans delta in West Bengal, a more familiar terrain to the resettlers and vehemently discouraged their rehabilitation outside the state (Mukhopadhyay, 2016). This was also presented in the Legislative Assembly by the then opposition leader, Jyoti Basu and also in a public forum in 1974. So much so that the refugees believed this would occur once the party came to power and therefore the CPI-M amassed huge

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[21] Tripathi, R. (2018, September 11). Tibetan refugees down from 1.5 to 85,000 in 7 years. The Indian Express.
[22] Purohit, K. (2019, March 21). After 60 years in India, why are Tibetans leaving? Aljazeera.
[23] The Hindu Bureau. (2022, April 06). Centre extends INR 40 crore relief to Dalai Lama's Tibetan Committee upto 2025-26. The Hindu.

support of the refugees settled outside of West Bengal. The party, however changed sides once they came into power, altering their agenda towards the refugees. Dissatisfied, the refugees from Dandakarnya, now took the matter in their own hands and marched and settled themselves in and around the Sundarbans. The settlers in Marichjhapi Island highlights the hapless situation of the refugees, caught between party politics. These settlers were forcibly evicted, through a policy of economic blockade- cutting of food and water supply to the island, termed as illegal encroachers on forest land and at the end even resorted to extreme violence- police firing randomly at the refugees and even cases of sexual abuse of women (Sengupta, 2011; Gupta, 1965; Elahi, 1981; Mallick, 1999).

In light of the assassination of Rajiv Gandhi in 1991, all Sri Lankan refugees living outside the camps, were mandated to register their names in the adjoining police station (Dasgupta, 2016). Deportation of refugees that were living in either camp and non-camp was also initiated. According to the Ministry of Home Affairs in India, out of a total of 2,78,481, only 1,93,604 refugees were deported either through state initiatives or on their own. The process has been harshly condemned as byzantine, unplanned, involuntary, affecting human rights and conflictual. The resettlement process of the Sri Lankan refugees had a political undercurrent. In the mid 1980's, the ruling party at that time – AIADMK[24] was vigorously campaigning for the welfare of the refugees. However, in the early 1990's there, occurs a shift when they became the main proponents for repatriation of these refugees, as they considered them to be a threat to national security (Dasgupta, 2016).

The classical definition of UNHCR is debated by scholars as considering only limited causes of displacement and euro-centric (Dasgupta, 2016; Gibney, 2004). In 1967, UN espoused the Protocol Relating to the Status of Refugees. India is neither a signatory to the UN Convention on Refugees (1951) nor the Protocol Relating to the Status of Refugees (1967) and does not have a national legal framework on refugees in place. This has made India independent in its dealing with refugees. However, the country has since 1995, been a member of the Executive Committee (ExCom) of the United Nations High Commissioner for Refugees (UNHCR). India, works in close collaboration with the UNHCR, and any other stakeholders (like NGOs), to provide protection, assistance and look for enduring measures for such refugees (Kaur, 2013). The country is also a party to the Covenants of 1966 (ICCPR66, ICESC66), Convention on the

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[24] All India Anna Dravida Munnetra Kazhagam (AIADMK), a regional political party in India, having a stronger hold in the state of Tamil Nadu.

Elimination of Discrimination against Women (CEDW), 1979, Convention against Torture of 1984, and Convention on the Rights of the Child, 1989 (Vijaykumar, 2000). The problem of refugee R&R in India is however quite complex. It is of course a matter of administrative and political decision making, that administer the position of refugees in India. This can therefore lead to differential handlings of various refugee groups seeking refuge in India. Some may enjoy full legal assistances whereas others may be criminalized and deprived of basic necessities of life (HRLN, 2007).

The Indian state is autonomous in its decision making on refugees, not just from international organizations but also from powerful hegemonic states and from even internal pressures like the Civil Society or the NGOs. It was observed that only in the case of Sri Lankan refugees, NGOs were barred from taking any initiatives towards the former, which was unlike the case of refugees from Bangladesh or Tibet (Dasgupta, 2016). According to Gibney (2004) and Oommen (2012), the Convention definition failed to take into consideration the intricacies of refugee situation in South Asia. Thus, the government deals with the refugees on a case-by-case basis, relying on the provisions of the pre-independent legislations of, Passport (Entry into India), 1920, Registration of Foreigners Act, 1939, Indian Foreigner's Act, 1946 (Vijaykumar, 2000). This has resulted in ambiguity in the very definition of refugees in India, where it tends to vary and even term used to describe them are diverse – evacuees, migrants, displaced, refugees, outsiders, foreigners (Oommen, 2012) to state a few. With the state formation and partition of India, the meaning of citizenship was formulated but debatable. Therefore, while some groups are received as citizens, being a part of the nation, there are others that obtain only government and UNHCR support, as refugees. There are also those that are considered as migrants but without any official residence or citizenship and even as 'illegal immigrants' or infiltrators (Dasgupta, 2016, p.4). There also lacks a consistency of the treatment of the government towards these refugees that came in different time periods. Legislations were also passed that would legitimize the eviction of refugees by the state as and when required, like the West Bengal Eviction Act of 1952.

However, in all cases of political/ethnic conflict, both men and women, have not been mere witness to the indifferences of the state and have been active 'agents' in making political impression for their condition. India in its initiative of formulating its own laws concerning refugees, has led to disputes with its neighbouring countries. Such conflictual relations have

resulted in the meeting of South Asian countries on several instances to fashion a legal framework that would be appropriate for the whole region (Oommen, 2012).

3.2.2 Development-induced

After Independence in 1947, India attuned to the course of development. Within this agenda was the erection of large multipurpose river valley projects, thermal power plants, mining projects, urban development projects, transport connections etc. Around the late 1940's, the government of India along with the state of Odisha (then Orissa) considered a multipurpose river valley project on the Mahanadi river - the Hirakud Dam. This project was conceived with several aims of preventing recurring critical floods and droughts in the state, hydropower generation, irrigation and navigation. The first official notice for land acquisition was dispensed in 1946 and the dam was completed in 1957. The actual number of population displaced varied between 100,000 (Nayak, 2010) and 110,000 to 180,000 (Fernandes, 2008). The country is allegedly the third largest dam builder in the world. Presently, there are more than 5000 dams in India. According to the Working Group on Human Rights in India and the UN Report (WGHR, 2012), the country has the largest number of development-induced displaced people in the world. The Lok Sabha Secretariat (2013) report claims that between 1947-2000, an estimated total of 60 million people were displaced, the Scheduled Tribes and other traditional forest dwellers facing the major brunt (Human Rights Watch, 2006). Dams became the 'emblems of modern India'.

The question of R&R of the people ousted due to development projects, in particularly large multi-purpose river valley projects, was brought into public attention with the advent of the *Narmada Bachao Andolan*. Initiated in 1987, the Sardar Sarovar was the first of the many projects to be taken up by the government in their ambitious plan of creating more than 3000 large and small dams. The project was assumed to displace approximately 100,000 people residing in 245 villages of the states of said states (EPW, 1993), largely tribals and a lot more likely to be affected, mainly in the states of Gujarat, Maharashtra and Madhya Pradesh[25].

The R&R packages offered by the developers varies on a project-by-project basis. Equally diverse then becomes the consequences. A study by Baboo (1997), observed that the preferred location for the tribals in the Hirakud dam displacement, relied on it being in proximity to the

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[25] In 1985, the World Bank entered into credit and loan agreements with India ($450 million) along with the respective states, to help finance the construction of the Sardar Sarovar project.

forest. Besides this, the accessibility of farming opportunities, access to waterbodies and pasture for animals, cohesion with their cohabitants and also admission to urban labour market. These criteria highlighted their dependence on the forest and their lack of resources to own agricultural land. However, on being resettled, the population were confronted with the issue of adjustment with host population, infertile land and variation in livelihood, economic deterioration, high reliance on informal moneylenders, physical and psychological health issues (Baboo, 1997). The compensation was unsatisfactory, unequal and at the same time unavailable for those who not have legal land rights (Mishra, 2002; Pati & Manas, 2009). The ones who availed the compensation lacked proper management of the money and spent majorly on consumption, lawsuits, household expenses etc. Being discontented with the R&R measures, many of the oustees chose to settle themselves. The resettlers would often return to their own native village because of adjustment issues (Baboo, 1997). The construction of the Rihand dam in Uttar Pradesh in the 1950's, produced similar consequences. Around 10,000 people from 108 surrounding villages were displaced and no land compensation provided (Singh, 1985).

Similar innumerable human and environmental impact of the Sardar Sarovar project was witnessed. It was pointed out that prior consultation of the displaced population was not conducted. The land for land package in the R&R package was debatable, as it was accorded only to those who could produce legal land titles, while the others who could not were deemed as 'encroachers' (Modi, 2004; Morse & Berger, 1992). Whitehead (1999) in his study on the displacement and resettlement of the Sardar Sarovar project of sites in Vadodara, Gujarat, emphasized on the transformation of the livelihood of a self-sufficient tribal community that relied on natural resources. The displacement forced them to engage in agricultural work and also migration to other states or urban areas as wage labourers, pushing them towards destitution. In a similar study by Garikipati (2002) in Gujarat, stated that despite the resettlement of the displaced populace, about 96% of the households opined that their lives had depreciated after relocation. The central reason being the degraded quality of agricultural land and the deteriorating state of amenities at the resettlement sites. The study reported an incongruity between the resettlement documents of the government and the ground reality of the people, where the former emphasized only on the quantitative and not on qualitative features (Garikpati, 2002). The shortfalls of the resettlement process include non-availability of land, inadequate land surveys, ambiguous definition of project-affected persons, incorrect records of the project-affected people, non-granting of land rights therefore resulting in

discontent among the 'encroachers', insufficient compensation, meagre and poor quality of land, discrepancy in resettlement policies of the states, corruption, lack of maintenance of facilities built in the resettled sites (Levien, 2006; Morse& Berger, 1992; Sangvai, 2001; Shunglu, et.al., 2006; Whitehead's 1999).

According to Modi (2004), the R&R packages were grounded on a patriarchal definition of family, that denied compensation to women-headed households, unmarried or divorced women and widows. These women lost their rights on land, had no livelihood generating opportunities and the women's access and utilization of resources was arbitrated through their husbands or other male kins. Diminished amount of food crops and steep prices resulted in curtailing the calorie consumption which mainly impacted the women and female children. Families and social ties were disrupted due to dispersal of people. Hostile relations developed with host communities because of competition over scarce community property resources (Modi, 2004). The gender disparity in resettlement was also emphasized by Sikka (2014), reflected by the lack of distinct sanitation facilities for women in the resettlement sites.

The Independent People's Tribunal on Environment & Human Rights Report (1992) of the Bargi dam in Madhya Pradesh (1974), have even reported cases of deaths amongst the malnourished resettled population due to malnourishment, because of improper planning. Resettlement due to dam projects like the Bargi and Rihand Dam (1964) have resulted in situations of multiple displacement, where the resettled locations are again transformed for development projects or have become inhabitable due to certain reason (Ray, 2000). In the dam sites of the Garhwal region in India, the central matter of conflict of the oustees were the non-involvement of the people in decision making process by the project developers. This was in addition to the exhaustion of natural resource base and dwindling cultivable land, insufficient compensation packages, homelessness and misleading information on construction activities by the concerned authorities or the developers (Sati, 2015).

Here too, arises the issue of labelling the displaced population and at the same time leading to a crisis in calculating the total volume of such population. Studies have termed the displaced population of the Sardar Sarovar project as 'involuntary resettlement' and led to non-consideration of human rights (Berger, 1993; Garikpati, 2002; EPW, 1993). The three states had their own R&R packages, which however were not fulfilled in reality. The World Bank credit and loan agreements with the concerned states, only provided the R&R benefits to the

'project-affected' families whose villages would be submerged, ignoring those who would be indirectly affected.

The woes of displacement resulted in fervent protests garnering support from individuals and organisation all around the globe, in the form of *Narmada Bachao Andolan*- a body of civil society organizations and individuals, led by social activist Medha Patekar. This over the years took the form of a larger platform names the 'National Alliance for People's Movement'. (Narula, 2008; Nayak, 2010; Peterson, 2010). These vehement protests led to the deputation of the Morse Commission (under the Chairmanship of Bradford Morse, former head of UNDP), an Independent Review Panel by the World Bank, to appraise the project and recommend ameliorative actions, in 1991. The World Banks' Morse Report (1992), accepted the defective enactment of the R&R projects. At the end, this report resulted in the World Bank retreating from the project. The Indian Government on the other hand, sustained the project through their own sources of fund and avowed commitment to the R&R entrenched in its agreements with the Bank. In 2006, the Sardar Sarovar dam was finally completed in Gujarat, that displaced approximately 320,000 people, which was significantly higher than the earlier assessed population (Narula, 2008). The withdrawing of the World Bank from the project, has been contended that it led to the elimination of a body that the Indian government would be obligated to and therefore loss of culpability (Narula, 2008).

In India, next to river valley projects, mining, urbanization projects and creation of conservation areas or protected area networks, forms the central causes of displacement in India. The International Displacement Monitoring Centre (IDMC) in 2007 reported that India had a total of 21.3 million Internally Displaced Population (IDPs), primarily due to development projects. Out of this, 16.4 million have been displaced because of dams, 2.55 million due to mines, 1.25 million due to industrial development and 0.6 million as a result of the creation of wild life sanctuaries and national parks. In another study conducted by Negi and Ganguly (2011), about 50 million people have been displaced in India due to development projects in over a span of 50 years after independence, i.e., 1 million per year. An estimate of 60 million IDPs between 1947-2000 has been made, based on the data of only six states of India (Fernandes, 2007; Negi & Ganguly, 2011). As is noted, there lacks an exact and comprehensive figure of the total number of people that have been actually been displaced due to above mentioned causes. These figures, although appalling, maybe inconclusive, as they are subject to mere approximations.

As compared to dam displacements, the population of those displaced may be lesser, yet it is observed that the crisis remains the same. A study by Ahmad and Lahiri-Dutt (2006), sheds light on the discrepancies of resettlement programmes due to population displaced by mining projects, in two districts of the state of Jharkhand. The focus of this study was on women. As the resettled land was granted in the name of the male member of the household, the resettled women were not entitled to legal rights. The women faced issues of unemployment, as the jobs were given mainly to male members. Besides these, the centres were deprived of basic services like access to safe drinking water, sanitation facilities, health and education services (Ahmad & Lahiri-Dutt, 2006). Mohanty (2011), in a study on resettled tribal families of Mahanadi Coal Fields (lb Valley) project located in Jharsuguda district of Orissa, noted numerous detrimental transformation of the community. This was in the form of waning Joint Family System, landlessness, less employment opportunity, homelessness, food insecurity, loss of access to common property, social fragmentation, weakening of the role of women in the family and augmented morbidity and mortality because of physical and psychological ordeal (Mohanty, 2011).

Kabra (2009) conducted a study on the displaced population of the Kuno Wildlife Sanctuary in Madhya Pradesh and Bhadra Wildlife Sanctuary in Karnataka. The author stated a deterioration of the former self-sufficient communities, after resettlement. They were compelled to turn into agricultural labourers, that consequently led to a diminution in their per capita income. The problems with the resettlement package were numerous. The lack of access to resources and the infertility of agricultural land, led to unemployment where many turned to work as a migrant wage labour. Incidences of higher rate of poverty were recorded. Overall, the resettlers claimed dissatisfaction of the rehabilitation package and faulty implementation (Kabra, 2009).

The implementation of urbanization projects are also additional factors to this crisis. On completion of the Kolkata Environment Improvement Project (KEIP) of West Bengal in 2006[26], a survey was carried out by the case study team taking four resettled areas in TP basin, Keorapukur, Manikhali, Churia. The study observed mixed responses of the APs. Some of the resettlers perceived an improvement in their lives post-resettlement and were gratified with the resettlement. There were however also those segment that felt no enhancement in income and were discontented with the procedures (ADB, 2008). Majority of the APs were observed to be

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[26] Initiated in 2000, with loan from the Asian Development Bank (ADB). This was a six-year project, terminating in mid-2006.

unable to bear their share of 5% for the new house in the resettlement site. This forced the resettlers to take loans from traditional money lenders who granted them at a high rate of interest (ADB, 2008). No substantial growth in income of the households could be observed even after five years of being resettled (2000-2005). The continual amendment of the resettlement plan, in addition to a weak governance, resulted in the APs being wary of the Project Management Units (PMU). The project depicted a weak grievance redressal mechanism. Issues such as lack of coordination of implementing agencies and inefficient administration procedures were also brought to the forefront (ADB, 2008).

The benefits of development were reaped by a few but the price was paid by many. This has led to a continuous debate in the whole idea of development itself. Development then as such, appears as not democratic. The inherent social and economic contradictions in development have now been brought to the limelight, as evident in the above paragraphs. The state's power and absolute control over the natural resources and its use, makes an adequate cause for equating the development strategies in post-colonial period, a continuation of colonisation.

In 1957, at the global front, 'involuntary resettlement' was for the first time recognized as a burgeoning issue, with the enactment of Convention 107 by the International Labour Organization (ILO). On 29th September, 1958, India endorsed the convention (UNHCR, 2000). But it was only 27 years later that the nation considered acting towards it. Till then India was still enduring with the colonial Land Acquisition Act of 1894 (later amended in 1984). The central issue of this Act was that the state had absolute power to take over private land for public purpose, where monetary compensation could be granted in certain cases. This excluded those who had no legal title over the land and even the amount of compensation provided to the landowners disallowed them to purchase a new land. Additionally, the usage of the term 'public purpose' was never clear.

Prior to 1980, many of the development projects undertaken, did not have a clear resettlement plan (Asif, 2000; Negi & Ganguly, 2011). The focus was only on compensation, thereby neglecting rehabilitation or even resettlement (Guha, 2011). From the 1980's onwards, the World Bank revised its policy statement on involuntary resettlement (Mathur, 2011, p.28). Culture became an important concept to be noted and included in developmental policies. Development if it was to be unbiased and wholistic, had to be culturally sensitive. This revision became a major turning point for policies of other organizations and even countries. In 1985, the drafting of the R&R policy was initiated by the Government of India. The World Bank

policy of 2004 (issued in 2002), expanded its definition of displacement to include even those that are restricted towards access of resources in protected areas. It was for the first time that displacement was viewed in an altogether different light, inclusive of socio-economic impacts, apart from physical relocation (Mathur, 2011, p.8). Understanding displacement and its impact therefore, is convoluted, due to its protracted process, involving multiple stakeholders in diverse socio-economic settings.

In a report of the National Commission for Scheduled Castes (SC) and Scheduled Tribes (ST), it was stated that about 40% of the Displaced Populations (DPs) and the Project Affected People (PAP), belonged to the tribal category. Based on this, a committee was fashioned under the aegis of the Central Ministry of Welfare to formulate a Rehabilitation Policy concerning only the tribal DPs. The Committee recommended that the proposed policy should be inclusive. Furthermore, the R&R process should be a fundamental criterion and obligatory for all development projects (GoI, 1995, Fernandes, 2008; Negi & Ganguly, 2011). In 1993, the Ministry of Rural Development, came out with a draft on the issue. This was during the time of the extraction of the World Bank's from the controversial Sardar Sarovar project. This draft was subject to revision in 1994 and again in 1998. The final policy was notified in 2004 titled the 'National Policy on the Resettlement and Rehabilitation of Project Affected Families. Throughout the issuing of the drafts, the civil society organizations played an active role. However, it is stated that in the finalization of the 2003 policy, they were disregarded from the process (Fernandes, 2008). The 2004 policy faced severe criticisms from the public. In October, 2007, the National Rehabilitation and Resettlement Policy was notified by the Government of India. Two more legislations were also drafted in the same year and placed in the Lok Sabha – the Rehabilitation and Resettlement Bill and the Land Acquisition (Amendment) Bill (Iyer, 2011, p.77). In the meanwhile, the resettlement and rehabilitation were handled on an ad-hoc basis (Mathur, 2011, p.27).

In the R&R Plan of the 2007 policy, a census of the affected areas and a Social Impact Assessment (SIA), were required. This was to be done involving the local governing bodies. On completion a clearance would be issued (Iyer, 2011, p.79). The package for R&R encompassed for the first-time land for land or/and monetary compensation. Employment generation opportunities would be provided such as work for at least one member of a family, vocational training, scholarships and other skill development, on-site labour work, For the marginalized communities of STs and SCs, the resettlement benefits would differ. Such

measures that would ensure the protection of the socio-cultural identity and heritage of these communities. The resettlement site would also include basic amenities for attaining a certain standard of living. These resources can also be shared by the host-population, in case situation so arises. Scope for monitoring and reviewing the implementation of the R&R plan by an R&R Committee along with a mechanism for grievance redressal, was also included within the policy. The resettlement aid would be calculated according to the nature of land and project-oriented. Nevertheless, the policy was not clear as to who would be assigned the responsibility for carrying out the SIA. For a project to have a SIA or R&R benefits, a limit of the total number of affected families was specified[27].

In 2013, after years of fervent protests and numerous amendments, the new '*Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act*' or LARR (Act. No.30), was ratified. But this act was to be used only 'as the last resort'[28], where no other viable options remain. The purpose of this act is to acquire land for developmental projects. These acquisitions can be undertaken by public or private sector or even through public-private partnerships. It was for the first time, a clause of 'prior informed consent' was added to a legal enactment on land acquisition, displacement and resettlement. For the acquisition of land by private companies, consent of at least 80% of the affected families was required; in case of public-private projects, 70% consent of said families was essential. The specification was not mentioned for fully public projects. SIA was also included and mandatory, and was to be carried out in consultation with the respective local bodies of rural or urban areas (GoI, 2013, p.7). This appraisal would encompass surveys and report on the viability of the proposed project, actual land required, a valuation of affected and displaced families, alternative proposals and lastly the social impacts. This should be prepared within a six months period (GoI, 2013, p.7). However, in case of emergencies this could be scrapped by the government. In this act, widows, divorcees and women deserted by families were also considered as separate families. The act has also attempted to take into consideration the specific socio-cultural needs of the marginalized communities of SCs and STs.

According to the act, R&R necessities should be provided to affected families inclusive of landowners as well as landless, who are linked to the land acquired. This incorporated, land for

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[27] 400 or more families in the plain areas or 200 or more families in Tribal or hilly areas, Desert Development Programme (DDP) blocks or areas falling under Schedule V or VI of the Constitution
[28] Seetharaman, G. (2018, September 1). Five years on, has land acquisition act fulfilled its aim? Economic Times Bureau.

land package and/or construction of house or equivalent amount for one. Other monetary compensation can also be availed like cost of transportation to resettlement area or one-time resettlement allowance of Rs. 50,000 only. Provisions for livelihood generation was also included like choice of allowance or employment, subsistence grant to displaced families for a period of one year, cost for cattle shed or petty shops, one time grant for those who were self-employed, artisans, small traders, had fishing rights. The resettlement area should have all necessary infrastructural facilities for individual to community use. These provisions are to take into consideration the economic, socio-cultural, and religious needs of all groups concerned. A National Monitoring Committee for R&R was to be constituted by the relevant government taking members from the project proponents and the affected population. The monitoring and social audits of the implementation of the R&R schemes would then be the obligation of the R&R Committee. A Land Acquisition Resettlement & Rehabilitation Authority would also be established for expediting the process of resettlement[29] (GoI, 2013, Chapter VIII-51(1)/24).

This Act later, was amended through a Presidential Ordinance of 2014. This method was resorted due to a political hurdle at the upper house of the parliament – the Rajya Sabha. In February, 2015, a revised 'Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill' was introduced in the Lok Sabha. This received criticism from the opposition parties and the activists. The central point of conflict was the exclusion of few projects from the ambit of prior informed consent and SIA like defense, rural infrastructure, affordable housing for rural poor, industrial corridors, social infrastructure, inclusive of those undertaken by Public-Private Partnership (PPP) (Hoda, 2018, p.17). In August of 2015, it was decided that the 2014 Ordinance would be allowed to lapse. The Union government later announced that states could amend their own acts. Many states initiated the process of amendment of their respective acts[30]. It is interesting to note that though land falls under the state subject but land acquisition is on the concurrent list (Seetharaman, 2018). In relation to the problem at hand, the LARR act of 2013, is significant for 'project affected people', or rather for development- induced displacements, and not those affected by disasters. According to Goswami (2013), under the 'Urgency Clause', there is an inclusion of

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[29] This was only a one-member authority, who would be appointed by the appropriate government.

[30] Andhra Pradesh, Gujarat, Maharashtra, Haryana, Tamil Nadu, Telangana. Refer, Hoda, A. (2018). Land use and land acquisition laws in India. Working paper no. 361. Indian Council for Research on International Economic Relations.

persons residing in natural hazard affected areas. In Section 2/1-b (f), it is stated that land acquisition could also be applied for residential projects for persons '*residing in areas affected by natural calamities*' (GoI, 2013, p.2). However, this clause has been brutally misrepresented under the garb of development (Goswami, 2011).

3.3 Environment-induced displacement in India: Role of natural disasters

In between 2008-2018, the volume of people displaced due to natural disasters were 69.4 million in India alone (Yonetani, 2011; Ponserre & Ginnetti, 2019). The IDMC reported that in 2021, about 4.9 million people have been internally displaced due to disasters, the highest number of internally displaced population in the world. Comparatively the number of people displaced due to political and ethnic violence is much lesser – about 13,000 (IDMC, 2022). Yet, literature on the resettlement and rehabilitation of such environment-induced displaced population appear to be comparatively lesser in number. This section attempts to analyse how environment-induced displacement has been managed in India and the legal mechanisms that have been developed to combat such a crisis. The reviews take into consideration both the sudden and slow-onset forms of natural hazards, where at times they tend to intersect.

Iqbal (2010b) undertook a study in the flood and erosion prone villages of Dhrarampur, Dakshin Chandipur, Gopalpur and Embankment No.7 colony in Malda district of the state of West Bengal, India. The survey looked into the movement of the displaced people to the embankments as they provided the safest refuges. The study highlighted the transformation of the demography in the area as well as the district and of numerous socioeconomic factors due to the natural hazards. One of the major effects being out migration of people for work to other places of India (Iqbal, 2010b).

In a contrasting study in the coastal cyclone-prone areas of West Bengal, Samanta (1997), observed that "*cyclones seem to unify their society*" (p.2424). This unique analysis was based on the fact that the affected but enduring people withhold any perpetual movement to other areas but rather assist in the rehabilitation process. The author segregates them into different categories along with their specific function – return residents, concerned kin relations, volunteers and relief providers, spectators and those who benefit out of that disaster (Samanta, 1997, p.2426).

Mortreux et al. (2018) in their study in the Indian Sundarbans, evaluated the factors that influence government's action or inaction for communities at risk due to environmental

changes. The study was conducted in Sagar block of the Indian Sundarbans Delta (ISD). Utilising a political economy framework[31], the study developed and utilized a conceptual model that outlines the decisions and outcomes in relation to planned relocation. The study highlighted the unevenness of government action towards the population at environmental risk which had varied consequences. The action of the government is towards planned relocation although politically determined, is however suggested to be an illustration of sustained government intervention and where the incentives of the government allied with community needs. In the case of another location (Beguakhali) within Sagar, the action was oriented towards short-term and long-term measures of disaster relief like provision of food, temporary building materials etc and embankment construction respectively. This lack of relocation support for the households was considered as a 'delay tactic' (Mortreux et al., 2018, p.129).

The authors suggested that the consequences of inaction could also result in multiple outcomes (Mortreux et al., 2018). The populations limited by their mobility are then 'trapped' in these places, those who are unable to migrate due to various limitations of resources. Another outcome involves desertion of localities due to the declining land value. The long-term decision and the inaction thereof has its related consequences for households relating to forms of in-situ adaptations. The inaction of government reflects unaccountability for disasters, leading to displacement and resettlement. This in turn is legitimized by the lack of legal provisions for safeguarding the interests of those affected, both at the national and state level. There is also an avoidance of risky strategies by the government considering the delicate subject of land acquisition and displacement in the state (Mortreux et al., 2018, p.125).

Das & Das (2021) carried out a study in mouzas Rangabeliya, Pakhiralaya, Uttardanga and Bagbagan under Rangabeliya village panchayat of Gosaba Community Development Block of the ISD. The island unit of Gosaba-Rangabelia unit is confronted with repetitive embankment breaching due to river encroachment. Between the time period of 1972-2020, the total eroded area was 1.95 sq.km whereas the accreted area was 0.77 sq.km. The study claims that in the year 2019-2020, about 10,311 people of Rangabelia were recognized to be at risk. The island has a total length of 372.5 km embankment out of which 22.25 km is considered vulnerable. About 7.8 km of the embankment was reinstated in 2018-19, and remaining 16.55, is still under process. During cyclones, 2000 of the people of Rangabelia was considered to be vulnerable by the study. The measures undertaken for joining the rivers Bidya and Gomor have been

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[31] The authors use the concepts political economy and political ecology interchangeably

unsuccessful. Even the methods for embankment protection are inadequate. The study revealed that because of this recurrent embankment failure, about 26 families had undertaken resettlement on their own. However, most of the resettlers had moved towards the interior of the island while those remaining were uncertain, as the process of resettlement had been undertaken without the prior informed knowledge of the government. The island lacks any proper disaster management practices and has a low-capacity building in times of such a crisis (Das & Das, 2021).

In a recent study by Haldar et al. (2021), analyses the challenges of environment-induced displaced households in the north [Gitaldaha village of Dinhata I Community Development (CD) Block] and south (Ghoramara Island and Sagar Island in Sagar C.D. Block) regions of the state of West Bengal. These areas are susceptible to river and coastal erosion respectively, which the authors consider as due to both natural factors and anthropogenic intervention. In both of these areas, the study reveals the threat of flood and erosion and turning the area inhabitable. This has affected their life as well as their livelihood generating capacity. As a result, more and more households are relocating elsewhere, either temporarily or on a permanent basis. This relocation either carried out by the households themselves as in the case of Gitaldaha village or government initiated, however, suffered similar consequences (Haldar et al., 2021).

3.4 Environment-induced displacement in India: Legal undertakings

The *Disaster Management Act of India* was enacted in 2005 (No. 53 of 2005). This act details the plan of action starting from the central to the state and district government, during disasters. Disaster in this act is defined as a "*catastrophe………..in any area, arising from natural or man-made causes or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of environment and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area*" (DMA, 2005, p.2). The definition takes into both natural and anthropogenic causes of disasters. The Act insists on a constant and cohesive process of managing the danger or the threat of disaster. It also incorporates the agenda for rehabilitation and reconstruction of disaster-affected people.

The structure of this management organization would be as follows- at the Centre, there would be a National Disaster Management Authority (NDMA) with the Prime Minister of India as

the Chairperson. A National Executive Committee would be formed to provide assistance to the NDMA, in the execution of its functions, which can be divided into sub-committees. An Advisory Committee encompassing experts in the field of disaster management, can be constituted to recommend suggestions to the authority and committee. Similar structures would should be formed at the state and district level as well (see chapter 7). At the state level, every state was mandated to create a Disaster Management Authority (DMA), with the Chief Minister of the State as the Chairperson. The state DMA was also supposed to create a State Executive Committee (with sub-committees) and may also have an Advisory Committee, similar to the Centre. This structure was delineated even to the district level. At the district, every state would create a District Disaster Management Authority (DDMA), headed by the Collector or District Magistrate or Deputy Commissioner. This district authority can also create an Advisory Committee but with no executive committee like the higher levels. The DM Act also insists on working hand-in-hand with the non-governmental organizations or NGOs and other voluntary institutions at the national, state, district and most importantly, the grassroots level, for effective disaster management.

A *National Disaster Management Plan* (NDMP) was to be formulated the national level in consultation with the state government and expert bodies or organizations. This plan would entail procedures for preventing and mitigating disasters, where the roles and responsibilities of different departments or ministries during times of disaster were laid down. The plan should be reviewed and updated on a yearly basis. A similar plan was to be created at the state level, in consultation with the local and district authorities and people's representatives (DMA, 2005, p.10). Both the state and the district were entrusted an important criterion of assessing the vulnerability of different parts of the state and within the districts to different types of disasters (DMA, 2005, p.10). A fund was to be set up known as the National Disaster Response Fund, with money either allotted by the centre from its budget or even contributions made by any person or institution. Along with this, another fund called the National Mitigation Fund would also be set up. Even every Ministry or Department of Government of India should make provisions for the allocation of funds from their annual budget for disaster management. This fund would be utilized for the expenses towards emergency response, relief and rehabilitation. Similar such funds would also created at the state and district level.

The *National Policy on Disaster Management* (2009), published by the NDMA, reiterates the provisions laid down in the DM Act of 2005. The approach of DM transcends from the pre-

disaster phase of prevention, mitigation and preparedness (capacity building) to the post-disaster phase of response, rehabilitation, reconstruction and short-term or long-term recovery. The initial response of providing relief, also involves setting up of temporary relief camps to even intermediate shelters. This extends to provision of creating temporary livelihood options for socio-economic rehabilitation (NDMA, 2009, p.29-30). The long-term recovery comprises of permanent reconstruction of houses that should be accomplished within 2-3 years (NDMA, 2009, p.31); and also rebuilding of permanent livelihood possibilities, especially focusing on the marginalized communities (NDMA, 2009, p.31). However, the Act did not lay down any definite steps as to what should actually be the process of rehabilitation. The difference between the impact of sudden or slow-onset disaster is evident in literature. But the Act does not segregate or specify the initiatives during the occurrence of such events. The NDMP has noted the impact of erosion on the coastal areas of India. But in the extensive strategies laid down for sudden-onset hazards, the measures for erosion (slow-onset hazard) are downplayed. In terms of enforcement of non-Structural Measures for Disaster Risk Reduction (DRR), at the centre, it is the Ministry of Earth Sciences, Ministry of Environment Forest & Climate Change, Department of Space and Bureau of Indian Standards, who are responsible for evolving codes, guidance and support, monitoring and compliance with coastal rules. At the state, it is the Coastal Zone Management Authority (CZMA), Coastal Area Development Authority (CADA), District Disaster Management Authority (DDMA), Panchayats and Urban Local Bodies, who is in charge of noting and monitoring the shoreline erosion, the risk that this brings to structures (NDMA, 2016, p.37)

Lastly, another relevant legal framework would be the *National Action Plan on Climate Change* (NAPCC). This was published in 2008 by the Prime Minister's Council on Climate Change[32], Government of India. The Plan hoped to address the challenge through eight National Missions viz., Solar, Sustainable Habitat, Enhanced Energy Efficiency, Water, Sustaining Himalayan Ecosystem, Green India, Sustainable Agriculture and Strategic Knowledge for Climate Change. The focus of this plan is on understanding climate change, prevention, mitigation, capacity building and adaptation. Despite the vulnerability of the coastal areas noted in the plan, it remains silent on the repercussions of slow-onset disasters.

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[32] Part of the MoEFCC. The former Ministry of Environment & Forest has been renamed as Ministry of Environment, Forests and Climate Change (MoEFCC).

Furthermore, the plan is silent on the question of human mobility that has been highlighted as one of the major impacts of climate change.

3.5 Conclusion

This chapter helped in building a framework of how displacement has been understood in India. Just as varied are the causes of displacement, the resettlement and rehabilitation measures assumed are also diverse. The lack of ambiguity in the term for people being displaced by conflict in India made their resettlement even more difficult. But this lack of clarity made the states develop their own policies of dealing with the influx of people. At the international front although India is a member of the Executive Committee of the UNHCR but it is not a signatory to it. The conditions of lives and livelihood of those displaced due to conflict depicted a difference in resettlement of people in the Indian subcontinent, based on their socio-economic status in the society.

The diverse range of developmental projects undertaken in post-independent India, no doubts add complexity to the situation. The country has come a long way in moving away from compensation-based land acquisition to focusing on consent, followed by resettlement and finally rehabilitation. In all cases, resettlement and rehabilitation are taken to be synonymous, who fail to comprehend that, comparatively they are ideological different. Rehabilitation encompasses a long-lasting process of moving away from the initial act of physical relocation or resettlement and reconstructing people's physical, economic, social, cultural and psychological dimensions, to either the same level as earlier or even better (Fernandes, 2008).

Literature on environment-induced displacement or the role of natural disaster is comparatively lesser than the other two aforementioned causes. It is only in the current age of climate change that scholars have now turned their attention to their queries on its impact on human mobility. Though the causes maybe varied, but the consequences of displacement is seen to be more or less the same. In the two 'conventional' cases of displacement, political motivation have played a significant role in how the situations of resettlement and rehabilitation were handled. The point where the deviation occurs is one can pinpoint the onus of responsibility towards providing compensation or even resettlement and rehabilitation in the case of displacement, excluding environment-induced. Even though riddled with criticisms, there appears to be some sort of legal bindings in place for these causes. Over the years, these legal mechanisms have been contested time and again by various stakeholders. NGOs and other CSOs have also

participated in this process. However, in the case of environmentally displaced, there is no such policies, act or laws that the affected people can take the support of. Another point of difference is that, there lacks an agency of protest in case of environment-induced displacement towards the inaction of government and even the NGOs they lack initiatives for developing it. This is in contrast to the other causes of displacement like political/ethnic and development.

The subsequent chapters contextualise the research problem at hand and attempts to answer the pertinent research questions deliberated in this thesis.

CHAPTER 4

LIVING WITH DISASTERS: NAVIGATING THE EXIGENCIES OF LIVES AND LIVELIHOOD

4.1 Introduction

The origin of the name 'Sundarban' is inconclusive[33]. Out of the several theories, Pargiter (2019[34]) has tapered it down to two – one, the amalgamation of the words '*sundari*', a locally found mangrove species and '*ban*' meaning forest, to '*sundarban*' meaning 'the sundari forests' (the word *sundari* also means beautiful). The other derived from morphing the words '*samudra*' meaning sea (*samundar*) and '*ban*'*,* thus 'the forests near the sea' (Pargiter, 2019, p.83). This chapter traces the history of human settlement in the Indian Sundarbans and particularly in Sagar Island, examining briefly the pre-colonial period and more extensively the colonial and post-colonial period. However, the reclamation process of this tidal region has never been a smooth one.

Geographically, the Sundarbans stretched from river Hooghly on the west, to Meghna, estuary of Ganges and Brahmaputra in the east. Administratively, during the colonial rule, it encompassed the southern parts of the districts of Bakarganj (Backergunge), Khulna-Jessore and 24 Parganas (Chatterjee, 1990, p.440). The history dealt in this chapter mainly focuses on the 24 Parganas division, as that is where the study area of Sagar Island lies. However, the process of reclamation in the other divisions will also be featured now and then. At the onset, it should be mentioned that the history of reclamation of the Indian Sundarbans is not exhaustive. The researcher has only featured timelines which are considered to be relevant for the purpose of this thesis. This trajectory gives an idea of the extent and nature of transformation and settlements, particularly in the Indian Sundarbans as well as in Sagar Island (4.3).

The chapter then traces the post-independent developments in the Indian Sundarbans (4.4) and Sagar Island (4.4.1). This section details out the administrative and infrastructural changes that have been undertaken in the Indian Sundarban blocks, divided between the district of North

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[33] The word itself is spelt in different ways due to the non-standard transliteration from the main Bengali dialect. Yule and Burnell (1903, p.869) wrote it as Sunderbunds, assuming the etymology in bund or embankment rather than usually understood forest (ban/van). Various derivations of sunder/sundar are also used interchangeably either Sundara meaning 'beautiful' or Sundari, Bengali name of the mangrove, Heritiera minor (Danda, 2007, p.42).

[34] The first edition of the 'Revenue History of the Sundarbans from 1765-1870', written by Fredrick Eden Pargiter was published in 1934. This book that is cited here is a new edited version by Ananda Bhattacharyya and published in 2019.

and South 24 Parganas, under the state of West Bengal. Development here in the island[35] is a paradox. On the one hand there is an active promotion of tourism, that entices millions of pilgrim-tourists per year, but while on the other there lacks uniformity in development of the island at large. The sustainability of such developments threatened by the vagaries of persistent natural hazards. This chapter also analyses the manner in which the varied dynamics of sudden and slow-onset hazards have resulted in the land loss of the island and leading to a dialectics of space with the human population at large. The objective of this chapter is to find out the livelihood strategies and responses of the households living under the threat of natural hazards. The chapter ends with a discussion on how this perennial conflict produces impact on the livelihood activities of people, instilling transformations and further asks pertinent questions on the sustainability of such alterations.

4.2 Settling the 'unsettled': History of reclamation of the Indian Sundarbans

The Ganga-Brahmaputra Delta (GBM), embodying the Sundarbans, is assumed to have been formed sometime between 2000-5000 years, by the accretion of the silt of Ganga and its tributaries (Allison et al., 2003). The Indian Sundarbans lies in the west and a smaller part of the larger GBM delta (Danda et al., 2011). The Sundarbans, apart from the geological and geomorphic occurrences, was shaped by the gradual deposition of alluvial silt, transported by the Ganga-Brahmaputra rivers (Banerjee, 1998). J.D. Hooker (1854) and W. Theobald (1881) claim that the entirety of lower Bengal was an estuary and where the tidal swamp extended northwards up to the Rajmahal hills (now in Jharkhand). Even up until the early Pleistocene epoch, shallow marine water was predominant in this portion of the Bengal basin (Fergusson, 1863). It was only in the later part of this epoch that, the sea retreated from this area. The maps of the region illustrated by Ptolemy in 2nd century A.D.,(O'Malley, 1914), Gastaldi in 1548, João de Barros in 1615, van den Broecke in 1660 and James Rennell in 1779, and those even later during the colonial period, attests to an assortment of islands and incessant course of land formation (Iqbal, 2010a, p.3). This was in turn trailed by the rapid growth of numerous vegetation that transformed into forest, if left unhindered. The Sundarbans, thus surfaced in between the Bay of Bengal and the peripheries of the Bengal Delta. By the end of the 19th century, the Sundarbans enclosed an area of about 10,000–12,000 square miles (Iqbal, 2010a, p.4).

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[35] The island was turned into a Community Development Block under South 24 Parganas district of West Bengal.

Prior to the partition of India and East Bengal (Bangladesh) in 1947, the Sundarbans encompassed the southern portion of the Ganges delta, extending from the Hugli on the west to the Meghna on the east, through the present districts of 24-Parganas (now in India), Khulna-Jessore and Bakarganj (now in Bangladesh), and the settled lands of those districts in the north (Bhattacharyya, 2019). A debate however, persists between the colonial surveyors, historians on the one hand and the nationalist groups of regional historians on the other. The question of conflict being, did the human settlements in the Sundarbans originate prior to the British colonial rule or thereafter? (Pargiter, 2019) Undoubtedly, these theories are overlapping and dynamic (Sobhrajani, 2018).

Describing the history of the region, O'Malley (1914, p.25) refers to the ancient texts of Mahabharata, Raghuvansa and some of the Puranas. In these texts it is assumed that the Gangetic delta rests in between the kingdom of Suhmas in Western Bengal and Vangas in Eastern Bengal, with no concrete boundaries and depending on the power of the kings (O'Malley, 1914, p. 25). In the epic of Mahabharata, the region is referred to as '*Vanaparva*' (Banerjee, 1998). According to Sobhrajani (2018), the chronicled history of the Sundarbans commences from the 5th century BC and reports of archaeological evidences also assumes occupancy in this wilderness, as early as the 3rd century BC. Excavations of artifacts at various locations of the Sundarbans and even Mandir Tola at Sagar Island suggests, the presence of the Mauryan and the Gupta dynasty. After an interlude of a few years, a new civilization emerged from 7 AD onwards (Sobhrajani, op.cit.). However, the authenticity of the accounts cannot be adequately verified due to the enormous subsiding of the whole lower Bengal delta during the middle of the 6th century, resulting in the vanishing of archaeological evidences of well-known ports and towns in this area and the disappearance of the initial indications of this region (Banerjee, 1998). The travelogues of Greek and Chinese travellers mention the lower Bengal as '*Gangaridi*'. Greek historian and explorer Megasthenes, mentions '*Ganga Rashtra*' or Ganga's kingdom, in his book 'Indica'. *Gangey Rejia*, located on the east side of the Bhagirathi, a well-known port, situated on present day Sagar Island, was its capital (Banerjee, op.cit.[36]).

History of the region, is more evident after the invasion of Alexander. Chinese traveller Hieun-Tsang in his account refers to the '*Samatata*' or lower Bengal in 639 AD., re-counting it as a low-lying country, contiguous to the sea and rich in flora; mild climate and the residents were described as small of build, hardy and of dark complexion. Buddhism and Hinduism were

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[36] Epigraphia Indica, p. 85. The official publication of the Archaeological Survey of India from 1882 onwards.

practiced here as well (O'Malley, 1914, p.25). The *Samatata* is also mentioned in archaeological sites of Samudragupta, part of their frontier kingdom of the Gupta empire around 360 AD (O'Malley, 1914, p.25). For many centuries, the Sundarban forest in southern Bengal was a frontier region (Eaton, 1990). Mitra (1923), claims that around 1128 AD, the Sundarbans contained villages that were well populated and practicing agriculture. Up until the second half of the 13th century, Southern Bengal was under the dominion of the Sen rulers (Banerjee, 1988). Based on the discovery of archaeological artefacts in the interior parts of the forest indicates, an established socio-cultural system of the Sundarbans (Ray, 1979). Mukherjee (1938) also suggests the movement of three major Hindu castes into the delta area, settling in different sections of the delta- the Mahisyas, Namasudras, in the eastern and southern; the Pods in eastern-central (24-Parganas) and south-central, whose traditional mode of living included cultivation, boating and fishing. A Bengali poem of 1495 written by Bipradasa, details the journey of a merchant named Chand Saudagar from Burdwan to the sea, where he comes across numerous shore villages from Bhatpara (now in North 24 Parganas) to Baruipur (now in South 24 Parganas) (O'Malley, 1914, p.25).

Historian Richard Eaton (1990) provides a detailed description of the human settlement and colonization between 1200-1750 in the Sundarbans. The early 13th centuries witnessed the forceful flight of the Hindu chiefs from the north-western part of Bengal towards east, to escape the Indo-Turkish invaders. From this point onwards, up until the 18th centuries, significant contributions were made by the new Muslim '*pirs*' (saint or holymen) in the spread of Islamic religion in south and eastern Bengal. Interestingly, these holymen also played important roles in the introduction of new forms of property rights and taxations, escalation of wet rice agriculture and ultimately the transformation of the natural, arboreal ecosystem of the region (Eaton, 1990, p.6). Chinese travellers to Bengal, between 1204 – 1575, shares accounts of conversion from wilderness to rice cultivation, during the reign of the Indo-Turkish rulers (Raychaudhuri & Habib, 1982). The economic structure of the Mughal rule (1526-1765), was principally based on agriculture, where the resource consumption depended on the extraction of land revenue. These land taxes - '*kharaj*', '*mal*' were assessed by the share of produce and which was inconstant (Raychaudhuri & Habib, 1982). It appeared as if for these '*pirs*', their missionary role was secondary to their primary engagements of 'taming' the forest and making them suitable for cultivation (Eaton, 1990). From 1734 onwards, the Mughal authorities systematized the administrative division of a region into a *pargana,* representing a revenue

district (Habib, 1963); a term that has been retained in the colonial and even in the post-independent West Bengal today.

From the early 16th century onwards, European travellers and traders often visited the ports of southern Bengal and some also settled down in selected areas in the region (for eg, the Portugese in Tardaha in Bhangar block on the Bidyadhari; Dutch in Barnagore and Falta). During the time of Akbar's rule, (1556-1605), the district of south 24 parganas was a part of the Sarkar or revenue division of Satgaon, that stretched from nearby Sagar Island in the south to Plassey in the north and River Kabadak in the east and beyond Hooghly in the west (O'Malley, 1914, p.25). In the latter half of Akbar's rule, the rise in power of a few zamindars in the name of Bara Bhuiyas, has been noted. They were former vassals of the Mughal Emperor who were able to subdue this part of the empire. Bara Bhuiyas was able to do so. Pratapaditya, was one such Hindu chief and believed to have declared himself independent from the Mughal rule and over time became the actual but tyrannical ruler of south 24 parganas. He also implemented numerous constructive works in certain sections of southern Bengal (O'Malley, 1914). A theory exists that *Chandikan* or *Chandecan* refers to the present Sagar Island and was the old capital of Paratapaditya (Mookerji, 1912). At the end of the 16th century, several Jesuit missionaries who came to Bengal, refers Pratapaditya, the king of *Chandikan*. His regime witnessed the reclamation of forest land for agriculture and human settlements in this region (Banerjee, 1998). Between 1589 to 1604, Pratapaditya was defeated by Man Singh, Governor of Bengal (O'Malley, 1914, p.25). Buddhism and Jainism also prevailed in these areas as evident from excavation of the remains of a Buddhist temple dating to 1668 AD, on the banks of the river Mani (Sobhrajani, 2018).

During the first half of the 17th century, the waning of the Mughal rule, saw the emergence of the Marathas locally known as Bargis or pirates who occupied lower Bengal, obstructing the development of settlements in this region (Banerjee, 1998). The region also feel victim to instances of continuous invasion and predatory practices of Magh and Portuguese pirates, and very soon acquiring the infamous name of '*Moger Muluk*' – the land of the thugs or pirates. Thus, the expansion of the territories and conversion of forests had to be delayed till the elimination of these hindrances (Eaton, 1990). It is believed that the Mughal emperor Aurangazeb ordered the chasing away of the Portuguese pirates and continued the amassing of lands. These pirates however, took refuge, building a fort at Sagar Island. Around 1688 AD, a heavy flood led to the extensive devastation of the Sundarbans and also the demolition of the fort. Between the late 17th and early 18th centuries, the European trading activities led to the

local circulation of substantial quantities of silver that substantiated the provision of capital as credit in the task of converting forests into agrarian land (Eaton, 1990). This was through the practice of granting of plots of land either directly by the Mughal authorities or their lesser chiefs, as '*jagirs*' to their '*jagirdars*', mainly nobles; as '*ta'alluq*' to the '*ta'alluqdar*'. The land possession were either temporary or permanent and the possessors were in charge of collection of revenue from the lands under their jurisdiction. This schema, as a result, succeeded in producing an awfully intricate and complicated tenurial flows at various levels. In the case of the '*ta'alluqs*', the revenue collection would be executed by a new class of intermediaries, known as the '*zamindars*' or landlords in more conventional terms (Eaton, 1990, p.11)[37].

The mission of transforming the forest into cultivable asset was exigent. The reclamation process had no time limit and would take several years. Additionally, it was increasingly difficult to sustain the labourers and in general people who would work on that land, given the hurdles of the region (Eaton, 1990). Towards the end of the Mughal rule, there were instances where the *pirs* would directly venture into uncultivated areas, and begin amassing the local populace for cultivation. It was only after having considerably settled themselves, that they would then enter into relations with the Mughal authorities, instead of prior. This relationship lacked amicability (Eaton, 1990). This could refer to the notion of 'feudalism from below' rather than 'feudalism from above', as theorised by noted historian D.D.Kosambi (1956). Thus, as Eaton (1990, p.12) remarks, the history of this unique land tenure system emanated in the late Mughal period and enduring till the colonial and even post-colonial era.

The political functioning of this region went concurrently with the environmental changes and calamities, like drying or alteration in the vicissitudes of river courses (even sweet water), to influence the growth and development of settlements. By 1737 AD, it is believed that the remaining population of Sundarbans was obliterated due to occurrences of various types of natural disasters (Sobhrajani, 2018). In the 'Décadas da Ásia' (1552) of Portuguese historian João De Barros, the Sundarbans during the 16th century is described as being a populated country, dispersed in many towns and villages. Major James Rennell's Atlas of 1781 displays a number of villages in the Sundarbans. Later Mr. William Dampier during his survey, found

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[37] However, Irfan Habib (1963) in his pioneering work "The Agrarian System of Mughal India", assumes that the term 'zamindar' originated in the 14th century in India and that only in the latter half of the 17th century, 'ta'alluqa' and 'ta'alluqdar' were used in certain circumstances as alternatives for 'zamindar' and 'zamindari' (Habib, 1963).

that these villages had been abandoned. The proceedings of the Board of Revenue of 3rd February, 1829, detailed the prevalence of villages and cultivated lands but which had been abandoned over a period of several years and due to the 'Sundarban climate' (Pargiter, 2019, p.144). In 1757, the defeat of Sirajuddaulah, the Nawab of Bengal, in the Battle of Plassey led to the surrendering of Bengal to the East India company. In the same year on 20th December 1757, the newly appointed Nawab – Mir Jafar, made an agreement with the East India company of Zamindari or landholder's rights pertaining to the Zamindari of Calcutta or the Twenty-Four (24) Parganas Zamindari (Banerjee, 1998). Between 1758-1765 and after receiving the Grant of Diwani, the proprietorship of the land was made more concrete and the company was given unending heritable jurisdiction over it (Hunter, 1876, p.19).

The British colonial process of state creation, molded and continuously determined, the profile of Sundarbans (Sivaramakrishnan, 1999). The Sundarbans, in this period, witnessed the acceleration of the process of reclamation and expansion of human settlement (Mukhopadhyay, 2016). Assemblages of landless labourers and forest-dwellers from Chotanagapur, Hazaribagh, Manbhum (now in Jharkhand), Balasore in Odisha and the Arakan coast in Myanmar and different districts of Bengal viz., Bankura, Birbhum, Midnapore, Nadia, Jessore, were brought in for this process (Jalais, 2004, p.14). Along with these new politico-administrative developments, the 18th - 19th century also saw the gradual eastward movement of the Ganga from the Hugli-Bhagirathi channel towards the smaller Padma, causing a steady increase of land at the eastern side of Bengal (now Bangladesh). The shift culminated, when it encountered the river Brahmaputra near Dhaka. This proved to be quite dampening for the earlier thriving western regions, worsened by other natural calamities and events (Iqbal, 2010a, p.4).

At the very onset, the question of delineation of boundaries had been a central point of challenge for the colonial administrators, in order to proceed with their reclamation enterprises. This was made equally complicated by the encroachment and claims of the pre-existing zamindars. The government, also over time understood that different legal methodology and methods were required for administering the regions of Sundarbans (Ascoli, 1921, p.3). In 1772, the colonial administrators and the Zamindars of Bengal, came to a settlement on land revenue, created for five years. This lease would be modified annually on its termination (Pargiter, 2019). Between the years 1770-1773, leases were approved by Claude Russell, the Collector General to individuals based on certain stipulations. The lands would be given free of rent for seven years (Chatterjee, 1990, p.441). After the completion of this tenure, the quality of the land would be assessed through survey and an annual valuation at the rate of 12, 8 or 6

annas[38] per bigha[39], would be made. Based on this calculation, the percentage of revenue to the government, would be fixed. A measurement would be taken every 10 years. This would be attuned on areas that are under cultivation based on fixed rates. These grants were known as *Patitabadi Taluks* (Pargiter, 2019, p.44). But this was contentious due to the measurement methods undertaken between 1775-76 and also the grouping of mahals and zamindari lands.

The first appropriate measurement of the 24 Parganas district was undertaken in 1783. Mr. Tilman Henckell, Judge and Magistrate of Jessore and Superintendent of the Sundarbans, submitted proposals to then Governor-General, Warren Hastings for leasing out the forest lands. What he intended to do was lease out plots of land to *raiyats*, thereby creating multiple holders. In this system, each individual *raiyat* would have a direct link with the government, would be in charge of clearing out his own plot of land and not deal with any intermediaries. It was hoped, that such a scheme would no doubt, attract prospective settlers. The government would protect the tenure of the raiyat and even the natural resources (timber, firewood etc) in the region and in that manner would assist them in this process of cultivating the land. In 1784, Henckell revised the conditions of the lease and also demarcated the limits of the Sundarbans under this jurisdiction, between zamindari lands and the Sundarbans forest (Pargiter, 2019).

In 1785, when the government approved the final terms, the scheme was published along with the terms and many applications were received (Pargiter, 2019). However, the smooth functioning of the scheme came to a halt in 1790. Apart from the numerous causes of its failure, the obstructions and conflict of the zamindars with the Sundarbans *talukdars* appeared to be a major one and any attempts to resolve the situation did not pan out. In the later period of the scheme, due the intense hardships of the lessees and the subsistence of only powerful holders, the former 'raiyats' now acquired the name and status of '*talukdars*' who was in charge of their '*taluks*'. Mr. Rocke, the successor of Henckell in 1789, also recommended the government to formulate standards for demarcation of the rights of various holders.

Between 1787-91, a decennial settlement was created and which later took the form of Permanent Settlement of 1793. In 1792, the few grants known as the 'Henckell's taluks' that remained, were re-evaluated and included in the decennial settlement with revised terms (Pargiter, 2019). The conclusion of the decennial settlement was immediately followed by the enactment of the Permanent Settlement Act which was brought into effect in Bengal in 1793.

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[38] A unit of currency during the British rule, where now an anna is equal to 1/16 of a rupee.
[39] 1 bigha = 1/3rd of an acre.

By the Regulation of II, III and IV of 1793, the jurisdiction of the civil, criminal and revenue courts in the 24 Parganas were laid down, excluding Calcutta (O"Malley, 1914, p.56). According to this system, the company would provide land ownership to landlords via bids and in return, were mandated to pay to the colonial government a fixed rate (tax) conditional to the size of their land. Failure to pay the requisitioned amount, the land would be confiscated and sold to the next buyer (Mukhopadhyay, 2016, p. 27-28). In 1796, the Board of Revenue, denied any new applications for forest land. In 1802, the Collector initiated an enquiry of lands reclaimed subsequently after the decennial settlement, with the hope of increasing revenue on cultivated land. Having found such possibilities, a remeasurement was conducted of Henckell's taluks. On 1810, the Collector provided the Board with a list of Sundarbans *pattas* that had been granted since Henckell's time. The list had its complexities and it was decided by the Board in 1810 that neither would there be any intrusion in the old leases nor would any new be granted (Pargiter, 2019).

Simultaneously, numerous initiatives were being undertaken in mapping out the region as well. During 1811-14, Lieutenant W.E.Morrieson created one such map, surveying and demarcating the boundaries of various plots or 'Lot's in the Sundarbans, altered later in 1818 (Bhattacharyya, 2019, p.20). In 1813, rights of the government over reclaimed lands in Jessore and 24 Parganas was raised again. However, in the order of priority, the matter of Jessore was considered more important than 24 Parganas. In 1814, by the Regulation XIV, the 24 Parganas was divided into two districts or *zilas* – the suburbs of Calcutta and rest outside the suburbs (this was again changed in 1832 vide Regulation VIII). This was due to the increasing population of the suburbs (O'Malley, 1914, p. 56).

In the same year of 1814, Minutes of the Board of Revenue were chalked out on the question of Sundarban reclamation. It was attested that, apart from the contested areas of Patitabadi taluks and Henckell's mahals, the entire Sundarbans was embargoed from the zamindars and was the property of the government. In spite of the Permanent Settlement of 1793, where large tracts of land had been reclaimed, no agreement had been established with the government nor were they receiving any authorised revenue. These hindrances were assumed to be resolved by the completion of Morrieson's survey, showcasing the existing reclaimed and remaining forest lands and appointment of special officers. Different propositions were postulated for the settlement of these two different types of land and the reclaimed lands would be resolved prior than the forest. The government approved the decision and arrangements were made to begin with the 24 Parganas, working from south to the northern areas.

By Regulation IX of 1816, a Sundarbans Commissioner (the first was Mr. D. Scott) was appointed assigned with all duties and authority as a collector of land revenue and coordination (Pargiter, 2019, p.303). He was thus assigned to delimit and present a status of the southern boundaries of the districts of 24 Parganas, Nadiya, Jessore, Dacca Jellalpur and Bakarganj. His assignment also included the measurement and assessment of the taluks as well. It can be observed that over a period of several years, there is constant fluctuation of the position, duties and jurisdiction of the office of the Sundarbans Commissioner and finally its abolition in 1905 (Ascoli, 1921, p.4). Between 1817-1818, it was found that the unevaluated cultivated lands were either lands that were intruded by the zamindars, or those illegally expanded for cultivation (surplus land or *taufir*) by the *patitabadi talukdars*. It surpassed the amount for which they paid the revenue (*katkina taluk*). Some were even reclaimed by unapproved individuals with counterfeit land deeds (Pargiter, 2019, p.54). This exercise too faced its share of opposition by the landholders and in situations of extreme disagreement, punishment was dispensed in the form of addon of the lands under measurement (Pargiter, 2019, p.55). The complexity in settlement of the Sundarbans can then be also largely attributed to the lack of uniformity of methods and methodology of measurement in different administrative divisions and also its changing standards depending on the incumbent-in-charge. The Regulation XXIII was passed in 1817, to determine the rights of the government to land revenue of the 'surplus lands' (Pargiter, 2019, p.111). But a resolution of the government of 1818 and Regulation II of 1819, made this regulation equal to being void. The *Kanungo* and *Patwari* system which was hoped to be initiated, was protested by the landholders as they believed that it would disrupt the permanent settlement. By 1820, the operations and the office of the Commission was deferred for a year (Pargiter, op.cit.).

In 1821, the Sundarbans Commission was reinstated. The office now was armed with a survey party and new set of instructions by the government. The main objective was to delineate by a clear line the division between public and private lands to curb future intrusions. Special attention was to be paid to lands that were unclaimed government property and those that were exacted by individuals but actually belonged to the government. But conflicting claims were even made on the waste lands by the landholders. Mr. Dale was selected as the Commissioner and James Prinsep as the Surveyor. In 1822-23, Prinsep conducted a thorough survey and produced the exact condition of almost all *patitabadi* taluk in 24 Parganas, *patitabadi mahalls*, the cultivated lands between Hugli and Jabuna, the forest boundary and rivers and *khals* (Pargiter, 2019, p.57).

The decision of the forest lands was still in limbo until and unless the boundaries of the public lands and the claims were settled. as it did not fall under the ambit of the Permanent Settlement of 1793 (Bhattacharyya, 2019, p.45). With the publication of Prinsep's map of 1822-23, the forest borders were now being investigated (Pargiter, 2019). A declaration was dispensed that mandated all persons to put in their claims to the jungle lands and enquiries were conducted. By end of 1823, most of the lands that fell under the dominion of the Sundarban's Commissioner were being inspected as a detailed report was required by the Government, which was submitted in 1827. It was a constant process of claims being contested and involvement of judicial mechanisms at different levels (Pargiter, 2019). The Board in its report of 1827, claimed that "*the property in the soil throughout the Sundarbans belonged to the State,*" (Pargiter, 2019, p.133) and that land surplus lands were open to valuation (Pargiter, 2019). Regarding the case of the patitabadi taluks in 24 Parganas, the Board claimed that the boundaries had not been delimited. They explicated that this was because the measurement undertaken in 1783 (by Henckell), did not include the forested area as the 'amins' were not skilled in surveying (Pargiter, 2019). The Board thought it best that a new Regulation should be formulated in place of Regulation II of 1819, as the policy was only applicable to people with cultivated lands and not to people who were dependent on the forest for their socio-economic resources like woodcutters or fishermen. The latter would also have to give toll taxes to the zamindars as a form of reimbursement for utilisation of 'their' land, but who had no legal evidence of such claim.

The Government was declared to have absolute right over even the unreclaimed Sundarban waste (Pargiter, 2019). In 1828, Regulation III was passed that suspended the judicial powers of the civil court and called for an appointment of a Special Commissioners to solve the cases, under Regulation II of 1819 and Regulation IX of 1825. This resolution reiterated that Sundarbans was to be the absolute property of the Government, thereby also applicable to the still existing uninhabited including forested areas; the Governor-General in Council was made responsible for all assignments and consents. The forest lands would be surveyed and any interested party could apply. As for the border zamindars, even they did not hold any right over these claimed forest rights. This assessments and grants would be handed out through proper perusal of survey maps. As a result, the Regulation III of 1828, also assigned Mr. W. Dampier (Sundarbans Commissioner) and Lieutenant A. Hodges, to legitimize the boundaries of the Sundarbans, based on a thorough survey. In 1829-1830, Dampier and Hodges armed with the earlier maps (Lt. Morrieson's and Prinsep's surveys) as well as newly conducted ones

produced a map of the Sundarbans, demarcating the forest boundaries as well, in 1831 (Ascoli, 1921). The proceedings of this surveys were proclaimed to all stakeholders which was surprisingly not contested (Pargiter, 2019). The Prinsep's line was renamed as the Dampier-Hodges line, that still lays down the northern limits of the Indian Sundarbans, with some administrative modifications (Bhattacharyya, 2019). Thus, the definition of Sundarbans till the 1828, entailed "*the uninhabited tract known by the name of the Sundarbans has ever been the property of the State, the same not having being alienated or assigned to zamindars or included in any way in the arrangements of the perpetual settlement*" (Ascoli, 1921, p.3).

Rules regarding forest grants were revised in 1829 and publicised in 1830, incorporating revised agreements and revenue rates, with high expectations and numerous applications were received. The claims of right to fish in the river and *khals* within the grants by the grantees as well as the zamindars was declined by the Board. But it was also directed that when distributing the grants to the applicants, the Salt Agency should also be taken into account as issue of boundaries may arise (which did emerge in the later periods). Numerous applications were approved based on priority, with warnings of cancellations of lease for any non-compliance. Even the cases of the *patitabadi mahals* in 24 Parganas finally came to a resolution around 1832-34. At the end of 1835, it was declared that all land revenue should from then onwards be paid in company *sicca* (currency). However, such lull was short lived, as resumption appeals, encroachments and claims were increasing manifold from the 1836 onwards. These cases were once again examined and settled between 1836-46. A standard of setting 8 annas per bigha, was considered for bringing equanimity to the schemes but it was never legally enacted.

Although Prinsep's line of 1822-23, was taken to be as the recognized boundary of the Sundarbans in the 24 Parganas, there were modifications and disputes that led to the Board consider re-surveying it again in 1849-50. It has been asserted that reclamation of the 'unsettled and wild' tract closer to the metropolis of Calcutta was primary than the improvement in revenue (Pargiter, 2019; Ascoli, 1921, p.55). But the revenues no doubts influence reclamation. Based on this, new grant rules were created and published in 1853, but which too underwent repeated revisions over the years. Between 1853-1868, numerous schemes were initiated for development of Sundarbans - Port Canning (1853-1868), East Bengal Mart (1855-1863). Sale of Sundarban Lots Fund (1856), Fund for the improvement of reserved Sundarban lots (1861), Destruction of wild animals (1852-1864), Embankments, Fisheries, Banker (forest produce

farms from 1864-1868), Cotton cultivation (1860-1868). Revision of Forest rules were also once again conducted in 1853 and 1863 (Pargiter, 2019). Over time the district of 24 Parganas has undergone considerable divisions and sub-divisions.

Regarding the management of forests of Sundarbans, a shift in the orientation of the colonial administrators, can be observed from the 1870's onwards. Around 1862, the policy for conservation of forests in Bengal was being reckoned with by the Government. Based on this, Dr. Brandis, the then Conservator of Forests, Burma, formulated an initial memorandum on 1863. An account of the range of forest still existing under the Government and a list of trees in Sundarbans was put together in 1864. Forest produce farms or *Bankars* were initially granted in the ungranted lots between 1864-1868, which were profitable but was annulled later on. Administratively, by 1870, '*the threads of the administrative web had become entangled'* (Ascoli, 1921, p.2). In the '*Revenue history of the Sundarbans: From 1870-19'*, by Ascoli (1921), the fallacy of attempts to centralise the administration of Sundarbans has been highlighted. The region was diverse and there were variations in the settlement measures undertaken. By the 1870's, realisation dawned on the administrators regarding the fact that large part of the Sundarbans (particularly 24 Parganas) was low lying. Thus, for protecting their interests in the area, the importance of conservation of forests was being realised.

According to the census of 1872, the 24 Parganas and Sundarbans excluding Calcutta had a population of 22,10,047 inhabiting 3,93,737 houses (Hunter, 1875, p.17). The 24 Parganas District Gazetteer of O'Malley reveals a figure of 15,81,448 in 1872 and 24,34,104 in 1911, a 17.1% increase (O'Malley, 1914, p.59). Apart from the British and other European residents, the area was populated by the Hill tribes of Hazaribagh, Chotanagpur district, Hijli and Midnapur (Midnapore) district. Most of them were agricultural labourers, industrial and manufacturing workers, while some of them were employed as scavengers and sewer cleaners of Calcutta municipality (Hunter, 1875). In the census of 1911, based on religion, Hindus were predominant, followed by Muslims. There was variation in the definition of the census villages. Apart from the Sundarbans, the census village was referred to as the '*mauza*' or survey unit of area. In the Sundarbans, it was a 'lot' or grant of land (O'Malley, 1914, p.66).

In 1874, Lieutenant-Governor, Sir. Richard Temple, professed a policy for the 'waste lands' of the Sundarbans. The waste lands or the forest lands should be conserved for their contribution to forest resources catering to Southern Bengal. These resources were believed to be more valuable than rice. "*Reclamation is not wanted here*" (Ascoli, 1921, p.5), although in certain

areas cultivation of rice over jungle may be required. In the same year, the 'Reserved' and 'Protected' Forest in Jessore and 24 Parganas was formulated. In 1876, the issue of protective works like shelters and embankments was raised, in light of the devastating cyclone of 1876. Kingsbury (2019), in his book, '*An imperial disaster*', retells the story of how the Bengal cyclone of 1876, was not just a natural disaster but one molded by human/social and historical circumstances.

Based on these categorizations, the Forest Department could either provide the lands on lease for converting it to cultivable land or for timber production, respectively. The boundaries of the forest land were finalised by 1877 (Ascoli, 1921, p.15). With certain revisions, under the Forest Act VII of 1878, the Sundarbans Forest was declared as a 'Protected Forest', that demarcated land which could be converted to cultivable land, taking the permission of the Conservator of Forests (Danda et al., 2011, p.15). The Large and Small Capitalist Rules were enacted in 1879, out ruling the earlier rules of 1853.

The Large Capitalist Rules were implemented in the 24 Parganas extensively. This rule was valid to the whole of Sundarbans, even the Protected Areas but excluding the reserved forests. In case of protected forests of 24 Parganas, the rule would be applicable to only those areas where it is not difficult or expensive to maintain protective works (Ascoli, 1921, p.57). The Small Capitalist rules catered to cultivating new lands and also in a way initiated the *Raiyatwari* settlement. (Ascoli, 1921, p.58). The primary objective of this settlement was for the Government to directly deal with the cultivators or raiyats, excluding the middlemen or their chain of sublessees. However, even until 1903, apart from the other sub-divisions of Sundarbans, no lease had been undertaken in 24 Parganas. Proposals of changing the settlement system towards a *Raiyatwari* settlement, was floated whose fallacy was counterchallenged by others. As no agreement could be made, the Government created a Committee to decide on the matter. From hence onwards, this Committee became an important administrative body on the issue of Sundarbans. Based on the proceedings of the said Committee in 1903, it was decided that the rules of 1879 would be obliterated and the 'revolutionary innovation' of *Raiyatwari* system would be implemented where a notification was dispensed in 1904 (Ascoli, 1921, p.32).

The first partition of Bengal in 1905, witnessed variations in the enactment of the capitalist rules in West (1905) and East Bengal and Assam (1907). The Sundarbans Act (Bengal Act I of 1905) was passed in 1905 and the earlier Regulation IX of 1816 was obliterated. This abolished the Sundarbans Commissioner and his duties were now the responsibility of the

Collectors of three districts – 24 Parganas, Jessore-Khulna and Bakarganj (O'Malley, 1914, p.58). Prior to the publication of the capitalist rules, the settlement on an experimental basis had been undertaken in Fraserganj (on the western side) but had failed. However, the implementation of the rules in Bakarganj (eastern side) had been successful. There were few principles that were laid down for the enactment of this system in 1907– complete stoppage of issue of leases based on rules of 1879. Any settlements then would be directly with the raiyats with holdings average to minimum 10, but not above 75 bighas; the government would be responsible for exterior embankments and other protective works and the raiyats for the interior parts of their respective holdings. It was essential that the raiyats be located permanently within his holding. The government had full proprietary rights as well as right over resources like minerals, fishery, common land etc. (Ascoli, 1921). The grants awarded to the landholders were hereditary in nature. It could also be transferred or exchanged, with a limit of 100 bighas but with prior permission of the Collector (became a nodal office after the abolition of the Sundarbans Commissioner). There could be no sub-letting of land and if found partaking it, the land would be reclaimed by the Government. Even loans could be availed from the Government, at least for the clearance period of the lease (Ascoli, 1921, p.36).

This settlement would be implemented in two extremely different divisions of Bakarganj and 24 Parganas. The initiation of the same in 24 Parganas would however, be on an experimental basis. All the decisions of the Committee were concurrently approved by the Board of Revenue, Government of Bengal and Government of India; only suggestion made by the latter was inheritable right of grants but not transferable or liable for mortgage or other charges (Ascoli, 1921). The issue of sustaining a spill area for the river was deliberated in 1909. The Public Works Department had also pointed out the impediment to drainage that was caused by the shrinkage of tidal spill due to reclamation of the Sundarbans. Out of two suggestions, the Government approved the one that insisted on non-exclusion of tidal spills by embankments on any land, until the level is elevated. As the Government did not have any power to curtail the construction of embankments by cultivators in the interiors. In 1912, suggestion was made to extend the Bengal Embankment Act (II of 1882) even to Sundarbans. Based on this, the Bengal Embankment (Sundarbans) Act (IV B.C of 1915.) was passed, taking into account the criticisms of the Public Works Department. This Act was mainly applicable to the 24 Parganas. The report of the Sundarban's Commissioner of 1904, revealed that only 40% of the 24 Parganas wetlands had been reclaimed (Ascoli, 1921: 49). This was due to its juxtaposition to the sea and exposed to the continuous vagaries of hazards (Mukhopadhayay, 2016).

However, report of the 24 Parganas District Gazetteer reveals that between 1901-1911, the population of 24 Parganas grew (from 20,78,359 to 24,34,104), reclamation was progressing, along with agricultural and industrial production. Only between 1905 and 1907, a slight set back can be seen in the production due to unevenly distributed rainfall (O'Malley, 1914, p.59-60). Half of this population were the immigrants, settling in this region as labourers. This was despite the drawback of communication in this region. The north was connected by railways, opened in 1905 - 1910; electric tramways and even steamer services connecting the suburbs to the central urban centre. The average density of population, excluding the southern portion of the district was 777 per square mile (O'Malley, 1914, p.62). In 1915, based on the success of the *Raiyatwari* settlement system in Bakarganj, it was then introduced in the 24 Parganas, including the resumed lots of Sagar Island (Ascoli, 1921, p.41). The rules of 1907 were also revised in 1916 and 1919, with minor alterations. The earlier mandated residential necessity of the lease holders was done away with. The importance of embankments was again highlighted and *Raiyatwari* settlement became the central form of reclamation in the whole of Sundarbans (Ascoli, 1921, p.41). In 1928, the Praja Satwa Act was enacted for the recognition of the legal status of the peasants but was not effective. By 1939, many of the interior blocks of the southern portions of 24 Parganas had been reclaimed (GoWB, 2009). Towards 1943, the administration reinstated the remaining 'Protected' forest as 'Reserved' forest to pre-empt any additional reclamation (Danda, et al., 2011, p.15).

4.3 History of Reclamation of Sagar Island

The history of reclamation of Sagar Island can be deciphered from ancient scriptures (Chattopadhyay, 1995; De, 1990), travelogues and historical accounts (Chattopadhyay, 1980). The archaeological evidences dating from the early historical to the medieval period, attests some degree of human settlement in the island. During the Mughal rule, especially the time of Emperor Akbar, (1556-1605), Sagar Island formed a distinct boundary of the district of south 24 parganas, which was a fragment of the Sarkar or revenue division, of Satgaon. In the late 17th century, the island was an important maritime port as well as the capital for King Pratapaditya (Mukherjee, 1983), a zamindar of sort, who took up the onus of implementation of large-scale developmental works for reclamation and cultivation (Banerjee, 1998, p.159). During his survey of 1822-1833, Princep exclaimed that when the reclamation process was initiated in Sagar, remnants of past human settlements and archaeological evidences were discovered in various parts of the island (Calcutta Review, 1859). The island has a special significance as a pilgrimage site, noticeable by the existence of the Kapil Muni temple in the

southernmost tip of the island. It is believed that the sacrificial killing of the first child, provided that the child was born after taking an oath at the Sagar Sangam, was prevalent here. This practice continued till 1801, due to its abolition by Mr. Marquess Wellesley (Banerjee, 1998, p.163).

Sagar island under the 24 Parganas division of Sundarbans, was also part of the reclamation process during the colonial period. It is very interesting to see that Sagar Island has been devoted an entire chapter in both the revenue reports on the Sundarbans (see Pargiter, 2019; Ascoli, 1921). This could be because of it being an island of religious significance and a strategic naval location at the mouth of the Ganga delta. The reclamation of the island, as can be observed in the following paragraphs, was not a smooth one and where natural hazards played an extremely significant role. Subsequent cyclones, storms and high tides over the course of years (1833, 1842, 1848, 1852, 1864, 1867), perpetrated grave impairment, on the reclamation process and equally leading to loss of land.

The island did not fall under the jurisdiction of the Sundarban Commissioner till the 1850's (Pargiter, 2019, p.381). The reclamation of the island was initially started from 1811 onwards, but based on no authentic surveys or data. The initial motive to reclaim the island was to advance the navigation of River Hugli due to its strategic position at the mouth of the said river and also that it would provide refuge to the marooned seafarers (Ascoli, 1921). There were leases granted for a rent-free period of ten years, to certain individuals between 1812-1813, which however failed. In 1813-14, a survey by Lieutenant Blane estimated the area of Sagar to 4,34,228 bighas. The terms were publicised and applications for 4,29,806 bighas were received and the land was proportioned. However, the interests of the applicants only lied in its futuristic possibilities. So, unless and until the government would undertake concrete preparations in the island, the prospective lessees were not interested. In 1816, the scheme was reported as failed by the Board to the Court of Directors and negated in 1817 (Pargiter,2019, p.382).

During 1812, Mr. Trower, the then Collector of 24 Parganas, was in charge of coming up with the superlative solution to this problem. In 1818, he created a committee comprising of merchants and others and the establishment of a joint stock company was proposed. A company that would encompass both European and the natives, starting with Rs. 2,50,000 *sicca*[40] in 250 shares and which would enable the reclamation of the island, with maximum four years taken to complete the task. It was propounded that the lease would be free for the initial 30 years and

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[40] A rupee coin during the British rule

then a definite assessment of 4 *annas* per bigha. The scheme was agreed upon by the government but did not consent to it entirely, at least not until the Society was regularised and the proposed capital accrued. In 1819, the company 'Sagar Island Society' was initiated (Banerjee, 1998, p.163; Pargiter, 2019, p.382) and the required capital collected. The island was settled in permanence to the Society as zamindars, according to the earlier proposed terms of the scheme. The government would re-possess the island in case there arises any setbacks. Infrastructural developments like military, medical, postal services and protective actions particularly the construction of embankments, were undertaken in the island for the settlers there. The island as mentioned was an important strategic port and so protecting the island from cyclones was a priority. and even a light house at Beguakhali in 1821 (Banerjee, 1998), which is still existing today (this too had to be shifted to another location due to severe erosion). The scheme was showing promise (specifically in the northern and western areas of Mud Point, Ferintosh, Trowerland, Shikarpur and Dhablat) until May 1833, where due to the occurrence of a calamitous natural hazard, terminating nearly everything, the Society abandoned the scheme. Despite this, there came forward a few applicants who were still interested in this region and so the scheme was revived again.

In 1834-35, the government arranged for the manufacture of salt in the in their respective holdings. This, along with rice cultivation was enormously lucrative for the lease holders. In 1849, based on the report of the Board of Customs, Salt and Opium (Bengal government), it was decided that production of salt in Sagar should be stopped. This decision was of course objected by the landholders, as it would impact their raiyats and instigate abandonment of the region. In 1850, investigation was initiated to see the cogency of the claims made. Report of the Tumlook Salt Agency, under whose jurisdiction lied Sagar Island, asserted that the grants had been degrading due to maladministration and negligence; the grantees claim of having spent their own fortune on the reclamation of their holdings were believed to be contradictory as most of the developments had been constructed by the Society prior to 1833. The rents of the land had been inflated (Rs. 1 to 4 per bigha on an average) and all those cultivators and wage earners settled in the island were earning from both cultivation as well as salt manufacturing. But cases of abandonment were also being reported mainly due to the dearth of fresh water (Pargiter, 2019, p.384).

Considering the location of the island, making it more 'exposed' to the sea, creating durable infrastructure was no doubt a priority. Thus, even the expenses for maintaining it was higher than the other areas of the Sundarbans (Ascoli, 1921). The Salt Agency also recommended the

construction of embankments, apart from the reduction of rents and taxes. Although the proposals were agreed upon by both the Board and the Government, the grantees did not accept the terms. The earlier free term expired in 1849, but the Government had provided another extension of free term for 30 years from 1833 onwards. Closer to the expiration of the latter scheme as well, a survey was carried out between 1862-63. This revealed that six blocks in the island were in different positions of partially or wholly cleared and cultivated, a total of 31,190 bighas in six blocks viz., Mud point, Ferintosh, Bamankhali, Trowerland, Shikarpur, Dhobelat or Ganga Saugor (Pargiter, 2019, p.385; Ascoli, 1921). The projected valuation of 8 annas per bigha was however objectionable to the holders and the issue of embankments remained under contemplation till the cyclone of October, 1864, that was calamitous for the island. The Board in 1864 December, considered the settlement to be unfavourable and the grantees claimed that they would accede to the terms of the lease, provided the Government gave them a remuneration of Rs. 5 per bigha of cleared land. No agreement could be made on this. November of 1867, witnessed another storm and high tide that apart from loss of crops, reduced the size of the cultivated area of the island to 2,750 bighas (Ascoli, 1921).

Around late 1860's, change in the accruing of knowledge can be seen as an aftermath of the revolt of 1857- from textual to empirical. In 1869, W.W. Hunter, Bengal Cadre of the ICS was delegated to commence the statistical survey of the districts. In 1871, he was appointed as the Director General of Statistics. Gazetteers and statistical accounts were being prepared based on the consolidated surveyed information on the geographical, social, economical, cultural, administration of each individual districts. The first Volume of the Statistical Account of Bengal (Vol. I) and other areas of India was published in 1875. This was followed by the assembling of all the provinces and the Imperial Gazetteer in 1881 and the Indian empire in 1882 (Mukhopadhyay, 2016, p.32).

The cyclone of 1864, made the colonial rulers realise the importance of developing protective measures for the island region. The grantees wanted their revenue-free tenured holdings to be granted to them in their 'original entirety' (Pargiter, 2019, p.387). The government on the other hand were not willing to agree to this term but in several areas the boundaries of the holdings were increased, making it mandatory for the holders to construct the required protective measures. An alternative condition was laid down that the grantees would continue with their grants free of revenue provided that they construct and maintain the protective works. Mr. Chapman in December, 1867, looking into the matters of renewal of the grants, recommended certain protective measures. Comprehensive conditions were finally agreed upon by the

Government in 1871. The government laid down the mandates for the protective measures, that was uniform for all grants – (i) on a specific area displayed on the deed, a place of shelter was to be constructed comprising of a tank for fresh water and a terraced embankment; (ii) the dimensions of the tank (200ft LX150 ft W) and embankment (16.5 ft high, crest 5ft broad, slope of 3.5-1 outside and 2-1 inside) were also provided; (iii) embankment was to be appropriately rammed and turfed to prevent erosion and good turfing of 50 ft wide; (iv) there should be no habitation beyond 1 mile from the place of refuge, except if the basement of the shelter was elevated by 16.5 ft above the ground. There should be proper bund-roads connecting the place of shelter with the other settlements; (v) extension of cultivated area should be parallel with the protective constructions; (vi) works mentioned in i, ii, and iii were to be finished by three years and the clause on point v within a specified period. The lease holders would be given three seasons to construct, making supplementary modifications if cultivation extended (Pargiter, 2019, p.388). This would be annually monitored by the Sundarbans Commissioner.

There would be no penalties in case of failure to cultivate the lands (Ascoli, 1921) but any negligence on the part of the holders regarding the protective works would mean confiscation of the land (Pargiter, 2019, p.388). But it was observed that the grantees had been negligent in their duties towards their lands. The grantees were presented with two alternatives – (i) bequeathing of the cultivated area ceaselessly at the rate of 4 annas per bigha or (ii) continuance of grants revenue-free in permanency but with protective measures. After much obstructions, deliberation and negotiation, the grantees finally agreed to the latter terms and was finally executed in 1875. By 1878, about 73,423 bighas were under agreement and the rest of the central and south-western portion of the island belonged to the Government (Pargiter, op.cit.). About 1,35,674 bighas was still accessible for lease (Ascoli, 1921). In between 1876-1880, after the devastating cyclone of 1876, the question on protective measures were once again raised. In 1880, the Government passed a resolution, relating to the same. It was laid down that except for Sagar Island, the southern portion of 24 Parganas did not necessarily require such measures due to scarcity of population (Ascoli, 1921).

Ascoli (1921) claims by the year of 1880, as many of the grantees were discarding off their holdings and the protective infrastructure neglected, most of the area had reverted into jungle. Unlike the 24 Parganas, the island did not attract as much prospective lessees. The Large and Small Capitalist Rules of 1879, had remained ineffective here, till 1894. During this year the Sundarbans Commissioner and Board of Revenue, suggested few changes to the rules of 1879.

The Sagar Island Rules were created in 1897 and was accepted by the Government of India. The size of an area of a grant was increased from 5000 to 10,000 bigha, taking into consideration the protective measures. Failure to follow the clearance conditions would result in sequestration and the period of resettlement was abridged to 20 years (Ascoli, 1921). Protective measures similar to 1875 was delineated again. However, the responsibility of the outer embankment was not mentioned here. In 1898, the Board of Revenue was once again made aware about the negligence of the protective infrastructure and measures for regular inspection were taken. The reports should be presented to the Board, so that in case of any repairs, it would be carried out by the Government at the expense of the grantees but with penalties. It was not until after 1904 that the results of the inspection were made known – the works were incomplete, conditions of the tank deplorable and no embanked paths had been completed. No action could be taken in this regard, with the abolition of the Sundarbans Commissionership in 1905 (handing it over to the Collectors) and the attention diverted by lucrative grants.

In 1878, with the categorization of 'Reserved' and 'Protected' Forest in Jessore and 24 Parganas (Danda et al., 2011, p.15), Sagar Island also fell under the latter ambit. Based on the Large and Small Capitalist Rules of 1879, in case of Protected forests of 24 Parganas, the rule was applicable to only those areas where it is not difficult or expensive to maintain protective works (Ascoli, 1921). This seems to be contradictory to the policy of British administration later on in the case of Sagar Island. Until 1894, both these rules of 1879 were ineffective in Sagar. Even until 1895, an area of 135,674 bighas of Sagar still did not fall under either of the above rules. The revised Sagar Island Rules of 1897, was grounded on the Large Capitalist Rules of 1879, but emphasising the protective measures. However, by 1903-04, more than half of the new grants were undergoing process of resumption (Ascoli, 1921, p.28).

The Small Capitalist rules, introduced the *Raiyatwari* settlement (Ascoli, 1921, p.28), a system where the raiyats would deal directly with the Government excluding the middlemen or their chain of sublessees. However, there was no much progress in the 24 Parganas till 1904-06. In spite of initial debates on the disadvantages of the system, in 1903, it was decided that the rules of 1879 would be obliterated and the new *Raiyatwari* system would be implemented (Ascoli, 1921, p.32). In 1905, corresponding to the first partition of Bengal, the rules for the western side of Bengal were issued. In 1906-07, topographical maps of the island were produced. Although part of the 24 Parganas, Sagar Island did not witness the implementation of this settlement system until 1915. This was in turn based on the success that the Government had

seen in Bakarganj (Ascoli, 1921, p.41). The impossibility of enacting *Raiyatwari* settlements in areas which were quite difficult and expensive (maintaining embankments) to reclaim was realised. (Ascoli, 1921, p.18). However, despite such apprehensions, the British administration in the areas of Sagar under Raiyatwari, discarded the necessity of protective measures. Even the penalty towards the failure of implementing such works was now not important. Ascoli (1921) interestingly notes that for the Government, the *Raiyatwari* lands of Sagar Island, did not require protective measures and therefore the grantees of revenue-free lands could not be penalised for any failings in this matter. A thorough examination was conducted of the resumed grants in the island. There was no designated active agency to manage the island. Only a quarter of the grantees were paying rent to the government. The government was failing in its efforts towards protective measures. The tenants were the ones who were maintaining it but unapproved extensions had been done. During 1915-1916 attempts were made to address the mentioned issues. In 1916-1918, under the Bengal Tenancy Act, a survey was initiated to take stock of the estates and create an exact record of rights and rent roll. Between 1917-1918 some form of progress could be seen regarding embankments and a revised programme was sanctioned by the Board of Revenue. The new revised rules were published in 1919. The reclaimed lands then entered into series of litigations. But by 1919, almost the whole of Sagar Island had been colonised (Ascoli, 1921, p.155).

4.4 Post-Independent developments in the Indian Sundarbans

The Independence of India in 1947, also witnessed the partition of the country. Bengal was apportioned between West Bengal (now a state in India) and East Bengal (Bangladesh) that led to the simultaneous division of Sundarbans as well. The Sundarbans has been divided on a 60:40 basis, with Bangladesh administering the former division and India the latter. The Indian Sundarbans now, is an archipelago of 102 islands, out of which 54 are inhabited, the rest 48 are all under forested areas. The partition also corresponded with the influx of large number of refugees. This became a chief source of trepidation for the government, both in the central and equally in West Bengal. In between the years of 1951 - 1971, large section of the Indian Sundarbans was reclaimed to resettle the refugees emigrating from East Pakistan (or Bangladesh). Cases of conflict were also evidenced whilst undertaking this enterprise. Thus, two group of settlers can be seen in the present-day Indian Sundarbans – those that came seeking prospects during the pre-colonial and colonial period and those that came to find refuge from ethnic/political violence in their place of origin (Danda et al., 2011, p.12).

It is important here to briefly mention the political scenario in West Bengal during the post-independence period and the land reforms undertaken. Starting from the 1930's onwards, the nationalist movements had been fused with programs relating to Land Reforms (Bardhan & Mookherjee, 2010). Bengal too had become a hotbed for numerous agrarian struggles. Ensuing the Independence of 1947, Land Reforms became imperative for the newly created government, at the Centre as well at the States. The Indian Constitution conferred agriculture as a part of the State list. States with the support of the Centre were now gearing up to implement suitable legislation on this subject. Policies on Land Reforms intended to abolish the zamindary system, redistribute land holdings, establish land proprietorships, imposition of ceilings on agricultural landholdings and regulation of tenancy (Bardhan & Mookherjee, 2010). The West Bengal Land Reforms Act, was passed in 1955 and Rules in 1965. This Act, over the course of years went through numerous amendments. The United Front Government in 1967 and 1969-1970, could not bring about comprehensive solutions to the issue and led to widespread unrest in the state. In 1971-1972, the Congress assumed power in the state. The revised Act on Land Reforms for the state of West Bengal was passed in the same year. Issues in implementation were soon cropping up in the state (Ghosh & Nagaraj, 1978).

In 1977, the Left-Front government (*Bam front Sarkar*) entailing the Communist Party of India-Marxist (CPI-M) led coalition and their partners - Communist Party of India (CPI), the Revolutionary Socialist Party (RSP) and the Forward Bloc (FB) came to power. The Left ruled the state for a period of 34 years and the reason for its long rule could be attributed to the support from rural masses. Their policy of democratic land reforms and their strong penetrating hold over all the tiers of the panchayat, assisted in consolidating their power in the state over such a long period (Mukhopadhyay, 2016, p.18). The early history of the communists in the state was largely associated to revolutionary agrarian movements. However, after their rise to power, their agenda was more reformist than revolutionary. Bringing about a form of stability in the political chaos (Kohli 1997). In 2011, this long rule of the communists came to an end. The Trinamool Congress (TMC) took over the new government of West Bengal and has remained in power till date.

In 1973, out of the 9630 sq.km., about 2585 sq.km., was declared as a Tiger Reserve (Mukhopadhyay, 2016). The Indian Sundarbans Delta (ISD) was declared as a National Park in 1984, within the Tiger Reserve. There are three sanctuaries located in the forested areas involving Sajnekhali, Lothian and Halliday Islands. In 1987, the Sundarbans was designated as a UNESCO World Heritage Site under Man and Biosphere (MAP) programme. This was

because of it being the largest mangrove delta in the world with an enormous and rich biodiversity, sheltering endangered and highly threatened species as well; caters about 85% of the mangrove habitat in India (Danda, et al., 2011, p.9) and is a nursery for 90% of the coastal and aquatic species of eastern Indian ocean as well as Bangladesh-Myanmar coast. In 1989, the Sundarbans was declared as a Biosphere Reserve (Mukhopadhyay, 2016, p.35). The International Union of Conservation for Nature (IUCN) has classified the Sundarbans as Category IA (Strict Nature Reserve) Protected Area and accorded it with the highest level of official protection. Presently, the forested section of the ISD is supervised by the Chief Conservator of Forests & Director of the Sundarban Biosphere Reserve (SBR). The inhabited section of the ISD does not fall under the ambit of the jurisdiction of the Director of Biosphere Reserve. The forested areas are managed through the Divisional Forest Officer, South 24 Parganas and the Field Director, Project Tiger - Sundarban Tiger Reserve (Danda et al., 2011, p.15).

Around the same year of 1973, the Government of West Bengal created the Sundarban Development Board (SDB). In its initial stage, the Board was under the Development and Planning Department (DPD) of West Bengal with the Minister-in-charge of the Sundarbans Area branch of DPD, being the chairperson of the directorate (Mukhopadhyay, 2016, p.49). In 1986, the 54 inhabited islands of the Indian Sundarbans were administratively divided between the districts of North 24 Parganas and the South 24 Parganas[41]. The former has a total area of 4094 sq.km. and the latter of 8165 sq.km (GoWB, 2009). The North 24 Parganas is divided into five sub-divisions namely Barasat, Barrackpore, Bongaon, Basirhat and Bidhannagar. The South 24 Parganas is also divided into five sub-divisions viz., Alipore (Sadar), Baruipur, Canning, Diamond Harbour and Kakdwip. Looking at the administrational structure and bureaucratic hierarchy of the districts, at present, the District Magistrate (DM) is in charge of the overall administration of respective districts. The DM is aided by five Additional District Magistrates (ADM), along with a number of district level officers. The Sub Divisional Officer is charge of the sub-divisions. At the Block level, there is a designated Block Developmental Officer (BDO), who is in turn supported by block level officers (GoWB, 2009).

For a much more decentralised and participatory form of governance, the two districts are further sub-divided into 19 Community Development Blocks (CDB), that are a part of the

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[41] The two districts came into existence on 1st March, 1986. This was based on the recommendation of an administrative reforms committee chaired by Dr. Ashok Mitra of 1983, vide Government of West Bengal Notification No 91-P&AR(AR). (Ref: DDMP-South 24 Parganas, 2020-2021: 26).

Indian Sundarbans; 06 falls within the North 24 Parganas viz., Hasnabad, Haroa, Sandeshkhali I, Sandeshkhali II, Minakhan and Hingalganj and 13 in the South 24 Parganas namely Sagar, Namkhana, Joynagar I, Joynagar II, Mathurapur I, Mathurapur II, Patharpratima, Kakdwip, Canning I and Canning II, Kultali, Basanti and Gosaba. The Dampier-Hodges line created by the British administrators in 1831, still demarcates the non-Sundarbans part of North and South 24 Parganas. In the rural sector, following the three-tier system of Panchayati Raj Institution, the top-most tier at the district level is the Zilla Parishad (District Council), comprised of elected members; the second level is the Panchayat Samity which is at the Block level and the lowest rung occupied by the Gram Panchayat at the village cluster level. Much of the direct administration of the state government is limited to the Block level which is managed by different departments.

The post-independent period, witnessed the expansion of towns and a spurt in urbanisation. The decades of 1951-1991, saw a noticeable growth in the number of towns in this region. The Sundarbans also retains its considerable share of rural population. The development of transport arteries, tourist resorts and large inland fisheries, especially in the coastal areas has affected even the rural population (Banerjee, 1998, p.167). The North 24 Parganas is experiencing greater urbanization that the South. In 2001, the total population of the ISD blocks in North 24 Parganas was 9,62,202 (district total 8,934,286) and that of South 24 Parganas was 2,795,154 (district total 6,906,689). In 2011, the population of ISD blocks in the North was 1,116,733 (district total 10,009,781) and 3,309,526 that of the South (district total 8,161,961). Thus, at present a total of 4,426,259 or 4.4 million reside in the Indian Sundarbans. The average density of ISD blocks of North 24 Parganas in 2011 is 1576 per sq.km., and that of South is 1070 per sq.km. There total households in the ISD blocks of South 24 Parganas is 6,95,494, spread across 703 inhabited villages and 751 mouzas. There are 19 Panchayat Samitis, 140 Gram Panchayats and 2265 Gram Sansad or Sabha (GoWB, 2013; GoWB, 2014).

In both districts, the density of the population is higher than the state average of 1028 people per sq.km. The population of the ISD blocks in both the districts are rural. The literacy rate of the districts based on the 2011 census is – 84.06% in the North and 67.77% in the South. Considering religion, in the ISD blocks of both the districts Hindus and Muslims are the predominant. The percentage of Scheduled Caste (SC) population is higher in the ISD blocks of both the districts as compared to the Scheduled Tribe (ST). According to the 2011 census, in an area of 282.11 sq.km., the total population of Sagar is 212,037 with 109,468 Male and 102,569 Female, living in 43,716 families (GoWB, 2014).

According to the Human Development Report of North & South 24 Parganas, based on the per capita income of 2000-01, the districts ranked 11th among the 18th districts of the state[42] (GoWB, 2009; GoWB, 2010). Agriculture and pisciculture are the two main livelihood activities of the population in the ISD blocks of both the districts (GoWB, 2009; GoWB, 2010). The people in these blocks are all small (1<2 ha) to marginal farmers (upto 1 ha). The ISD blocks in the north have a total area of 59,720 ha under cultivation of various crops of which 10658.18 ha is under irrigation through different sources. A total of 26,958.02 ha area under pisciculture with 92,547 people engaged in it and an annual production of 7,81,782.58 qtl. (GoWB, 2013). In the case of the blocks in the South, the total area under cultivation is 2,67,244 ha but only 64 ha is irrigated. About 44,478 ha is under pisciculture with an annual production in 2013-14 of 12,45,627 qtl (GoWB, 2014).

An analysis of the infrastructural developments after Independence is important here. After Independence, with the abolition of the Zamindari system and implementation of land reforms, the 3500 km of (marginal) embankments of ISD was assigned to the Irrigation and Waterways Department, Government of West Bengal in 1960. In 1994, with the insistence on development, the Department of Sundarban Affairs was created. The SDB was subsumed with the new department. The ISD Blocks in North 24 Parganas, has 1346.93 km surfaced roads maintained by state government and local bodied which is more than the unsurfaced roads of 896 km (GoWB, 2013). In contrast, in the South, the area of surfaced roads (5989.30 km) is lower than the unsurfaced roads 1,34,74.55 km

There are considerably a good number of schools in both the North and South 24 Parganas district, starting from the primary, middle and higher secondary schools (4787: 4796). Comparing the colleges in the two district, North 24 Parganas has a higher number with 48 General Degree Colleges and even 01 General University; South 24 Parganas has 38 General Degree Colleges and 3 Centres of Open Universities. Besides these educational facilities, there are also 21 Technical Schools and 36 Technical Colleges and 02 Technical Universities; a total of 10,765 Special and non-formal Educational Institutions in the North (GoWB, 2013), while the South has only 07 Technical Schools and 18 Technical Colleges (GoWB, 2014).

According to the North 24 Parganas District Statistical Handbook (2013), in the ISD blocks, there are a total of only 20 medical facilities (district total 354) in the form of Rural hospitals,

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[42] Around the time of the publication of the Human Development report, West Bengal had a total of 20 districts. The total number of districts has now reached 23 and soon to be 30 in 2022-2023.

Primary Health Centres, Nursing Homes, run by the Department of Health & Family Welfare (DHFW), Govt. of West Bengal. There are no non-governmental medical facilities in these blocks; further a total of 20 public Family Welfare Centres (GoWB, 2013). Similarly, in the South 24 Parganas, in the ISD Blocks, there are a total of 99 medical facilities (district total 324) available. The blocks have only 2 primary hospital, 11 Rural Hospitals 32 Block and Primary health Centres under the DHFW and 54 nursing homes run by Non-governmental/private bodies. The total number of Family Welfare Centres is 15 (GoWB, 2014).

In the rural areas of the North 24 Parganas, about 332 mouzas out of 336 have supply of electricity for domestic purposes. In the south, about 710 out of 751 (GoWB, 2014). With reference to the facilities of drinking water in the ISD blocks, 336 mouzas in the North; there are 40 ferry services and comparatively good railway connectivity than the blocks in the south; a total of 28 commercial banks and 13 Gramin Banks that caters to the ISD Blocks in the North (GoWB, 2013). In the South, only 42% of the blocks have safe drinking water 134 ferry services, 65 commercial banks and 36 Gramin banks (GoWB, 2013; GoWB, 2014). A glance at the facilities of the North and South 24 Parganas makes evident the contrasting developments within the two districts. This dichotomy will be dealt with in more detail in later sections and chapters.

4.4.1 Development in Sagar: An island of contrasts

"*Sab tirtha bar bar, Gangasagar ekbar*"[43]

Sagar (Gangasagar or Sagardwip) is one of the largest inhabited islands at the mouth of the River Hooghly or Hugli. It is circumscribed by the Hooghly River in the north and west, the Muriganga River in the east, and the Bay of Bengal in the south. The average elevation of the island is 6.5 metre above mean sea level. It is separated from the mainland and the only form of traversing to and fro is through the Muriganga river. There are no large-scale continuous stretch of forested areas in Sagar Island for catching a glimpse of the world-renowned Royal Bengal Tiger. However, the island does receive its considerable share of tourists.

Sagar is renowned as a pilgrimage site, which includes the Kapil Muni temple located at its most southern tip. Flocks of pilgrims around the world, throng the island to wash away their

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[43] A chant that is heard commonly amongst the pilgrims and has also become a slogan for advertising the religious significance of Gangasagar.

sins dipping into the sacred waters at the mouth of the River Ganga. According to Hindu belief, the waters of the Ganga are so sacred that taking a dip in its waters and drinking it, an individual's septenary[44] past and present generations would be blessed. This large influx of pilgrim-tourists swarm the island, particularly in the month of January[45], every year, to visit the holy site at an auspicious moment. This has led to the organization of an event known as the 'Gangasagar mela'. The event is believed to be the world's second largest congregation that is held after the Kumbh/Kumbha Mela[46], also in India. In the Gangasagar tourist concise guide book, it has been described as the 'king of all pilgrimages', where one can accumulate all the virtues by visiting the place just even once in their lifetime. This higher prestige granted to Gangasagar was not only due to the assertion by the *Shastras* (ancient scriptures) but also of the arduous journey fraught with dangers that one had to undertake to reach the destination, especially in the former ages.

According to legend[47], Gangasagar formed the southern end of *Paatalbanga* (the 'underworld', one of the sections of *Bharatvarsh* or India). The story of the religious importance of the island is as follows. Sage Kardam Muni who was an ardent devotee of Lord Vishnu. Pleased with his faith, Lord Vishnu granted him a boon and reincarnated as the sage's and *Devahuti Devi*'s child, Kapil Muni. Since his early years, Kapil Muni had a profound knowledge of the Vedas and is known all over the world as the founder of Samkhya philosophy in Hinduism. Gangasagar was selected as the devotional space by the sage, to continue with his religious asceticism in seclusion.

Raja Sagar, a crucial character of this legend, inspired the naming of the island itself. He was the King of Oudh and the thirteenth ancestor of Lord Ram, the seventh or warrior incarnation of Lord Vishnu. In his pursuit to obtain dominion over all existence, Sagar Raja, initiated the hundredth Ashvamedha Yagya or horse sacrifice (Hunter, 1875). This ceremony required sending the horse around the Indian world and the ability of the horse to return unhampered meant the unchallenged supremacy of the person conducting the ceremony. The horse at the end would be sacrificed to the gods. Lord Indra, the King of Heaven, fearing that the completion of this ritual would provide humans on earth an ascendancy and where he himself

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[44] Absolving of sins of 07 generations.

[45] At the time of Makar Sankrati – January 14-15th, which marks the beginning of the summer solstice, considered an auspicious time

[46] The Kumbha Mela is the world's largest congregation of pilgrims. This event, relevant for Hindus, around the world, occurs in the Indian cities of Allahabad, Haridwar, Ujjain and Nasik after every four years on rotation.

[47] The story of Kapil Muni temple as narrated in this chapter is a translation from the local tourist guide booklet.

had remained unchallenged since then, hid the sacrificial horse at Kapil Muni's ashram, now a temple (Photograph.1). King Sagar, in his desperation, directed his 60,000 sons on a mission to find the missing horse. The sons in their search far and wide ultimately cut through the underworld and found the missing horse at the sage's hermitage. Furious, the sons assaulted the meditating Kapil Muni, condemning him of theft.

The sage being thus awakened from his austerity and eyes burning with rage, turned the 60,000 sons of King Sagar to ashes and sentenced their souls to *patallok* (hell). King Sagar asked his grandson Angshuman, to look for his sons and the horse. He came across the horse standing beside the ashes in Kapil Muni's ashram. After pleasing Kapil Muni, Angshuman was able to repossess the horse and learnt that the souls of his kin can only be freed from hell by the waters of the holy Ganga, residing in *Swarga* (heaven) and in the custody of Brahma. Despite numerous attempts, Raja Angshuman and his son Dilip was unable to bring Ganga to earth. After a lapse of many years, Raja Bhagirath, part of the clan of Raja Sagar was able to please the holy trinity of Bharma, Vishnu, and Shiva, who acquiesced to the descent of Ganga on earth. Fearing that the pure vigor of Ganga, would demolish the earth, Bhagirath beseeched Lord Shiva to slow down the fall of Ganga. Lord Shiva, content with Bhagirath's prayers, agreed to take the full force of the river on his matted hair. Thus, Ganga lost her force in the winding maze of Shiva's hair and alighted lightly on the earth, avoiding the destruction. This holy water of Ganges then relieved the damned souls of Sagar's sons.

There is an additional variation to this story. Another obstacle sprung up in this situation. Kapil Muni's ashram was flooded by Ganga on her descent and the angered sage drank every last drop of the river in one sip. King Bhagirath pleaded with the rishi and pleased with his requests, released Ganga from one of his ears (there are also variations with regard to either the thigh or knee). This gives us a hint of the natural hazards that would take place in the region. Another variation to this story is that of a rishi named Padma leading Ganga by trickery towards the east but intercepted by Bhagirath again. This is probably to religiously justify the geographical shifting of the river from the Hugli-Bhagirathi channel eastwards towards Padma. It is thus believed that King Bhagirath himself pioneered this tradition of the Gangasagar pilgrimage (Ganga is also refereed to as Bhagirath sometimes). Thus, this was how Ganga acquired the status of being the 'reliever of sinners'. In Gangasagar, the salvation is present in all the elements of the water, earth and sky. Keeping their conviction in this mythology, millions of pilgrims from across the globe visit the Gangasagar Mela during the month of January, in search of redemption and take a dip at the confluence of Ganga and Bay of Bengal. The temple

is believed to have been built in 430-434 AD. This has been damaged several times due to natural hazards. The existing temple (seventh) is supposed to be constructed sometime around 1971-74. At present, lakhs of pilgrim-tourists throng the island during the auspicious period in January, where many wish to stay back for a week or so (Hajra et al., 2012). In 2014, the Society for Socio-Economic & Ecological Development (SEED) reported an approximate figure of 1.2 million people who took part in the event (SEED, 2015). The year 2019 recorded the highest number of 3.5 million (Bandyopadhyay, 2019).

Photograph. 1: Kapil Muni temple, Sagar Island

As mentioned earlier, the Indian Sundarbans is administratively divided into two districts – North and South 24 Parganas. The two districts are divided into several sub-divisions. Sagar Island falls under the Kakdwip sub-division of South 24 Parganas. These subdivisions are further sectioned into 19 Community Development Blocks (CDB) of which Sagar is one of them. Under the Sagar CD Block[48], there are nine Gram Panchayats viz., Muriganga-I, Muriganga-II, Das Para Sumatinagar-I, Das Para Sumatinagar-II, Rudra Nagar, Ramkar Char, Gangasagar, Boatkhali-Dhablat and Ghoramara. There are 147 Gram sansad or sabhas, 09 Gram panchayat and 01 Panchayat Samity (GoWB, 2014).

According to the 2001 census, the island has an area of 282.11 sq.km., In 2011, the total population of Sagar is 2,12,037 with 1,09,468 male and 1,02,569 female, living in 43,716 households across 42 villages. The percentage of population to the district population is 2.60%. The density of population is 752 per sq.km. The sex ratio is 937 female per 1000 male. Hindu (87.88%) and Muslim (11.73%) are the predominant religion; the rate of other religion

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[48] Sagar when used as 'Sagar block' also includes the island of Ghoramara, as the latter is administratively included in the former.

(Christian, Sikh, Jain, Buddhist, Others) is less compared to these two. The population of Scheduled Caste (SC) is 56,261 (26.5%) and Scheduled Tribe (ST) is 854 (0.4%). The island has a literacy rate of 84.21% (GoWB, 2014).

The entire population of Sagar falls under the rural category. Based on occupation, of the total working population of 84,881, about 53.2% (45,163) of the population are Main workers (employed or earning for more than 6 months) and 46.8% (39,718) are marginal workers (employed or earning for less than 6 months). Of this total of main workers, about 13,785 were cultivators (owners or co-owners), while 14,463 were agricultural Labourers; about 1210 population were engaged in household industries and 15,705 in others (GoWB, 2014). Agricultural, fishing, animal husbandry and tourism are the dominant forms of livelihood activities in Sagar (GoWB, 2014). A total of 37,110 are agricultural labourers, 9,216 Bargardars, 14,136 Patta holders, 1505 small and 18,896 marginal farmers. The predominant agricultural cultivation season is Aman (December -January) followed by Boro (March-May) and a total of 29,815 ha under cultivation (GoWB, 2014). The island is devoid of any artificial irrigational facilities. About 3106 ha, is under pisciculture cultivation that engages about 5977 number of people. The approximate annual production is 73,856 qtl (GoWB, 2014).

A description of the infrastructural facilities in Sagar is also essential. Based on the District Statistical Handbook of 2013-14, Sagar has a mixture of Primary Schools (125), high schools (15) and middle schools (8), higher secondary schools (16). The number of students at the primary level is much higher (12,138) than other higher levels. The island has 1 General Degree College in Sagar with a total of 1700 students and only 5 teachers. The total number of Special and Non-formal institutions like Sishu Shiksha Kendras, Anganwadi Centres etc., is 433 with 15,353 students and 568 teachers (GoWB, 2014). The island also includes 63 mass literacy centres, 5 public libraries and 5 free reading rooms. The literacy rate is 84.21%, with 90.56% male and 77.39% female. The drinking water facilities are supplied in 43 Mouzas and all Gram Panchayats (9) have telephonic communication (GoWB, 2014).

Out of the total 324 medical facilities in the district of South 24 Parganas, Sagar has 1 rural hospital (located in Rudranagar Panchayat), 03 Primary Health Centres (PHC), administered by the Department of Health & Family Welfare, Government of West Bengal and 1 Non-government or Private Nursing home. The total number of beds available in these facilities is 83 and with doctor capacity of 10. The total number of Family Welfare Centres is 42 (district total of 1068). Out of 47 mouzas in 2001, about 42 have been electrified in 2011 (GoWB,

2014). Provisions for mobile primary health and family planning units have been made but due to difficulty of communication in Sagar, these are practically non-functional here. Village health centres and dispensaries have been created in the villages as well. The island has 03 commercial banks and 03 Gramin banks with only 35,000 customers. It has 54 cooperative societies having a total of 30,546 members. The total surfaced road is only 318.40 km, the highest maintained by the Zilla Parishad (176.40km), followed by Gram Panchayat (130km) and remaining by the central scheme of Pradhan Mantri Gram Sadak Yojana (12km). In terms of transport facilities, the nearest railway station is at a distance of 30km, from the headquarters, 04 ferry services and 01 main bus route (GoWB, 2014).

It is to be noted that the island also includes the Sagar lighthouse. The light house was first constructed in 1821, but has been relocated many times due to erosion. In 2002, the Kolkata Port Trust formulated a decision to develop a deep-sea port in Beguakhali, Sagar, for transportation of coal and iron ore. The plan was publicly declared in 2010 (Mortreux et al., 2018). It was only in 2015, that the construction of the embankment started in such a manner that the residents themselves were displaced without knowing the status of repairment of the embankment. It was assumed that around 2000 acres of land would be acquired for the port but till 2018 the process had not been initiated (Mortreux et al., 2018).

This coincided with another announcement by the Government of India. In the same year of 2015, it was proposed that the lighthouse of Sagar had been selected to develop as a tourist attraction by the Central government, on a public-private partnership model. This 'lighthouse tourism' project would involve development of infrastructure near the lighthouse such as hotels, resorts, themed restaurant, viewing galleries, museums and exhibitions. The lack of these facilities was believed to be curtailing the tourist population in this location. Such a development would assist in the improving of the economy of the local community there (Gupta, 2015). The island was notified as a chief port by the Central Government in June 2016, and a special 'Bhor Sagar Port Ltd.',was set up shared by Kolkata Port Trust and the West Bengal government. The estimated cost was Rs. 1464 crores in the initial phase. In August 2016, the Public Investment Board approved Rs. 515 crores as subsidy to the Bhor Sagar Port Ltd., to initiate the process of creating the basic infrastructure required for the new port. This grant included cost for acquisition of land, dredging and erection of facilities. A proposal had also been drafted by the Ministry of Shipping for approval of the same by the Cabinet. However, the plan was dropped by the Central government when the state (West Bengal)

government decided to proceed with Tajpur Port project in West Midnapore district (Anon, 2017).

When the researcher visited the area in late 2021, the new embankment had been completed and beautification of the area had been done. The researcher was informed that the Chief Minister of the state would be visiting the area and so preparations for installing the lampposts and painting of viewing-benches along the embankments, were in full swing. The embankment construction here in Beguakhali is alleged to be the largest and most technologically advanced embankment construction in Sagar Island (Mortreux et al., 2018). The question on the acquisition of the land remained unanswered. Even while carrying out the field work in 2021, the researcher could not locate any household whose land had been acquired for embankment construction.

The infrastructure facilities provided in Sagar, no doubt looks impressive. According to the 2011 census, the households below poverty line in the island is 44.46% (Bera et al., 2021). As one traverses from the main highway towards the network of roads in the interior, the neglect is evident. The interior roads are either kuchha, waterlogged, broken down, eroded and with no signs of street lighting (Photograph.2). There is only one government hospital at Rudranagar to cater to such a large population and lacking many advanced technology and facilities. The islanders whenever possible prefer to visit the hospitals in Kolkata rather than the one in the island. One of the researcher's guide during the field work was suffering from a dermatological ailment and was planning on getting the diagnosis from the hospital in Jadavpur, Kolkata rather than the one in the island, as there were no specialists in the island. All the students in the island, in various levels of schooling (KG to class 12), are dependent on private tuitions. The fees for the tuitions are usually Rs. 500-800 per month, depending on the class or the subjects taught. These tuition centres are located in the central market areas and so the students living in the interiors have to travel quite a distance to reach the location.

The central issue for the islanders is that the island has no road connection with the larger mainland which makes these blocks rather isolated and remote. The only way of travelling from Sagar Island to the mainland or vice versa is through the Muriganga river, with vessels entry and exit points at Harwood point (mainly Lot No. 8) in Kakdwip or Kachuberia Vessel Ghat in Sagar, maintained by the West Bengal Surface Transport Corporation. The timing of the vessels that allows this movement is dependent on the high and low tides (*jowar-bhata*). Presence of fog during early winter mornings, hinders the movement of vessel. As such, the

boats do not ply until and unless the fog lifts. Anyone willing to cross over during such instances, will have to hire *bhat-bhatis*, that charges double the amount spent on normal vessel and at one's own risk. Thus, anyone travelling from the island to the mainland or vice versa, need to check the vessel timings (updated a day earlier), that runs on half hourly basis. The islanders tend to plan all their activities based on these vessel timings. There is another dock point at Namkhana that connects Benuban (more towards the south) in Sagar. Here, one can travel by launch which does not depend on the tides but takes a longer time to cross the river and runs on an hourly basis. Due to this problem of transport, the thriving of markets has been a problem. This has become more challenging for transport of fishes. The fishes are sold to the nearby markets or those in and around Kolkata. There is an absence of mechanised processing or preservation units, apart from the provision of ice, supplied by few ice factories set up in other blocks of Indian Sundarbans.

Photograph.2: Condition of the inland road in Mritunjaynagar, Sagar

This is quite contrasting to the prioritization given to the Gangasagar Mela. As travelling to Sagar from the mainland is dependent on the vessel/launch, the West Bengal government has also developed an app (Gangasagar app), that can be freely downloaded on any individual's smart phone. This app provides details of timings of the vessel services that ply to and fro from Sagar to the main land. One can also view their timings from the facebook page of 'Sagar Island Passengers' Welfare Association', which is updated daily. Preparations for the Mela begin 3-4 months prior to the event. One can notice arrangements being conducted for the thousands of pilgrim-tourists that would visit the island. The various line departments work alongside for the provisioning of amenities not just within the main location (ground) where the mela occurs but even in the transit points (which maybe in Kolkata or even at the dock points) – transportation, temporary lodging, safe drinking water, sanitation measures, solid

waste disposal etc. During the pandemic situation of Covid-19 in January of 2022, as restrictions were still imposed on crowds and implementation of mandatory social distancing practices, the government developed innovative solutions such as *E-Puja* and *Darshan* (for those who could participate in the puja from their own home at the payment of an amount) and *E-Snan* (the promise of delivering the holy water to homes with a fee) for those who could not attend the Mela physically.

Sagar has a continuous movement of tourists throughout the winter months, with a reduced flow during the peak summer or rainy season. One can get numerous local trains, private and public buses from Kolkata to Kakdwip or Namkhana. The main highway that connects the various ferry dock points to the temple, is well maintained, well-lit and repaired annually. There are large number of buses, autos, totos that transports the pilgrim-tourists from the *ghat* to the temple. The horde of people is intense during the Gangasagar Mela that lasts for 10-15 days in January. Even the national and state government and non-government organizations during the period works alongside each other to make it a success. During the Gangasagar mela of 2020, through planned dredging of the Muriganga river with the assistance of scientific experts continual water trans-shipment was made possible (GoWB, 2021, p.29[49]).

The SEED study of 2014, narrates an account of how the first central generator system for electricity was installed in 1965-66, only because of the Mela. In 1995-96, Solar Power Systems were introduced in the villages of Sagar (SEED, 2014). The hotels in Sagar are closed down in the last week of December for repair and maintenance. The temple, no doubt, generates diverse opportunities for income for the people of Sagar, especially during the Mela. In fact, Gangasagar Mela has an Act curated specifically for it- the first Gangasagar Mela Act of 1953 was revoked and a new Act was created in 1976, which was amended in 1984. This act was enacted to safeguard the 'health, safety and welfare' of the pilgrims attending the Mela (GoWB, 1976). The funds for maintenance and infrastructure are met by the state, while the other expenses of the mela is met by the Pancha Ramananda Akhara in Ayodhya, who is the parent body of the Kapil Muni Seva Samity or Sevayat (Chattopadhyay, 2001[50]). About INR 60 crores[51] is spent by the state government solely on the organization of the Gangasagar mela – – 20 crore for direct expenditure and 40 for infrastructural and administrative development to the relevant line departments. However, the entire offerings (*pronami*) received from these

[49] (2021). Budget statement of the Department of Finance, Government of West Bengal
[50] Chattopadhyay, D. (2001, January 1). Tug-of-war over Ganga Sagar funds. The Telegraph.
[51] 1 crore = 10 million.

pilgrims are collated and sent to the Kapil Muni Samiti in Ayodhya. The impoverished state was seeking ways on how part of these offerings could then be shared. The state government put forth its complaint that the central government was not providing financial aid to the mela unlike its contribution to the Kumbh mela (PTI, 2020[52]).

Hazra et al. (2012) conducted a comparison of pre- and post- Mela pollution in the water bodies in and around Sagar. These sample showed a tendency of immense water quality degradation, due to organic pollution, in relation to the total and fecal coliform bacteria count. This thesis also involved survey of households of selected villages and interview of health workers who reported the detrimental impact on the public health problems. Furthermore, it was shown that the worst basis of pollution was the Mela ground itself (Hazra et al., 2012). Over the years, efforts have been undertaken to spread awareness amongst the Mela visitors in order to curtail the pollution of the water bodies.

4.5 Shrinking landscapes and the struggle for space: The predicament of Sagar Island

Sagar Island and also the larger Indian Sundarbans, over the course of different eras, from pre-colonial, colonial and post-colonial, presents a setting conditioned by both natural and anthropogenic forces. This has coalesced to produce a system of vulnerability for the people residing there. Disaster in this sense, were not simply the consequences of hazards but a combination of factors. Thus, the natural hazards did not occur in isolation. There is a dynamical relationship between slow and sudden-onset hazards in Sagar that have resulted in significant physical as well as socio-economic changes in the island. According to the Sundarban Affairs Department (SAD), the area of Sagar is approximately 504 sq.km[53]. This is starkly contrasting to the West Bengal Tourism website that shows an area of 224.3 sq. km[54].

Based on the ecological characteristics, Banerjee (1991, p.84) in her study on human settlements in South 24 Parganas categorises the ISD into two regions – the 'stable' delta of the north and the 'active' delta of the south. Sagar forms a part of the 'active' delta and marred by dynamism. The robust cyclonic activities and tidal action alters the shoreline of the island. It is pointed out that this physical differentiation in regions has induced contrasts in the socio-economic and cultural aspects of the settlements between the stable and active delta (Banerjee,

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[52] PTI (2020, January 8). Gangasagar mela gets no central funds but Kumbh mela does: Mamata. Times of India.
[53] As last seen on 15.12.2022
[54] As last seen on 15.12.2022

1991, p.85; Jalais, 2004, p.16). Numerous studies have been undertaken over the years that presents the diminishing land area of the island.

Bandyopadhyay (2000) claims that in the last 140 years, nearly 1/4th of the total area of Sagar island of 70.8km^2 has eroded. Hazra et al. (2002) assumes a net land loss due to erosion (*khai*) is estimated to be nearly 30 km^2 in last 30 years. Ghosh et al. (2001) have estimated that between 1989-1995, the island had lost 3.88 sq.km.; from 1995-1999, a rapid rate of land loss of 16 sq.km. The Department of Water Resources Development & Management (WRD&M), Indian Institute of Technology (IIT), Roorkee in their 2014 study, presented a shoreline mapping of the island between 1951 to 2011, through satellite imagery and topographic sheets. The study stated the strong evidences of diminishing land area or inward shifting of the shoreline (Kundu et al., 2014). Between 1951-1990, significant land loss can be observed due to severe erosion, an amount of 48.45 sq.km. Land was being lost at the rate of 0.032 sq.km per year. In the later period taken of 1990-2011, the land loss is about 1.27 sq.km, and at a rate of 0.005 sq.km per year. Although accretion can be witnessed more during the period between 1990 to 2011, however it is at a much slower rate in proportion to erosion (Kundu et al., 2014).

Kumar et al. (2007) carried out a similar study of the island utilising the Indian Remote Sensing Satellite 1C (IRS IC) linear imaging self-scan sensor (LISS) III satellite data. Between 1967 and satellite data of 1999 (in 32 years), about 29.8 sq.km of the island coastline was eroded, while the accretion was only 6.03 sq.km. Comparing the satellite data of 1998 and 1999, it was calculated that the island had experienced severe erosion of 3.26 sq.km, whereas the accretion was just about 0.08 sq.km. A decline of the land use/land cover of Sagar between 1998-1999, has also been studied by Kumar et al. (2007) and highlighted that the areal extent of mangrove vegetation of the island reduced from 2.1 sq.km in 1998 to 1.3 sq.km in 1999. The casuarina vegetation reduced slightly from 7.4 sq.km to 7.2 sq.km. The areal extent of agricultural fields during a one-year period significantly declined from 130.4 sq.km and 118.6 sq.km (Kumar et al., 2007). The rate of erosion is highest in the south-western part of the island near Beguakhali and on the eastern side of the island. Paul and Bandyopadhyay (1987), believes that the island is eroding from all the sides except for the north.

According to Roy Chowdhury and Sen (2015), the severe rate of erosion reduced the total area of the island from 285 sq. km. in 1951 to 235 sq. km. in 2015, a loss of 60.62 sq. km. area. Nandi et al. (2016) calculated the total shoreline change of Sagar at the rate/year of ±3.20 m/year. shoreline. This study analysed both long term (1975-2002) and short term (2002-2011)

erosion and accretion rates were calculated. It was observed that the rate of erosion was higher in the southern portion of Sagar. For the long and short-term periods, the rate of erosion was7.91 and-7.01 m/year respectively. In a similar study, Bera et al., (2021) claimed that in between 2009 to 2019, the area of the island significantly reduced from 246.76 sq.km to 230.98 sq.km. The average decadal change for 1999-2009 was 4.45% while for 2009-2019 it was 11.33% (Bera et al., 2021). This shows a significant reduction of the shoreline of Sagar Island. Both natural and anthropogenic factors have worked in tandem with each other to cause such high rate of erosion and thereby making stabilisation of the coastline of the island. Tectonic movements, change in river courses, cyclonic events, floods, may be some of the important natural causes. The latter are threats of human settlement, reclamation of lowland, indiscriminate resource use and mangrove destruction, construction of Farakka barrage, port, mining of clay for brick manufacturing and embankment and reckless tourism (Bera et al., 2021; Girish Gopinath & Seralathan, 2005; Paul & Bandyopadhyay, 1987). Between 2000-2010, changes in land use/land cover of the island can be observed with the undertaking of various developmental works such as reclamation of forest land for settlement, agriculture, pisciculture. This period then coincided with a swift upsurge of mudflats, sand beach and waterlogged areas (Mondal et al.,2020).

Sagar island falls part of the tidal dominated coast, with a tidal range of 3-4 m and even over 6m (Kumar et al., 2007; Mondal et al., 2020). About 7% of the significant cyclones around the world is felt in the Bay of Bengal. During the last 120 years, the frequency and intensity of the cyclones particularly during the post-monsoon have increased between 20% to 26% (Singh, 2007). Mondal et al. (2020), in a similar context points out the occurrences of depressions and cyclonic storms at a rate of 10.79 per year between 1891-2010. However, between the period of 1971-2010, the total number of such events have reduced but the frequency of severe storms and their intensity have increased (Mondal et al., 2020). In between 2010-2020, Bera et al., (2022) have observed a substantial increase in both occurrence and intensity of cyclones that have hit the island. Eight cyclonic storms and seven very severe to highly severe cyclones affected the island during this period, in comparison to only three severe cyclones from 2000 to 2010 (Bera et al., 2022, p.10). Mention can be made of Aila (2009), Bulbul (2019), Amphan (2020) and Yaas (2021).

These hazards do not occur in isolation, and are accompanied by storm surges, torrential rainfall (Unnikrishnan et al., 2004), flooding, inundation of saline water, erosion and loss of

land (Ghosh et al., 2021). These cyclonic events lead to breaching of embankments. This along with the daily tidal movements results in saline water inundation and therefore salinity of a major portion of the land (IMD, 2008; Human Development Report, South 24 Parganas, 2009). The accompanying floods, destroys houses, freshwater ponds and agricultural lands (Mondal et al., 2020). This has led to a decline in overall yield of agricultural production (Hazra et al., 2002). Thus, in many cases forcing the people to look for alternative livelihoods (as will be evident in the later sections of this chapter). A study by Bera et al., (2021) observed that about 51% of the households in Sagar reported a loss of productivity, and 39% confirmed their loss of original livelihood, from a sample of 1023 households from 41 Mouzas. Mahadevia and Vikas (2012) in their study opined that between 1951-2010, there has been an increase in the intensity of cyclonic storms affecting the Sundarbans. Bera et al. (2022) analysed that from 1990 to 2020 substantial changes were observed in the water body's sandy areas, which increased by >30%. The built-up area has also increased leading to a decline of the area of cultivated land by 26.16% (Bera et al., 2022).

Cyclone Aila in May 2009, with a wind velocity of 120km/hr led to the loss of lives of over 260 people and rendering half a million people homeless (Mondal et al., 2020). It has been assessed that Aila damaged nearly 778 km embankment of the Indian Sundarbans (Bera et al., 2022), with sad attempts at sustaining it even till date. Cyclone Bulbul of 2019 (made landfall on the western end of Sagar), is believed to have been more damaging than Aila of 2009. At a wind speed of 135 km/hr, the affected population is estimated at 5-6 million people, a cost of Rs. 24,000 crores and damaging approximately 517,000 houses (Basu, 2019). Super cyclone Amphan made landfall near Sagar on the afternoon of 20th May 2020. The island was left for two days Sagar Island without any support from the government (Basu, 2020). Although less number of deaths have occurred during this event but the Government of West Bengal reported severe damages of around 156 km of embankment, 36 structures spanning 37 blocks of varied districts of West Bengal including South 24 Parganas, 2.9 million houses and 1.7 million ha agricultural land (Anon, 2020; GoWB, 2021, p.28). The most recent Cyclone Yaas in 2021, impacted nearly 1 crore people, 3 lakh houses and breaching of 134 km embankment in the Sundarbans (IMD, 2021).

Hazra et al. (2002) opined that by 2020, based on the current habitation and density, more than 30,000 people residing in Sagar would be displaced. The aforementioned IIT-Roorkee study of 2014, predicted a deplorable state of affairs for Sagar, for the years 2021 and 2031(Kundu et al., 2014). This period is characterised by active erosion and reduction in area, leading to a

further inward shift of the shoreline. This is supposed to be severe in the south-west side of the island due to persistent erosion and with active wave action. The predicted rate of change in this side of the island is 0.06km^2 per year due to erosion. The estimated sea level rise is at 2.25 mm, along with high river discharge, elimination of forest cover and cyclones that could cause continual extreme erosion and land loss upsetting lives and livelihood (Kundu et al., 2014).

4.6 Disaster deluge and livelihood strategies: Ramifications and vicissitudes

During the mid-1980's, the earlier dominant notion of 'employment' was being replaced by the concept of 'livelihood'. Chambers and Conway (1991), defines 'livelihood' as all the concrete as well as immaterial assets, capital and activities in totality, that is required for attaining the means of life (as cited in Gaillard & Mercer, 2013, p.633) along with the access to these by an individual or a household (Ellis, 2000, p.10). It encompasses the ways and means of people's struggle for existence and is therefore multidimensional (Chambers & Longhurst, 1986; Swift, 1989). Thus, it is the collective resources that are essential to endure people's basic needs of not just food and other material requirements but also cultural values and social relationships (Scoones, 1998). The complexity of the concept becomes evident when external organizations extend their assistance to people. The exercise of livelihood analysis has proven to be an effective method for understanding the varied components of poverty and vulnerability of people/households and suggest measures for evading it (Turner, 2017, p.1). The repercussions that a natural hazard has on the livelihoods of people is one of the central criteria for it to manifest into a disaster. The nature of livelihood is dynamic and dependent on unfolding of opportunities entrenched within continually altering social and political settings (Turner, 2017, p.1). Over the years numerous frameworks have been developed to chalk out the components and understand the complexities of livelihoods for more effective mediations[55].

The Sundarbans, throughout history as evident in the sections above, represented a 'frontier' region. It witnessed the relentless physical and socio-political progression of powers and transformation (Danda, 2007, p.28). Eaton (1990) claims the role of '*pirs*' or Muslim holymen in expanding the arable lands of the delta, practicing wet rice agriculture, between 1204 and 1765. For them their missionary role was secondary to their primary engagements of 'taming' the forest and making them suitable for cultivation (Eaton,1990). Land would be assigned to these holymen by the authorities, in arresting the forest areas or were fused within the state

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[55] Well known among these frameworks are those developed by International Development Studies Institute, University of Sussex (1998); Department of International Development or DFID (1999), UK and Frank Ellis in (2000).

when the assignment was suited for producing revenue. This conversion of forests into wet rice fields persisted for years. This development no doubt was successful in founding new types of property rights, but also resulted in reshaping the natural, forested ecosystem (Eaton, 1990, p.6). Even the earlier supposed residents of Sundarbans, Hindu Bengali castes of Chandals and Pods, whose primary livelihood was fishing were converted to agricultural castes by their Muslim rulers.

Fishing, according to Wise (1883) was evaluated as an inferior work in view of its past affiliation with non-Muslim or other communities, that failed to unify with the Muslim society. This sentiment was reflected even amongst their Hindu counterparts. The incapacity of the products of the fishermen to be stored, disallowed taxation of the same. Agriculture on the other hand ensured food security, provided products that allowed the easy transformation into money, which was a revenue for the government in the form of tax. There was a preference of the 'docile' cultivators over 'semi-nomadic' fishermen (Danda, 2007, p.95). Even the drying up of lagoons due to substantial deposition of the rivers on the delta plain, provided impetus for people to dislodge from their primary livelihood of fishing to agriculture (Eaton, 1990, p.14).

When the British colonial government took over after 1764, they embarked upon the agenda to reclaim the area (Danda, 2007, p.30). The rulers of the pre-British period may have been successful in reclaiming the stable side of the delta; the British on the other hand, were triumphant in the process of expansion of the frontier further south, towards the 'active' side of the delta (Chakraborty, 2005, p.4). This transformation of the area apart from assisting in the earning of the 'daily bread' of the people, was also a need to tame the 'wilderness' of the area and improve it (Richards & Flint, 1990, p.19). Mukhopadhyay (2016, p.31) believes that it was this illustration of the Sundarbans in the colonial narrative that, laid down the possibility of Sundarbans developing as a World Heritage site in the post-colonial period. A space where the settlers were impediments to the preservation process of the state.

Independence of India ushered in various land reforms. The relevant laws of West Bengal were considered an exception in a country that lacked such progress. The role of the CPI-M in the success of these measures were globally acknowledged. Notwithstanding land reforms, about more than half of the population in the Indian Sundarbans is still landless (Danda, 2007, p.40). Green Revolution in the state of West Bengal, was ushered during the late 1970's, providing a scope for marginalized farmers to take up such initiative. Another modus operandi was through

the granting of tenancy through 'Operation Barga[56]', implemented in 1978. This granted the sharecroppers to cultivate the land and usurp a larger portion of the yield, but no proprietorship (Danda, 2007, p.41).

The primary livelihood of the people of Sagar Island, is agriculture[57]. In Sagar (as well as in many rural areas of India), farming is a household-oriented activity. According to the agricultural census of the Ministry of Agriculture & Farmers Welfare of Government of India (2019) and which is also followed by West Bengal, the operational landholdings are categorised into five classes (Table.1):

Table.1 Categorization of famers based on agricultural landholdings		
Sl. No.	**Category**	**Size-Class**
1.	Marginal	Below 1.00 hectare
2.	Small	1.00-2.00 hectare
3.	Semi- Medium	2.00-4.00 hectare
4.	Medium	4.00-10.00 hectare
5.	Large	10.00 hectare and above
Source: Ministry of Agriculture & Farmers Welfare of Government of India (2019)		

The households in this study were either marginal, small or semi-medium farmers. Few mentioned owning more than 10 hectares of land earlier, but which have diminished due to erosion. Thus, a decreasing land size signifying the loss of status as well. Households that are landless (sometimes even the marginal landholders) take land on lease for a year, where agreements are non-formal. A local household in Bankimnagar claimed that the agreed amount varies between INR 4000-5000/- per year. The amount can vary due to several factors like season, type of crops, self or shared cultivation etc. Currently one of the most significant factor of variation of price is the geographical location of the cultivable area – centre and periphery, considering the assault of both sudden and slow-onset hazards.

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[56] Barga, short for Bargadar or sharecropper
[57] The Indian Sundarbans as well.

The respondent-households carried out cultivation significantly for subsistence rather than commercial utilisation. While reflecting on the earlier agricultural practices of the household, cultivation of salt-tolerant rice varieties like *Tal mugur*, *Nona bokra* etc, was stated[58]. Those cultivating such varieties was primarily for consumption. Over time, the traditional varieties of paddy gave way to freshwater growing varieties. With the introduction of green revolution in the state, the farmers then switched over to high yielding varieties (HYV). The genetically modified seeds demanded greater volume of water, fertilizers and pesticides, mechanization of land, good and steady electrical connections. As irrigation facilities are lacking, fresh water for agriculture is extracted from the groundwater source, through diesel or electrically powered engines or through pipes connected to nearby tube wells or ponds. In a recent study by Saha (2021, p.28), it was observed that the erosion of shoreline of Sagar Island has increased the seepage of salinity and contamination of groundwater, particularly in the village of Boatkhali.

Agriculture activity, no doubt is made conceivable by the construction of embankments. In the earlier centuries, the environmental setting of the Indian Sundarbans was such that only a single paddy could be cultivated. The method of cultivation of second crop received impetus in between 1980-1988, through the efforts of the SDB, in association with the International Fund for Agricultural Development (IFAD) and co-financed by the World Bank. This was through the execution of the 'Sundarban Development Project' at an expense of US$ 36.21 million (Danda, 2007, p.96). The average annual rainfall in the South 24 Parganas district is approximately 140 centimeters, where monsoon period accounts for nearly 75% of the rainfall (Sarkar & Chakraborty, 2022, p.35). Despite the high dependency on agriculture of the local economy, there are lesser number of irrigation channels, ensuing monocrop cultivation in most of the ecoregion (Danda, 2007, p.40). There are no (artificial) irrigation facilities catering to Sagar block.

According to the District Statistical Handbook of South 24 Parganas (2014), Sagar block has 80,863 persons depending on agriculture, i.e., 38.13% of the total population[59]. The pre-dominant paddy crop sown in Sagar block is *Aman* (winter paddy), cultivated in the months of July-August and harvested in November-December. This is followed by *Boro* (summer paddy) paddy cultivation, sown during winter months and harvested the following summer. The other

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[58] As the original salt-tolerant varieties have disappeared, scientists are working on genetic recreation of these salt-tolerant varieties.

[59] The total can be sub-divided into – 9216 Bargardar, 14,136 Pattaholder, 1505 Small farmer, 18,896 Marginal farmer, 37,110 Agricultural labourers. According to 2011 census, Sagar has a total population of 212037.

crops cultivated include Khesari, Mustard, Til and Potato, grown during the Rabi season (GoWB, 2014). These were introduced as cash crops by the Department of Agriculture, Government of West Bengal, through active participation of departments at the block and sub-block level along with NGOs (Danda, 2007, p.97). As one traverses the fields during the winter season, one can observe small patches of land dedicated to cultivating vegetables. These winter crops produced either for subsistence or the market, can contribute towards increasing productivity of households, even during the dry winter period. The landless households that rely on tenancy or sharecropping, prefer to cultivate paddy rather than other crops because of the minimum risks attached to it. Despite being family-owned farms, some of the households do hire daily wage agricultural labourers to assist them in cultivation. The wage rate of these agricultural labourers is about Rs. 400/- per day, at present[60].

Amongst the households, there was significantly a lesser percentage of population that were dependent on fishing as their primary mode of living. This livelihood activity, as mentioned earlier, was embroiled in prejudices. Based on the District Statistical Handbook of South 24 Parganas (2014), there are 5977 persons dependent on fishing in Sagar block, about 2.8% only from the total population. Most of the households own a private *pukur* (pond) which is utilized for domestic purposes, where fishes are cultivated. However, these may be mainly consumed by the household themselves. Such private ponds were often lacking in 'newly resettled' households, due to dearth of available land (see chapter 5). These fresh-water ponds also sometimes act as sources of water for irrigating the agricultural lands. In the aftermath of cyclone Amphan and Yaas, these ponds had turned brackish with the intrusion of saline water, especially the households in the periphery of the islands. Furthermore, the cost (for labour and materials) of de-salinizing this salt infused ponds was rather high[61].

Others who were referred to as '*Matsajibis*' in the local parlance, were mainly landless households and for whom fishing was a primary livelihood activity. Their source of income was derived from fishing in the nearby Khal or river, usually collecting prawns or its seedlings (*meen*). Danda (2007) in his thesis mentions the preference of agriculture over fishing during the Mughal period who considered it as a modest occupation. This continued even during the colonial rule and in the post-colonial period this group comprised of mainly the landless. An interesting observation was made when the researcher enquired a landholding household if they

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[60] Daily wage rate as of 2022.
[61] See Chapter 6 for more details

undertook fishing as a livelihood activity. The reply to which was rather curt and that only the '*Matsajibis'* or landless small fishers undertook such practices.

The major challenge in case of both agriculture as well as fishing presents itself in the form of poor transportation. The large transport of goods is made possible by boats, as all-weather roads are almost absent. Sagar lacks bridges connecting the island with the mainland. This deficiency culminates in enhancing cost, impairment and excessive demand of time. Therefore, price actualization of products for the farmers is negatively affected. Peripatetic traders may sometimes consort to visiting household where they can purchase produces at a cheaper rate. The nearest market for the Sagar islanders is Kakdwip (1hr 15 min), Medinipur[62] (5hr 36 min) or Kolkata (4hr 6 min). The local market on the island is open on a chosen day known as the *haat.* Apart from the local buyers, these *haat* also serves as spaces for the traders to buy the local produce. Thus, a household in their attempt to construct risk towards their livelihood, has to consider not just external threats but their own internal functioning as well.

The household's nutrition is also supplemented by livestock in the form of goats, cows, sheep, buffalo, chicken, ducks that they raise within their available land/pond. Finding a grazing land for many of the households has become a problem. In the case of some the old planned resettlers, the household's lost their access to common property resource of grazing land with the submergence of the island of Lohachara. Thus, sustaining animals on a larger quantity became difficult due to the dearth of grazing space at the place where they were existing, as well as in their resettled areas. Very few households have raised poultry chickens[63], ducks for sale in the market. These have been procured either through their own means, usually taking loans from Self-Help Groups (SHGs) or provided by NGOs (like the NGOs in this study) through their livelihood generation programmes or even through government schemes like Integrated Coastal Zone Management Project (ICZMP).

According to Wisner (1993), livelihood is one of the constituents required for assessing vulnerability. Within a social setting, there is a significant inequality of distribution and access to the economic, political, and cultural means of production, which involves unequal social construction of reality (Wisner, 1993). Thus, vulnerability to disaster is neither constant nor ubiquitous. Disasters, may either intensify the antecedent vulnerabilities (Juran, 2012) or evolve new ones. This no doubt affecting the daily struggle of people/households (Watts,

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[62] Also known as Midnapore.
[63] Households are now alternating towards the raising of 'black' chickens, which are expensive to rear but their market value is high.

1991). The households that are vulnerable, recurrently needs to endure assorted setbacks to their lives, livelihoods and settlements. It is impossible to ascertain a particular social characteristic as an inherent factor in the construction of vulnerability to environmental hazards. During a disaster, a household's vulnerability can be assessed on the location of the house, whether they live in benign or perilous places, by their grasp of, accessibility to, and capability of successfully applying the means of safeguarding. In the everyday life of the household, there is a close association between livelihood vulnerability, accessibility and ability to utilise required resources to survive disasters (Davis et al., 2004; Wisner et al., 2012). Thus, belonging to a particular spectrum of socio-economic, cultural, political category and even geographical location, can have noteworthy consequences on the individual and household during an environmental hazard crisis and further on their coping capacity during or after a disaster (Wisner et al., 2004).

Throughout the inhabited islands of the region, there is an inconsistency in the socio-economic characteristics of its inhabitants. A household's monthly income is quite difficult to determine due to the fluctuations of livelihood activities. These differences become more pronounced during the occurrences of disasters, reflected in their vulnerability. Natural hazards no doubt upsets the balance required for successful agricultural production (March, 2013, p.65). Such events can disrupt both subsistence or commercial form of agriculture. The farmers that are dependent on the former are however more vulnerable to these hazards, restricted by their access to resources to mitigate the disaster that would unfurl. The effect of these hazards on agricultural production maybe immediate but the recovery takes a longer time (March, 2013, p.65). The scope of impact will rely on factors such as topography, weather, stage of crop growth etc. The impact may not only be at the initial stage of production but also at the end stage of markets. For a small or marginal farmer and peasant, the ability to recuperate may be more challenging than big or large farmers. Recovery of households will then depend upon all the above factors.

The island regions and especially the low-lying type like the Indian Sundarbans, elicits the risk of cyclones and waves, importing large quantity of water immediately and inundate the agricultural land. The breaching of a crucial infrastructure of the Indian Sundarban – the embankments, also result in flooding of the cultivated land with saline water. The saline water imposes different levels of damage to the crops being contingent on the duration of water stagnancy on the land as well as the time and amount of rainfall that would flush out the salt later. The process of flushing out of salt deposits is extremely slow. The absence of rainfall

could result in additional crisis where the groundwater is either contaminated with salinity or not replenished with fresh water. Add to this, the degradation of land and erosion of soil. All these ensues in a decline of the food security of the region (March, 2013, p.66).

Livelihood vulnerability and risk is comparatively higher for the households in the periphery than in the centre. Over the years, the value of land in the periphery has decreased as pointed out by the settlers and currently the likelihood of anyone making a purchase there is minimal, a state of affairs largely seen after the recent cyclone Yaas. A local resident of Bankimnagar reiterated that even the practice of leasing land (*thika*) is waning. Earlier those landowners who had large landholdings would lease their lands to landless and/or marginal households. The latter households would accumulate their resources and rent the land at a rate, depending on the area. But in recent years, the cost of leasing such land was found to be extremely steep for the poor households. Apart from the lease amount, the households would have to bear additional costs of labourers, seeds, agricultural implements etc, which has become higher than before. Furthermore, if any natural hazard occurs, then it is obvious that the productivity would decline or fail and therefore no profit can be availed. It was understood to be more logical to accumulate the income and utilise it for purchasing basic resources such as rice, dal, clothes etc and survive for six or more months, then take the risk of leasing land and losing it all during times of hazard. The responses that a household develops in cases of slow-onset disaster is through years of experience to such calamities (Parida, 2018)

There is an increasing trend towards diversification of crops, for more commercial varieties. It was seen that cultivation of Pan (betel leaves) was becoming popular. Although the cultivation of this crop requires more or less the same expenditure, yet it was favored due to less amount of land and labour required for its cultivation and that they secure better benefits. A respondent-household in Mritunjaynagar, opined that this was the only way in which the household could earn a living. This was a three-member household where the husband was paralysed after suffering a stroke, the 18-year-old daughter was still in school and the wife had now taken up the role of being the main earning member of the household. Out of the main land holding of about 2 bigha, the household had dedicated their 2 *katta* for pan cultivation. The cost of cultivation varies according to season, where it is highest during the winter months[64]. This cost includes the construction of a shed like structure, on raised land. Bamboo shafts surround the structure which is covered by a green cloth material, to keep away dust and enclose moisture.

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[64] The cost can even go as high as INR 50,000 during the winter season.

A flat roof is placed on top made of bamboos and covered by the same cloth material, making the structure a sort of rudimentary green house. It takes about 4-6 months for a vine to produce full marketable leaves.

Although a household-oriented activity, the harvesting of the leaves does require additional (non-household) labour. The price of the betel-leaves is set on thousand leaves per bundle, which fetches about INR 45-50/-. This is based on the quality of leaves as well as fluctuations of market prices. The wage rate for plucking of betel leaves is INR 350/- per day, lower than that of paddy farming. On completion of harvesting, the leaves are sold in the nearby market of Kakdwip or Medinipur. This can be done via an agent, but the households prefer visiting the market themselves, so that they can fetch better rates and not lose the money on agent-commission. On an average, if the cost of production is INR. 5000/-, in a 2 *katta* land, the household earns about INR 3000-4000 in addition to the expenses. The production of betel leaves suffered a setback after the two consecutive cyclones in 2020 (Amphan) and 2021 (Yaas). When the researcher visited the said household at the end of 2021, the crops along with its structure had been completely ravaged by the cyclonic waves. Those remaining had been destroyed by the inundation of saline water. Even in beginning of 2022, many households had still not been able to restore their damaged structures.

Apart from the pressure on land due to the increase in population, the severity of hazards has necessitated the dismissal of caste and religious consciences to occupation. The submergence of the islands and villages of Lohachara, Khasimara char and Ghoramara had turned many agricultural dependent households to fishing. A respondent of Gangasagar Colony I narrated the story of how with the loss of agricultural land due to erosion and declining productivity, instigated him to undertake fishing as an occupation. He would either fish on his own using his own boat or get hired in large trawlers. Comparatively fishing is a riskier livelihood strategy than agriculture but equally (or maybe even highly) remunerative. According to Danda (2007: 114), the households undertake tiger shrimp seed collection as a 'safety net', signifying those that have fallen on hard times due to variegated reasons – both natural as well as social. This type of livelihood then represents the last resort for any household. During the field work, specifically in Bankimnagar colony I, abandonment of land by the original households as well as old resettlers, was starkly evident. In few pockets of the deserted areas, stretches of land had been converted into aquaculture ponds. These were prawn cultivation ponds, catering to the larger markets located in Kolkata. It was further revealed that that the original landowners had given the land on lease for converting these agricultural lands into aquaculture ponds. However,

a local resident claimed that the legal permits allowing the conversion of agricultural land into aquaculture ponds, had not been acquired by the concerned household.

Poverty, declining agricultural productivity and income, combined with hazards and their onslaughts, has made the State, the core of people's lives. In the rural areas of ISD including Sagar, one of the most commonly availed schemes for employment, is the government funded Mahatma Gandhi National Rural Employment Guarantee Act/Scheme (MGNREGA). This was launched on 2nd October, 2005 through an act bearing the same name. The scheme is an effort to curtail distress out-migration of people especially the youth, away from a respective state or country. This scheme has become significant for the local people as it provides for in-situ farm or non-farm employment opportunities, options which are planned and executed by the Gram Panchayat. Embankment reconstruction in the Indian Sundarbans has also been made one of the livelihood generation activities under the MGNREGA. The West Bengal government has alleged that the state had suspended the funds for the MGNREGA scheme since December of 2021 (PTI, 2022a)[65]. The ruling party in 2022 demanded that the centre release Rs. 7,130 crores that was due to the state (PTI, 2022b)[66]. These crisis in payments led to the Chief Minister recommending the creation of its own 'Crisis Management Fund', by amassing percentages of funds allocated to other government departments (PTI, 2022c)[67]. The respondents complained of untimely payments of MGNREGA wages and many of them were still awaiting their previous year dues.

Voluntary migration for work to areas outside the region or state, has now become one of the most important livelihood strategies of the people. The unavailability of adequate livelihood opportunities, combined with the non-deliverance of schemes like MGNREGA, 'pushes' the households to seek avenues outside of the study area. The 'pull' of higher wages in the receiving areas attracts the migrants with the hope of creating a better life. But in the receiving area, it is the non-agricultural activities that absorb these hopeful migrants. There is an assortment of work in which the migrants are engaged in. It has been observed that in the aftermath of a natural hazard, like in the case of Yaas, there is an increase in the volume of migrants outside the original area of residence (Iqbal, 2010b).

The migration is mainly temporary and depends largely on the availability of work. The obtainability of work is made known to the households either by a *Thikadar* (agent cum

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[65] PTI (2022, March 23). Bengal got no MGNREGA funds from Centre since Dec 2021: Minister. The Print.

[66] PTI (2022, June 16). Release Rs. 7130 crore due to West Bengal under MGNREGA: TMC to Centre. The Print.

[67] PTI (2022. May 17). Mamata to create special fund to pay MGNREGA wage. The Economic Times.

contractor) or through their social networks, a kin, neighbour or friends. This *thikadar* is usually a local resident or someone from the urban area of the state. The job of the *thikadar* is to accumulate such eager migrants and take them to the respective work places. The income that he derives from this process is in the form of commission which he gets majorly from the employer (*malik*) and partly from the migrants themselves. The list below provides a glimpse into the daily wage work that the local people believe to be predominant types that attracts migrants. The form, nature of work, wage rate and the amenities provided to the migrants vary as is evident below:

- *Centering*: chiefly involving construction work. This is one of the major works that migrant gravitate towards. The main receiving areas for this type of work are the states of Kerala, Tamil Nadu, Andhra Pradesh, Bangalore and Assam. The migrants are either unskilled or semi-skilled labourers, who obtain training during the course of their stay in their places of work. This work mainly attracts male migrants, although in very few cases, women (wives) may tag along with their husbands. Although none of the respondent-households had any cases of family migrants, but relatively few cases were brought to the attention of the researcher in other areas of Sagar. The wage rates of the men vary depending on the grading of skills. A lead mason may get Rs. 600-800 per day[68], while the helper/assistant gets Rs. 400 per day. In the state of West Bengal, the wage rate is comparatively less (< Rs. 600 per day) and also there is a sharp decline in opportunities for work. However, it is to be noted that in the aforementioned states, the cost of living is high, as compared to West Bengal. The expenditure for food and lodging is borne by the migrants themselves in the receiving area. Only in the case, when hired through a company then the migrants receive rental accommodation and food. If women migrants are involved, then they are usually wives of the male migrants and help in the masonry work. Their wage rate is lower than their male counterparts – Rs. 400-450 per day. The timing of work and vacation depends on the contract, where such migrants return home after six month or a one-year period.
- *Tailoring*: The main receiving areas for this type of work are Kolkata, Punjab and Bangalore. This work is also mainly viable for a male migrant. For a new migrant, the individual has to work as an 'intern' for year and where they are trained during that period and for which no payment is made. The first part of their training involves

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[68] All the wages corresponding to a particular job mentioned in this chapter are based on the existing rate in 2021-2022. The wages are subject to fluctuation and could vary in a different time period.

loosening of threads in cloths and later on they move on to higher skills like cutting cloth silhouettes. The food and lodging is provided by the employer. There is a provision of learning such tailoring skills through paid instructors but obviously at a higher cost. After a year, if the migrant decides to remain working then they are paid a monthly wage of Rs. 2000-3000. There have been cases where certain migrants have chose to open their own tailoring shops either within Sagar or neighbouring area.

- *Brick kilns*: The receiving area for this type of daily wage work is Hyderabad and Tamil Nadu. This type of work entails a preference for family migration. In this work, the wage rate is fixed according to the number of bricks baked per day for instance Rs. 1 for every brick made. In this form of migration, the migrants are provided with expenses for food and rent by the employer.

- *Cardamom (elaichi) plantations*: Kerala is the main receiving area for this form of work. This work is viable for both male and female migrants and entails family migration as well. The wage rate is about Rs. 350-400 per day. The employers provide only housing, the expenses for food have to be arranged by the migrant themselves. Initially it is the male (usually the husband) of a household that migrates to the receiving state and after a year or two when he returns, he takes his wife and/or children to the place of work. In comparison to the aforementioned works, this is comparatively much easier.

- *Coconut Plantations*: The main receiving area was seen to be Tamil Nadu. This work too is viable for both male and female migrants. This work involves the harvesting of coconuts and the production of its allied materials like rope, oil etc. The wage rate of the migrants varies, where men are paid Rs. 400 per day and women Rs. 350 per day.

- *Poultry farming*: Bangalore is the main hub for this type of work. This too can attract both male and female migrants. The work involves rearing of poultry where the migrants are trained to vaccinate the hen, provide medicines to the chicks/hen, cleaning of coops, feeding, egg cultivation etc. The wage rate is on a monthly basis where a single male migrant can receive even upto Rs. 12,000 per month and a family, Rs. 25,000. The cost for food and rent is provided by the employer.

It has been observed that almost every household has either one or more than one member who has migrated outside of the Indian Sundarbans. Such a migrant then maybe residing outside the region but within the state or in other states. A transformation from agricultural to non-

agricultural practices or trend of de-agrarianisation/de-peasantisation is evident from the above scenario (Refer chapter 6).

This brings into question the sustainability of livelihoods in the Indian Sundarbans and particularly in Sagar. The Department for International Development (1999), created a framework on sustainable livelihoods that included five resources – natural, human, social, financial and physical. Additional types were later identified by Pelling and Wisner (2009) and Gaillard and Cadag (2009) - institutional and political. According to Chambers and Conway (1991), livelihood can only be sustainable, if it can deal with and convalesce from stress and shocks, while at the same time maintaining or enhancing its capabilities and resources, at the present as well as in the future, but not subverting the natural resource base. This makes livelihood both environmentally and socially sustainable (Gaillard & Mercer, 2013, p.633). Time and again the livelihood sustainability of households are tested by the tenacious natural hazards in the Indian Sundarbans. Measures for livelihood sustainability can only be effective if the strategies are understood as "*less the result of rational choices and actions than a reflection of power configurations and structural conditions*" (Turner, 2017, p. 8).

4.7 Conclusion

This chapter provided a trajectory of the history of settlement in the Indian Sundarbans and Sagar Island, from the pre-colonial, colonial to post-independent period. But in each and every era, natural hazards was an indomitable force that impeded the plans of the settlers. It also gave an insight into the livelihood strategies of the households and how do they deal with the pressures created by the environment. Each and every livelihood change be it in-situ or ex-situ, signifies risks in itself. These are risks that are calculated and managed at the household level. The severe and tenacious threats of natural hazards, along with the changing livelihood practices and combined with equally unsustainable coping strategies, has increased the household's inability to withstand the pressure and ultimately turn towards more riskier measures. The next chapter 5 will then look into the displacement of people and how that has had repercussions on the lives and livelihood of the people.

CHAPTER 5

VANISHING ISLANDS AND ERODING VILLAGES: INSTANCES OF 'PLANNED' RESETTLEMENT

5.1 Introduction

The chapter commences with the scenario of environment-induced displacement of people that occurred in the post-independent period within the study area. The first section 5.2 assesses how natural hazards produced scenario of displacement in the study area. This is followed by an examination of the process of old and new 'planned' resettlement and rehabilitation of the displaced population in Sagar Island, to ascertain the resettlement outcomes. At the end, a comparison has been made between the old and the new planned resettlement colonies. The reason why the planned colonies have been referred to as 'old' and 'new' is because of the need to make differentiate between the two, as the resettlement occurred in two different time periods. This when analysed further, does have relevance on the outcome of their resettlement practices. The objective of this chapter was to understand the process of displacement, resettlement and rehabilitation of 'planned' resettlers. The reference to 'household' in this chapter refers to only those that had been selected for this study.

5.2 The tale of disaster and displacement

The Sundarbans, being a low-lying region, has been a victim to coastal subsidence, caused by both natural as well as anthropogenic factors (Hazra et al., 2002, p.309). Occurrences of both sudden and slow-onset hazards are not new to the Indian Sundarbans. During the post-independent period, as the Sundarbans was achieving national and global recognition due to its rich floral and faunal diversity, there was also a contradictory scenario that was emerging. Sagar island as mentioned in the earlier chapter (4) is the largest inhabited islands in the Indian Sundarbans. According to the colonial government records of 1813-14, Sagar Island had an area of 4,34,228 *bighas* (Pargiter, 2019). This island was cut into many smaller islets by cross-streams (O'Malley, 1914). During the years of 1975-1990, the Indian Sundarbans witnessed the highest rate of erosion, that led to the submergence of the islands of the archipelago viz., Lohachara, Suparibhanga, Bedford, Kabasgadi, along with the villages of Khasimara, Khasimara Char, Lakshmi Narayanpur, Bagpara, Baishnabpara of Ghoramara (Ghosh, et.al., 2014). Lohachara and Ghoramara (located between 21° 53′ 56″ N to 21° 55′ 37″ N latitude and 88° 06′ 59″ E to 88° 08′ 35″ E longitude respectively) is believed to have been a part of Sagar Island, authenticated by the respondents.

Sometime around the late 1800's to early 1900's, the northern portion of the larger Sagar Island, was detached and the islands of Ghoramara, Khasimara, Lohachara, Suparibhanga and Bedford were created (Mortreux, et al., 2017, p.1). A planned resettler respondent (aged 58) of Gangasagar Colony I attests to this phenomenon and recounted how the event transpired. The island of Lohachara and Ghoramara was separated by a narrow *khal* crisscrossing through, which could effortlessly be crossed by small *nauka* or boats. Gradually over time and with the increasing level of erosion, this water-body widened and the island of Lohachara was separated from Ghoramara. The respondent claimed that by the time the island was lost, there were hardly any settlers left.

The point of socio-economic interaction between the now vastly separated islets was - the absence of a marketplace in Lohachara and a larger one in Ghoramara. The former island remained constantly inundated and permanently flooded. A settler of Lohachara who is now resettled in Gangasagar Colony I, recalls the *bhangan* (erosion and breaking away of land) of the island since his early childhood days. But he claims that from the mid 1940's onwards, the severity of erosion aggravated to a rate of almost 100 bigha per year. Lohachara, according to the respondent, was supposed to be of about 7000 bighas and that erosion took place mostly in the western and southern side of the island. Chandra (2014) opines that some are certain that the island was not submerged but washed away. Suparibhanga, Bedford and Kabasgadi trailed later. According to a former settler (aged 60 years) of Lohachara, although there were no settlers in Suparibhanga but the *char*[69] served as a common grazing ground for residents of his previous island. It has been contested that the settlers of Lohachara were the world's first 'environmental' or 'climate refugees', prior to the oustees of Tuvalu island in the Pacific region (Sengupta, 2007). According to Mortreux et al. (2017) based on the census reports, there were 374 households in Lohachara in 1971; in 1981, this number reduced to 220 and no households in 1991. So, between the years of 1986-1999, the island was completely submerged.

Ghoramara too as stated, was a part of Sagar Island until 1881-1905, disconnected due to severe erosion (Haldar et al., 2021, p.213). It is believed that around the late 1970's, Ghoramara was declared as a 'No man's land' by the then Government of West Bengal (Haldar et al., 2021, p.215; Mortreux et al., 2017; Peth, 2014). Respondents of old planned resettled colonies of Gangasagar Colony I attested that it was the Congress party-led government. This resulted in withdrawal of investments and funding support, hinting at the government's judgement in the

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[69] A tract of land formed by accretion.

impermanency of the island and the neglect of the inhabitants living within. A period, no doubt, of uncertainty and anguish for the inhabitants residing in the island (Mortreux et al., 2017).

Numerous causes have been attributed to the submergence of the aforementioned islands and villages, a consequence of both sudden and slow-onset hazards. Some consider the hydrodynamics of the region, the tectonic tilt causing Ganges to shift eastward, resulting in extreme reduction of freshwater inflow into the estuary. This thereby resulted in an imbalance of the island settings (Mortreux et al., 2017). Hazra et al. (2002), assumes both natural and anthropogenic elements culminating to the degradation of the islands. Apart from the dearth of sediments, erosion and submergence of the islands, particularly in the southern part of the delta region, it could also be due to the sea level rise (assumed to be 3.14 mm per year in the Sundarbans, which is higher than the global rate of 2 mm per year). Kundu et al. (2014), studying the shoreline change of Sagar Island between 1951-2011, claim reduction in land area or inward shifting of the shoreline. The changes largely brought about by constant erosion. Out of the 102 islands in the Indian Sundarbans, there are now less than 100 remaining.

There is no concrete figure of the total number of people displaced from the fully or partially submerged islands and ranges roughly from 4000 (Ghosh et.al., 2014) to 6000-7000 (CSE, 2007; Mukherjee, 2014). The researcher tried to get hold of the official documents pertaining to the number of households actually displaced. However, numerous visits to the Sagar Panchayat office proved futile, as the staff claimed that since the event had occurred at such a long time and when digitization was not possible, the official records could not be located. The representative of the Land Record's office opined that the total number can only be revealed through a ground survey. Chakma (2014, p.3) claims that about 462 households comprising of 3048 people have been resettled in the varied colonies.

In 2001, Ghoramara had a population of 5236 in 899 households (Danda, et.al., 2011). It is administratively, a Gram Panchayat under the larger Sagar Community Development Block, district of South 24 Parganas. Ghosh et al., (2014) claims that since the 1920's, Ghoramara has been reduced by almost 70% due to coastal erosion. In 1975, the island of Ghoramara had a total area of 8.51 sq.km; 5.02 sq.km in 2001; by the year 2012, over a period of 37 years, this had receded to 4.43 sq.km. The latest figures of 2020 claims to be at 3.64 sq.km (Haldar et al., 2021, p.216). Five of the major villages of Ghoramara have already submerged and is constantly threatened by sudden and slow-onset hazards (Ghosh et al., 2014). A study by the School of Oceanographic Studies, Jadavpur University has claimed that based on the 2011

census, the population of Ghoramara has decreased to 5193, despite the existing growth rate within the same administrative area (Singh, 2019). Thus, the people inhabiting these submerged islands and villages were in need of an intervention[70] due to threat of displacement.

5.3 Praxis of 'planned' resettlement: Life in the settlement colonies

Sudden and slow-onset hazards were not something novel to the old planned resettled respondents, events that they had witnessed since they were children. The respondents for this category of population were originally from Lohachara island (07), Khasimara village (08) and Bagpara village (01) in Ghoramara island. The respondents recalled that due to the constant sudden-hazards, the protective embankments had breached in several places. These would be repaired but non-enduring. With this incessant fissures, inundation and salinization of land, the severity of *'khoi aur nadi bhangan'* (disintegration and erosion) increased over time and as far as they could recall, the approximate rate of erosion was about 1-2 bighas per year. Within a span of about 8-10 years a greater portion of the islands and villages had reduced to a considerable amount, creating pressure on the existing population. The nearby island of Suparibhanga served as a common grazing land for the pastoral animals of the respondent-households that hailed from Lohachara. Gradually this island too was lost to the river.

Out of the total number of old planned resettlers, about 7 households were previously landless and the rest 9 households had land holdings ranging from as low as 1 *katha* (0.016 acre or 0.05 *bigha*) to 100 *bigha*. However, at the time when the landholders were displaced, the size of the holdings had diminished to almost 1-5 *bigha* and two of them had even become landless. These newly landless households were living in temporary makeshift house on raised inland roads. All of the households lived as joint families, and the size ranged from 7-12 members. The primary mode of living was agriculture. Those who had land would cultivate on their own or hire other agricultural labourers and those who were landless would work as *bargadars[71]* or tenant farmers. The produce was mainly for self-consumption. Some did sell their produces in the local or nearby markets but was dependent on the land size that they cultivated. The respondents claimed that the land (particularly in Ghoramara) was relatively fertile and yielded good produce of crops such as rice, wheat, pulses and vegetables like potato, chilli, brinjal,

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[70] The resettlement process was initiated prior to the final submergence of the islands and villages mentioned above

[71] An individual/household who cultivates the land of another person, with the stipulated condition that the cultivator would share the produce. They are also referred to by various names like Bhagchasi, Adhir, Barges etc. (West Bengal Bargadars Act, 1950).

spinach etc and even fruits like watermelon. As the breaching of embankments continued, so did the intrusion of salt water into the agricultural fields.

As mentioned in Chapter 4 of this thesis, the farming in the Indian Sundarbans is essentially monocropping. As the settlements in the island have been carried out prematurely by the construction of raised bunds, it has led to a lessening of the spill areas of the rivers. This has further resulted in the deposition of sediments on the riverbed while the floodplain remains bereft of any. Therefore, the islands here, are at a lower level than the rivers and are predisposed to flooding (Das et al., 2016). This also hinders the out-drainage of the intruded saline water making it sluggish. Naturally leading to a decline of the productivity of the fresh-water dependent crops. The saline land slowly erodes and makes way for the intrusion of the river further inland.

Fishing, was for a lesser number of households another main source of livelihood, with the catch (*Bagda chingri* or tiger prawns, *Pona chingri*, *Meen* or prawn seedlings etc) either consumed by the household or sold in the local markets. Out of these, few had been fishing in trawlers, a more commercial venture. Daily wage labourers (many replied as '*mati kat tam*' or literally as 'earth cutters' for creation of ponds, houses, embankment etc) was another livelihood activity and very few (02) were working in non-farm sector like a government school teacher and as a hotel-staff in Kolkata. As the rate of erosion increased, loss of land continued and productivity declined, the respondents had to look for alternatives. There have been instances of farmers turning to fishing or daily wage labourer and making it as their main source of livelihood. The households in the original place had larger size as many of them resided as joint families (15-16). It was a difficult time for the households as their savings were also depleting with each passing day and many mouths to feed. The respondents mentioned that those who were able to accumulate resources were able to relocate on their own, either to the interior of more 'stable' islands of the Indian Sundarbans or nearby peri-urban areas of Kolkata and even Medinipur. As for the ones who could not, they were helpless. The powerlessness of the people and the inevitability of displacement was even pointed out by the officials of the local government during the public discussion held prior to displacement and resettlement.

Around the mid 1960's and early 1970's, talks on resettlement of the people facing displacement were being initiated. The study area selected for the respondents under the category of old planned resettlement were – Bankimnagar Colony I, Gangasagar Colony I, Gangasagar Colony II, Jibantala Colony I and Jibantala Colony II. Two respondents, one

belonging to Jibantala Colony II and the other to Gangasagar colony I asserted, that the villagers had incessantly petitioned and placed their predicament to their local Gram Panchayat for many years. According to the representative of the Department of Land Records, the panchayat system had not come into existence then and so the people used to go to the gram president (gram president system) to solve their matter. The cries of the affected population were finally heard by the government of West Bengal. The State government, through the local administrative body- the Panchayat, took upon itself the onus of resettling the households threatened by erosion and subsequent loss of land. It was unequivocally remarked by all the respondents, that the advocates of resettlement were the then ruling party, the *Bam front Sarkar* or the Communist Party of India-Marxist (CPI-M), who held a majority in the state and local government. The officials from the Land Records Department of Sagar CDB claimed that the process of resettlement at the government level, commenced with a resolution passed by the Panchayat Samiti, that allotted *Pattas* (legal titles) to the probable resettlers in the resettlement colonies. However, the selection criteria of such households is not evident.

It becomes imperative here to provide a brief historical context of the emergence of the Communist party in Bengal and the role of land reforms to such a development. At the time of Independence of India, the agrarian structure of West Bengal had become immensely complex. In between the two categories of zamindars or landholders who were at the top and the peasantry at the bottom, were the intermediaries (Ghosh & Nagaraj, 1978, p.51). Much of the landholdings in the Indian Sundarbans were now accumulated in the hands of the 'absentee' zamindars or landlords, mostly residing in Calcutta or now Kolkata. The situation of the peasantry was abysmal where the zamindars or their intermediaries were only devising methods to increase their revenue through rent or taxes. So much so, that even grave incidents like natural hazards could not deter them in their collection of their revenue from the peasants (Chatterjee, 1990). The Raiyatwari settlement system introduced in 1903-04, to foil such unscrupulous activities of intermediaries, could not really achieve its aim, as the system was only conceivable for the big peasants and not the small or landless peasants (Mukhopadhyay, 2016).

At the time of Independence, in the political arena of West Bengal, there were two main opposing parties with their own discrete political ideologies and constituencies. One was the alliance of Leftist parties commanded by the Communist Party of India (Marxist) (CPI-M), with a strong political commitment to land reform, and a centrist Indian National Congress (INC) that has been accused of paying heed to the interests of big landowners in rural areas

(Bardhan & Mookherjee, 2010). Thus, land reforms became an important part of the agenda of parties, required to assert power in the state. Even before and also after Independence, the Communist parties were profoundly involved in agrarian struggles of the peasantry against these zamindars and were proponents of a revolutionary pathway for achieving their goals. But this was quite contrary to the communist party that arose to power in West Bengal in 1977. The party was inclined towards reform than revolution (Kohli 1990, p.367), that was inclined towards introducing fundamental changes in the rural landscape utilising democratic methods (Mukhopadhyay, 2016, p.18). This was something of a refreshing change for people after witnessing years of political unrest and ambiguity during the earlier Congress rule (Kohli, 1997). These measures of land reforms entailed decision-making in two major facets of '*barga*' and '*patta*' (Sarkar, 2007, p.1436). Operation *Barga* launched at the end of 1978, entailed the registering of names of *bargadars*, providing them security of land and a fixed share of output. The granting of '*pattas*' entailed redistribution of legal titles of surplus land attained form rich landlords, sustaining an upper limit for landholdings (Sarkar, 2007, p.1436).

The coming to power of the Communist party also coincided with a new method of cultivation – Green Revolution. Already popular in states like Punjab and Haryana, this type of production utilised high yielding varieties of seeds, chemical fertilisers and pesticides etc. An encouragement of Boro cultivation, even for small and marginal farmers. Another important factor was the decentralisation of power even at the rural level through its system of three-tier panchayat, ensured more representation of groups that were denied access to political power before like the *bargadars*, landless labourers etc. (Sarkar, 2007, p.1436). These factors combined, no doubt ensured immense rural support and assisted in the rise of power of the CPI-M in West Bengal.

A respondent in Gangasagar I colony proclaimed that initially the government had shown them the Khublat area in Bagecharan line of Sagar Island, as a probable resettlement location. But the people objected and ultimately the current resettlement locations were granted to the resettlers. Public meetings were called by their respective Gram Panchayats and the would be resettlers were made aware about their vulnerable position and likely displacement from their original place and how the process of resettlement would be undertaken. As far as the respondents could recall, there were no objection to this proposal. It appeared as a ray of hope for them in their uncertain circumstances. The households therefore that underwent 'planned' resettlement during this period and resettled in the different colonies have been referred to as 'old planned resettlers' in this thesis. A category of 'new planned resettlers' has also been found

and a detailed description is given in the later sections of this chapter. As such, a large-scale resettlement and rehabilitation programme, probably the first of its kind, was implemented. The resettlement can be lauded as a significant effort undertaken in the context of environment-induced displacement by a state in India, in this case West Bengal. But the question that is dealt with in this section is on whether the resettlement programme had transformed successfully into rehabilitation or not.

The resettlement process was undertaken in phases and Sagar Island was selected as the location for the creation of these resettlement colonies. This could be because of the fact that apart from having a larger land area, all the submerged islands/villages, was and is administratively a part of Sagar Island. The first colony that was created was the Phuldubi Colony and South Haradhanpur Colony in around 1962-64; this was followed by Bankimnagar Colony I around 1970's; Gangasagar Colony I in 1980's and then Jibantala Colony in 1990's. The colonies over time, have been further expanded and sub-divided to accommodate later resettlers specifically the colonies of Bankimnagar (I&II), Gangasagar (I&II) and Jibantala-Kamalpur (I&II). The boundary demarcations between the precedent, antecedent colonies as well as those of host-households may not be visible to the 'outsider', but the villagers as observed during the field work were well aware of the distinction and in every areas that was visited by the researcher, the 'invisible' borders were pointed out. This resettlement sustained till the early 2000's. It was very difficult to ascertain the total number of households displaced and those that were actually resettled in the different phases. The lack of clarity is common for even other causes of displacement in India as seen in Chapter 4 of this thesis.

The colonies that were created were all in government vested land. A respondent in Gangasagar Colony I claimed that the *pattas* (legal titles) for the respective lands in the resettlement colony were handed over to them prior to the actual relocation. Some of the houses resettled much later even after they had received the *pattas*. The titles were granted in the name of the head of the household, mostly the male members. The resettlers were shown their respective houses, lands and the keys for the new houses were given. Many of the respondents in Jibantala Colony I & II claim that they have still not received their *pattas* even in 2021. They have been told the process has been initiated and they would receive their titles soon. Few of the respondents pay the *khajana* (land tax) to the amount of Rs. 60-90/- which they deduct on a one- or two-year basis (as on 2021) to the land office.

The resettlement package provided to the resettlers, lacked parity. The land holdings given to the respondents varied from 1.5 bigha to even 6 bigha per household. Apart from this, the households were also given a one room (10X10ft; for few 7X5ft) *kutcha*[72] house. The houses of course, with time have been renovated and more rooms have been added to accommodate the growing number of members. The house grants also lacked uniformity. The households that received larger landholdings of 3 bigha[73], 4 bigha (one respondent in Jibantala Colony I) and 6 bigha (one in Bankimnagar Colony I) did not receive any house but only the land. The household that received 6 bigha was divided equally amongst the three sons of the household. In case of households that did not receive the already built house, they were later provided with a housing grant of Rs. 1500 through the Indira Awas Yojana (IAY) scheme[74], with which they could erect the pillars and lay the straw roof. A respondent in Gangasagar Colony I opined that about 38% availed such a scheme and not all of them. Bigger landholdings were provided to households that had larger number of members of about 10-16. Interestingly, the respondent who received 4 bighas of land in Jibantala Colony I had only 4 members. But it could be observed that he had stronger ties with the then local ruling party. During the time of resettlement, many of the households disbanded to smaller family sizes of 4-5 members. As the influx of resettlers grew, the package slowly started receding (about 0.75 to 0.50 bigha). The households in Colony II of all the above-mentioned colonies have comparatively lesser landholdings than those of Colony I.

The households bore their own cost for transportation incurred in resettlement. On the day of the resettlement, households individually or in groups hired boats or trawlers to ply them from Lohachara or Ghoramara to Sagar, bringing along with them whatever they could carry in one go. In the initial days, relief materials of food, water, medicines etc had been given to the resettlers, for about 5-6 months through both government and non-government ventures. Depending on the size of land holding (for instance, 1.5 and above), a typical land use pattern of the household was a kutcha house, a pond and the remaining as either vegetable garden or

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[72] The construction material of the house consisted of mud and bamboo with tiled roof.

[73] The researcher came across only three such cases in Gangasagar Colony I & one in Bankimnagar Colony I.

[74] The Rajiv Gandhi Indira Awas Yojana (IAY) is now renamed as the Pradhan Mantri Awas Yojana-Gramin or locally known as PMA-G. This is a rural housing scheme that was launched in 1985 but revamped in 2015-2016. It provides for a pucca house, with a unit size of 25 sq.m., inclusive of basic amenities. Currently, the assistance provided is Rs. 1,20,000 in plain areas and Rs. 1,30,000 in hilly areas/difficult areas/Selected tribal and backward districts. Additional loans can also be availed of upto Rs. 70,000 at 3% interest subsidy

agricultural land. For those less than 1.5 *bigha*, it was only limited to a house and if possible, a pond.

The resettles in their initial days after resettlement had to endure immense adversity. During the field work, one could observe that the lands in which the resettlement colonies were located were on the periphery of the island, therefore closer to the river banks, *khals* or embankments. The respondent reiterated that the land had been completely barren due to the salinity of the soil. Embankments had not been properly constructed in places or had remained breached. A respondent in Gangasagar Colony I professed that the place had been enveloped in dust and at the onset of summer (during the months of April-May), the wind would blow all the dust inside the houses, making it difficult for them to live. They recalled instances of how even during high tides (*jowar*), water would enter their houses. There were no high-rise concrete buildings nor cyclone shelters for them to take refuge during times of cyclones or floods. The severity of the salinity of the soil made it extremely difficult for the respondents to cultivate their lands and so they had to look for alternative livelihoods. The respondents thus, in the initial years after resettlement earned their livelihood as daily wage labourers (agricultural and non-agricultural works), van rickshaw pullers, fishermen or other odd jobs, whatever was available. The savings of most of the households were also dwindling in the new resettled area. It was only after 5-7 years when the natural flushing caused by rainfall, decreased the salinity of the soil, that the households could begin cultivation.

While comparing the facilities that they have received so far in Sagar and that of their original islands, the respondents especially of Ghoramara remarked that their former island had services of school, tubewells, a post office and kutcha roads. Electricity, health centres, paved roads were some of the facilities that had not reached the island (some still non-existing today). Even on arrival in the resettlement colonies, apart from the facilities of few tubewells, the rest of the infrastructure was developed after a lapse of many years. Most of the colonies now have interior narrow paved roads, electricity, tubewells, and are connected to schools, health centres or hospital, banks, colleges (there is only one main government hospital in Rudranagar, Sagar). The households have now transferred all their relevant identity documents and even cast their votes from in their respective resettled gram panchayats.

Living within a colony has become a physical and psychological marker in the lives of the households that distinguishes them from the host-households. However, this does not create any intense forms of discrimination between the host and the resettler. The displacement and

resettlement literature are replete with instances of host-resettler conflict in the new resettled area (Modi, 2004; Morse& Berger, 1992). The experiences of the respondents and host-resettler is varied here. For many resettlers, although in the initial days, the social interaction with the host population was limited but was described as cordial, with no animosity. A woman respondent in Jibantala-Kamalpur Colony I mentions that in the initial period, an apprehension and fear did exist on the psychology of the resettlers of theft and burglary, in their newly settled area. But that was cast away with the passage of time and increasing social interaction. A host settler in Bankimnagar Colony I claimed that their household even provided the resettlers in the early days of resettlement with food and water. In contrast, the experiences for few diverged from the above. A respondent in Gangasagar Colony I, shared an instance of conflict where he was rebuked as an 'outsider' (*bahire lok*) and were termed as dacoits. He had apparently been denied loans by the host population. Another respondent of Jibantala Colony I who was a Muslim shared how their family beside similar others, were deprived to use the commonly shared pond. A representative of an NGO narrated an incident where in a place called Mahendragunj in Sagar, earlier about 30 years back, half of the land which was given to the resettlers was encroached by the nearby host communities. But the resettlers expressed that slowly over time the conflicts between the two groups have now resolved and they have been hopefully integrated into the village community.

Physical relocation did not mean a complete severance of ties with their sending areas. The islanders reminisced their home that has now vanished. The resettlers of Ghoramara still maintain their interactions with those remaining in the island. Most of them still have families and relatives whom they visit occasionally. Even when their paths cross in the common river ghats, they still share a conversation. There are marriages that occur between the residents of the islands as well. The two islands are also linked administratively where Ghoramara island is now a gram panchayat under Sagar Community Development Block (CDB). The latter island happens to be the larger and main market from where the islanders of Ghoramara purchase commodities. There is one main government hospital located in Rudranagar panchayat of Sagar Island, whose services are utilised by the islanders of Ghoramara as well. For the utilisation of infrastructural facilities like administrative offices, schools and colleges, all the people of Ghoramara have to travel to Sagar Island. Only for a few of the respondents, these connections have been severed due to the waning of kinship bonds over time.

It therefore become essential here to enquire whether the planned resettlers of the submerged islands and villages can be termed as Internally Displaced Persons (IDP). The UN Guiding

principles on Internal displacement (2004), defined Internally Displaced Persons (IDP) as those persons who are forced to leave their homes due to causes of armed conflict, violence, natural or human-created disasters and those that have not crossed international borders. The movement of IDPs within national borders distinguishes it from refugees (those crossing international boundaries) and the latter is conferred with some form of protection by international and national statutes. When it comes to policy requirements, the distinction between IDP and Refugees is essential. IDPs also include scenarios where people despite being rendered homeless would live nearby their original areas and that could be either due to personal choice or inability to attain shelter elsewhere. Thereby arousing situations where displaced people may temporarily return to or regularly visit their homes.

However, the guiding principles delivers no stipulations for the length of time that the people should be displaced in order to be eligible to be termed as IDP. Furthermore, the status encompassing their future generations is also disputed. According to the IASC Framework (2010), the status ends when IDPs have yielded a sustainable resolution to their displacement. While interviewing the young members of the households (wherever possible and being present during the field work) they could only reminisce snippets of the memory that had once been a significant life-changing experience for their earlier generations. Thus, should the status of IDP be satisfyingly removed from a population when a considerable length of time has passed? But the point also to be focused here is that the removal of such a status is only accepted provided that the resettlement has been sustainably transformed into rehabilitation. The Guiding Principles and the IASC Framework accentuates the according of voluntary and informed choice of settlement options to IDPs and the full enjoyment of their human rights without differentiation despite displacement (EU & UN, 2018). Even if resettled, the repercussions of displacement can prolong and the risk of re-displacement can also exist. As such it is essential to understand the sustainability of the strategies utilized and how the end of displacement is assessed.

During the 1990's Sociologist Michael Cernea, as a part of being an advisor to the World Bank, formulated an Impoverishment Risks and Reconstruction (IRR) model. The model was initially applied to reviewing the development displacement scenario and the resettlement strategies of projects undertaken by the World Bank. The purpose of this model was to aid not just in the prediction of probable risks but also in providing an effective course of action for comprehensive and integrated resettlement practices. This would in turn allow for the reversals of the risks of displacement so that sustainable approaches for rehabilitation are developed.

Based on this model the numerous risks of displacement are interrelated and dependent on each other. This model therefore assists in substantiating the risks at both the macro and micro context through targeted risk reversal or mitigation (Cernea, 1995) Displacement is susceptible to certain socioeconomic risks. But if these risks are not effectively counteracted then that could result in real impoverishment disasters and could have detrimental impact on not just the displaced but also the local setting.

This probability of the risk of impoverishment is high if all of the variables of risks of displacement are not reversed during the process of resettlement and rehabilitation. The risks of displacement as identified by Cernea (2002) are (i) Landlessness –uprooting of people from their land, the essential asset on which the lives and livelihood of the people are based upon. Land and alternative livelihood if not reinstated could result in the risk of landlessness. (ii) Joblessness – loss of employment and protracted period for developing new opportunities. (iii) Homelessness – loss of a house and home. (iv) Marginalization – economic, social or psychological dimensions. (v) Food insecurity –risk of undernourishment impacting morbidity and mortality rates. (vi) Increased morbidity and mortality – numerous health issues of varied categories of displaced population. (vii) Loss of access to both natural and artificially created common property resources (CPR). (viii) Community disarticulation – fragmentation of the community through displacement.

Few studies have been done on the analysis of the implementation of this planned resettlement (Harms, 2013; Chakma, 2014; Mukherjee, 2014; Harms, 2015; Haldar et al., 2021). The risks of displacement in the IRR model are therefore assessed here with the resettlement process of the planned resettlers, in order to assess the transformation towards rehabilitation. In studies on resettlement and rehabilitation (R&R), the two concepts have always been used in concurrence with each other, sometimes even synonymously. This thesis perceives a difference between the two concepts of resettlement and rehabilitation. Resettlement here is referred to the process of physical relocation of displaced population. Execution of resettlement programmes entails some form of packages where resources are promised or provided to the resettlers or even the project (like development) affected people. This may be in the form of monetary compensation, physical assets like land, houses, schools, medical and drinking water facilities amongst others. A faulty resettlement planning can produce negative circumstances on the community resettled or the even the overall local setting.

Rehabilitation on the other hand, is perceived as having an impact that extends beyond resettlement. Rehabilitation occurs when the resettlement has produced holistic positive results as much as possible, not just at the physical level but also economically, socially and culturally. Resettlement therefore comprises the process of settling the displaced population in a new area. Rehabilitation on the other hand incorporates the restoration of such resettled population to their former state or even better. This process of transformation from resettlement to rehabilitation is no doubt extremely difficult and cannot be produced without meticulous planning and management. The issue of resettlement and rehabilitation has always been marred by controversy in the case of India. It is thus imperative that resettlement transcends the simple relocation of people but towards incessant balancing of innate risks of displacement with principal counter risks measures (Cernea, 2006).

It is to be noted that neither the national nor the state Disaster Management (DM) Act, Plans or Policies had been formulated at the time when this planned resettlement was being undertaken. The major legal undertaking relevant to internal displacement during this period was only the national Land Acquisition Act of 1894 and the Indian Independence (Adaptation of Central Acts and Ordinances) Order of 1948, mainly catering to development projects. However, the planned resettlement, did not entail any acquisition of private land as the resettlement colonies were all created in government vested land. Moreover, both of the above mentioned Acts and Order did not provide anything for land-to-land resettlement but only monetary compensation.

The first risk involves landlessness- in the case of the old planned resettlers the resettlement package provided land to those displaced. According to Cernea (2008), resettlement involving land to land has a greater probability for success and therefore sustainability than monetary compensation. Nevertheless, this should be in addition to facilitation of technical assistance and complimentary social policy strategies (Cernea, 2008). In the context of the IRR model, the resettlement can then been viewed as advantageous for those who were originally landless (7 households) or had landholdings that were less than 1 bigha, as the package included land between an average of 1-2.5 bigha. But for the rest of the respondents, whose former landholdings ranged higher, it was a setback. The resettlers who relocated later had to settle for diminished land holdings. Usually in cases of land-to-land compensation, the losing of an abode is prioritised over other important uses of land. Land, particularly in the rural area is not just a means of livelihood but an identity in itself. The land, its fertility, the community bonding back in their original place was something that was reiterated by the elderly respondents and

something that they reminisced about. The complexity of the situation arises due the resettlement land being vested land, where the state has full authority on the decision to give or take away that land. The lack of rightful ownership was stated to be a pertinent problem in the both the colonies of Jibantala and the researcher was told that this was something which has been promised to them by the government and the process has only been initiated in 2020-21. Although, instances of purchase and leasing of land has been observed, but proceeded under covers and so a trend that is not openly mentioned.

The second risk is that of joblessness. This is linked with the first risk of landlessness. Land is an essential element on which the livelihood of the people of Sagar Island is contingent upon. As such, the loss of livelihood due to displacement does not just involve losing work but the affected people are forced to transform to an alternative living. In instances of resettlement and rehabilitation implementation, the loss of employment and the lack of alternatives pushes the oustees towards impoverishment. In this study, the resettlers on their arrival in the new resettlement had to face the brunt of lack of employment due to the deplorable condition of the cultivable land. They had to wait for a considerable period of time to finally cultivate their land effectively. Previously the resettlers had to deal with a similar problem of loss of livelihood in their origin area due to debilitating natural hazards. Resettling in the colony did not actually benefit them and they were now engaged in pursuing alternative livelihood like daily wage labourer, fishing, (voluntary) labour migration etc. Thus, people were facing a loss of income and depletion of their savings and dearth of means to sufficiently replenish it.

Most of the households later took the opportunity of a national scheme for employment generation namely, Mahatma Gandhi National Rural Employment Guarantee Act/scheme (MGNREGA[75]). This act enacted in 2005, guarantees 100 days of wage work in a financial year, to every rural household based on its adult members, of mainly unskilled manual work. The funds for this act are provided on a 75:25 centre/state basis. In a rural area, the works are planned and executed by the Gram Panchayat and the Panchayat Samiti. The MGNREGA work that the resettled households could be employed relied upon the availability of the work in their own *gram* (village) or local area. The repair and maintenance of embankment has also now

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[75]The MGNREG Act was enacted in 2005, that guarantees 100 days of wage work in a financial year, to every rural household based on its adult members, of mainly unskilled manual work. The funds for this act is provided on a 75:25 centre/state basis. The works are planned and executed through grassroot level participation, by the Gram Panchayat and the Panchayat Samiti in a rural area. For MGNREGA activities, each state has an allotted per day wage rate, that is subject to change. For MGNREGA activities, each state has an allotted per day wage rate, that is subject to change. According to the Ministry of Rural Development-Government of India website (2022), at present, the state of West Bengal has a wage rate of Rs. 213, per day

become a dedicated MGNREGA work, which the resettler households avail it whensoever possible. But the households did mention issues in its functioning like lack of available jobs in the village, discrepancy in wages and untimely payments.

The third risk involves homelessness. It is no doubt that all the respondents confronted the loss of their house. But analysis of this is not just curtailed to the house in a physical sense but also a socio-cultural one, the loss of a home. This homelessness, if it perseveres, produces alienation and status deprivation of the household (Cernea, 2002 & 2008). The provision of a one room house in the resettlement colony was not uniform. The respondents that received larger landholdings were not provided with a any house, unlike the rest. There was also a respondent who received only 1.5 bigha but was deprived of a house. As for those who received it, the one room house was common for all, despite the size of the household. The respondents had to re-construct the house once they started living in the resettlement colonies. There were two respondents who had later received monetary compensation from a government scheme to build their house[76]. Till then, they lived in temporary shelters.

Marginalization forms the fourth risk of displacement. This occurs across multiple dimensions – economic, social, psychological. Prior to displacement, the resettlers were already dealing with loss of economic stability due to the loss of land, impacting their livelihood. The deficiency of alternatives that catered to their existing skills, further heightened the situation. The households furthermore had to incur the costs of their own resettlement. On their arrival in the resettlement area, the issue of livelihood was aggravated and as a result, the households had to rely on their own savings or take up loans. This economic marginalisation then interacts with other dimensions. A respondent of Gangasagar Colony I pronounced the decline of his social stature, where he felt like his life could be compared to a movie, where once he was a zamindar but now a daily wage worker. This further enhances a feeling of helplessness and lack of confidence in society, something that was pointed by the respondents. Marginalization also influences the host-resettler relationship in an adverse manner. A respondent of Gangasagar Colony I remark of being called a *bahirer lok* (outsider) and accused of being dacoits is relevant here. Another respondent of Jibantala Colony I shared the experience of how his family along with other Muslim families were denied access to the common pond. Although the differences between the host and the resettler have eased with time, a kind of a

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[76] Indira Awas Yojana (IAY).

psychological marker does exist between the ones who live within the colony and the ones who do not.

The fifth risk incurred is food insecurity. This is also directly interrelated with risks of landlessness and joblessness. Agriculture, a primary means of livelihood of the resettlers, was impossible to undertake in the resettlement colony for a substantially lengthier period. Although there were no cases of mortality reported as such, but the people did face crisis of food security, at least during the initial period of their resettlement. Few of the respondents were provided with relief by government and non-government organisations for at about 3-4 months. Even the host population (as mentioned in Jibantala and Bankimnagar colonies) would welcome the newly arrived resettlers to their home for a meal.

Instances of the sixth risk of increased morbidity and mortality was one of the variables that could not be ascertained in this context. The loss of access to CPR is the seventh risk of displacement. The CPR can be in both natural or artificially created forms. Suparibhanga island served as a common property resource (CPR) in the form of grazing land for the resettlers, specifically those of Lohachara. For the households that were dependent on it, the matter was distressing, as grazing grounds were already scarce in their own original home island. In India, the dependency of the rural poor and particularly the landless on CPR is extremely high (Jodha. 1985; Beck & Ghosh, 2000). This relationship is not just based on economic needs but also socio-cultural. Even in the case of any other forms of displacement, the loss of CPR is neglected and never compensated. In the case of artificially created CPR like schools, hospitals, cyclone shelters etc, they are often promised, but not fulfilled (Cernea, 2002 & 2008). The respondents in this study only emphasized the packages received by their respective households. The CPR-whether natural or artificial, can be observed as something that was evaded under the ambit of this package. Apart from the provision of drinking water tubewells in the resettled area, the other artificial CPR infrastructure was either developed after several years of resettlement or the resettlers had to utilise the already existing ones, meant for even the host population, creating pressure and conflict amongst the users.

The final risk involves community disarticulation. Displacement be it any cause, results in the disintegration of the community. This element although important is usually ignored by the developers, involved in implementing the resettlement process. This dislodgement influences not just social but also the physical, natural and human capital as well. The social capital of the people established in social organization, interpersonal ties, kinship groups, informal networks,

voluntary associations are all fragmented (Cernea, 2002 & 2008). When the resettlement was conducted, the respondents did not have a choice of neighbours. Despite belonging to the same origin island, the present neighbours may not be the ones, they earlier lived next to. Many of them had to leave their kinship groups behind in their original place and visits them occasionally. All the families have been dispersed within or in other colonies. Cernea (2002) opines that the process of reconstruction of social capital is formidable when, resettlement disperses families.

Many decades have passed since the resettlement. The researcher came across very few resettlers who had been in their youth or middle age when they resettled (like between the age-group of 20-40 years). The ones, which the respondent were the only ones who could retell the story of how and when did the crisis of displacement began, the strategies that they took prior to such displacement and the initial phases of resettlement. But the narrators were rather ambiguous in their time-line and the researcher had to cross-check it through several respondent accounts and secondary sources. Those who had been either a teenager or much younger (second generation resettlers), were rather vague in their accounts, as they either could not recall the events or had heard stories about it from the older (first) generation resettlers. During the interviews with such respondents, the researcher was recommended to locate elderly resettlers who could give a more vivid portrayal of the events, as they were unsure of the details. Then for those who had not been born during this resettlement (third generation resettlers) had heard or read about the lost islands and villages either in their schools, when they had lessons on the history of Sagar Island and the Indian Sundarbans or through social media. The memories of their place of origin are slowly receding away, conceding to newer challenges in the resettled area. Their residences might have changed but their problems remained the same. The irony of the resettlement status quo is that Sagar Island itself is facing severe coastal erosion (Bandhopadhyay, 2000; Gopinath & Seralathan, 2005; Hazra et al., 2002; Kumar et al., 2001; Purkait, 2008; Roy Chowdhury & Sen, 2015).

5.4 Case of the 'New planned' resettlers

Evidences of 'new planned' resettlement were brought to light during the field work in 2021-2022. In this study, three mouzas of Sagar Island were identified, which possessed a spurt of new colonies that have resettled displaced households viz., Beguakhali (05 respondents-2 old; 3 new), Gangasagar (04 respondents) and Bankimnagar (03 respondents). The areas were locally referred to as 'New colonies'. These are areas that have been observed to be erosion-

prone and which have also been corroborated by the study of Bera et al. (2022). The reason why this category has been termed as 'new planned' is because the resettlement occurred between the period 2010-2021. Here attempt would be made to compare the 'old' and 'new' planned resettlement practices. These new resettlement colonies have been analysed in the chronology of their resettlement.

In 2009, when Cyclone Aila ravaged the island region, the Mouza of Beguakhali also felt its brunt. The embankment in the area was severely breached. The researcher had visited the exact location for the pilot study, back in February 2016. During that time the process of construction of the post-Aila new embankment had just been initiated. There were few houses located in between the old breached embankment and the new one. The houses falling in-between were living in a state of uncertainty. The respondents that were interviewed at that time asserted that they had been witness to the incessant erosion that had taken away much of their land, leaving behind only the homestead, or a pond or few *bigha* of agricultural field. Aila had further aggravated their pre-existing crisis. Their agricultural land was declining at a rapid pace. A respondent living in such a position, recounted her experience during instances of high tide. The woman lived with her son but who during the interview was out for work in the village. When the *jowar* (high tide) would rush inside her house, she would wait on top of raised furniture like a bed. In case the water level was not too high, they would lay down bricks on the floor, so that they can walk in and around the house and carry on with their activities. After a span of few hours when the water would recede, they would then clean the house of the saline mud and debris left behind. This was something that such households faced almost on a daily basis. In certain households, the plinth of the house was also raised so that it prevents waterlogging. This prolonged period of inundation and increasing salinity of soil would put a damper on their agricultural production. As there were lack of opportunities for employment in the area of the island, it resulted in households resorting to alternatives like fishing or undertaking voluntary migration to Kolkata or even outside West Bengal[77]. This gradual receding of the shoreline due to erosion, led to a continual retreat of houses towards the interiors.

 With such unreliable embankments and severe erosion over a prolonged period of time, the households ultimately had to lose their home and land. Sometime around 2010-2011,

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[77] Those with resources may even pursue migration outside of the country especially to Middle east nations. However, this was information passed by the respondents and the researcher did not come across any such migrants

resettlement was initiated by the then majority party in the state and local government (CPI-M). The representative of the Department of Land Records informed that the Panchayat Samiti had taken the onus of this resettlement. A resettlement colony was created for the displaced households of Beguakhali mouza within the mouza itself, just a few kilometres away from their original homesteads, and now standing adjacent to the new concrete embankment. This here is locally referred to as the 'purono colony' (old colony[78]). About 60 bigha of vested land was to be allotted for the resettlement. During the pilot work in 2016, the researcher had no information of such resettlement. In 2021, when the researcher visited the location again, a member of a Booth Committee[79] of Beguakhali (locally known as Booth Committee), escorted the researcher to the houses of the resettled. The visit it seemed was only possible as the Committee member who acted as a guide had misunderstood that the researcher had been sent from Nabanna (houses the State Secretariat of West Bengal). This was probably because the researcher's field work there coincided with the visit of the Chief Minister of the state later in that area. Mortreux et al. (2018) in their study had observed an absence of government action in the area. However, new cases of planned resettlement, was brought to light in this study.

Respondents of households in the 'old colony' claimed that they had received about 1-1.5 bigha of land. The *purono* colony had about 12 houses which comprised of people who earlier lived nearby and even closer to the light house (about 1-2 kms away). Money was provided through the Gitanjali scheme[80] for construction of (kutcha) houses. There is a disparity in the compensation amount provided. A representative of the Department of Land Records, Government of West Bengal asserted that Rs. 90,000 had been provided per household for the construction of houses. The member of the Booth Committee remarked that Rs. 1-2 lakhs had been provided for the house and the assets lost, through the scheme. But these benefits were not received in parity. This resettlement package could be availed by only the original

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[78] This is not to be confused with the 'old colonies' as mentioned in the earlier section 5.4. The colonies in Beguakhali, although all form part of new planned resettlement colonies can be divided between old and new colony. The old colony was developed in around 2010-2011 and the new colony was after 2015-2016.

[79] In order to augment grassroot level participation during election, the Election Commission introduced a system of Booth-level committees. These committees working through Booth-level agents are supposed to assist the Booth-level Officer (BLO). These are bodies created for specific polling stations by recognised political parties.

[80] Gitanjali Housing scheme or Awas Yojana, is specific to the state of West Bengal, recreated and modified in the form of national Prime Minister Awas Yojana-Gramin (PMA-G) in May 2014. This scheme provides for construction of subsidised residential houses for economically weaker sections of the people.

landowners and not tenant farmers. The loss of agricultural land resulted in households resorting to alternative livelihood of fishing.

The year 2011, witnessed the coming of a new political party into power – the Trinamool Congress (TMC). The change in government in 2011 brought conflict among the party members of the aforementioned Booth-level Committee. As such the resettlement could not be executed further due to these internal issues. The new concrete embankment was started in 2016 and completed around 2019-20. As land was scarce, the TMC party-led-government through the Panchayat, divided the earlier 1 bigha allotment into subsequent halves to the new resettlers. This colony created has been termed as *notun* (new) colony. The distance between the old and the new colony is only a few meter. It was observed that the households in the old colony have further relocated inland in the new colony or towards the interior areas of Sagar. The researcher observed only 05 or less houses remaining in the old colony. The households could move depending on the generation of assets over time. In the 'new colony', the resettlement package included allocation of land ranging from 6 to 9-10 *katha* ($0.3 - 0.5$ *bigha*) of land. This was supplemented by the government scheme of Rs. 1,30,000 per household through the PMA-G[81], for a one or two room house construction. However, none of the households claim that they have received the amount in full. In that land allotted, the household in the 'new colony' has a house, a small patch of land for a kitchen garden and may or may not have a pond. A respondent remarked that this resettlement had a political angle to it. Only those households that favored the ruling party (either CPM in 2010-2011 or TMC after 2011), received land either in the new resettlement colonies or in the interiors. While the rest had to fend for themselves.

In both the old and new colonies, the resettlers were not provided with any *pattas*. However, they do have all the necessary identity cards like voter card, Aadhar card etc that attest them to be residents of the area. They can avail the benefits of government scheme like PMA-G, Mahatma Gandhi National Rural Employment Guarantee Act/Scheme (MGNREGA), rations etc. As these two colonies are extremely close to the embankment and therefore the shoreline, the soil over the years has become extremely saline. As one walks along the colonies, one can

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[81] The Rajiv Gandhi Indira Awas Yojana (IAY) is now renamed as the Pradhan Mantri Awas Yojana-Gramin or locally known as PMA-G. This is a rural housing scheme that was launched in 1985 but revamped in 2015-2016. It provides for a pucca house, with a unit size of 25 sq.m., inclusive of basic amenities. Currently, the assistance provided is Rs. 1,20,000 in plain areas and Rs. 1,30,000 in hilly areas/difficult areas/Selected tribal and backward districts. Additional loans can also be availed of upto Rs. 70,000 at 3% interest subsidy

see land that has been abandoned or left fallow. Their main source of living now has become fishing (usually carried out by men), prawn seed collection (by women) and selling dry-fish (*shukti*). The households that are able to accumulate resources are choosing to move to the interior of the island.

The second instance of new planned resettlement was found in Gangasagar mouza. This colony is locally known as the Gangasagar new colony. There were 04 households that were interviewed and the year of resettlement for three (03) households ranged between 2015-2016, while one (01) household resettled after Cyclone Yaas in 2021. Those three households that were resettled in 2015-2016, hailed from Boatkhali-Dhablat mouza in Sagar (about 5.3 kms from the colony). The one household that resettled in 2021, earlier lived about 1.5 km away from the present colony. The Gangasagar new colony has come up just next to a *khal*. At the time when the researcher visited the area, the earthen embankment separating the household from the *khal* was partially completed. Work for repairing the Yaas damaged embankment, was still underway.

Out of the 04 respondents, two were already landless and used to work as agricultural labourers in other's field. The other two respondents had land holdings ranging from 12-22 bigha. But with the passage of time and severity of the onslaught of hazards, they had been losing land at a rapid pace. By the time of resettlement in 2015-2016, they had lost their land completely. One of the respondents, proclaimed that they had lost everything during Aila in 2009. Many households who were landless were living on the inland roads. The respondent along with the other households had to resort the help of the local political party in power (TMC). Finally, after a long wait, the party members decided on resettling them. Regarding the resettlement package, two households received 5 *satak* (0.15 bigha), while the other two about 3 *satak* (0.09 bigha), of the government vested land. This package included only land. The house was constructed later through the funds from the PMA-G package. All the respondent-households have received their *pattas*. Only one household had a pond in their resettled land.

Small patches of kitchen garden could be observed, but lacking any large agricultural land. As a result, the households have resorted to various means of earning their livelihood. All of the respondents, irrespective of gender, earned their living by collecting *meen* (prawn seed), which had become their main source of living[82], due to their proximity to the river or khal source and

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[82] This does not imply that agriculture was not practiced in the village.

also with less agricultural land. The households also avail the MGNREGA work. The MGNREGA work that the resettled households could be employed in of course, depends on the availability of the work in their local area or village. As embankment repair and maintenance has also become a part of the MGNREGA work, the resettler households' avail it whenever possible or available. During Gangasagar mela, as this colony is nearby the location where the event is held, the resettler households are employed as *Safaikarmis* (cleaners), through the MGNREGA scheme. Recently, all of the respondent-households, has one male member (husband or son) who have voluntarily migrated for work outside of the state but within India – three in Kerala as daily wage labourer and one in Indore as a tailor. For one of the respondent-household, the situation was grim. For the last 10-12 years, the husband of the respondent had been suffering from severe spondylitis and was thus unable to earn a living. Despite visiting numerous doctors in Kolkata as well as in Bangalore, no concrete treatment could be found. Presently, the ailment has become more severe. He take up odd jobs around the house, while the respondent (wife) earns the livelihood by catching prawns in the *khal* or through MGNREGA work. Due to the father's ailment, the son had to drop out of school (studied only till class 8) and migrate to Kerala to work as a daily labourer.

The last instance of new planned Resettlement was observed in Bankimnagar mouza. Compared to the other two mentioned above, this is the most recent one that has sprung up. This resettlement colony has emerged on the banks of a *khal*. This colony has lesser number of households in comparison to the aforementioned colonies of Beguakhali and Gangasagar. According to a local resident (host-population), there are only 4-5 households that have been made to resettle here. This colony is at a distance of 1.5 km away from the earlier old resettlement colonies of Bankimnagar I & II. Out of the four (04) households that were interviewed, two were resettled just one month prior to Yaas in 2021; while the other two were after Yaas. Three (03) of the households hailed from Bankimnagar itself, while one (01) from nearby Kamalpur mouza. A respondent who came before Yaas from the northern side of Bankimnagar, recalled the breaching of the embankment in 2016 and commencement of erosion. The government tried to repair the embankment but by 2020, not much progress could be seen. In 2021, a tender was passed for 1500 metre embankment repairment and the project was supposed to be completed, in 2022, bearing a cost of almost Rs. 20 crores. This respondent, along with many others had to relinquish their land for the embankment reconstruction.

Three of the households were landless prior to their resettlement, while one of the households who had to surrender their land for embankment reconstruction, earlier owned about 4.84 bigha. This latter respondent-household claimed that their landholding had over the years decreased due to erosion and ultimately had to forego it when the embankment was constructed. The father of the household had a profound psychological impact, when he was losing his landholding due to both natural and anthropogenic factors (construction of embankment).The household were farmers, cultivating in their own field, growing paddy and different vegetables for self-consumption as well as the local market. Out of the three landless houses, one of them had leased about 0.5 bigha land where they cultivated *paan* (betel leaves). But the productivity of the soil had deteriorated due to the increasing salinity of the soil. The other two worked as daily agricultural or wage workers in their area, who described their state as living 'from hand to mouth'.

This resettlement was also executed through the panchayat. But the households had to resort to political party connections to get the resettled land. The resettlement package varied in terms of land ranging from 3 *katha* (0.25 *bigha*) to 50 *katha* (1.5 *bigha*). The 1.5 bigha was received by the household who had to yield their land for embankment reconstruction. None of the respondents had received any *pattas* for their land and they had not yet changed the address of their identity cards as well. As the respondent-households did not have any land for cultivation, they have now turned to daily wage work as their main source of livelihood. Three of the household had sons who recently (in 2022) migrated to Kerala as daily wage labourers. Only one household who received the 1.5 bigha of land had opened a tea shop.

As the land was by the inland kutcha roadside, the household believed that the tea shop would attract more customers. The son of the household (aged 26), is unmarried and without a job and helps around in the shop. This shop serves a dual purpose of dwelling and of economy. Being shopkeepers was not their original means of livelihood, but had been forced to resort to it. They explained that the household had earlier been granted a land which was farther away from where they are currently located. The respondent, however had objections which he had voiced it out to the Member of the Legislative Assembly (MLA) of Sagar. The respondent had threatened that had the household not surrendered their land for the embankment reconstruction or if they had filed a petition in the court for the land acquired, it would have been troublesome for the MLA. The respondent had further questioned on how they would earn a living if they

were resettled in the interior and not by the roadside. Thus, finally the panchayat had granted them the present resettled land.

This shop was relatively new and constructed in January of 2022, about seven months after their resettlement. For now, he had only been able to build the house and so the remaining land was lying fallow. The cost for building the shop, was appropriated through various measures such as salvaging the debris of bigger wood planks and poles floating in the river, when the houses were washed away. The respondent had to wade for many hours in the water and accumulate it. As for the other costs like the remaining wood, tin for roof, ropes and wares that would be sold in the shop etc were either bought from small donation received from kin and from a loan of Rs. 5000, which he availed from his *Kishan* Credit group.

The new planned resettlement practices can be once again analysed through selected components of IRR. With respect to the first dimension of landlessness, out of the total respondents, half of the respondents (06) were landless prior to resettlement; the remaining half owned landholdings ranging roughly from 4 bigha to 20 bigha. So, in the case of land, every household was provided with land despite the varying sizes. The colonies that have been formed are all either next to the river or the *khal*. One household of Gangasagar new colony proclaimed that had they been provided even an extra piece of land, they would have been able to cultivate something and earn their living. But the land granted to them was too miniscule. He further remarked that as he did not have any land of his own and was a tenant under a zamindar, there was no profit in continuing that practice as it incurred more expenses. Since there were no remunerative works available in their area or Sundarbans, he was planning to send his grandson (aged 17) to Kerala where his son-in-law (father of the child) was working as a daily wage labourer.

In case of homelessness, the respondent-households in Gangasagar new and Beguakhali colony received money for house construction to the amount ranging from Rs. 90,000 to Rs. 1,20,000. None of the houses in Bankimnagar colony had received any fund nor a house, as a part of their resettlement package. The sense of home had been fragmented, for a respondent in Gangasagar new colony, who during the interview broke down, to remark that this had affected his wife psychologically, who passed away about 3 years ago. Land was scarce and made available only for constructing a house, where even a pond or kitchen garden could be viewed as an opulence, agriculture, which was the main source of livelihood of households could not be indulged in. Due to this joblessness, in the resettled area, household either turned to fishing, while others

earned their livelihood as daily wage labourers, availing MGNREGA works (mainly in Gangasagar), migrating to other states in India for work and engaging in non-farm activity (shopkeeper). These alternatives could not really uplift the household from the earlier position and pushed them towards marginalisation. The withholding of *pattas* to many of the households denied them a level of security. As the land was vested and so a respondent was apprehensive that they would lose it once again if acquisition for embankment occurs. The respondent-households in Beguakhali had exclaimed that even the compensation for house construction had not been given to them in full.

Common Property Resource (CPR) of both natural and artificial type was not emphasised in the resettlement package. The resources as a result had to be shared with the host-population. A respondent of Gangasagar colony voiced the lack of grazing ground for their few domesticated animals. As for the host-resettler interaction, none of the households opined that they had faced any conflict. Respondents in Gangasagar new colony, remarked that the area that they have been resettled mostly consist of Muslim host-households. But the people here were extremely supportive. There is cordiality between the Hindu-Muslim residents, which is more pronounced during their respective religious festivals. Exchange of food between Hindu-Muslim households is welcomed during these events. Thus, they live amicably and even have no conflict in terms of government-oriented livelihood generation like the MGNREGA, where households of different socio-cultural characteristics have to work together. With regard to the last factor of community disarticulation, the households were resettled haphazardly, based on availability of land and the former community of the households have been dispersed.

Apart from Amphan, the year 2020, also ushered in the crisis of Coronavirus disease or infamously known as Covid-19. This resulted a pandemic situation and led to a complete lockdown in 2020, that was partially reduced but in phases and ultimately ended in the beginning of 2022. The researcher would not like to detail the scenario that ensued during the pandemic. But a brief mention has to be made when considering the new planned resettlers and the plight that they had to face, as they undertook the resettlement process during the lockdown. A new resettled respondent, a mother of a 6-year-old boy, explained her crisis during the lockdown of 2020 and the impact that it had on her child's education. The child studies in Class UKG in a private school in Boatkhali-Dhablat. This is about 20-25 minutes by vehicle. The mother has arranged for a carpool system (a motor van) that plies him back and forth from school to home. The choice of sending the son to such a far-off location was because she feared that the child was having disciplinary issues and the closing down of the school was hampering

her son's education. The school had reopened after the initial lockdown of 2020, while the government schools in her present area were still closed. As her husband is a migrant in Kerala and as she now lives alone with her son, it has become difficult to manage the house. The child also goes for private tuitions in the evening which is located about 15-20 mins from the colony. This dearth of good schools in the resettled area and the necessity of private tuitions is creating additional burden on the mother.

A comparison between the old colonies mentioned in section 5.3 and the new colonies in section 5.4, becomes imperative to comprehend the 'planned' resettlement process. Beginning with the variances, it was observed that the old planned resettled colonies catered to an inter-island displaced population, although part of the same administrative division. On the other hand, all the (12) households interviewed in the new planned resettlement colonies were from within the island (intra-island) itself. The new colonies have residents belonging to either the same Mouza or village. A respondent of Gangasagar new colony remarked that there were few households that had resettled from other island like Mousuni and even nearby port city of Haldia (East Midnapore/Medinipur). But this feature was pointed out only in the case of Gangasagar new colony and not in the others. The researcher also could not come across any such households during the field work. The second difference is with regard to the resettlement packages. For the old resettlers, the package that they were granted was comparatively better than that received by the new resettlers. The land size was bigger and in almost all cases, an already constructed house as well, with a pond and a few stretches of agricultural land. As for the new resettlers, the land size was extremely small, sufficient for constructing only a house for many and few with a pond or kitchen garden. The lessening of land-to-land compensation, could be due to the unavailability of land or as Mortreux et al. (2018, p.128) pointed out, the declining economic spending of the state itself.

Considering the similarities of the resettlement programmes, in both the old and the new resettlement circumstances, the process was undertaken by the government led by the political parties in power, through the panchayat. The party in power may have changed hands from CPI-M to TMC, but the internal workings of the programme remained more or less the same. The 'planned' nature of resettlement in both the cases, ironically unveils the failure of planning. Many of the households had been victims of land loss (either their own or leased) due to severe erosion along with other natural hazards. By the time they were resettled, they had become either landless and living on inland roads or were barely surviving. The size of the land holding

depended on vacant vested land and most of the land are located in vulnerable peripheral areas, which is closer to the embankment, river or *khal*. Ironically, apart from the initial discussion of the choice of resettled land, the people had no other role in the decision-making of their own resettlement process. The infrastructural facilities (sanitation, tube well, shelters from natural hazards, roads) provided in the two cases of relocation were neglected, inadequate and also creating pressure on the existing ones, on which even the host-population depend upon.

There can be no hierarchy of devastation when it comes to cyclones, but for the respondents Aila of 2009 was a horrifying nightmare. With the repercussions of Aila still hovering unresolved in the region, the study takes into context two devastating cyclones that befell on the island- Cyclone Amphan (2020) and Yaas (2021). In May 2020, Cyclone Amphan made landfall over the West Bengal coast at 2:30 pm. The respondents iterate that as it occurred during the daytime, there was almost minuscule death rate. This was in addition to timely warnings from the various government and local organizations, as well as timely evacuation of the population to high-rise buildings (school or cyclone shelters wherever possible). The devastation to the private and public property was however high. The households did not even have the time to recuperate from such an impact when immediately a year later in the same month of 2021, Cyclone Yaas occurred.

The cyclone made landfall at 9:00 am over the Odisha-West Bengal coast with a windspeed of 140-155 kmph (Nandi, 2021). The onset of the cyclone was announced via loudspeakers, radios, mobile phones, and social media apps. Preparations for evacuations were made, specifically those living near the embankments or the peripheries. This was undertaken by the state and local government, engaging the local youth clubs to join in this process of warning. Arrangements were made in the nearby high-rise concrete structures like cyclone shelters, schools and even some *ashram* buildings, to provide shelter to the villagers from the oncoming hazard. The households could only carry few belongings with them like clothes, food, money, jewellery, important legal documents, schoolbooks etc. Hundreds of families were herded together in these shelters, with hastily prepared lodging facilities and provision of other basic amenities.

The respondents lamented of having limited provision of food, water, medicines, bathrooms and clothing in these shelters. The cyclone, accompanied by the torrential downpour, forceful winds and intrusion of water through breached embankments, naturally curtailed the movement of people and it took almost 3-4 months for the water to completely recede (Photograph.3).

When the families could finally return home, they had a tough time in dealing with the horrors that was in store for them. In some of the houses, water was still waist-deep and had not receded. The household members had to proceed with the laborious task of cleaning the muddy sludge that the hazard had left behind in their now water-drained houses. Most of the families reported cases of a large number of livestock deaths due to their inability to take them along in the shelters, enveloped by the stench and sight of dead carcasses wading in the agricultural fields. Children too underwent a crisis of the loss of school supplies like books and uniform.

The Non-governmental organizations (NGOs) working in and around Sagar Island were fairly active in the immediate aftermath of both the cyclonic events. They provided the families/households with relief and aid in the form of food, drinking water, clothes, medicines, diapers, sanitary napkins, children dietary supplements etc. Relief would also be sent by independent donors, Missionary Ashrams, to the Panchayat offices, from where it would be distributed to the households. It was months later, that the State and the Central government intervened to provide those affected families with certain monetary compensation package. Those with total loss (*Purno khati*) would be given an amount of Rs. 20, 000, those with partial loss (*Angshik khati*), an amount of Rs. 5000. The loss of Pan vines (*pan boroj*) was Rs. 4,000. However, these compensation packages lacks equity in distribution. These cyclones working in tandem with other natural hazards, affects the traditional primary mode of living. The dearth of alternative livelihoods have forced the members and sometimes even entire households to migrate to the nearby metropolis of Kolkata or outside the state and even crossing international borders. About 08 of the old resettler respondent-households mentioned that at least one male member from their respective household have migrated for work. Such instances of voluntary migration are replete in almost each and every household in the colonies. A detailed description of such voluntary migration is provided in Chapter 4 & 6 of this thesis. During the field work, the researcher could also observe that many of the resettled households of Bankimnagar colony I had deserted their land and moved away. A few of them had leased their land for pisciculture (mainly prawn).

Vulnerability denotes the social, economic, and political considerations in which peoples' everyday lives are entrenched upon and which influences their ability to foresee, cope with, and recuperate from the effect of a natural hazard (Bolin and Stanford, 1998; Wisner et al., 2004). This vulnerability to a natural hazard is an important factor in the consideration of a natural disaster (ADRC, 2005). In any event of natural hazard, the inequality of distribution and access to the economic, political, and cultural means of production would involve unequal

social construction of reality (Mouzelis, 1993; Wisner, 1993). Thereby producing differential impacts (Juran, 2012). So, it is this vulnerability of a population that interacts with the natural hazard and produces a disaster.

The respondents had pointed out that not all the households that were threatened by displacement undertook this process of planned resettlement. The households that could accumulate resources were able to resettle themselves on their own, in the stable part of the Indian Sundarbans or even nearby Kolkata. Those who could not, had no other option but to accept the planned resettlement. The three main constituents of vulnerability as laid down by Wisner (1993) was prevalent amongst the resettlers - Livelihood vulnerability (Wisner, 1993) in the form of loss of land and productivity, due to erosion and salinity of the soil; the lack of provision for good alternatives; the inability of households to generate skills. The people further lacked measures for self and social protection. The respondents that undertook planned resettlement were at the lower end of the socio-economic hierarchy and lacked the resources to deal with the hazard scenario. The region's specific geographical, historical, political environment and state functioning does influence the vulnerability of the people. The households that were located at the periphery of the submerged islands and villages were the ones that had to deal with the crisis, than those in the interior. The historical outcome of the colonial period – the settlement systems, even though abolished after Independence, still retained its socio-economic and cultural repercussions in the form of landless labourers, sharecroppers and tenant farmers. The respondents belonging to these categories were more vulnerable to the hazards entailing displacement. It was seen that those households that showed allegiance to a certain political party (usually the one in power) was favoured in cases of resettlement. One respondent-household was provided with larger landholding, two of them with stable jobs in the resettled area. These factors of course, had significant consequences on the household and further on their coping capacity during or after a disaster.

According to Alexander (1998), risk and vulnerability are the two sides of the same coin. Risk involves a likelihood of unspecified consequences in relation to a particular course of action and where something valuable is at stake. This interrelationship of risk and vulnerability is more apparent in the context of natural disasters. Risks involves the interaction of vulnerability, exposure and hazard. Physical exposure to risks is an important component of vulnerability, but the lack of socially fashioned capacities of people, transforms environmental hazard to disaster. In a developing world, households play a central role in the risk assessment and decision-making during disasters (Parida, 2002). This perceptiveness of risk of the households

is therefore influenced by various components not just at the local level but also regional and the state (Fothergill, 1996).

For both the old and new planned resettlers, the situation of 'disaster' was something that they had to deal with on a daily basis, till the time of resettlement. The households in the original places, would resort to strategies of either diversifying crops, changing of livelihood, use of their savings, utilisation of social networks, when faced with the threat of displacement. The risk perception here was on an individual household level. During the early period of their resettlement, the earlier strategies were continued. These risks undertaken by the resettlers could be assessed across a spectrum of 'acceptable risks', 'tolerable risks' and 'tipping points' (Correa, 2011; Health and Safety Executive, 1992; Deloitte, 2014). In any resettlement related decision-making process of the household, there are certain forms of risk involved. This is based on the compromises that are made for the appropriateness or inappropriateness of such risks (Deloitte, 2014). These decision on risks was however not static and changed with the availability of experiences and choices (Whittaker, 1986). The households in the case of planned resettlement undertook 'tolerable risks', somethings that they consciously live with, negotiating the prospects. This was further based on the confidence that the risks will be lessened or controlled. The households experienced the 'tipping point' stage when it was decided by the state for the households and where resettlement was thought to be mandatory. The state plays a significant role in social protection and recovery during or after the disaster. This initiative of the state becomes extremely important as it can reduce risk (Burton et al., 1993) or on the contrary, produce or deepen the existing social vulnerability (Bolin & Stanford, 1998; Hewitt, 1983). Thus, it becomes imperative for the decision-makers to take into consideration the understanding of the essential interrelation between processes that shape the complex vulnerability of people and systems, when designing effective policies and implementing them. This would then entail the identification and management of prevailing risk and evading a new one (Stapleton et al., 2017).

In this case, the risk of displacement was identified by the state and therefore actions for planned resettlement were undertaken. Thus, the risks that entailed displacement and further resettlement, were thought to be positive by the respondents. So, the struggles that they had to endure to make the place habitable, generate livelihood, were the risks that they thought were necessary for their survival. In the current contexts, the threat of changing climate, regular occurrences of natural hazards and their lack of resources to combat with them, are the pertinent issue for all of the respondents. Sustainable embankment construction or repair was highlighted

as the need of the hour to protect them from such occurrence. Few have left it on fate and believes that strategies would be developed as when the situation arises. For others, the responsibility should be of the state, if instances of re-displacement do occur.

Photograph. 3: Breached embankment in Boatkhali-Dhablat, Sagar Island

It can be observed that many local political conditions come into play that hinders delivery of the resettlement outcome. In case of embankment displacement due to acquisition of land, the respondents of new Bankimnagar colony who had to relinquish his land, asserted that he had not received any compensation for the land acquired. According to him, land of about 62 households had been attained for the embankment reconstruction, from various parts of the mouza and village. On enquiring why, he did not demand compensation for the land lost, he replied that – when the embankment was being reconstructed, it was understood that the households would have to relocate. They were told by the state government that according to the central government rule, land acquisition cannot be undertaken. This may be in light of the past experiences of land acquisition in the country, which has not been a smooth one. But the Chief Minister (CM) apparently proclaimed in a meeting in Sagar, that this statement may be applicable in other states of India, but not in West Bengal. Thus, when the time of embankment reconstructed started, there were mixed responses amongst the oustees. Some of the households saw no point in demanding compensation as it would necessitate a lengthy ordeal. Others wanted to request the government in unison and demand compensation, but did not find enough support. As for the respondent-household, they did not have any idea or guidance about land acquisition legalities, nor could they trust anyone to speak for them. An apprehension also developed in their minds that if they take the help of a mediator who would speak for them, the

concerned personnel(s) would usurp their compensation. Thus, they did not seek compensation and instead went for the land-to-land compensation, but on specially requesting the local government.

According to the respondent-household, the government has a problem with the ordering of their priorities. They are granting lands to individual households but at the same time have not thought about saving land for community infrastructure or CPR like Integrated Child Development Services (ICDS) centres or hospitals. He further remarked that those who give votes to a particular party in power, are granted lands in a better location (in the interiors or remunerative locations). Those who do not, then they get land allotted in a place where the respondent was currently residing, on the banks of a *khal*. He further believes that those who already had their own personal place to relocate also received the land. As such, there is no land kept for those people whose loss of land is inevitable in the future. However, it was observed that out of the few resettled households in this colony, this is the only household that has been resettled due to embankment-displacement, where political pathways had to be pursued to make this resettlement possible. For some of the old planned resettlers, showing their support to a political party did guarantee them resettlement and a steady job in the resettled area. Thus, allegiance to the political party in power or having socio-political networks is a point of convergence between the old and new planned resettlers.

As mentioned earlier, the new planned resettlement was fairly recent than the old. Out of the 12 new planned resettled respondents, only two in Gangasagar new colony have received their *pattas*. As such many of the households had only been able to partially change the address in their legal documents. A household in Gangasagar new colony remarked that they were still availing ration from their original place in Boatkhali-Dhablat. The address in the Aadhar card had also not been changed. An interesting fact to point out was only the address of their voter card has been corrected. She believes that it was necessary to do so as it was obvious that party members would want to expedite the process of transfer. A kind of a system of balanced-reciprocity, where the parties resettle the household in return for votes during elections. She realises the importance of this process for she assumes that in case of any problems in the resettled area, it would be the party members in the present area that would come to their assistance and not the ones from where she lived earlier. Thus, it appears that resettlement of households is not significant for inter-party votes but also for the representatives within the party lines itself (more like inter-gram sabha). The respondent complained that as formalities for address change takes a longer time and as it would require physical labour, which is much

easier for a man than a woman. Her husband is a migrant in Kerala and so the household would complete the process later, when he returns. A 72-year-old respondent of Gangasagar new colony had been able to get his name registered for the *Bardhoka Bhata* (Old age pension) scheme of West Bengal government, despite submitting the documents the second time.

Nowadays, voluntary migration has also become one of the mostly preferred strategy pursued by members of households. They are mainly being employed in unskilled or semi-skilled daily wage work in Kolkata or outside of West Bengal. When asked if they had bought or had plans of buying land elsewhere, a respondent in Bankimnagar exclaimed, "*Kothai jabo? Jamin kinbo, khabo na bache der k porabo? Eka ki korbo?*" (Where would we go? Should we buy land or eat or educate our children? How do I do it alone?). Another reiterated that even if they would want to, they couldn't. If they are forced to move somewhere else due to a natural hazard, then they would have to 'be resettled' somewhere else. But on their own, then they cannot do so. '*Aar jaiga kothai*?' (Where is the land?) – the respondent remarked, '*K debe*? (Who will give the land?). Thus, for him, the responsibility should either be the government's or a benevolent resident who would be willing to let go, a piece of their land.

5.5 Conclusion

Comparing the consequences of displacement, the planned resettlers experienced more or less the same impact like those displaced by other causes mentioned in Chapter 3. Based on the risks enlisted in the IRR model, the households in the resettlement colonies can be said to have been resettled but not rehabilitated. The resettlement conducted did not have legal undertakings to fall back upon considering the time period in which it occurred. In the case of the old planned resettlers, the resettlement risk was only partially positive but that too subjected to a limited time-frame. When the households were resettled in planned colonies in Sagar, most of them did receive land and a one room house. But this did lack parity. Monetary compensation was given to those, who only received land for house construction. These colonies being located in the periphery of the island, is enormously vulnerable to natural hazards. The consecutive cyclones of Amphan and Yaas in 2020 and 2021, had a greater impact on these households than those in the interiors.The reconstruction process of any resettled population is not just dependent on state initiatives but equally on Non-Governmental Organizations (NGOs) as well. The word 'planned' used here appears more of a pseudo and deviates far from its actual meaning. On the contrary, the resettlement programmes in both instances, reflected an absence of planning. It took the households many years to finally adapt themselves to the new area and

carry on with their lives. The intervention towards planned adaptation of people requires distancing them from places of high risks. However, the implementation of 'planned' resettlement in this study is far from its desired objective.

The NGOs in this case of planned resettlement were helpful for a few respondents only. This was during the initial phase of resettlement, where the organizations provided them with relief and other materials. In the above scenario, it can be observed that the activities of the NGOs are more forthcoming during situations of sudden-onset hazard like a cyclone than a slow-onset hazard (here erosion). Additionally, the functioning of Self-Help Groups (SHG) was seen to be beneficial for few of the households but at an individual level and not for the overall community. A more thorough analysis of the role of the 'third sector' of development – the NGOs, during situations of disaster would be dealt with in Chapter 7. Migration for work for the resettled households became a most-sought strategy, particularly in the aftermath of the consecutive cyclones in 2020 and 2021. At every level, the assessment and management of risk is a critical measure that should be conducted not only for displacement or the likelihood of it but also for resettlement and rehabilitation. This becomes more imperative in the context of present situation of the resettled population. In this regard, the following Chapter 6 becomes relevant.

CHAPTER 6

DISASTER VULNERABILITY AND DISPLACEMENT: 'UNPLANNED' RESETTLEMENT PROCESSES & OUTCOMES

6.1 Introduction

Natural disasters and its risks can be better conceptualised and contextualised, when considering the concept of vulnerability. In the milieu of environment, vulnerability denotes the characteristics of a person or a community along with their circumstances that influences their ability to forestall, cope with, and convalesce from the effect of a natural hazard (Wisner et al., (2004)), impacting their existing lives and livelihood conditions, social and economic resources and social power. For the purpose of this thesis, understanding the interlinkage between disaster, risk and vulnerability and how displacement and resettlement feature in this equation, thus, becomes important.

The objective of this chapter is to analyse the emerging trends of resettlement and reestablishment practices of recently displaced households. The researcher here attempts to compare these emerging and unplanned form of resettlement practices with that of the planned form, analysed in Chapter 5 of this thesis.

6.2 Natural disaster & displacement: Vulnerability, risk and differential resettlement practices

Oliver Smith and Hoffman (2020), defines disaster as a process that leads to an outcome, involving an amalgamation of a possible destructive natural or technological agent and a human population, in a socially fashioned state of vulnerability. For some social anthropologist vulnerability is featured within the definition of disaster itself. Disasters can project and promote the susceptibility of the local inhabitants, within a particular geographical context where the hazard has befallen. There are however researchers, that perceive vulnerability as more suitable for elucidating the origin and causes of disaster, rather than the definition (Porfiriev, 1995). Disasters are perceived to transpire at the interaction between vulnerable people and physical hazards, therefore the non-existence of "natural" disasters (Blaikie et al., 1994; Hewitt, 1983; Maskrey, 1994).

For Bolin and Stanford (1998), "*vulnerability concerns the complex social, economic, and political considerations in which peoples' everyday lives are embedded and that structure the choices and options they have in the face of environmental hazards*" (Bolin and Stanford, 1998, p.9). According to the authors, the most vulnerable then would be those whose lives are

inhibited by various historical or contemporary physical, social, cultural, economic and political dimensions, at the individual and societal level, therefore resulting in fewer choices (Bolin and Stanford, 1998). The United Nations International Strategy for Disaster Reduction (UNISDR[83]) describes vulnerability, as the circumstances shaped by physical, social, economic and ecological factors or processes that intensifies the susceptibility of a community to the impact of hazards. Asian Disaster Reduction Centre (ADRC, 2005), emphasises the existence of vulnerability to the environmental phenomenon in order to consider an event as a disaster. Vulnerability has different dimensions– physical, socio-economic, cultural and ecological Ginige et al. (2009). The social vulnerability to disaster is not uniform nor universal. Disasters therefore intensifies the day-to-day struggles of people's lives (Watts, 1991). This becomes more critical in the case of developing nations, where the more vulnerable population, recurrently needs to undergo assorted setbacks to their lives, livelihoods and settlements.

It is essential to analyse the coping mechanisms of people along with availability of resources in order to understand the sources and types of vulnerability. These resources may vary from social, economic assets, to judicial and political power. Based on the access to these resources, Wisner's (1993) classifies three main constituents of vulnerability – (i) 'Livelihood vulnerability' – how do households gain resources and the ones who have secured it, are they resilient than those without? Subsequent to a disaster, the ability to recover varies significantly across population depending on the socio-economic and political circumstances. (ii) 'Self-protection' – people's hazard exposure to their housing and livelihood and ways in which the socioeconomic factors, cultural traditions, and local technical knowledge, attempts to rebuild them. (iii) 'Social protection' - involves more of the organizational and regulatory sector, at the state and local-level.

One cannot ascertain a particular characteristic as an inherent factor in the construction of vulnerability to natural hazards. It implies an intersectionality of factors. 'Class' position of an individual/household can act as an important indicator of access to resources or lack thereof. Those households at the lower end of the class hierarchy, therefore may lack resources to deal with either pre or post hazard scenario. Even the social components of gender, age, race and ethnicity, language, education, subject of migration and residency, political ideologies and state functioning, can only attain prominence in relation to a country or region's specific historical, geographical, political environment or culture and social policies. Thus, belonging to a certain

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[83] Now known as United Nations Office for Disaster Risk Reduction (UNDRR).

socio-economic, cultural, political category and even geographical location, can have significant consequences on the individual and household during an environmental hazard crisis and further on their coping capacity during or after a disaster (Wisner et al., 2004). In particularly, the location of the household within the range of marginalization and social inequality spectrum can produce different hazard exposure and can either increase or minimise people's susceptibility to harm (Collins, 2009; Pulido, 2000).

With reference to the developing nations, analysis of vulnerability with reference to natural hazards, is allied with poverty, structured by class, race, gender that is expressed in the wide-ranging societal components and processes. In a domain of inequitable apportionment of resources and risks, it reflects their diverse coping capacities (Cannon, 1994). This in turn is reflected in the country's developmental processes that manifests deepening social inequalities (Cannon, 1994; Hewitt, 1997). Even the spatial characteristics of vulnerability is more evident here, where the poor are often enforced to live and work in obstinately hazardous areas, whereas the wealthy households can comparatively recuperate easily through various means after a hazard (Hewitt, 1997). It is this intersection of physical hazard, exposure and vulnerability that produces disaster.

Alexander (2000), assumes risk and vulnerability to be two sides of the same coin. The interrelationship between risk and vulnerability is more evident in the context of natural disasters. Risk is generally understood as involving a possibility of indeterminate consequences in relation to a particular course of action and where something valuable is at stake. Risk, therefore in the milieu of disasters, results from the interface of vulnerability, exposure and hazard, fathomed by their everyday social existence. The physical exposure to risks is an important component of vulnerability, but the lack of socially shaped capacities of people, transmutes natural hazard to disaster. Within a specific social context, along with its underlying social components, the vulnerability becomes convoluted with the manifold interconnected risk producing aspects. The individual's discernment of risk is also influenced by these various aforementioned societal components (Fothergill, 1996). Within the developing world, the household and the family play a vital role in both spontaneous and organised response to disasters (Parida, 2002 & 2015). This in turn depends on the nature and type of household and its ideologies (Parida, 2015).

The severity of erosion plaguing the island and the volume of land loss, was evident in Chapter 5. With the recurrent threat of displacement, alternative resettlement practices have emerged in the study area.

6.3 'Unplanned' or self-resettlement

Apart from planned form of resettlement, the other category studied in this thesis is that of Self-resettlement of households. This has also been referred to as 'Unplanned' in this thesis, as it was not initiated or undertaken by any government or non-government organizations and appeared as part of the household strategy to the threat of displacement. A total of 14 households were interviewed under this classification. The vulnerability of the population influences the choice/risks taken by a household on whether they would like to remain where they are or to resettle. The respondent-households who undertook self-resettlement, were mostly observed to resettle in the earlier established 'planned' resettlement colonies. In a region of obstinate hazards and acute land unavailability, with the additional negligence of the government or any other organizations, self-resettlement became a necessity and the planned colonies provided them the necessary location for doing so. The self-resettlers interviewed in this study are of fairly recent time period (from 2003-2004 onwards). However, this is not to say that this time frame can be regarded as the point of origin of such a trend of resettlement. The researcher during the field work was made aware of instances of unplanned forms of resettlement practices even in the case of old planned resettlers. But locating such houses was impossible because of the unavailability of correct information.

The self-resettlement households (14) that were interviewed hailed from Ghoramara island, Mousuni island[84], Sujopur-Patharpratima block of ISD, Mahendragunj-Sagar and Boatkhali-Dhablat in Sagar. Thus, it was a mixture of both inter (09) and intra island (05) displacement and resettlement. Analysing the chronology of the displacement and self-resettlement of the resettlers, out of the 14 interviewed households, 01 relocated in 2003-2004, 01 in 2010-2011, following Aila in 2009, 01 in 2013-2014, 01 in 2019-2020 and the rest 10, specifically after Yaas in May 2021. These households resettled themselves in the following locations of Sagar Island - Gangasagar Colony I, Gangasagar Colony II, Jibantala Colony II, Gangasagar New Colony, Boatkhali-Dhablat. Interestingly, apart from Boatkhali-Dhablat, the self-resettled

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[84] An island of the Indian Sundarbans Delta, administratively under Namkhana Block.

households were all in earlier created planned resettlement colonies. The reason for such a trend is explained in section 6.6 below.

Out of the total respondents, six (06) of them were landless and used to work as either agricultural labourers in other's field or as tenant farmers or sharecroppers. The remaining eight (08) respondent-households had landholdings that ranged between 0.5 bigha to as expansive as 40 bighas. Those who had large landholdings had witnessed the incessant flood and erosion, that ultimately took away their land. Cyclone Yaas of 2021, submerged the houses and land of ten (10) respondents, who had to seek measures for resettlement. Thus, a consolidation of both slow and sudden-onset hazards, are seen as influential forces compelling the households to move. Comparing the size of the household, in the original place, it was larger (7-9) and involved a joint family system. On the other hand, in the resettled area, the size of the household can be seen to decrease with the breakdown of families into nuclear system (2-4). This disintegration of the household and family was due to the resettlement process itself, as acquiring such a larger space for relocation of the entire household/family was dubious. The other main cause of diminishing household size was the migration of its members to other states for work. The primary source of livelihood for the households in their original location was agriculture but due to declining productivity and loss of land, they had moved onto carrying out odd jobs in the village like daily wage labourers, carpentry, masonry, house painting etc or even small-scale fishing.

Each of the household had to incur their own expenses for resettlement. For the households that engaged in inter-island self-resettlement, the movable assets could not be bought to the resettled area in one-go, but in different time periods. They initially transferred whatever little portable assets (like bed, trunks etc) that they had and then eventually the household members moved themselves. Their kinship group and other social relations in the original place provided them shelter till the time the entire process was completed. In cases of reconstruction or repairing of houses in the resettled area, this was carried through whatever building materials of wood, ropes, tins, etc that they could salvage from their original place and bring it to the resettled area. A respondent-household in Jibantala Colony II declared that he had spent about Rs. 70,000 in renovation and also had to part with a share of the money to their relative who had given (rather sold) him the house.

The size of the land in their resettled location ranges from 0.15 bigha to a maximum of 2 bigha, which was granted to them by the social networks. This for few households involved

purchasing it from the earlier residents or for many in the form of altruistic assistance of their social network. The households with a larger landholding, includes the house, a pond and a small patch of vegetable garden or in extremely few cases, agricultural land. The livelihood of the household due to the lack of agricultural landholding was, working as daily wage worker or migrating for work. Land although received during resettlement, was not sufficient enough to cultivate and help the households to make a living. Out of the total self-resettled respondent-households, about 08 had one or more male members who had migrated to either within the state or to other states for work. The details of the sector in which these migrants are employed is presented in Chapter 4 of this thesis. The consequence of the voluntary migration is presented in section 6.4 below. The men were the primary earners of livelihood in the respondent-households. The women had the accountability of looking after the needs of the other household members like their children or in-laws. They were in charge of carrying out their daily domestic chores of cooking, cleaning etc. If necessary, they were also responsible for carrying out work outside of their homes. It was seen that the women, from time to time supplemented their male counterpart's (usually husband) income by working as wage labourer in agricultural fields, government schemes like MGNREGA. Only in the case of one respondent-household in Gangasagar, the household had resettled itself because of their occupation of *Khejur Gur* (Date jaggery) producers in a viable location. These palm trees are not owned by them but availed on contract for a period of two months and from which they harvest the date syrup for jaggery. A share of the proceeds of the sale (Rs. 70-100) is given to the *paikari* and the rest is distributed amongst the contract parties, either in cash or product.

The linkage that the self-resettlers have with their original area is evident in several dimensions. In terms of legal – many of the intra-island and the inter-island respondents had still not been able to change their address in their official legal documents, even in the beginning of 2022. The reason given by the households were that, as the resettlement had occurred very recently (after Yaas of 2021), they had not yet initiated with the process. Relocating to a new location, repairing the houses and overall adjusting to a new social environment was taking time. They would further the process as soon as possible, as they now do not have anywhere else to go. The non-transference of documents has however, resulted in the households not being able to avail the benefits of government schemes. A self-resettler in Jibantala Colony II had availed the PMA-G scheme of which he received Rs. 70,000 in Ghoramara. But the pucca house that he had built with that money had succumbed to the river. The most important aspect noted here like in the case of planned resettlement (see chapter 5) was that, the first document of transfer

is the voter identity card. A respondent-household in Jibantala Colony II, originally from Ghoramara, remarked that they had been able to cast their votes in the Panchayat Samiti election, from Sagar Island, in early 2022. This was considered a necessary measure to "*catch the panchayat people for his household's survival*" (SR6[85]). Some of the households had to pay the land tax in the resettled area. It is to be noted that *khajana* or land tax has been abolished since Independence, in the state of West Bengal as well as the rest of India.

The association with the original area was also in relation to the use of certain facilities like school. A household from Ghoramara, after Yaas in 2021, had resettled in Jibantala Colony II. The grandson of the household was although living in the resettled area but was still continuing his schooling from Ghoramara. This was because the resettlement had occurred suddenly and the schools could not be transferred in the middle of the academic year. During the interview with the respondent, the grandson also happened to be present. The household had solemnly that the grandson would be discontinuing his education and would migrate to Maharashtra, where his father was presently working. Even the grandson was supportive of this decision. The choice of migrating for work was calculated to be a profitable and safer risk than remaining at home and completing his education.

Another link was also through their occupation. The same respondent mentioned that he is a fisherman, who along with other residents of his earlier village in Ghoramara venture out to sea in a hired trawler. This mode of living is seasonal and the respondent gets a per day wage of roughly about Rs. 400, depending on the months taken to fish and the season. During the interview the respondent was at home because of the oncoming monsoon and cyclonic season, where fishing is halted temporarily. It is cumbersome for people to relocate from their original place to a new location, abandoning their economic, social and cultural capital and their sheltered sense of belonging (Khan et al., 2012). The social attachment to a place even if beleaguered with the threat of disasters, is still a treasured quality to the people and one that impels them to stay.

The households claimed that they did not get any assistance from the government nor the non-government organizations (NGOs) when they were relocating either in case of inter-island or even intra-island. The help that they received was only during the Cyclone Amphan and Yaas in the form of relief materials by both government and NGOs. After the lapse of several months,

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[85] For ethical considerations, the names of the respondents have been kept anonymous and codes have been used to identify their responses

the households received monetary compensation at the rate of Rs. 5000 for partially damaged houses and Rs. 20,000 for fully damaged ones, from the government. Those whose agricultural land was damaged were given between Rs. 1000-Rs. 25,000; famers suffering damage to betel leaf received Rs. 5000 and loss of cattle Rs. 30,000.

Risk perception and decision making between the planned (Chapter 5) and the unplanned resettlers can be compared. The onus of accountability then relies on the division between voluntary and other risks (Douglas,1992). This differentiation could be seen in the light of how the involuntary risks confronted by the perils of natural disaster like soil erosion, loss of land people and ultimately threat of displacement, instigated the people within the study area of this research, to undertake voluntary risks for planned and unplanned resettlement.

In the context of this thesis and in the age of modern society, there is excessive burden on the households and families for the accountability of their own risks. The choices about risk are interweaved into the everyday experience of ensuring basic necessities of living, with or without the security of the welfare state (Driver & Martell, 2002). Thus, risk management has increasingly become private yet pragmatic (Denney, 2005). The technological, social and economic intercessions can produce unforeseen side effects (Beck, 1992). People will take risks in varied areas of social life so as to capitalize benefits and curtail loss.

The corollary developments in the post-World War II period, have been the transference of risk management from the state and state agencies towards the individual or household. These individuals and households are not in the situation of making a choice as to what risks they take seriously. The decisive factor for individuals and households to rank risks in order of severity, is influenced by practical aspects like monetary resources and indisposition of the government towards provision of security. The families of low-income groups can find the experience of risks often unbearable and undesirable. Members of social groups that are less powerful, tend to be more concerned about risks than members of powerful social group. Any knowledge on risks produced at the hands of either the 'experts' or the common people is reflective of the sociocultural frameworks in which this knowledge is generated (Lupton,1999). However, Beck (1992, p.36) also notes that in the post-modern world many of the risks of the society affect both the wealthy and the poor in similar ways: "*poverty is hierarchic, smog is democratic*" (Beck, 1992, p.36).

Renn et al. (1992) has categorized the sociological perceptions of risk along two dimensions - (1) individualistic versus structural – whether the risk can be explained by individual intentions

or organizational arrangements and (2) objective versus constructionist – risks and their manifestations are real and observable, while for the latter risks are social artifacts created by social groups or institutions. This constructionist conceptualisation of risk emphasizes on three aspects - (i) entity that poses the risk (ii) real or no real harm (iii) supposed causal relationship between the object and the harm (Renn, op.cit.). The first aspect involves identifying the object that is the potential cause of the risk. Even if there is an agreement on the risk object, whether or not it produces harm, may vary conceptually. Constructing these linkages is always problematic because a risk can be ascribed to manifold objects. This is involuted by the fact that the full range of the risk may remain unknown till a lapse of many years, as well as incongruities in the legal, scientific and moral sphere. This results in the polarisation of perceptions on risk policies, which are wearisome to reconcile (Renn, op.cit.). This lack of ambiguity on the meaning of severity in relation to a potential hazard, results in complications of assigning subjective meanings to the extent or gravity of a particular risk (Denney, 2005).

In this thesis, the households are acknowledged as the primary social units that influences the individual's risk perception and decision making towards planned and primarily in self-resettlement. Risk perception and therefore its assessment would vary amongst those who are willing to move and those that choose to stay. The process of resettling is an onerous task, that involves not just financial liabilities but also emotional and psychological. The social construction of risk becomes significant here particularly at the hands of the state or government as well- those that are responsible for policy formulation in the case of the Indian Sundarbans Delta (ISD) or Sagar Island. In such a scenario, it appears that the gravity of the situation can only receive some serious consideration and finally mitigation, unless and until the problem becomes significant for these 'decision makers'- both at the national and international level. Thus, for Douglas (1982) risk was not an objective reality but is socially, culturally and politically constructed. Within the ambit of this study, risk is thus analysed from the decision-making process of the households. This construction has been placed in the context of action and inaction of the government and non-government organizations in Sagar (Chapter 7). The risks that households are willing to undertake does not just have an economic implication but also socio-cultural, moral and political.

A difference in taking risks can be observed due to pre-existing inequalities of socio-economic resources. Environmental risks are unequally dispersed across social class (Cudworth, 2003, p.15). The people perceive that the households belonging to higher income category or social position could relocate themselves in the interiors of the island or to neighbouring peri-urban

areas of Kolkata or even East Medinipur. On the other hand, those at the lower rung of the ladder, moved either nearby to their earlier place of residence, but not very far from the place of disaster. These available areas then all tend to be in the periphery of the island, closer to the embankment or river/sea like the planned colonies. This adds unto the preceding vulnerability of the people creating a situation of being 'trapped', which is explained in more detail in section 6.7 of this chapter.

These households when threatened by hazards, assess all their viable options and carry out strategies that enables to live in the original area for as long as possible. However, consecutive cyclones Amphan and Yaas of 2020 and 2021 respectively, have in many areas of the islands completely wrecked the *pan boroj* (betel vine plants). While carrying out the field work, even at the beginning of 2022, it was observed that the structure created for the vines were lying desolate, with the crops destroyed due to the intrusion of the saline water. The households would resume cultivation once the salinity of the soil declines. But the cost of re-cultivating and reconstructing the structure is an issue for the household.

Tidal floods and waterlogging usher with them the problem of salinization of land. The people experiment with various local methods to reduce the salinity of the soil. Many farmers leave the land fallow for months or a year and wait for the natural flushing out of the salinity by rainfall; others cultivate vegetables that may have a certain degree of salt-tolerant capacity; whilst others make a concoction of part cow dung and part *Chite gur* (a type of date-palm jaggery) and which is then added to the ploughed soil and left for a few days. The process is continued for at least three or four times, depending on the level of salinity. This salinity also has other detrimental impacts. When it enters the rain-water harvested ponds, the salt water impacts the water source of the households and also the fish stock in it. The task of cleaning the ponds and diminishing its salinity is equally laborious. A household may at times hire daily wage labourers to carry out this job, at a cost of Rs. 3000-5000 per pond.

In the absence of any other sustainable measures for prolonging their existence in the island, the households then strategize on whether they would be resettled by an external body or have to take initiatives to resettle themselves. The risk perception and decision making are then involved within a dichotomy of positive and negative. The usage of risk oscillates from extreme situations of danger, threat, hazard or harm to lesser degree of mundane common everyday phrasing. This thesis considers the dichotomy of positives and negatives of risk, as significant for its analysis. For Douglas (1992) the distinction between 'good' and 'bad' risk was much

more evident in the past. This division of risk dominated until the beginning of the 19th century. At the end of the 20th century, such differentiation loses its hold (Douglas 1992, p.23). Risk has transmuted into a neutral concept, denoting the prospect of something happening, shared with the magnitude of accompanying losses or gains. Our insecurity coexists with newly created fears with their varied causes, purposes and strategies to deal with them.

Contemporarily risk relates to negative or undesirable outcomes and therefore to be avoided (Douglas, 1992, p.24; Fox, 1999) and where the early modern concept of a 'good risk' is used only in economic conjectures. Risks are stated typically in relation to the probability of harm or loss from a hazard. The contemporary western societies viewed the avoidance of risk as an ideal trait of the 'civilised' and undertaking redundant risks appears to be careless and even 'deviant'. This includes an identification of the hazard that causes the risk, the things that are at risk and an assessment of those that may be harmed or lost (National Research Council, 1996; Gostin, 2000). In the empirical understanding of risk perception, Lupton & Tulloch (2002) observed that, the "*emotions of fear and dread were associated with interpretations of risk as danger of the unknown*" (Lupton &Tulloch, 2002, p.325). Certain conceptions of risk are negative to the point, where they merge with the notion of hazard. An important distinction needs to be made between the two. A hazard can be defined as an agent of harm. The perceived risk is the subjective evaluation that exposure to the hazard will be harmful (Ferguson et al., 2001). The experience of risk is different for different people, where those at most risk from social change may be more persuaded to perceive greater dynamism concerning threats, rather than opportunities (Taylor-Gooby, 2000, p.10).

This is contradictory to Lupton (1999) who, however believes that the modernist notions of risk also encompassed the idea that risk could be both 'good' and 'bad'. An idea that finds its usage in the more technical assessments of risk. Risk assessment is now associated with weighing the probability of occurrence of something on the one hand and accompanying loss or gains on the other. Economic conjectures, notes the existence of 'good risks' corresponding to profit. Risks must be voluntarily enacted in order to invest in notional enterprises, and that often the greater the risk of losing one's money, the greater the return should things go well (Luhmann, 1993). Positively, risk society therefore, is one in which there is an expansion of choice, but that choice being differentially distributed according to class and income. Thus, risks inculcate the dynamism and the examination of new perceptions. Giddens (1998) believes that active risk-taking is a fundamental component in the construction of a vibrant economy and advanced society.

Risk, a criterion in a technologically dependent modern society, is the powerful, active and constructive force that propelled the transformation of the western society into the throes of capitalist development. The strategy of avoiding risk in one context can be beneficial in another situation- "……….*otherwise mankind would be unable to learn how to do better. Risk is also opportunity*" (Douglas & Wildavsky, 1982, p.22). The era of exploration and scientific ventures have all been due to risks taken (Zey,1998). From an individualist standpoint, risk-taking echoes pursuit of wealth, where certain risks are requisite for fashioning a desired socio-economic identity. Certain livelihood is alluring for this titillation in risk-taking (Green, 1997). Risk is one of the ways by which individuals try to escape their ordinary routine activities of everyday life. Purposeful risk-taking may upset the day-to-day banality of life producing anxiety, fear and hostility (Giddens, 1990, p.98–99). However, such risks allow the possibility of showing as being enterprising, bold or skilled creating an edge which routine circumstances lack (Giddens, 1991). From a social constructionist stance, such risk taking may also be culturally approved (Green, 1997). An incentive for transformation in a world of possibilities (Giddens, 1998).

The positive implication of risk has been noted in varied literature, illustrating it through research undertaken on the participation of people in extreme sports (Lupton, 1999), in the context of 'new-age travellers' (Wild, 2005) and even illicit drug use (Fox, 2002). Engagement in such 'risky' pursuits, is thrill-seeking (Lupton & Tulloch, 2002), inculcating feelings of 'pleasure, 'excitement and sense of achievement' (Willig, 2008); a sense of 'heightened living', of being closer to nature than culture; break-free of societal constraints (Lyng, 2008; Willig, 2008); an attempt to experience the sublimity of oneself in the moment; as a means of self-improvement- where working on self involves balancing between an array of opportunities, some of which may be more 'risky' than others (Lupton, 1999). Risk-taking is then moving away from one's comfort zone and experiencing challenges in the development of self. Voluntary risk-taking urges movement and progression (Lupton & Tulloch, 2002). The uncertainty that such living produces, is welcomed by the pursuers, also inevitably leading to a community of like-minded souls (Lyng, 2008; Willig, 2008). Mellor & Shilling (1997) equates this to a state of 'collective effervescence', a concept used by Sociologist Emile Durkheim. This thesis takes into account, both these dichotomies of the positive and negative dimensions of risk, when assessing the decision-making process of the households. The positive and negative dimensions of risks undertaken can be then assessed as to whether the houses achieved resettlement as well as rehabilitation, whether planned or unplanned. In this

thesis, the two concepts of resettlement and rehabilitation have been viewed as interrelated but contrasting to each other.

The risks undertaken by households on resettlement could be viewed across a spectrum of 'acceptable risks', 'tolerable risks' and 'tipping points'. Considering the fact that there is always a level of risk in any decision-making process of the household with regard to resettlement, the difference lies in the compromises that are made for the acceptability or unacceptability of the diversity of risks displayed (Deloitte, 2014). 'Acceptable' risk, refers to those that an individual prepares to take for multiplying prospects in his life or livelihood (Correa, 2011). 'Tolerable risk' are risks, that the households consciously live with, assessing the compromises and the opportunities and lessened further if there arises a possibility. Tolerability refers to consciously living with 'controllable' risk, so as to procure particular gain. The 'tipping point' is the point at which the households decide that relocation or resettlement is necessary. But the household's position or decision making within this spectrum of risks is not a static one.

The acceptability of risks changes over time with the availability of experiences and choices (Whittaker, 1986). Household's acceptability of risk is influenced by their perceptions of risks and what they treasure, in addition to the aspects that vary situationally, across individuals or collectives. Households can experience 'tipping points', owing to either sudden events or accumulation of losses over time, that changes the way of what they value when it is at risk. Thus, in cases of lack of proactive government initiative to resettle them elsewhere and considering their precarious unpredictable situation, the people here have taken matters in their own hands. Based on this unplanned resettlement practices, there are two main factors that have acted as the impetus for households to undertake the choice – (i) social capital and (ii) voluntary migration. This is explained more thoroughly in the following sections 6.4 and 6.5 respectively.

6.4 Role of social capital in self-resettlement

In the above section 6.3 the process of unplanned or self-resettlement has been analysed. Out of the total self-resettled respondents, 09 households had resettled themselves in the earlier planned resettlement colonies. The rest 05 households, had resettled within the same locality but a few kilometres further from their original home. One question therefore arose as to what was the main criteria for the displaced households in providing them the impetus to resettle themselves? The two main forces that assisted in taking this risk were – social capital and

voluntary migration for work. These forces either worked separately or in unison, for a particular household. It was seen that for the self-resettlers (13 out of 14), one of the most determining factors of whether or not a household would engage in such a practice, was in the form of the social networks that it had or its social capital. The households when faced with the question of displacement, relied on their social capital for undertaking the risk of self-resettlement.

The concept of 'Social capital' was theorised by French Sociologist, Pierre Bourdieu in his seminal work 'Forms of Capital' (Bourdieu, 1986). According to Bourdieu, 'capital' is accrued labour, whether in a material form or embodied. This when assumed exclusively by individuals or groups, can facilitate them to utilise it in the form of 'reified' or living labour (Bourdieu, 1986, p.15). This capital can assume three important dimensions – economic capital, cultural capital and social capital. The social capital for Bourdieu, is the amassed definite or probable resources, which entails being part of a group and thereby producing a sturdy network of more or less institutionalized relationship. This mutually owned capital furnishes for each of its members a support system, enabling them to ascribe to it. This capital exists and is maintained through material and symbolic exchanges. Thus, the more an individual can efficiently amass his networks, the greater is his/her volume of social capital (Bourdieu, 1986, p.23).

The benefits that the individual derives from being part of a group is due to its solidarity. This capital is not naturally or simply socially occurring, rather, one has to work hard to produce and maintain such relationships, through varied means, that enables them to utilise it effectively either in a long or short period. The reciprocated acknowledgment and exchange also recognise limitations, beyond which certain exchanges cannot be undertaken. Sociability amongst its members is therefore, necessary for the maintenance of social capital. This effort of accruing and maintaining social capital in turn generates, profitability that increases in amount to the size of the capital as the possessor is opulently endowed with now all forms of capital – economic and cultural and not just social (Bourdieu, 1986, p.25).

The self-resettled households could utilise their varied social capital, that provided them with the ability to relocate themselves in the resettled area. This social capital was in the form of the household's kin or relatives that were either residing or had been residents in the destination area. When the households were displaced, their relatives or kin relations gave them shelter in the form of small size of land and a constructed house. Out of the total respondents, only two (02) claimed that they had to make some form of payment to their relatives, to whom the land

and house belonged. The rest opined that the relatives had altruistically provided them with shelter during times of crisis. The households had to bear the cost of renovation of house themselves on their relocation and even after the destruction caused by Yaas. For those households which had voluntary migrants, their remuneration supplemented renovation.

Like the planned resettlement, this move of resettling themselves and taking matters into their own hands, does entail both positive and negative risks for the resettlers. For the households, their strategy to move was perceived and calculated, based on the fact that they were not being provided any form of solution by the government and so had to undertake the initiative on their own. The social capital amassed by the households, in the form of consanguineous and affinal kinship bonds - brother-in-law, sister-in-law, daughter, sister etc, allowed them to take that risk of resettlement which otherwise would have been impossible, if they did not have an assurance for shelter. The social capital also became an important mechanism that allowed the self-resettlers to adjust and navigate their lives in the new environment. A respondent living in Jibantala Colony II with only her toddler son, shared her apprehension, when asked if she feels scared living alone. Her husband is a migrant in Kolkata, working as a tailor. She pronounced that during daytime, she remains in the resettled house doing her household chores, but at nighttime she goes to her *pishi*'s (father's sister) home, just two houses down within the same colony. This relative of hers is also living alone, as her husband has migrated to Chennai for work. These networks also helped them to adequately deal with the host-population. The households perceived that as they already had relatives in the resettled area, instances of conflict did not arise between the host population and the self-resettled household.

As for the self-resettlers, the idiom that best explains their situation is 'out of the frying pan into the fire'. The risk of self-resettlement also involves negative outcome for the households. Out of the total households interviewed, 10 have resettled into the old and new planned colonies. This is itself a vulnerable location as the houses are located in the periphery of the island, near the embankment, river, *khal* or sea. During the occurrence of rapid-hazards, these households are the ones that have to face the immediate effect. Even during cases of erosion, the same households need to deal with it. The inability of newly self-resettled households to change their addresses immediately, have also hindered their chance of accruing the government schemes at their new location. Plans for doing so are at place, but the bureaucratic mechanism makes the process sluggish. Reconstructing their lives and livelihood once again in a new resettled area, is strenuous for the households, where their strategies do not withstand, considering the precariousness of the region. This makes the risks taken by them negative in

the long run and therefore not sustainable. The households then appear to have entered into an unceasing cycle of vulnerability to disaster, for which newer stratagems and risks need to be unearthed.

In certain scenarios, a phenomenon of multi-spatial extended household is also developing. A self-resettled respondent of Jibantala Colony II, lives in the resettled area with her elder son while her husband and the second son live in Ghoramara, in the house of her mother-in-law. This was due to the fact that the mother-in-law had recently suffered a stroke and was partially paralyzed. The resettled house was given to them by the respondent's sister-in-law whose entire family had migrated to Tamil Nadu for work. This was based on the condition that, when the migrant family would return, the resettled house would again move to her mother-in-law's house in Ghoramara. Once the migrant family again returns to their work place in Tamil Nadu, the resettled house would occupy the vacant house again.

For those belonging to the lower economic category, despite having high level of risk discernment, they are inhibited by their deficiency of alternative choices for risk- mitigating actions. In environmental risky areas, while considering its management, the affiliation to a place can act as a hindrance for implementing precautionary actions for coping (Quinn et al., 2018; Lewicka, 2011; De Dominicis et al., 2015, p.72). It is seen that that household capabilities or lack thereof to take actions, is a noteworthy feature that influences their choices and decision making. The strategies of the state then are also influential in the choices of people for lessening risks (De Dominicis et al., 2015).

6.5 Transforming lives & livelihoods: The stratagem of voluntary migration of self-resettlers

Throughout human history, voluntary migration has been utilized as an important adaptive strategy to natural or anthropogenic vicissitudes. In rural regions, decision to migrate usually for work, are taken at the household level. These choices are fashioned by the need for securing income and livelihood through diversification of risk (Foresight, 2011). This is an important fact observed in this study. Migration, is an intricate phenomenon, having multitudinous sources and digressive pathways. The consequences of such a migration may either be positive (eg, remittances) or negative (eg, costs). The households prior to migration, undertake several in-situ strategies. They look for alternative livelihood options within the village, diversify cropping pattern (like from paddy to pan), take up another livelihood, seek support from government and non-government schemes and projects. The lack of sustainability of this livelihood opportunities, 'pushes' the households outside of the study area. So newer risks need

to be calculated. Out of the 14 self-resettled households interviewed, 10 of them had either one or more male members who had migrated for work. The push factor in the study area interacts with the 'pull' of higher wage rates in the receiving areas and a chance for upliftment of their standard of living.

Centering and tailoring[86] were the two main works that the self-resettler household members were engaged in. No family migrants were reported in the case of the self-resettler households. The decision of individuals to migrate and the type of work that is chosen, is based on livelihood calculations made at a household level. The form and nature of migration are inherently reliant on an individual's personal attributes such as age, gender, economic status, disability, amongst others (Foresight, 2011). Social drivers also play a significant role in determining the destination or receiving area. Social capital, that exists in the form of relatives, friends, neighbours, accomplices for receiving information about employment opportunities and other living necessities (Osterling,1979), and support with regard to integration in the receiving area, mostly with the host population. The migration type is mainly temporary in nature, lasting for a period of 6 months to 1 year and depends principally on the availability of work in the receiving area. All the types of works mentioned, were within national boundaries. Although, the households did mention international migration to places like Dubai, but the researcher could not come across even a single case of such migrants. This lesser likelihood of international migration may be due to the higher cost incurred in this type of migration, that the households are unable to bear.

Between 1945-1990, particularly in the post-World War II period, in the development of world capitalism, a trend could be observed in the experiences of the Third World countries towards '*depeasantization*' or deagrarianisation. This phenomenon was equally prevalent in the developed countries (Araghi, 1995). McMichael (2012), defines depeasantization as the "*erosion of peasant practices and the substitution of market rationality in agriculture*" (McMichael, 2012, p. 1). Araghi (1995) has also termed it as deruralization or the depopulation and waning of the rural areas (Araghi, 1995, p. 338). Capitalist expansion, industrialisation and modernisation, rural-urban migration, corrosion of rural socio-economic conditions, have been regarded as some of the main factors for this process of peasants moving from agricultural to non-agricultural sectors. In India, this phenomenon was observed after the implementation of the Green Revolution, during the 1960's. Singh and Bhogal (2014), in their empirical study on

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[86] These were the two main types of work found among the self-resettler household. The other types of work that were not found in this study have been detailed in the previous Chapter (5) of this thesis.

villages in Punjab, detected the significant 'distress-induced' transformation of particularly small and marginal farmers of the state to non-farm activities. Great number of such farmers were selling off their land to the big landholders, due to the inability to sustain such a modern capital-intensive agricultural practice. These farmers were being absorbed in the urban areas and changing to non-farm livelihood practices like wage labourers, shopkeepers etc and even migrating outside of the state and country. The movement ensuing economic, socio-cultural and psychological distress on the farmers or migrants (Singh & Bhogal, op. cit.). Although the reason for farmers leaving their traditional occupation to non-agricultural practices may be different in other green revolution practicing states of India like Punjab, the trend towards 'depeasantization' here in the study area can be seen as a common consequence.

The self-resettled households had landholdings in the resettled area of less than 1 hectare[5] or between 1-2 hectare or are landless labourers. Thus, either marginal, small or semi-medium farmers. Due to the non-profitability of their pre-dominant livelihood of agriculture and fishing, households in the study area are riveted towards being daily wage labourers, mainly in non-agricultural pursuits. The gradual erosion of peasant activities brings about its own positive and negative consequences depending on how households can capitalise the movement.

In the ever-transitioning disaster-prone area, the struggle for survival is made possible by the remittances of the migrants that sustains the households, providing greater resilience and solidity. In the case of single migrant members, the remuneration of the migrant-household is received mainly by the wife or in cases of unmarried son then the mother of the migrant. For the self-resettlers in this study, the remuneration of the migrant members served as a medium for either purchasing the resettled land, renovating the house where resettled or transporting to the resettled area. As mentioned earlier, the self-resettlement process for households occurred in phases. The time-period of migration of its members was relatively recent and prior to displacement. Although almost all the land of the self-resettled have been granted as altruistic assistance by their social networks, yet in extremely few instances, a certain amount of money had to be dispensed to their social relations for purchase of the land. This money, considering the actual value of land, is relatively nominal.

The remuneration is spent on basic household necessities like education for children, repairing of houses and pond, marriage, religious festivities, agricultural work or consumption requirements like food and clothing. This remuneration was also seen to be beneficial during the aftermath of natural hazards, where the money was utilised for repairing, buying basic

amenities etc. The financial capability of the households in the form of accumulated capital over the longer term, can be seen to provide greater coping capacity due to such migration. Those who are able to collate these resources, can then undertake a more permanent form of migration to safer locations, to evade forceful displacement. Migration thus can act as one of the diversifications of livelihood and can also assist in reducing vulnerability of households (Enarson et al., 2007). However, the continuous onslaught of disaster in the sending areas foils this strategy, negatively impacting the household and their efforts to maximise the savings of their remittances. Furthermore, nowadays households are hesitant in permanent investments in the resettled area, due to the incessant hazards. For instance, the repairing or houses are done only after a span of 3 years or more, unlike the annual repairing done earlier. Migration acted as indirectly beneficial only for one particular displaced household from Ghoramara. The said household could avail the opportunity of self-resettlement in Jibantala Colony II, as the house where the respondent and the son were living was vacated by her social network, whose entire household had migrated to Tamil Nadu to work as daily wage labourer in the cardamom plantations there.

It is not to say that migrating from the sending to the receiving area for the migrants, presents a rosy picture. The migration of the members of the households does ensure financial support but it occurs at the cost of the mistreatment and deplorable living conditions of the migrants at the receiving area, with no legal protective measures. A study by Johnson et al. (2021) in flood affected households in parts of Uganda, discovered that the households' sovereign decision making on relocation is a deliberation of benefits that the place furnishes against the costs of continued living with everyday flooding hazards. A high gradation of permissiveness of risks towards the known hazard, was evident amongst the households. The reason for people choosing to relocate in the flood affected area is, land being reasonably priced and accessible through their social networks. Apart from this, the households had been residents of the area for more than 20 years, where their lives and livelihood were attached to the place. Two types of households could be observed – permanent or temporary relocators. The former consisted of households that would move away seasonally or those had temporary settlement in additional locations. The latter relocators were comparatively well-off. "*Relocation is a luxury and generally only those with the means to relocate can do so*" (Johnson et al., 2021, p.85).

The migration of poor and marginalized households to urban areas is problematic, especially when the entire family migrates. The migrants tend to end up in vulnerable locations like slum areas or those that are environmentally perilous with minimal to negligible access to facilities

(Khan, et.al., 2012). Thus, whilst migration provides opportunities for some, for the poorest and most vulnerable, are burdened with more hardship and financial outlays (Khan, et.al., 2012). In any type of migrant work, despite the variations in receiving area, the problems remained the same. India does not have any measures for registration of the migrants neither at the level of Panchayat or even at the state or central level, in both the sending or the receiving area. As such, it is extremely difficult to ascertain the total number of people migrating to different states. According to the West Bengal State Action Plan on Climate Change (WBSAPCC, 2012), the Indian Sundarbans is plagued by an increase in vector borne diseases predominantly Malaria. Kalazar and Encephalitis, where out-migration has a probable role to play (GoWB, 2012, p.222).

There exists a socio-economic reciprocity between the migrant and the left-behind household members as well. An important relationship was observed between migration and community-based group namely Self-Help Groups (SHGs). An SHG is a body of 10-20 people, who voluntarily come together to form a group, mainly for fund generation and thereby granting providing financial support in the form of loans to its members. It was seen that the money that was taken as loan by the women members, would be utilised to assist the migrants in their receiving states. This assistance could be either money required for sending the migrant to the receiving area, fund for initiating a business or if there is any delay in transferring the remuneration by the migrant to his/her family back home. Like for instance, a respondent, who is a resident of the Jibantala colony I, has three migrant sons in Kerala and had to take a loan (Rs. 30,000) from the Self-Help Group of which she was a member. The money was required to set up their own business there in Kerala, considering it to be a better lucrative opportunity, rather than being under an employer. The SHGs charge a rate of interest of 2% per month on the loan amount taken[87]. The loan was taken in 2020 and the respondent was still repaying the debt to the group at the beginning of 2021.

6.6 Migration and Displacement nexus: Disparateness and intersection in the context of natural disaster

The complexity of the migration-displacement nexus is pronounced within the context of natural environmental changes. In developing regions, environmental hazards can act as a 'push' factor in migration decision-making. It is acknowledged in various literatures that the nature, scale and consequences of migration affected by environmental change, works in

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[87] The 2% rate of interest on loan amount is the standard for all SHGs.

tandem with other drivers of migration (Foresight, 2011). Voluntary migration for work became one of the contributing means for the household to undertake the process of 'self-resettlement'. For the old and new planned resettlers, it has now become a sought-after alternative form of livelihood, which they perceive as highly remunerative, despite the risks in the receiving area.

Nowadays, environmental issues are being fathomed as developmental snags mainly in developing countries, where there is a high dependency of the rural poor on natural resources for their livelihood. As such degradation of the environment is consequential on those dependent (Adamo & Izazola, 2010). This 'tipping point' of the decision to migrate, is contextual and household specific (Mallick & Vogt, 2012). The large annual rate of migration due to environmental pressures, works as a determinant for 'pushing' population into urban or peri-urban areas (Hugo, 1996; Jacobsen, 1988). Local often temporary mobility, forms an archetypal retort to frequently materializing natural hazards (Zaman, 1991). In developed areas, socio-economically advantaged households may be highly unlikely to migrate in response to natural hazard impacts (Morrow-Jones & Morrow-Jones, 1991). This interplay of environmental deviations, migration drivers and socio-economic processes, is extremely consequential for low-elevation coastal zones, which can produce both voluntary and forced forms of migration (Stapleton, et al., 2017). These environmental changes further interact with other drivers of migration like economic, political, social and demographic, creating layered experiences of risk for the households and influences their decision-making (Ezra & Kiros, 2001; Hunter, 2005). Thus, in hazard affected areas, the push and pull factors of migration may work simultaneously.

Stojanov (2004, p.78), influenced by the categorizations of El-Hinnawi (pioneer in 'Environmental Refugees'), classifies environmental disruptions into five categories viz., natural disasters, cumulative (slow onset) changes, involuntarily and industrial accidents, development projects, conflicts and warfare. This categorization considers natural as well as anthropogenic features resulting in environmental disturbances and deviations. Out of the diverse probabilities of responses, these events have the potential to provoke human mobilities. It is not just the extreme degradation of environment that can be an ultimate source of environmental migration, but even the steady weakening of prevailing living circumstances. In such situations, migration exhibits in the complecting of the subjective perceptions of the decline (Adamo & Izazola, 2010). The environmental change focused as the backdrop of this study is natural disaster, in particularly slow-onset disaster leading to erosion and loss of land.

On the one extreme of the spectrum, is the displacement of people and on the other is the reliance on migration as a coping mechanism to such environmental disaster.

It is thus observed, that a distinct categorization of the two types of migration - forced or voluntary, is rather difficult in the actual environmental hazard-prone areas. These two types of movement in actual lived reality, exhibits itself as strongly interlinked where the distinction between the two often gets obscured. Migration and displacement placed within a milieu of environmental disaster, appears in the form of a continuum (Bates 2002; Hugo, 1996, p.107; IOM 2009). These movements can transpire across a spectrum of voluntary to forced. Pinpointing environmental related factors or for that matter the newly developed concept of climate change, as the sole cause of human mobility, is difficult due to the interconnection of environmental processes with that of socio-economic, cultural and political, altogether influencing the decision-making process of an individual or household (Castle, 2002, p.5; IPCC, 2014; Renaud et al., 2007; Stapelton et al. 2017). Human mobility in relation to environmental change, of whether it should be forced or voluntary, is a subject of dispute. The question that arises is and which was observed in this study is- into what compartment of forced and voluntary can one, assign those households whose lives are threatened by the impact on livelihood as a result of a combination of elements like sudden and slow - onset hazards, intrusion of salt water in cultivated fields, loss of land and gradual but prolonged decline in agricultural productivity, thereby engaging in movement to other areas for work and therefore income generation? Thus, the 'forced' underpinnings of voluntary movements, was acknowledged in this thesis and also in the above section.

Studies have shown variations in human mobility between the two general categorizations of disaster – sudden and slow-onset. Sudden-onset disasters like hurricanes, cyclones, floods give no other choice, but to move. The mobility in relation to slow-onset environmental changes can be voluntary and unified with other economic, social and political issues. As such, clear dichotomies between the types of human mobility are not always so simple. The underlying difference between migration and displacement would be of 'choice', however in many situations these 'choices' of 'forced' and 'voluntary' meld together. There is an ongoing debate apropos to whether people are 'forced' to migrate or choose to migrate 'voluntarily'. Migration is believed to be always a choice, but in many circumstances the choice is between staying and struggling or migrating with its associated risks (Barnett & Webber, 2009). Migration patterns due to environmental changes could either imitate those of commonly occurring economic ones or could even lead to new ones (Newland, 2009; Skeldon, 2012; Vertovec, 2007). Such

practices could either have positive or negative impact to the individual, household or community. In the lived experiences of inhabitants, forced displacements and voluntary migrations cannot be merely disengaged, but appear as intricate choices made by individuals, households, or communities as a rejoinder to discourses of risk alongside physical, economic and societal pressures (Marino & Heather, 2015). As such it is essential to take into consideration the insiders' risk perception, while attempting to understand the relation between human mobility and natural disasters (Greenberg & Schneider, 1996; Lein, 2000), as people's response to hazards vary depending on their perception (Slovic, 1987).

Considering the legal framework with reference to migration and displacement, a distinction between the two is well maintained, as evident by the discreteness of legal enactments and relevant organizations under separate domains, at the national and international level. Furthermore, it is believed that certain natural calamities of sudden-onset categories like cyclones are likely to generate displacement whereas slow-onset processes like land degradation and erosion results in increases in migration (Foresight, 2011). When a disaster event occurs (especially of the sudden-onset type), people tend to relocate somewhere close by from where they can easily return to their original place. This could gradually turn into a more permanent form of migration, i.e, when the economic and social issues 'pull or push' them later. Households may opt for migration for employment particularly during lean periods in urban areas (Foresight, 2011). The trend that migration takes relating to whether long or short distance, permanent or temporary, is contingent upon the livelihood decision making level of households (Khan, et.al., 2012). According to Veena Das (1996, p.1510), rigid compartmentalization between different populations movements of voluntary migration and involuntary displacement would encumber the understanding of the procedures of intercession, by the numerous stakeholders, involved in it. It would affect the ways in which the stakeholders and their agents would engage in this discourse with the state – either petitioning or confrontation. (Das, 1996, p.1510).

The diversity of migration flows and its outcomes, along with the intervening variables, makes it rather difficult to forecast in the context of environmental changes (Boano et al., 2008). The sudden-onset disasters could lead to instantaneous displacement of people, and may even entail precautionary relocation from risky areas. These environmental changes impact the livelihood strategies of communities and households and thereby influencing individuals to migrate elsewhere. These changes are also influential on the social, political, and demographic dimensions, eliciting further diverse migratory responses. Furthermore, the underlying social,

economic and political attributes within a particular setting determines who leaves and how and who stays (Boano op.cit.).

Barnett & Weber (2010) have observed that in cases of migration due to environmental changes, the pattern is not arbitrary and is dependent on various allied factors be it economic or social capital. It is unlikely that new flows of internal migration would emerge in developing countries. It has been observed that the lower middle class income group and the marginalized populations are at risk of undertaking migration subsequent to a disaster than other groups (Hunter, 2005; Myers, 2002; Barnett & Weber, 2010). Generally, slow-onset disasters generate situations where displacement does not transpire immediately, but over a prolonged period of time. Usually with sudden-onset hazards, forced migration is characterized by temporary evacuation, not involving an enduring modification of dwelling (Ziegler & Johnson, 1984). These displacement situations can recur in erosion-prone regions, disallowing effective resettlement and sustainable rehabilitation (Hutton & Haque, 2004, p.42). Thus, in such disaster events, out of possible counteractive and damage reduction strategies and responses, migration is one and displacement being the final resort. For migration as a response to slow-onset changes to work, the access to both money and social capital is essential, as evident in this thesis.

The nature of movement of people is also dependent on the origin, impacts and duration of the natural hazards (Hunter, 2005, p.273). In situations of environmental risks, the movement of people or the lack thereof can be understood through an analysis of the forms of vulnerability and its determining factors- socio-economic, political or historical; the past and present lived experience of people influencing their subjective perception of the natural hazard and their own vulnerability (Meze-Hausken, 2000). In many cases, the slow and sudden-onset events may intersect, leading to an aggravation of the latter, due to cumulation of vulnerability and corroding the coping dimensions (Anschell & Tran, 2020). The disaster area due to its inability to deliver the appropriate means of subsistence, ultimately forces people to migrate to areas for a better life (Afsar, 2003; Hunter, 2005).

The government's failure to provide basic livelihood security pushes people to the cities deprived of resources, adding onto their woes. In regions identified as susceptible to environmental changes (important for climate change as well), there exists a 'double dilemma'. People whose livelihoods are reliant on the ecosystem services and impacted by the change, but are unable to be able to secure them through planned migration. Empirical observations

from Bangladesh (Foresight, 2011) reveal differing responses adopted by people affected by either sudden or slow onset disaster. In case of the former type of disaster, like floods or cyclones, it is likely to initiate short-term movements. Permanent movements like displacement can occur predominantly in coastal areas, if the said disaster sets in motion loss of land or livelihood productivity. On the other hand, the slow-onset disasters like erosion or salinization of land, instils longer-term voluntary migration, as the calamity affects the livelihood opportunities of the people. This is more evident in areas that are reliant on the environmental services for livelihood and where environmental degradation exists obstinately (Foresight op.cit.).

Whatever in-situ coping strategies adopted, transmutes into extended practices in term of span and distance. Such continued detrimental effects diminish economic and social capital of the household and increases their vulnerability to the vagaries of environmental change (Foresight, 2011). The mobility of population as a strategy to environmental concerns, cannot be outlined with certainty, due to the unpredictable nature of hazards itself. This results in lack of definiteness of risk assessment or its consequences and even measuring of other feasible substitutes (Kates,1962). It is cumbersome for people to relocate from their original place to a new location, abandoning their monetary and social capital and their sheltered sense of belonging (Khan, et.al., 2012).

The dynamics of displacement and migration of people specifically in the era of climate change has been of utmost speculation and debate. The central points of contention revolve around the contradicting factors between the past and present scenario, the global outreach of the environmental changes and their probable impact. The Inter-governmental Plan on Climate Change (IPCC) in their subsequent reports have identified regions around the globe, that are vulnerable to climate change. The statistics for population mobility – displaced or migrated, is confounding and in a state of constant flux. There are also diverse opinions when it comes to population movements. In the 1990's, IPCC predicted human migration as one of the gravest effects of climate change due to shoreline erosion, coastal flooding and drought (Boano, et.al., 2008). According to Brown (2008), by the year 2050, some 200 million people worldwide will be displaced and would migrate. Climate change is expected to influence the migratory responses allied to economic or other drivers. Disasters pertaining to climate change are then expected to impact vulnerable populations formerly and severely than other populations (Crate 2011; Farbotko & Lazrus, 2012).

The terms indicating those who undertake such movement is itself ambiguous - environmental refugee, environmental migrant, forced environmental migrant, environmentally motivated migrant, climate refugee, climate change refugee, environmentally displaced person, disaster refugee, environmental displacee, eco-refugee, ecological displaced person and environmental refugee-to-be (ERTB). As the definitions are disputed, the multi-causality nature of the population movements further obscures their statistical estimates. The nonexistence of a specific definition of the terms, vastly divergent estimates of the probable scale of climate-induced population movements and lack of discourse between experts, render the dynamics between environmental change and forced migration, complex.

Even though deliberation on the matter is now being orchestrated at the global scale, the aforementioned convolutions make formulating safety nets and governance structures difficult (Bronen, 2011; Warner, 2010), at both the national and international sphere. Furthermore, there is a dearth of empirical studies on the local and regional impacts on how do disaster-linked migration and other inducers interact in the ground reality of people (Obokata et al., 2014). In the occurrences of a disaster, are these decisions of households to migrate, made under coercion (displacement) or are a strategy of adaptation and risk mitigation (voluntary migration). The question then arises – do the people when left endangered to risks of disasters, consider relocating as one of the viable adaptation strategy or as the last recourse? (Marino & Lazrus, 2015). The answers to this may influences the international and national organization's response to such a crisis of environment-induced displacement.

Attempts have been made to define and thereby classify the trends of population movements within the setting of changing environment. The International Organization for Migration (IOM) has proposed a working definition of environmental migrants, as people or groups of people who are either forced or choose to move away from their residence, either on a temporary or permanent basis, or/and within the country or outside, due to sudden or advancing changes in the environment, causing detrimental impact to their lives or living circumstances (IOM, 2009, p.19). Gorlick (2007) utilizes the terminology of 'Environmental migrant' to include three types of movements – 'temporarily displaced population', with the prospect of returning to their original residence when the impairment has been reinstated; 'permanently displaced' who have resettled somewhere else; migrant, in search of an enhanced quality of life due to the disruption of their original setting (Gorlick, 2007). United Nations University's Institute for Environment and Human Security (UNU-EHS) defines 'Forced environmental migrant' as people who have been enforced by an environmental stressor to leave their place

of earlier dwelling. This is in opposition to an 'Environmentally motivated migrant', where the person utilises the choice to move or stay (Renaud et al., 2007, p.29–30).

According to Bates (2002), based on the source (natural or technological), extent (acute or gradual) and whether migration was planned or unplanned, three categories can be delineated. The first is the 'Environmental Refugees due to Disasters', which can be either natural, anthropogenic/technological or a combination of both, that causes unplanned short- term migration producing either temporary or permanent refugees (Bates, op.cit.). The second is the 'Environmental Refugees due to Expropriation of Environment', consequential to acute anthropogenic disturbances in the environment that dislocate populations, usually permanently. This has been sub-classified into two categories based on two different situations - economic development and warfare (Bates, op.cit.). The third is the 'Environmental Refugees due to Deterioration of Environment', resulting from gradual, anthropogenic modifications in their environment, like pollution or depletion of natural resources (Bates, op.cit). As such, this involves an unplanned form of migration. These definitions have however been disparaged as being too simplistic elucidations of complex underlying phenomena (Boano et al., 2008).

Environmental changes in addition to stimulating 'push factors' driving people to migrate, could also contrarily lead to more people choosing or being forced to stay in locations where they are vulnerable to the environmental risk itself. Another assumption is also gaining ground that, once the distressed area is reinstated again to its original state, there is a higher prospect of migrants returning to the area (Boon & Le Tra, 2007). Empirical evidences of such a hypothesis are hard to come across. However, in low-elevation coastal zones proactive migration, in conjunction with other coping and mitigation mechanisms, factually indicate populations increasing their pliability to changing environment, within the region, rather than being displaced (Foresight, 2011).

The complexity of displacement in contexts of slow-onset disasters is more pronounced. The temporary displacement of households due to sudden-onset disasters could transform over time, towards an extended or even permanent move. However, the researcher observes a blurring of the boundaries between voluntary migration and displacement in the ever-changing environment context. As evident in empirical research, the risks of natural hazard and the resettlement responses of households are 'dynamic and complex' (Alexander, 2000, p.11). This large-scale migration usually from rural to urban areas, has its own repercussions in the receiving areas, thereby putting more population at risk (Abramovitz, 2001; McGuire et al.,

2002). Boano et al., (2008), opines that migration can sometimes act as a positive strategy espoused by households in order to advance their lives and diminish risk and vulnerability. Remittance is regarded as a pull factor in the aftermath of a disaster, that assures sustenance and reconstitution of households, at both the receiving and origin settings. The migration pattern also supports the movement of economic, social and cultural attributes (Stark & Lucas, 1988; Savage & Harvey, 2007). Displacement and migration of the people here in the study area, converges and diverges when exposed to disaster, particularly in the case of households dealing with slow-onset hazards. Population movements exist over a continuum between voluntary and forced movements. Maintaining a distinction between the two appears to be indispensable for policy formulation, for the governmental and even non-governmental responses and even prospects. However, in actual lived reality, it something difficult to do achieve. Thus, it is seen segregating or pinpointing one cause as the basic trigger of displacement and also migration is impossible as well as impractical.

6.7 The 'Trapped' population

The lives of every human being are marked by certain significant events, for instance an anniversary, a birthday. For the people in the Indian Sundarbans, it is the natural events that act as markers for the passing away of time – a cyclone, a flood. As observed in the above section of 6.3, Sagar Island has been enduring an onslaught of natural hazards over an extended period of time and the land mass of the area is constantly varying. The hazards have modified the shoreline of the island from time to time. Nandi et al. (2016) in their study observed that, till 1991 the area of the island had increased and reached its maximum of 248.28 sq.km; however, from 1991, a decrease is evident. By the year 2011, the area was 237.89 sq. km (Nandi op.cit.). The milieu and scale of how populations are affected by the persistence of hazards and producing differing disaster situations, is dependent on their vulnerability. This further differs according to geographical location, governance and power structures and relations and access to services (Khan et.al., 2012). A household's pathway to recovery, is affected by crucial factors like their fluctuating needs and priorities, livelihood challenges, psycho-social responses to disaster and technological knowledge or the lack thereof (Das & Das, 2021).

The initiative of the government, for those displaced or threatened to be so, involved resettlement mainly within the island itself. These natural hazards, then highlights the socio-economic division between households, whose definition of disaster differs based on their own standpoints. Households that were well-off (assessed within and by the locality) were able to relocate in safer regions in the interior of the island or even adjacent to urban areas but within

the state itself. On the other hand, there were those that belonged to lesser economic positions, who were limited by their insufficient resources and who could relocate themselves but not very far from the challenging ecosystem. The households either relocated from one island to another, but only in the periphery of the latter island or at a closer distance from the shore. For the planned resettlers (old and new), relocating to a new place did not mean that they achieved freedom from hazards or culmination of disasters.

As mentioned earlier, all the resettlement colonies old and new have, sprung up in vulnerable locations, wherever vacant vested land was available. These colonies are all located near embankments, rivers, *khal* or sea. For the self-resettlers, it was the aid of their social capital and lower cost of land in the periphery than in the interior of the island. The land in the interior is sold for INR 7-8 lakh per *bigha*. But for the land in the periphery, the price is eminently lower. Johnson et al. (2021) found a similar trend in Uganda, where people chose to resettle in flood risks areas because of the affordability and easy availability of land there through social networks.

Cyclone Aila of 2009 was an event that still remains afresh in the minds of the respondents and the people at large of the Indian Sundarbans. Their horrors were once more refreshed when they faced two consecutive cyclones – Amphan (2020) and Yaas (2021). According to the respondents, Yaas of 2021 was believed to have had a profound impact than the earlier Cyclone Amphan of 2020. Although the mortality rate was minimal, but the socio-economic consequences were detrimental. During Yaas, the State government through the help of the Panchayat and local organizations/clubs were able to effectively conduct the early warning process before the Cyclone hit. The local youth clubs were actively engaged in this process as well. The respondents believed that the negligible human mortality rate was due to the occurrence of the cyclone during daytime and also due to the effective evacuation of people. The cyclone was immediately followed by flooding and torrential rainfall. Many of them could only gather their important documents and other smaller valuables, before they were rushed to the shelters. Cases of police intervention in forceful evacuation were also brought to the attention, when people were refusing to vacate their houses. The high concrete structures like local school buildings, cyclone shelters, ashrams or residential buildings towards the interiors, served as shelters for these evacuees. All other belongings like household items, agricultural produce, domesticated animals etc. had to be left behind, which the households tried as much as possible to safeguard them in their respective houses, from the oncoming cyclone.

It took more than a month for the water that had flooded inland, to recede. The following day after the cyclone, few members of the household would go wading in waist-deep water, to check on the damage done to their respective houses. The smell from the animal carcasses made the visit even more unbearable. The aftermath of any sudden-onset hazard is followed by remedies for disaster recovery. A typical disaster recovery is exercised in phases, initiated with the assessment of the disaster, short term recovery measures and eventually long-term reconstruction (Das & Das, 2021). The state government (even central), local administration and even non-government organizations for the next few months, provided relief to the households in the form of food (cooked or raw), drinking water, clothes, medicines etc. A few months after the event, the state government initiated monetary compensation for the affected households. For those categorized as having faced '*Purno Khati*' (total destruction), a sum of Rs. 20,000/- was granted and those who underwent '*Angshik Khati*' (partial destruction), a sum of Rs. 5000/-. Not all affected households could avail this opportunity and the categorization of *Purno* and *Angshik* was believed to be arbitrary, not uniform, biased and therefore debatable by the respondents.

The notion and experience of disaster for the ones in the interior is starkly different from the ones residing in the periphery of the island. For the former, during Cyclone Yaas, the households recalled how high the level of water that had reached during and after the event, and where the loss of crops was vivid. For those living in the fringe areas, shared the harrowing narratives of their encounter with the cyclone. It is observed that for these households in the periphery, disaster for them is experienced as a part of their everyday 'normal'. The disaster here exists beyond the time-bound definition of Dombrowsky. Thus, the risks that disaster entails are not uniform for all. It depends on the position of the concerned household in the vulnerability spectrum.

Banerjee (1998) in her work on '*Environment, population and human settlement of Sundarban Delta*' divides South 24 Parganas, based on physical and ecological parameters, into two main regions – (i) the stable delta of the north and (ii) the active delta of the southern part. Sagar island as well as Ghoramara falls within the active delta. Analysing these two regions, reveals a contrasting picture not just concerning physical attributes like area, population, settlements but even their socio-cultural dimensions. Jalais (2009) elaborates this in her thesis "*People and tigers: An anthropological study of the Sundarbans of West Bengal, India*", a division between the 'up' (stable) and 'down' (active) islands. The former inhabited regions are adjacent to the mainland and reclaimed earlier between 1765 and 1900, while the latter includes the inhabited

fringe islands whose reclamation occurred between 1900 and 1970. The author witnessed such a division even within the same village (Tofankhali in Satjelia island, part of ISD), of people living on the edge of the river, engaging in livelihood activities according to their ecology (riverside people) and those who live laterally near the inland roads, who are comparatively propertied and affluent ("*bhadralok*") (Jalais, 2009). As mentioned earlier the physical attributes of the two groups are intrinsically contrasting, where 'up' islands are towards the north and the west of the ISD; are bigger in area, higher level of ground elevation and much safer from natural hazards; fertile and well irrigated by canals with reduced threats of salinity of soil. On the other hand, the 'down' islands consist of elevated 3500 kms embankments that shields the populated islands (Jalais, 2009).

Jalais (2009) further elaborates the socio-economic and cultural distinctions between these two groups of islands. The social structure of the islands is influenced by their ecological location. The 'up' islands being stable is characterised by dense settlements. As they are adjacent to urban Kolkata, these islands have improved access to amenities of transport, communication, electricity, jobs, housing, markets, education etc. As for the 'down' islands, the settlements are more dispersed or semi-nucleated; ill-connected with only modes of transportation of boats or van rickshaws for traversing within the islands; substantial dependency on natural resources, bleaker livelihood prospects, diminished facilities of markets, freshwater, electricity, small or heavy industries (Jalais, op.cit.). The islands located in the southern area and forest fringes are principally peopled by scheduled castes (Mukhopadhyay, 2016, p.8). The people of both the 'up' and 'down' regions appear to have incorporated within themselves this dichotomy of ecological and social vulnerability. It appears that even government-initiated development in this region is fixated on the 'activeness' of the area and justifying their shortfalls and lack of initiatives (Mukhopadhyay, 2016). The islands are then 'left to nature' and so even the perception and social construction of disaster varies between the 'up' and 'down' islands.

Mortreux et al. (2018) in their study have laid down several outcomes for ISD populations that face environmental risks but government inaction. As the choices of mobility are limited for the households, one of the outcomes then is of 'trapped' situation (Mortreux et al., 2018, p.125). The case of being 'trapped' then would be appropriate for households that are residing in both Sagar as well as Ghoramara islands, no matter whether they are part of planned, unplanned or self-resettlement and even those residing in the periphery/fringe of the islands. They are numerous socio-economic and even political reasons that does not permit them to move away from this vulnerable location. The planned resettlers relocated by the local government bodies,

in Sagar Island are not free from hazards itself. There are those that resettle themselves but not in far off locations and finally those households that lack access to any of the options. In this section, the researcher explains at length, why the households in the study area are 'trapped' in that sense. All the respondent households - planned resettlers as well as self-resettlers and houses living in the periphery of the islands of Sagar and Ghoramara, are trapped in four interconnected ways -

(i) Physical or locational– the old and new resettled population due to the resettlement colonies being created either in the periphery of the island, closer to the embankment, river, *khal* or sea. For the self-resettlers, it was choosing to live in vulnerable area within the colony or available land in the periphery. During any type of sudden or slow-onset hazard, the households at the periphery are the ones who face the immediate impact than the ones in the interior. The population living in these specific vulnerable locations, therefore have a high dependency on environmental resources for their livelihood, especially fishing. This has resulted in the case of 'voluntary entrapment' of households who choose to live in that particular location. A stark distinction can be observed between the interior and periphery houses in the island of Sagar. It is a well-known local fact that the land value in the periphery of the island is comparatively lower than those in the interior and also constantly declining. But the land in the interior is also scarce. Therefore, a household's economic capital can be assessed on whether they possessed land in the interior or the periphery.

In times of resettlement, this distinction between the 'up' and 'down' islands, is also apparent. Displaced households with higher economic status tend to relocate in the former islands, while the latter becomes the areas that the households in the lower economic position have to settle for. In a similar context, a distinction could be seen between the 'centre' (inland) and 'periphery' (coastal) households. A relation could be observed between the physical location of household and where they ranked in the economic positional ladder of the community. As such the physical placement of the households in the island coincides with their socio-economic vulnerabilities. It was seen that the houses that had low income or had no other alternative sources of increasing such livelihood resided in the coastal or the periphery areas while the houses that had higher income resided inland. According to Bera et al. (2022), in their study of Sagar Island accentuated the mouzas situated in the southern part of Sagar i.e., Boatkhali-Dhablat, Shibpur, Mahismari, Beguakhali, as heavily eroded (Bera et al., 2022).

The human-nature dynamics is evident even when one makes a journey to Sagar Island. The entry and exit to Sagar rely on Vessels that connects the island to Kakdwip or Launch from Namkhana. Even if one takes the road or rail route the last stoppage from where you can get either the Vessel or Launch is from these two mainland points. These modes of river transport-vessels and launch, that ply to and fro from Sagar to Kakdwip is in turn dependent on the *jowar-bhati* (high-low tide) of the river. As a result, it is not uncommon to see these modes suspended for a certain time period of the day. If one has to plan a journey to the island, one has to keep a track of the timing of the vessel or launches. This can be availed one day before from the Facebook page of Sagar Island Passenger's Welfare Association or via the Gangasagar app. Thus, the ebb and flow of the tides of the river control the movement of the people from Sagar Island to the mainland. Naturally one can then understand the crisis during times of cyclones or other natural calamities that occur in Sagar Island.

The impact of physical or locational factor for trapped populations can be lessened, if protective embankments are kept in place (Photograph.4). Every cyclone or high tide occurrences in the island results in a breaching of the embankments. But the reconstruction of the embankments presents another problem that the households in the periphery would have to deal with. This reconstruction of embankments encroaches into agricultural lands, robbing the livelihood of local people (Bera, 2013). During the field work all the respondent-households reported the inability to cultivate in the period following the cyclones of 2020-2021. This inability to cultivate extended even upto the beginning of 2022, as the salinity of the soil had still not declined. The researcher even during the field work in early 2022, could observe patches of salt residues in the agricultural fields. This combined effect initiates erosion (slow-onset hazard). This land slowly erodes with the high degree of salinity of soil. The households not protected by the embankments faces multiple issues during high tides, becoming victims of entry of salt water into their houses and resultant damage of property and household goods. When a flood occurs, the household and its adjoining areas that are closer to the river-bank is inundated. It may take hours before the tide subsides. The households then place all their belongings on top of beds, stools or other raised platforms, to prevent them from salt-water damage and corrosion. The people then go about with their daily activities like even cooking, whilst waiting for the water to recede. The salt-water often leaves an indelible mark on the walls or pillars of the houses, signifying its intrusion. This process over a period of years gradually forces the households to continuously relocate themselves further and further inward. For the trapped population, there unfolds a scenario of multiple displacement, where the

households are retreating inwards, thereby leading to 'nomadic' resettlement. The standard times that a respondent-household living in the periphery of Boatkhali-Dhablat had to relocate themselves at least a minimum of 3-4 times over a course of 7–8-year span of time.

A respondent claimed that there was a time when these parts of Sagar had such a high land sale rate. The value of land has dwindled over the years. The land there is much cheaper, but it is difficult to find buyers who would be willing to move to such a volatile location and make themselves more vulnerable. The landless and marginalized population find themselves gravitating towards these areas (Photograph.5). Much of the portion of land closer to the sea or embankments are also vested land, where the government has control over its use and distribution. Thus, the households now have to deal with not such existing 'poverty risk' but 'ecological risk' as well.

Photograph.4: Breached embankment in Bankimnagar, Sagar Island

Photograph.5: Condition of a house in Boatkhali-Dhablat after Cyclone Yaas in 2021

(ii) *Economic* – People in Sagar as well as Ghoramara, are tied to their land as well as the natural resources around them and can be logically known as the 'ecosystem people'. There is an occupational relationship between the people and the river/*khal*/sea. A phenomenon that was seen to exist in Boatkhali-Dhablat and Beguikhali, by the researcher, particularly those households whose livelihood are bound to the flowing water courses nearby. These households are located adjacent to the embankment and whose primary occupation is fishing. This too can be termed as 'voluntary entrapment' as mentioned in the above point (i). The subsequent loss of large-scale agricultural land makes fishing a viable option for earning their means of living and is comparatively risky but quite remunerative. These households individually or usually collectively venture to the sea/river in boats or large trawlers. The time taking for the activity may vary depending on the catch, where it could be days or even months. As a result of the seasonality of this livelihood, one comes across 'temporary settlements' closer to the embankments. These are households who have land in the interior regions of the island wherein they permanently reside, but have built houses nearby the sea/river, so that they can reside there for at least 4-5 months during the peak fishing season. Once they complete the process of catching and selling of their wares, the households would vacate this temporary settlement and return to their permanent residence, only to return once again during fishing season. Such houses are constructed with kutcha materials, with 1-2 rooms, occasionally having a small patch of vegetable garden adjacent to it.

There is however, a lack of alternative livelihood options in the region, that aggravates their vulnerable existence. There is an overdependency of the people on rainfed agriculture combined with the dearth of planned irrigation facilities. The declining agricultural productivity, loss of land combined with lack of alternative livelihood opportunities and poor wage rate, has resulted in households scrambling for work, outside of the state. In recent times, there are only a handful of male youths in the study area who pursue higher education by getting themselves enrolled in vocational technical institutions either in Sagar or nearby institutes in West Bengal. On the other hand, there is a trend of majority of boys, as young as 13-15, who are prepared (sometimes even encouraged) by their household to drop-out of schools and follow their father's or uncle's footsteps of migrating for work. This is resulting in youth amassing no appropriate degrees or skills and working as unskilled or semi-skilled workers with lesser remunerations in riskier settings. This further results in the inability of households to generate economic capital for the option of self-resettlement, if they are willing to do so. The remunerations in cases of self-resettlement may have provided an impetus for the

households to move and can in the long run provide the households with avenues of resettlement outside of the Indian Sundarbans. But the relentless occurrence of both sudden and slow onset hazards that significantly affects those left-behind by the migrants, and where the scope for amassing savings and economic capital through remunerations, is low.

(iii) *Socio-cultural* – situation wherein households lack social networks or capital to rely upon. The households that could utilize the benefits of their social networks, could undertake the process of self-resettlement. Even in the case of sudden-onset event like cyclone, this social network proved to be beneficial for household members who had kinship relations in the interior of the island and where they could take temporary shelter. The disintegration of social networks due to various causes is, resulting in the inability of household to utilize such an option for resettlement. An 85-year-old male respondent of Boatkhali-Dhablat, living next to the dilapidated embankment had fallen out with his son and other family members, who lived in the interior of the island. The embankment that was being built behind his one room house was, decrepit and in need of repair. But the respondent was continuing to reside in his one room kutcha house as he had nowhere else to go to.

Additionally, a trend towards breakdown of joint families or households can be evidenced. This break-up of households can be forcefully created by disasters or voluntarily constructed. For the old planned resettlers, joint families proved advantageous as they would receive larger portions of land compared to the other resettlers who had smaller households (see Chapter 5). This land holding would eventually be distributed amongst its members. But in the case of new planned resettlers, the land holding was equal for all, irrespective of the family size. For certain households this breakdown of households/families can then be perceived as valuable due to the receiving of land-for-land based on individual households and not as a larger household, as the size of the land remained the same for all. The choice of self-resettling to a particular location can also be looked at from the point of view of 'familiarity of space', the easiness brought about by having a socio-psychological support in times of distress or need.

The existing socio-physical characteristics of a household may also present scenarios of entrapment. A household in Mrityunjaynagar, living closer to the embankment was unable to relocate despite facing constant threats of hazards. The male head of the household who had been working as a migrant in Chennai, about 7-8 years ago, had now returned home as he was partially paralysed having suffered a stroke. His wife was now the main earning member of the family, doing odd jobs and also being a member of an SHG. Their only daughter had just

completed class XII and had hopes of entering the medical field. But the family was limited by their financial burdens and unable to amass capital for relocating elsewhere.

The vulnerability of the people in the region cannot just be attributed to present situations but also to past historical trajectories as well. The historical distinctions of a region still entrenched in the socio-cultural structure of the society in question, is reflected in how the landless have internalized and perceive themselves and their vulnerability. Although the zamindari system was abolished after Independence, with the enactment of land reforms and redistribution of landholdings by the political powers in West Bengal, the respondents would still refer to the land that they were either living in or cultivating as that of the '*malik*' or zamindar. This does create a psychological blockage on the households and their efforts towards upward social mobility. The fact that the respondents still would or could not make legitimate claims over the rights of the land. Thus, when questions of acquisition of land for embankments arise (as mentioned in the case of respondents in Boatkhali-Dhablat), and negotiations of compensation are conducted, these 'tenants' are the ones who tend to suffer. The compensation was only received by the original landowners and not the tenant farmers, agricultural labourers or sharecroppers. This also extends in scenarios of 'planned' resettlement; when households who are not awarded pattas, cannot legitimize their claim over the assets (here land) lost, they are the ones who then lose out on the negotiations with the state.

The forms and trends that human mobility would take is difficult to determine, due to the unpredictable nature of the hazard itself, leading to diverse disastrous consequences for the households. An individual or household due to their meagre financial capabilities maybe unable to capitalise on migration and therefore persist where they are, adopting diverse coping strategies, hopeful that their circumstances would enhance (Adamo, 2008; Blaikie et al., 1994). The situation for the men in a way is secured when they migrate to the urban areas for work. But for the other marginalised section of the society - women, children, elderly and disabled, they are then 'trapped' in such vulnerable locations (see also Beddington, 2011). This transpires in circumstances of extreme level of vulnerability, along with the continuing sudden or slow-onset hazards, where people may be willing to migrate, but lack the capacity to make such a move. Thus, what is developing is an inter-household and intra-household differences in the construction of disaster. Along with this, additional factors of originate like risky financial situations (Milan & Ruano, 2014; Findlay, 2011), national and state or local governance systems, services and economies that are inept to withstand adapting to hazardous conditions in-situ (Bremner & Hunter, 2014).

Voluntary migration has now become one of the burgeoning livelihood strategies for households in the study area, to co-exist with disaster and the threat of being displaced. This trend was mainly seen among male members of the household than women; although few cases of family migration was also observed. This out-migration of men is generating a situation of households with 'left-behind wives', who are now burdened with the dual responsibility of managing the inside-household chores as well as outside-work. Even the responsibility of parenting has been placed on the mother, who has to now act as both the parents for the child in question. Often times, these women have to bear the brunt of harassment at the hands of moneylenders, neighbours, government officials etc. The tasks of looking into matters of legal or formal work which was the onus of the husband, has now fallen into her hands, which is becoming cumbersome for the wives. The bureaucratic process of the legal mechanisms like change of address in identity documents which is viewed as a 'male' job by few of the respondents, is now her responsibility. This in a way can help the women to learn the workings of the world, but at the same time it adds additional pressure on her pre-existing responsibilities.

The phenomenon of 'voluntary entrapment' can also be evidenced within this dimension as well. During the field work, it was observed that a household from Bagpara, Ghoramara had been granted a 50 *satak* land back in 1993-1994 in Jibantala Colony II. But the household had not completely relocated themselves to the colony and was still living on the house that they had in Ghoramara. It was only after Yaas in 2021, when their house was completely demolished that they permanently moved to the colony. Even the documents for the household were partially transferred like for instance the wife would vote from Sagar while the husband from Ghoramara. The husband would be transferring his document to the colony-address now. It could be observed that this 'dual' residentialship was because the households used that as a strategy to derive benefits of government and non-government schemes or programmes from being residents in both the islands. Another form of voluntary entrapment that existed and was particularly found in the colony of Bankimnagar I. This area had been deserted by many households. It was brought to the researcher's attention that landowners there had given their land on lease to parties for aquaculture. One could also observe in few cases that the comparatively more affluent land owners also tend to remain on their land due to certain enticements.

(iv) *Political* – favoritism of a certain local party in power and the vote-bank politics at play creates situations of entrapment. In the case of old planned resettlers, those who showed inclination towards the local party in power, received benefits of larger land or a steady income

job. As for the new planned resettlers, all the respondents utilized the assistance of the party in power for resettlement. But the resettlement actions are rather reflections of 'proactive inaction' of those in power at the local or state level. Conversations on matters of preventive resettlement coincides with election periods. This lack of initiative of resettlement on the part of the state or local government resides in the fear of losing out on their vote-bank. This becomes a disconcerting situation that, forces the households to live in the vulnerable region, as they have no other viable alternatives. This was opined by the respondent-households in Boatkhali-Dhablat and Ghoramara. Furthermore, the lack of legal backing in the form of laws, policies, at the level of the central, state and local level, provides no avenues for sustainable resettlement and rehabilitation for the households under threat of environment-induced displacement (explained extensively in Chapter 7 of this thesis).

On asked what would they do if a situation arises where they would be asked to move due to the changing environmental circumstances, the fairly common response was: "*Aar jaga kothai? Shey rokom hole, tahole chole jete hobe. Bhagwan ja korbe, korbe.*" ("Where is the land? If it comes to that, then we would have to leave. God will do what he will do") But the question that remains to be answered is where? The respondents remarked that there is no available land in the interior parts of the island. Relocating them to other parts of the state has bearing on land unavailability with increasing population. For new settlements to be created the question of land acquisition would undoubtedly emerge and the past displacement and resettlement practices (as evident in Chapter 4) in the national and international context reveals, a dismal picture. Additionally, the legal system of the country also falters to provide the support system for those displaced. Apart from this technical and physical issues, the problem of social adjustment of rehabilitation in a new environment is often ignored by the proponents of resettlement projects.

The state can then, play a role in social protection and recovery during or after a disaster. However, this initiative of the state becomes extremely important as it can either reduce risk (Burton et al., 1993) or on the other hand generate or intensify the existing social vulnerability (Bolin & Stanford 1998; Hewitt 1983) and may even execute discriminatory practices (Hendrie, 2007). Thus, it becomes imperious for the decision-makers to take into consideration the understanding of the essential interrelation between processes that outline the complex vulnerability of households and societies, when structuring effective policies and implementing them (Stapleton et al., 2017). The role of the state and non-state actors in the social construction of disaster, displacement and resettlement, is explained thoroughly in Chapter 7 of this thesis.

In the context of vulnerability and trapped population, a special mention may be made for the island of Ghoramara. According to the census of 2011, Ghoramara has a population of 5193. The entire island can be traversed within a span of 2 hours. Bera et al. (2021) in their study observed a decrease in the area of the island from 4.79 sq.km in 1999 to 3.67 sq.km in 2019. The average decadal percent changes in the area of this island is 0.5% in1999-2009 and 0.62% in 2009-2019. Regarding the built infrastructural facilities, the island has 02 concrete flood shelters, 01 high school, 05 primary school, 01 Sishu Seva Kendra (SSK), 05 anganwadi, 01 health centre, 10 Post Office, 01 State Bank and 01 Agricultural bank (District Statistical Handbook, South 24 Parganas, 2014). They are however facing crisis with the post office as the office is in Ghoramara, but the postmaster remains in Kakdwip. In 2022, Ghoramara lost one of its primary school[88] due to erosion, and only four now remains.

When the researcher visited the island during the field work at the beginning of 2022, the desolation of the island was starkly evident. Many months had passed after Yaas in May 2021, but the embankment had still not been repaired (Photograph.6). The island lacks grid power and one can find sparse solar powered street lamps, covering the island. Many of the houses were in a state of dilapidation due to the intrusion of salt water during Yaas. As the warnings of Yaas was announced, about 70% of the households[89] had been evacuated and brought to Sagar Island. The rest took shelters in the school buildings and tank *par* (raised tank) located in the centre of the island.

Photograph.6: State of embankment in Ghoramara island

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[88] Khasimara Nimno Buniyadi School
[89] As per a Ghoramara resident.

The main channel of communication with the mainland is via the river Muriganga through small vessels. These vessels ply to and fro from Ghoramara to Kakdwip and takes about 40-45 mins. One can also travel via Sagar but only in hired boats. An instance can be narrated here. The researcher's field visit to the island was chaotic but it reflects on the problem of transportation in the region. The researcher on the designated morning decided on travelling to Ghoramara via Kakdwip, as the latter island had a greater number of boats that could take us to and fro. But on arrival, the river Muriganga was shrouded in fog and no boats were willing to take us across. The researcher had to wait for nearly 3 and a half hours for the fog to lift. The travel was more delayed by the waiting of the boats that was coming from Ghoramara to Kakdwip, and where passengers had to board the boats as soon as they come by. The last boat to traverse from Ghoramara to Kakdwip and vice versa was at 3 pm (IST). The number of houses to be interviewed had to be curtailed because of the limited time-frame.

The interior roads are narrow but cemented, with signs of breakage in between after Yaas. They are connected by van-rickshaws or totos, which can be availed at the ghat point. As Ghoramara is a gram panchayat under Sagar community development block, for all administrative matters and legal proceedings, the Ghoramara islanders have to travel to Sagar. The island has drinking water tube wells but repairing is required and lack of maintenance and neglect is evident. As mentioned by the islanders, the construction was due since Aila of 2009. There is no grid power electricity in Ghoramara. In 2011, solar lights were introduced in Sagar. Even the households were encouraged to take up this measure where Rs. 2000 would be given to any household that could generate 40W and Rs. 6000 to 74W.

While interviewing the respondents, they exclaimed that agricultural production had not been good in 2021-2022, as the salinity of the soil had still not reduced. Salt patches was still evident on the cultivable fields which were lying fallow. The small patches of land adjacent to each household, had few vegetables growing for self-consumption. Households had initiated the cultivation of *paan* (betel leaves). This too had been affected after Yaas, where such *paan boroj* (betel leaves crops) were lying abandoned in fields. Those households that engage in agricultural and fish production for the markets, have to travel to either Kakdwip or Sagar. According to Lee (1966) and as inferred by Haldar et al. (2021, p.218), the more trials that environment presents to the settlers, they will psychologically be compelled to search for secure possibilities. If this safety is provided by locations in propinquity, the displacement will then be greater (Photograph.7).

Photograph.7: A dilapidated house in Ghoramara after Cyclone Yaas in 2021

6.8 Conclusion

The definition of disaster here then, cannot be simply situated in its origin of environmental forces. Disaster here acts out as not as an external force but is reflected in the internal dynamics of society - the social construction of it. The suddenness and the destruction that ensues a disaster, focused in the governmental definition, is not the conceptualization of disaster that the local people is synonymous with. The slow-onset erosion has become a part of their everyday existence. They've witnessed and continued to live with the times, when the sea or the river water slowly seeped into their cultivable fields, making cultivation difficult or impossible with increasing salinity; the water flooding their houses for most part of the day and even months. The mud walls of the houses crumbling after its constant impact with this saline water, the bare minimum material necessities in the house damaged after longer period of submergence in the said water. Then one day their houses too giving way to the encroaching river or sea, and now homeless they are forced to resettle themselves either nearby or to the interior regions of the island. Thus, disaster for this populace is not something that happens in an instant. It happens over time, eroding bit by bit their lives and livelihood.

For both the planned as well as the self-resettlers, the idiom '*out of the frying pan into the fire*' is aptly suited. The fears that they thought they had abandoned have now even followed them here in this new resettled area. The uncertainty of hazards, dearth of livelihood in the place of origin, loss of land are the issues that the households deal on a daily basis even in the new area, for which crucial decisions have to be made. The households whether being a part of planned or unplanned resettlement are all then 'trapped'- physically, economically, socially and

politically. It appears that vulnerability will differ not just between households but even within its members. Thus, a case of inter-household and intra-household, variations in social construction of disaster. In case of migrant household, women, children, elderly and physically challenged experience disaster differently and daily than the migrant (usually man) who has migrated. The case of Ghoramara island is also significant here, whose land area is diminishing day by day, yet there lacks any initiatives for resolving the crisis. Here then the island can be viewed rightfully as a 'neglected' island. While conducting the field work in 2021-2022, it was brought to the attention of the researcher that about 30 households from Ghoramara had been promised to be resettled in a new colony set up in Chemaguri, Sagar, by the local government. But the question remains, as to how would the process be carried out and most importantly, on what basis would the households be 'chosen' for the proposed planned resettlement? The ensuing chapter 7 attempts to answers these queries and dwells on the dynamics of the governmental and non-governmental organisations in their perception of disaster and displacement.

CHAPTER 7

DISASTER-DISPLACEMENT & RESPONSIBILITY: THE ROLE OF THE 'FIRST' AND THE 'THIRD' SECTOR

7.1 Introduction

How the post-colonial government of India perceives displacement due to various causes and the respective strategies of resettlement and rehabilitation adopted thereof, has already been dealt with in Chapter 4 of this thesis. The national legal frameworks and policies relevant to Internally Displaced Persons (IDPs) are weak. However, it can be opined that some sort of recognition is accorded to populations that have been displaced by causes other than environment or disaster. Disaster management in the national front has been dealt with in Chapter 4 as well. This chapter largely pertains to the mode of operation of the disaster management at the state - West Bengal, and at the district level. Further, the functioning of four non-government organizations (NGOs) in Sagar Island have also been studied. This would assist in understanding how disaster is conceptualised by two pertinent actors – government and non-government, and investigates whether these constructions align amongst themselves and with the people at large.

The objective of this chapter is to assess the role of the government and the non-government organizations in the disaster-human dynamics. Thus, it reflects on few central questions – how is human displacement perceived, in relation to disasters? When resettlement is promoted with the objective of reducing risks, either pre-emptively or post- disaster, how are 'risks' of displacement defined and by whom? Did those affected had the power and agency to act and see risk differently than the institutions? How much power do 'at- risk' people have in these decisions and at what stages? Finally, what bearing do these decision-making processes have on the resettlement outcomes?

7.2 Negotiating disasters: Risk and responsibility

Social construction of risk is significant while understanding the responsibility towards management of disasters. Ambiguity and increasing cognizance of threats innate in everyday life, has been a central component in this modern world, particularly in the late or postmodern era. This is associated with the continual transformation, instability and cultural disintegration (Giddens, 1990; Featherstone, 1995). Humans and their agency are plagued by choices that one has to make on a daily basis and also accept the responsibility of those choices (Lupton, 1999). The advent of Enlightenment in the 17th century, subsumes objectivism of modernity with the

reliance on rationality. During the 18th century, scientific calculation of risk was initiated, imbibing from pioneering statistical probabilistic approaches (Lupton, 1999). Towards, the end of the 20th century, although risk had become more globalized, it was not easily discernible but yet more grievous in its effects and rather tough to manage (Beck, 1992).

Humans in developing modes on dealing with precariousness, exercise some kind of rationality (Denney, 2005, p.29). Risks are elucidated through the consequences of individual or collective intentional and unintentional choices, rather than the pre-modern emphasis on supernatural elements. But there is also the common perturbation that assumes science and technology (including industries) as the spawners of risks (Giddens, 1990; Beck, 1992). The acceleration of modernization has generated a distinction between quantifiable risks and unquantifiable risk (Beck, 1992). Evidence can be found during the 19th century, in the context of colonization, where risk was associated with the definitions determined by the state and culture. The term was attributed to specific 'dangerous classes', where criminal activities of these classes were vehemently assumed to be hereditary (Denney, 2005, p.7). In the 21st century, risk perception and management involves a considerable amount of political decision-making. These risks might not have any political origin but have to be administered politically (Giddens, 1999, p.5).

The sociological construction of disaster and its related risks, demands it to be extensively publicized. This is required for convincing the masses of the authenticity of this risk. However, if the risk turns out to be less severe than proclaimed, the ones responsible should also be ready to face criticism. In a society, every risk has a value, which maybe simply the maintenance of human life. The conflict between different types of risk, would also result in a clash of values, as well and to a political set of queries (Giddens, 1999, p.5). The report on 'Risk management and political culture' by Shiela Jasonoff (1986), observes that cultural factors and the national political structure, strongly influence goals and priorities in risk management and also the agents involved. This, if looked at more spatially could also mean that risk differs not just inter-nations but also intra-nation; like in the case of India, the central and the state or even rural and urban. Risk identification, and management therefore are always based on pre-existing knowledges and discourses (Lupton, 2005). In the management of such manufactured risk, the state having assumed the responsibility of welfare (after World War II), has to undertake an altogether different approach which is not just monetary (Giddens, 1999, p.4). For Giddens, risk responsibility also involves the role of 'trust'. It assists in the psychological dealing with risks, incapacitating fear and inspiring action, without which there would be a disengagement between people and experts (Giddens 1990, p.35).

Amid the common people there is also the emerging conception that the 'experts' habitually dissent and invoke lapses when calculating risks. Despite this, the common people are enforced to be contingent upon 'experts' (Denney, 2005). There is however a dispute of rationality between the 'experts' (scientist, technocrat, academicians, government) and citizen (Dingwall, 2000). Giddens (1991) characterizes risk as features of 'high modernity' or 'late modernity'. According to him, this phase of modernity emphasizes on the ambiguity and prerogatives to truth. This has resulted in an increasing incredulity about the capability of experts in risk prediction, leading to mass apprehension (Giddens, 1991). This reflexive modernization of the risk society creates a society which becomes a problem for itself (Beck, 1994, p.8).

"*The value system of the 'unequal' society is taken over by that of the 'unsafe' society*" (Beck, 1992, p.49). Thus, the risk society is characterized as negative and wary and emphasis on eschewing the worst, rather than on the good (Beck, 1992, p.49). The modern society presents challenges which has to be accredited and accomplished concurrently, wherein lies the utmost political tribulations (Beck, 1999). Beck through his notion of 'risk society', too induces contemplation of the social construction of risks, especially those forged by politicians and experts (Taylor-Gooby, 2000). Risk management therefore involves not just scientific resolutions, but also social and moral pronouncements (Beck, 1992, p.19).

Conviction in governments and other professional experts is disputed (Denney, 2005, p.31). Further the politicisation of risk makes ascertaining of those accountable for risk estimation and management quite challenging. The prevalence of manufactured risk simultaneously ushers in political sluggishness and ineptitude (Giddens, 1999, p.5). Thereby, the probability of risks being recalcitrant to political intervention is also high. The construction of risk also varies across nations because of the different and definite organisation of political and administrative structures, historic backgrounds and cultural principles (Douglas & Wildavsky, 1982). A contrast can also be noted in the form of political control where it has become more incoherent and divisive in the modern world than in the traditional order. The control is established in the system of mechanical aptitude. This is reflected in the form of governmental orders, law and organizational measures (Denney, 2005, p.29).

The identification, conceptualisation of environmental risks and the debate on selection and pursuing the tangible political measures takes place in what Douglas & Wildavsky (1982) terms the 'social arena'. It is an environment in which the different stakeholders assert their opinions to decision-makers expecting to induce the policy procedure. This social arena presents a state

of conflict between scientific, industrial and government organizations and the public. The civil society has been increasingly concerned about the risks of the modern world and views the activities of the government with a more critical and challenging eye. The decision makers (government) in this arena condescends the community's lack of 'appropriate' or 'correct' knowledge about risk and tends to address minimising risk from a vantage point of 'better knowledge' (Wynne, 1992, p.285-286). The government view themselves as the caretakers of this knowledge. This leads to an 'information asymmetry' where these 'guardians' are vigilant and often involves a suppression of information from the local populace (Lupton, 1999). The communities are oblivious of the risks that they are exposed to, unsure on any process of displacement, on resettlement or would be allowed to remain. Thus, making them unable to take administer their own risk reduction (Johnson et al., 2021). The livelihood coping stratagems and also decisions on moving or staying, adopted by people is influenced by perceptions of risks. This in turn assumes a complexity in case of disasters or in high-risk areas as the decision does not come easy, as people's choice is prejudiced by both hazard- and non-hazard- related risk factors (Gaillard, 2008; Johnson et al., 2021).

Giddens (1999) interlinks risk with security, safety and responsibility. The changeover from external to manufactured risk, is also effectuating a conjecture in responsibility, based on the interconnection between risk, responsibility and decisions. Risks and decision-making go hand in hand. The obscurity of the manufactured risk, and the immanent introspection of these situations, makes responsibility neither easily attributed nor assumed. The notion of responsibility indicates power as well as implementing decisions. Those responsible for decision making should also be ready to face the consequences- either good or bad. Thus, responsibility should scrutinize both negative and positive aspects of risk as well. The problem lies in the fact that they are still viewed as disparate from each other. An effective welfare state is one where, it is imperative that in certain circumstances, people are mentally and substantially able to calculate risks in a 'responsible' manner (Giddens, 1999: 10). Risk management is the core of resettlement management which often tends to get ignored or regarded with minimal attention. A good resettlement management requires a candid identification of risk, and examination of some solutions to counterbalance risks (Giddens, 1999). But the responsibility of assessing and managing risks is not an easy task. In this contemporary society, systematized risk management is presumed to be the responsibility of the state (Dean,1999). It is observed that in most of the circumstances, the people have to constantly negotiate with a wide variety of risks and the perception of risks of residents

diverges not just within themselves but also from that of the planning authorities. The prioritisation of risks from this gamut is dependent on, people's level of tolerability of having to live with them and explained by their discernments and facilities (Correa, 2011).

Looking at the association between disaster and risks, the state identifies the former as danger to tangible assets like property, infrastructure, life. For the common people on the other hand, it is the anguish over the loss of sanctuary of their homes, livelihood opportunities and social relations (Johnson et al., 2021). These two contrasting standpoints of perceiving risk by the people and the government (and even non-government organizations), ultimately enlighten their respective risk reduction actions. Whatever legal enactments attempting to diminish the brunt of the exposure to disaster by a given population, fails to take into consideration the individual perspectives on the choice of which risks to endure or admit. Often these formulations of the 'experts' are so moved away from reality of the common people. This disagreement in perspectives is equally relatable to the subject of resettlement, here presented in this thesis. The perception of risk at the individual/household and their capability to allay them, as well as the that of the governmental and non-governmental level, will have an implication on the strategies towards reducing the risks. This is further inclusive of decision as to commence with resettlement or not (Johnson et al., 2012, p.77)

Although disaster risks may be deliberated at the level of decision-makers and demands public responsibility, but in actuality they are shouldered by most individuals at the local and everyday level (Lupton, 1999). This knowledge can be contrasting betwixt the local's and their common, circumstantial and personal reflections, while the experts have the predisposition to universalise (Wynne 1996, p.70). But the risk perceptions and strategies are dynamic and continually responding to the everchanging local and expert level experiences and knowledge (Lupton, 2013). So, then the question that the thesis ultimately attempts to answer is that who has the power and the responsibility on deciding at the brink of disaster, which risk is to be accepted or not? The outlook of both the government and the non-government sectors and the similarities or contrast that they present to the issue is of relevance to this study. The state is a powerful protagonist when it comes to conceptualizing risk and in delineating the ones that should be magnified or those that should be downplayed. The government's efforts or lack thereof towards the issue of resettlement in this thesis, is explored within risk and responsibility and later in the politicization of risk itself. The perspective of the third sector vital for democracy in the case of the Indian Sundarbans - the Non-Governmental Organizations (NGO)

is also taken into consideration. These entities have played a formidable role in the context of the Indian Sundarbans Delta, predominantly in the development of the region.

7.3 Disaster-displacement, resettlement & rehabilitation: Modus operandi of the state of West Bengal

In West Bengal the responsibility of managing disasters is carried out under the aegis of what is now baptized as the 'West Bengal Disaster Management & Civil Defence Department' (earlier known as only Department of Disaster Management). A glance at their official website reveals the history of its emergence and how its seed was sown during the colonial management of famines. At that time, there was no separate department to cater to the issue of disaster. The Bengal Famine Code was formulated in 1913 and a Manual in 1914. This was continued till the post-independence period where providing 'relief' was the top priority. This provision was under the jurisdiction of the Department of Food, Relief and Supplies in West Bengal. In 1959, the department published a manual entitled Relief of Distress that, supplanted the colonial code and manual of 1913 and 1914 respectively. A fully functional Department of Relief was created in 1992 and importance was granted to not just relief but also rescue and rehabilitation in the state. The site claims that the perspective towards disaster has experienced a 'paradigm shift' from relief oriented to all-inclusive disaster management (DM). After the enactment of the National Disaster Management Act (NDMA) in 2005, a new Department of Disaster Management of the state of West Bengal was born in 2006. The website also claims that the state is the only one in the country that has set up disaster management mechanisms at all the levels of governance – district, sub-division and blocks. Currently, the department has been rechristened to Disaster Management & Civil Defence.

The enactment of the NDMA in 2005 (see Chapter 4) was promptly adopted by the state of West Bengal and a similar Act for the state was passed in 2005-2006. A West Bengal State Disaster Management Authority (WBSDMA) was set-up in August 2007, along with District authorities in the same year. The first *West Bengal Disaster Management Plan* (WBDMP) was published in 2008-2009. It was also mandated that every district would also have a District Plan. A West Bengal Disaster Manual was prepared in 2011.

The most current state DM Plan is of 2015-2016[90]. The plan has been formulated taking into account both natural and anthropogenic disasters. The main vision or aim of the plan is "*to build a safer and disaster resilient West Bengal*" through development of comprehensive, pro-active, multi-disaster and technologically motivated management strategies (WBDMP, 2015-2016, p.7). The two main themes of this plan are to assess the vulnerability of the different areas of the state to the varied disasters and implementing procedures for prevention and mitigation of such disasters, along with capacity building and preparedness. Taking the first theme into consideration, it was essential to prepare a Hazard Risk and Vulnerability Analysis (HRVA), identifying all the vulnerable areas of the state to major kinds of hazards plaguing the state. Risk management is also an important part of this disaster management plan. The last objective focuses on the preparation of a Rehabilitation Plan for the affected people and implementation of reconstruction approaches (WBDMP, 2015-2016, p.8-9). There are numerous departments of the state that are integrated into this intricate structure for disaster management (Fig.1).

The plan has dedicated a section to elaborating their conceptualisation of hazard, disaster, vulnerability and risk. The concept of 'hazard' is viewed as a physical event with diverse sources and detrimental infrastructural, environmental, social and economic consequences. This then transforms into disaster if the hazard has consequences on human settlements, impairment of property and leads to mortality (WBDMP, 2015-2016, p.39). Vulnerability has been defined as the inward feebleness of a system to outward threats and the detremining physical, social, economic and environmental aspects that enhanes the predisposition of the communites to the effect of hazards. Vulnerability then is not unform even within the same area and between members of the same society. Risk is the likelihood of occuarnces of destructive consequences like mortality rate and loss of physical assets, through the interface between hazards and vulnerable conditions (WBDMP, 2015-2016, p.39). Therefore, risk analysis involves an assessing of the technical aspects of hazards and the multi-dimenional nature of vulnerability. Disaster Risk Reduction (DRR) cannot commence without 'risk knowledge'. This is in relation to the exposure and also the coping capacities of the people (WBDMP, 2015-2016).

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[90] The plan document is divided into three parts – the first deals with the institutional mechanism and objectives; the second focuses on action plan for each type of hazard, excluding erosion and the third lays down the Standard Operation Procedure (SOP) and action plan of various government departments.

As mandated by the NDM Act, the state has also put into place a WBSDMA headed by the Chief Minister. Additionally, there is also a State Executive Committee, comprising of the Chief Secretary as Chairperson and secretaries of four other state departments as the ex-officio members namely, Home Department, Department of Finance, Department of Irrigation & Waterways and Department of Disaster Management. The committee is responsible for the execution of the national and state plan for disaster management in the state. The state is to be equipped with its Disaster Response Force (SDRF), inclusive of all genders. A state Emergency Operating Centre (EOC) is also to be created, an off-site facility operational at both the state and district level. The two bodies are responsible for monitoring, mediator between state, district and local bodies, assessment and training (WBDMP, 2015-2016). [Fig. 1.)

Fig. 1: Structure of the West Bengal Disaster Management Authority

Source: West Bengal Disaster Management Plan 2015-2016, DoDM (p.13)
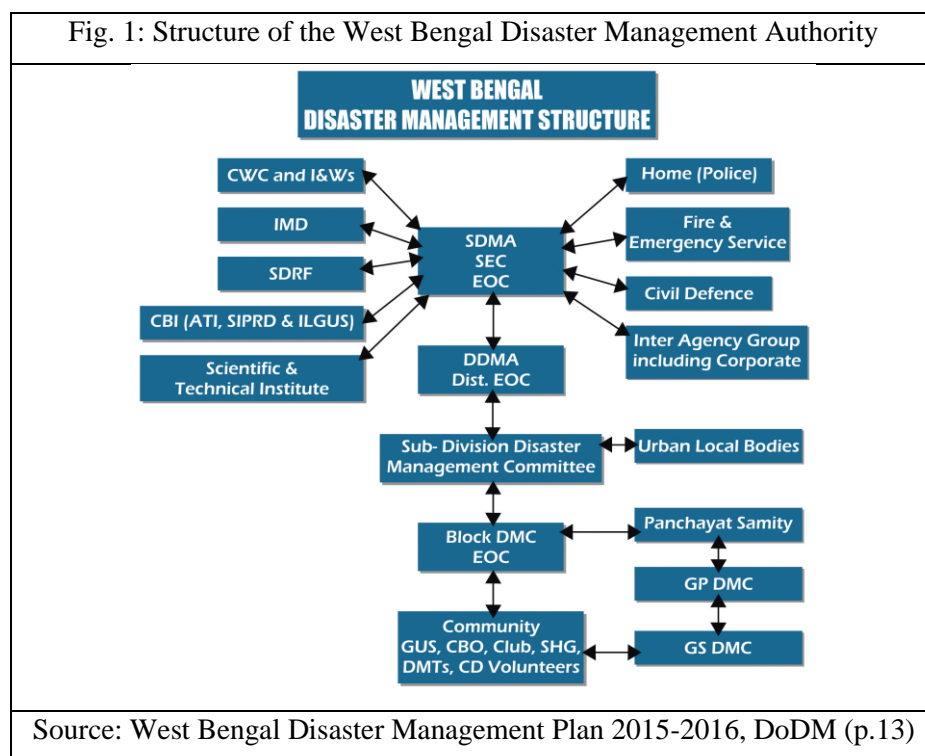
Similar to the WBSDMA, each district of the state of West Bengal is to fashion a District Disaster Management Authority (DDMA) headed by the District Magistrate/District Collector/Deputy Commissioner and an elected representative of the local authority as the Co-Chairperson. The DM structure is also inclusive of the local authorities, relevant for the study is the Panchayat Raj Institutions (PRI). These bodies are directed to prepare their own DM Plans in consonance with other plans mentioned above. It would also partake in capacity building of their staff for management of disasters and significantly carry out relief, rehabilitation and reconstruction activities in the disaster-affected areas. The management of such a crisis also involves partnerships with relevant institutions (WBDMP, 2015-2016, p.145-

148). At the more grassroot level, the Act considers the importance of community and local organizations, groups and volunteer agencies and private organizations, in the implementation of the DM plan. The budget for the disaster management enterprise is to be met through varied sources based on the asperity of the disaster. This could be funds from the state and central budget and even donations or loans (WBDMP, 2015-2016).

Within the state DM Plan, a map indicating multi-hazard zones in West Bengal has been incorporated. The map illustrates three hazards viz., cyclone, earthquake and flood, which are also significant for a coastal region like the Indian Sundarbans. These are all categorised as sudden-onset disasters. The island of Sagar and also Ghoramara have been identified as an area that is very high and high damage risk zone in the case of wind and cyclonic hazards because of being low-lying; earthquake high damage risk zone and area liable to flood. In South 24 Parganas district, Sagar Island falls under the high category of vulnerability to flood caused by tidal rivers. Despite erosion being noted as one of the hazards plaguing the state, the plan lacks any erosion vulnerable area mapping. This becomes extremely relevant for people living in the periphery of the study area of Sagar, who have to face the hazard on a daily basis. Landslides and erosion have been clubbed under the same sub-heading, where the elements of risk showcase only those of landslides. The things considered at risk of such hazard are only the concrete and built physical infrastructure (WBDMP, 2015-2016).

The plan further lays down the measures for prevention and mitigation of disasters in the state. This is distinguished between structural and non-structural categories, where there are activities planned under each task, that engages a set list of departments who are assigned responsibility to fulfil those activities. This has been done for each specific hazard, apart from erosion. The plan theoretically realises the necessity of proactive measures, rather than having to deal with repercussions. But in actual reality this seriousness is amiss. The mitigation strategies for flood initiates with the mapping of flood prone areas, followed by structural measures inclusive of embankments, vital for the study area. Flood forecasting and proofing are listed as other measures. Cyclone mitigation begins with measures for warning system, implemented in two stages - cyclone alert and cyclone warning. Out of all the other hazards, its predictability is higher. The plan takes into stock the risk of settlements located in flood plains of cyclone-vulnerable areas. However, it is to be noted that the planned resettlement has all been undertaken in the cyclone-vulnerable and flood risk areas of Sagar. Involvement of the community in mitigation strategies has also been considered. Rescue and relief are no doubt

prioritised, but efforts for consolidation and reconstruction have also been emphasised, with a possibility of resettlement, if required (WBDMP, 2015-2016).

As the threat of disaster looms large, the process of management initiates with the response, entailing warnings, observation and preparation. The Incident Response Teams (IRT) are deployed at all local levels and efforts to minimise the pre and immediate impact of the disaster is implemented. Once completed, the authorities then consider the required recovery phase. This is to be carried out in two segments – short term and long-term regaining activities. Surveys are conducted to assess the damage, so as to identify which recovery measures would be applicable. The redevelopment of damaged and interrupted services and livelihood avenues, forms a part of this initiative of short-term recovery, lasting for about weeks (WBDMP, 2015-2016).

In the aftermath of a disaster, the long-term recovery phase necessitates the '*restoring a community to its pre-disaster condition*' (WBDMP, 2015-2016, p.150). This kind of recovery measures carry forward the earlier short-term efforts but with aim of community restoration (WBDMP, 2015-2016, p.150). This takes over a longer period, of months or years. During the pilot survey in 2016 and the field work in 2020-2021, the post-Aila (which occurred in 2009) recovery phase was still ongoing. Apart from the centre and state funds, relief is also generated through additional sources like donations. Relief resources are inactivated after the response process is thought to be no longer necessary. Relief packages are finalised and distributed to all affected household. For the displaced families, temporary shelters are provided, in addition basic amenities. At the end, post-relief appraisal is conducted that would allow the government or authorities to consider forthcoming actions (WBDMP, 2015-2016, p.150).

The action plan for cyclones and floods is highly elaborate. The subject of '*allocation of areas to affected families*' has been mentioned in the action plan for cyclones, but it is not clear as to whether this pertains to long-term resettlement or not (WBDMP, 2015-2016, Part II - 34). One of the major impact of floods in the Indian Sundarbans has been the salinization of agricultural land and decline of production. Neither the short nor long-term recovery measures in the action plan have recognised this debilitating consequence. The Standard Operation Procedure (SOP) of the Department of Agriculture given in the Plan, lays down the actions to be initiated in cases of floods, focusing on transforming agrarian production strategies (WBDMP, 2015-2016, Part III - 57).

The *West Bengal Disaster Management Policy*[91] reiterates the provisions laid down in WBDMP. The state government has exclusive right to define a disaster and lays down the limitations of disaster-affected area boundaries (WBDM Policy, 2008-2009, p.4). The disaster management strategy has been divided into three phases – pre-disaster, disaster/impact and post-disaster; from preparedness to search, rescue and relief measures to reconstruction and rehabilitation. The last stage would be set in motion, with a thorough impairment appraisal by relevant government authorities at all levels. Succour for loss of abode or livelihood generation would be provided. The relocation of people would be carried out on a 'need-based' strategy. This incorporated ventures like taking consent of affected population, land acquisition, land use planning, relocation packages and livelihood regeneration (WBDM Policy, 2008-2009, p.21).

The rehabilitation programme will be under the aegis of WBSDMA, undertaken with detailed planning and even monitoring of projects. State-of-the-art mechanisms for grievance redressal and conflict resolution would also be developed. The cost for rehabilitation would be met from the state funds and if required take the assistance of other funding agencies (WBDM Policy, 2008-2009, p.21). Assessing these national and state plans and policies, it can be perceived that the government, in general assumes that disaster is an 'extreme event' and returning to regularity would solve all the problems. So, a primacy for solutions for sudden-onset disasters is developed and prioritized over slow-onset. It has been criticized that the meagre response to Cyclone Aila in 2009, highlighted the lack of appropriate implementation of the proposed strategies in all the plans and policies of the state DM (Danda et al., 2011, p.25).

The National DM Act mandated for the creation of the District DM Plan located in each state. The *District DM Plan* of 2020-2021, South 24 Parganas has been assessed here. The main coordinating unit within the district is its Disaster Management Cell that, links all the relevant line Departments (DDMP-S24P[3], 2020-2021, p.6). The multi-hazard map of South 24 Parganas identifies most of the blocks falling under ISD as areas facing severe to moderate cyclone and flood (DDMP, 2020-2021, p.73). However, the map clubs these two hazards together, making it incoherent. Sagar has been regarded as an area plagued by severe cyclone and flood hazards. The most vulnerable area within Sagar has been identified as Muriganga-II, Boatkhali-Dhablat, Dhaspara and Sumatinagar-II. Ghoramara, part of the Sagar Community Development Block, does not even feature in these maps, despite its vulnerability. According to the plan,

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[91] The West Bengal Disaster Management Policy is still the pre-existing policy of 2008-2009.

infrastructural facilities have been constructed for contesting cyclone and flood, at the block level. There are 12 functional relief go-downs, 15 flood shelter, 15 multipurpose cyclone shelter under Prime Minister National Relief Fund (PMNRF[92]), 25 being constructed under Integrated Coastal Zone Management Project (ICZMP[93]) and 75 constructing under National Cyclone Risk Mitigation Project (NCRMP[94]) (DDMP - S24P, 2020-2021, p.75-76). The duties of each line departments have been meticulously given on managing the pre-present and post-disaster phases. In this district plan the focus has once again been specified to sudden-onset disasters of Flood, Tsunami and Cyclone, while completely ignoring the slow-onset disaster caused by erosion. A source from a Department Disaster Management, South 24 Parganas, claimed that the function of the department was to prevention (evacuation), rescue, provide relief in times of disaster and mobilisation of resources. For this a survey and verification of the affected population is conducted, along with the local government bodies. He further corroborated that there are no concrete plans on slow onset disasters and their focus is more on evacuation, rescue and providing relief materials. The Department had no role to play in the resettlement and rehabilitation of natural disaster induced displacement in Indian Sundarbans Delta.

Although the Department of Environment is not a part of the intricate structure of disaster management of the state, yet for the purpose of the study an analysis of the ***environment plans*** at the central, state and district was thought to be relevant. However, the plans at all the levels did not have any focus on displacement or even population mobility due to environmental changes. But the Department of Environment does not look into social issues, their role is very limited, mostly to scientific assessment. The representative of the department believes that the important thing is not only the question of relocation but it's a question of livelihood. It's not the government driven relocation but it's the crisis in livelihood which ultimately forces a person to decide. The informant also feels that if displacement and subsequently resettlement is inevitable and the people are willing to relocate but are not able to do so due to reasons such as financial constraints etc, then this has to be deliberated by the government.

The other relevant legal mechanism pertaining to environment-induced or natural-disaster displacement is that of the land acquisition and the subsequent resettlement and rehabilitation frameworks. Refuting the earlier colonial land acquisition acts, a new national land acquisition

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[92] Sagar has 03 multipurpose cyclone shelters under PMNRF
[93] Sagar would have 05 shelters under ICZMP
[94] Sagar supposed to have 10 under NCRMP

act was passed in 2013 titled '***Right to fair compensation and transparency in land acquisition, rehabilitation and resettlement Act***' or LARR in short[95]. The initial law relating to land acquisition in the state was the colonial Land Acquisition Act of 1894. The West Bengal Land (Requisition and Acquisition) Act was passed in 1948 and was adhered to till 1993. This was made dispensable by the West Bengal Legislative Assembly (WBLA) on 31st March, 1993. It was prescribed that the act would have to be updated after a period of every five years, through a majority in the WBLA (Guha, 2011). This periodic revision was justified on the ground of refugee resettlement in the state. Land acquisition in the state of West Bengal is quite complex. It is to be taken into account that the state of West Bengal is yet to implement the LARR Act of 2013.

During the field work, a new-planned resettler in Bankimnagar new colony, had stated concerns regarding the absence of a legal framework for acquisition of land. The concerned resettler had lost his 03 acres of land mainly to erosion and partly to land acquisition for the reconstruction of embankment. The household had not received any compensation because of the absence of a legal mechanism at the state. They had neither resorted to demand and protest for lack of unity amongst the resettlers and the fear of legal systems. A source from the Rehabilitation department of South 24 Parganas, claimed that the internally displaced population like those displaced by natural disaster does not come under the jurisdiction of their department. It is a matter for the Department of Disaster Management to look into. An enquiry was done by them in the resettlement colonies in Sagar but as there were no 'refugees' residing there, they did not take the matter further into consideration. A representative of the District Rehabilitation department, claimed that resettlement households are problematic due to complications of land matters, family disputes, political complications and issues relating to land acquisition. The informant mentioned an example of Sukanta Pali-Canning, a block in IBD, where the land has been categorically recorded as a 'River' and acquisition is only possible through changing of land records or categories. The major difficulty in resettlement arises in the limited land.

An important department that is significant for the study area and the questions on displacement and resettlement is the ***Department of Irrigation and Waterways***, particularly to their workings on embankment construction. The Department of Irrigation and Waterways has been made a significant part of disaster management in West Bengal and is a member of the West Bengal State Disaster Management Authority as well as its Executive Committee. Since the initiation

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[95] A lengthier analysis of the act has been provided in Chapter 4 of this thesis.

of the reclamation of Sagar Island from the 1811 onwards, embankments have been prioritized time and again, considering its importance for the inhabitants and their livelihood, in a hazard-prone region. But the dealings towards protective works in the Sundarbans was never uniform.

The onus of maintaining these structures has of course been a subject of debate (see Pargiter, 2019; Ascoli, 1921). The Embankment Act of 1882 molded the legal framework for embankment management during the colonial rule. In 1915, the Bengal Embankment (Sundarbans) Act (IV B.C. of 1915) was passed. After Independence, the onus of maintenance of the embankments was handed over to the Drainage Wing of the Department of Irrigation, Government of West Bengal (Danda et al., 2011, p.25). The Indian Sundarbans, now is said to be protected by about 3500 km long embankment. These earlier earthen embankments, of course have been breached in places by cyclones and storm surges and partly reconstructed over time. In the SOP of the Department incorporated within the WBDM plan, it is stated that prior identification of vulnerable locations of embankments is carried out and reconstructed during pre-monsoon working season. This is subject to the availability of funds (WBDMP, 2015-2016, Part III - 59). Further, the 'promptness' of reconstruction works has been highlighted (WBDMP, 2015-2016, Part III - 60).

According to Ghosh (2021), the embankments in the Sundarbans have been one of the most noteworthy elements in the history and politics of the region. The embankment construction in the Indian Sundarbans plays out an interesting dualism of development and disaster. The onslaught of disaster breaches the embankment and reconstruction efforts by the concerned department, intends to acquire land so that developments could take place. The embankments reconstruction transpires on a reactive emergency response rather than proactive initiative (Danda, 2007, p.40). The people share objections about such acquisitions, pertaining to questions of recompense and resettlement (Mukhopadhyay, 2016, p.15). The department responsible lacks proficiency in strategy and edifice, specific to the requirements of the region. It is essential that the legal mechanisms and methodological know-how be updated (Danda et al., 2011, p.25).

At the end the *West Bengal Climate Action Plan* has been analysed to understand the level of preparedness in the likely event of such environment-induced or natural-disaster displacement. The National Action Plan on Climate Change (NAPCC) was published in 2008 and required by all states to create their respective plans as well. The state published its West Bengal State Action Plan on Climate Change (WBSAPCC) Plan in 2012. The act was formulated under the

guidance of the Department of Environment and through a Steering Committee, headed by the then Chief Minister. The Sundarbans has been considered as one of the special regions of the state and most vulnerable to Climate Change (GoWB, 2012, p.28). The strategies included combating the vagaries of (sudden-onset) climatic changes include protection, adaptation, capacity building and mitigation. But unlike the NAPCC, the WBSAPCC, has briefly touched (only once) upon 'population displacements' in extreme events (GoWB, 2012, p.128). The plan has mentioned one of the consequences of repeated hazards and agricultural failure, has been migration of people to urban areas (GoWB, 2012, p.220). One of the adaptation strategies then, in cases of agriculture decline or failure has been to provide insurance facilities to small and marginal farmers to curtail migration (GoWB, 2012, p.221). The plan lacks concrete provisions for dealing with population movements within Sundarbans and even within or outside of the state. A government-respondent of the Department of Environment, Government of West Bengal, believes that the state has a good Climate Change Action Plan. There has been no time frame set for each given missions due to the dynamic nature of the department. He further believes that it is not possible to isolate climate change as the sole cause of displacement or migration. There is no set time frame for the action plans, because the department is very dynamic, with the change of office holders from time to time and as climate change is a new thing, it takes time for people to understand climate change itself and what needs to be done.

7.4 Locating the 'third sector': Role of the Non-governmental Organizations (NGOs)

In the modernization worldview, the state was believed to be the only facilitator of growth and development. In India all development interventions were characterized by 'supply-oriented', a one-way traffic. These initiatives adopted a centralized standardization of programmes and schemes with non-involvement of people in their own development. The 'local' was never an object of concern (Mukhopadhyay, 2003). It was only much later that the concept of 'empowerment' entered the arena of development discourse. According to Cooke and Kothari (2001), participation evolved as a corrective measure to top-down development. Mathur (1997, p.53) believes participatory approach to be the most adequate pathway to attain impartial and sustainable development. In contemporary period, the grassroots organizations have been a formidable force in this 'bottom-up' approach towards development (Clark, 1992, p.103). Baviskar (2001, p.3) notes this an era of the withdrawal of the state. Since the 1980's, the upsurge of Non-Governmental Organizations or NGOs in development processes have gained momentum. These NGOs may vary in their composition, functions, ideology but they inherit the ability to engage with the local populace and make them 'agents' of their own development

(Mukhopadhyay, 2003, p.34). It is because of this position of the NGOs that they have come to occupy the 'third sector', in relation to the 'first' – the state and the 'second' – the market. The third sector has been acknowledged in the present development lingo as civil society organizations or CSOs (Mukhopadhyay, 2003, p.34).

The role of CSOs/NGOs then cannot be undermined even in the context of displacement and resettlement. The subject matter of displacement has been a major point of contention between NGOs and the state. The organized protests as seen in river valley projects such as Sardar Sarovar and even in China's Three Gorges dams, have been well known, where the scale of support for these movements were not just limited to local boundaries. In the national and the state DM Plans, building partnerships with the NGOs, Civil Society Organizations (CSOs) and/or local groups in the implementation of disaster management at all levels, was emphasized. All disaster management strategies, from prevention to rehabilitation, have made collaborations with these bodies' mandatory.

Out of the four NGOs interviewed in this study, three NGOs[96] are all locally based and have been working in the study area for more than 10-15 years now. The aim and functioning of the NGOs are detailed herewith. The Tagore Society for Rural Development (TSRD) in Sagar works towards providing livelihood generation activities under the Integrated Coastal Zone Management Programme (ICZMP). This is a project funded by the World Bank (INR 33 crore), where 6 NGOs were selected in Sundarbans of which TSRD was one. They work through the engagement of Self-Help Groups (SHG). The project has been terminated now. The organization was successful in forming 550 women SHGs. The groups runs on funds with inter-lending among the members at 2% interest per month. The money is usually used by the members for income generating activities such as rearing poultry, goats, opening small shops etc. They have also worked in the field of inculcating education and providing health service, child nutrition. They have recently completed a project on environmental conservation, with funding from Japan, which included activities such as mangrove regeneration in the inter-tidal char lands and also social forestry inside the villages. They had regenerated mangroves in Ghoramara, but they were allegedly destroyed by the tiger prawn cultivators. The paucity of funds has curtailed many of their activities now. There are no specific schemes or projects carried out by the organization which are specially devoted to the resettlers but the organization had assisted the resettlers and other residents in the areas of Gangasagar, Kamalpur and

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[96] PUPA, Sagar Mangal, TSRD.

Mansadweep, in creation of ponds for rainwater harvesting, with the help of funds from Sundarbans Development Board.

The organization feels that for the betterment of the resettlers, various projects can be initiated such as, women empowerment schemes, livelihood generation activity such as Crab fattening programme, rearing of high yielding ducks especially for their eggs, which can be a source of supply even for the mid-day meal in schools[97] and support for agricultural activities. The major barriers in their work are fund scarcity, the lesser number of government funds and the inability to generate funds on their own. The informants feel that in near future, Sagar may be submerged, as is evident from the statement that "*we will have to sacrifice land to the ocean*". But they would adapt with nature, just like their forefathers did when they migrated to Sundarbans.

Another NGO, namely Paribesh Unnayan Parishad (PUPA), has been working in Sundarbans for the last 22 years, with a focus on primarily on Sustainable agriculture in Patharpratima and Sagar block, collaborating with other institutions and organizations, government or private. Their major activity is the collection, promotion and conservation of Salt Tolerant Varieties of rice in Sundarbans, through funding support from UNDP-GEF. They have also been successful in developing an organic agriculture model- 'Biodiversity Conservation Park', in the farmers field with marginal farmers. The organization has also worked on capacity building of 150 Women Self Help groups in Sundarbans. This NGO too were not a direct participant in the resettlement process of the displaced population but do assist the households from time to time in their livelihood activities. The informant believes that the resettlers, should be defined as a new group of poor. According to the informant, new land has come up called Nayachar near Haldia, where people are now migrating and living illegally.

The third NGO featured in this thesis is Sagar Mangal. The domain of activities of the organization includes providing sanitation facilities (operational in 125 primary schools in Sagar), water testing facilities and microfinance. Two types of microfinance groups can be found- Swarojgar Swarnajayanti Gram Yojana (SGSY) and SHGs. The formation of SGSY requires at least 10-12 members, which after 6 months is subject to monitoring by the government and a startup fund is then given to the group by the government of INR. 10,000, while an amount of INR. 15,000 on interest is provided by the bank. This pattern continues,

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[97] Mid-day meal scheme is a school meal programme in India, launched in 1995 by the Government of India. This was to provide free access and improve the nutritional supplements of school-age children across the country.

where the money can be used for any income generating scheme. On the other hand, SHG does not get government support but loan can be availed from the bank at an interest. Regular meetings are held, where the members of the SHGs decides how they should utilise the fund and who among the members would be availing loans from the said fund at an interest of 2% per month. The organization assists in formation of Self-Help Groups-linking them with banks, savings and helping them to initiate income generating activities. Through these mechanisms, the people are empowered to some extent and especially the women, as they can now contribute to the income of the household.

Lastly, the fourth is an internationally renowned NGO – World Wide Fund for Nature – India (WWF-I). Considering the significance and fragility of the Indian Sundarbans, a separate programme has been created, the WWF-I Sundarbans Landscape Programme. Although the organization does not have a field office in the study area of Sagar but it has collaborated with other NGOs like PUPA in the salt-tolerant rice varieties project in the area. But the main reason why this particular NGO was selected was because of its seminal document titled 'Indian Sundarbans Delta: A Vision' published in 2011. This will be discussed in more detail at the end of this section.

During the events of Cyclone Amphan in 2020 and Yaas in 2021, the NGOs had been active participants in disaster management, commencing from pre-disaster to post-disaster phase. The NGOs had engaged in disseminating early warning to the local population during the onset of the cyclones. In the post-disaster phase, they had either operated on their own in the distribution of relief to the households or even joined forces with the local panchayats. The NGOs through their own corpus of funds or donations received, procured sizeable amount of dry food, water, medicines, clothes, sanitary napkins and other necessary items and delivered it to the cyclone shelters. As thousands of people were flocked together in cyclone shelters, all over Sagar, these NGOs would be designated a particular shelter and assist in organizing community kitchens and providing cooked food to the occupants. Although, the missionary organizations have not been selected for the interviews, yet their role in disaster precaution, rescue, relief and recovery cannot be ignored. Many of these Ashrams have acted as cyclone shelters during the recent occurrences of Amphan and Yaas.

However, time and again, in the actual operationalization of such relationship, conflicts emerge in the functioning of the government and NGOs, within the same space. In recent years, the Indian (central) government is waging a 'war of control', on NGOs, specifically on those that

are perceived to be condemnatory of the government's policies and procedures (Chowdhury, 2021). This has led to a crackdown of many foreign fundings, which have been the source of functioning for even in particularly the three NGOs selected in this study. All the three NGOs have opined that the paucity of funds have tied their hands down and they had to cut back on many of their activities over the years. An NGO now attempts to run on their own meagre fund or individual contributions and donations, if any. A representative of the same NGO remarked that their endeavours in Sagar, even though on a smaller scale will never be supported by the Government as the latter only has interest in selling things or commercialization. The policies created either by the centre or the state have repeatedly ignored the voices of the local people. The organization as such refrains from engaging with the government bodies, unless necessary. Even during the recent disaster events of Amphan and Yaas, incidents of conflict did emerge between the two sectors at the time of relief distribution and recovery activities.

None of these NGOs had any role to play either in the planned or unplanned resettlement. But they have carried out activities with the resettlers in various planned colonies. These NGOs do not have specific programs on displacement or for that matter resettlement. The concept and probable impacts of global warming and climate change are known to the NGOs. Many of their agendas and programs have been conducted keeping such uncertainties in mind like mangrove conservation, organic farming, awareness and training, creation of seed banks of mostly traditional varieties etc. In cases of sudden-onset disasters, the selected NGOs actively engage in the pre and post-disaster phases. While in their agenda towards slow-onset disasters, their attempt is towards resilience building and adaptation to the changes, although not directly stated in their objectives or mission. A dialectics of activeness and inactiveness of the three selected organizations then can be observed when it comes to slow-onset disasters. The role of NGOs, as witnessed in other causes of displacement like conflict or development-induced, has also been that of consolidating the masses for political action or developing 'agency'. This was either being against the perpetrators or for assertion of the rights of those affected. Such mobilization in situations of natural disaster displacement is lacking.

In 2011, WWF-India (Sundarbans Landscape Program), published a document entitled the 'Indian Sundarbans Delta: A Vision'. This developed out of a multi-stakeholder workshop conducted in Kolkata in 2009. This vision document emphasized on the necessity and urgency of developing proactive strategies for the Indian Sundarbans, considering the predicament that it was facing and likely to face in the climate change era. The existing state of affairs of legal mechanisms and pathway of development, was catastrophic for the region. Adding on to this,

are the challenges of population growth. An alternative scenario was then envisioned which would be a synergistic attempt towards maintaining human-nature sustainability in the island region. But these interventions would have to be participatory, cutting across all stakeholders, state and non-state. The process would entail an amalgamation of disciplines, fashioning a common pool of knowledge base. The year set for anticipating this vision was 2050. In formulating this vision document and broadcasting it in the public forum, the main purpose of it was to initiate a dialogue on a topic that is usually hushed. This vision, to be manifested into a reality would no doubt require serious deliberations on the part of stakeholders at all levels. An amendment of policies and practices of governance would also be necessary. The financial obligation and implementation of this vision would be necessitated by commingled exertions from local, national and international actors (Danda et al., 2011).

The alternative scenario suggested was the '*restoration of mangrove forests, and encouragement of phased and systematic outmigration'* (Danda et al., 2011, p.37). This was to a phase wise program. It can be looked at as a 'planned movement' from the 'active' to the 'stable' areas of the delta. The first phase (I) entailed the consolidation of the blocks of ISD under one single administration, as a district instead of separating it into two[98]. The area which is under the Sundarban Biosphere Reserve (SBR) should be re-formed as a Biosphere District having a 'schedule area' status (Danda et al., 2011, p.37). Within this district, an imaginary line has been drawn (Map. 3) indicating the area that should be preserved for mangrove forest. There are 45 Gram Panchayats within 6 blocks that falls under this line and roughly about 2 million population[99]. Sagar and Namkhana have been excluded because of their religious status and tourism potentiality. A representative of the organization opined that this line was also drawn keeping in mind the hazard proneness of the area and therefore the vulnerable area in this context. Anything below this line does not really have a stable or bright future. So, in the probable future of climate change impacts like sea level rise or inundation, maintaining human habitation in these parts then would be increasingly challenging. The governance structure of this district should consider the nodal departments of Forest, Sundarban Biosphere Directorate, Sundarbans Affairs, the early neglected Fisheries and even the local governance bodies. It is to be noted that Sundarbans had been proposed to be a separate district in 2015. According to a news article published in 2021, the Chief Minister of the state had apprised the administrative officials to expedite the matter. In November, 2022, the Chief Minister re-announced the

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[98] The Indian Sundarbans is administratively divided into two districts. North and South 24 Parganas.

[99] Patharpratima, Kultali, Basanti, Gosaba, Sandeshkhali II, and Hingulganj.

proposal and is currently in the process of creating a master plan to curtail erosion (Singh, 2022). The idea of a district had also been proposed in the aforementioned vision document of WWF-I. However, a source from the WWF-I claims that their idea of the type of district to be created was contrasting to what the state had proposed later. The organization had actually written to the Chief Minister, stating the fallacy in the idea. The way that the state was demarcating the proposed district was not something that WWF-I supported.

The population of this district would then be monitored. Measures to curtail the purchase of land by outsiders and permanently residing there, needs to be put in place, specifically in those blocks that fall within the line. Such a move is necessary considering the poor development potential of the blocks compared to the others. Appropriate development amenities and infrastructure and livelihood opportunities predominantly in non-farm or secondary/tertiary production should be generated, to encourage human mobility within the district, but away from the area under the line and as well as neighbouring areas. This of course would have to be done through an exhaustive social audit in both sending and receiving areas (Danda et al., 2011, p.37).

The next phase (II) involved the development of physical infrastructure in the outer areas of the district and accordingly in two neighbouring districts. The infrastructure would have to be hazard-prone and inclusive of evolving economic and human capital. This is a method of proactively appealing younger population to emigrate, away from the area under the demarcated line. The third phase (III) entails a strategy of encouraging population movement away from the area under the line. This can be in the form of consultations, monetary inducements, even reimbursement for the land that they would have to leave behind (Danda et al., 2011, p.39). A source of the organization opined that utilization of terms 'displacement' and 'land acquisition' have become very politically contentious and so the non-utilisation of such terms is considered logical. This hopes to instill an out-migration of the youth and settle in these newly developed areas that provides more prospects. But it would not be a forceful venture and would rely on consent. Finally, the last phase (IV) hopes for the out-migration of people to the newly developed areas and the land reinstated as mangrove forest. By the year 2050, an approximate area of 1190 km^2 would be then restored. Post this period, investments should only focus on ecosystem rebuilding in the now restored area (Danda et al., 2011, p.40).

This plan, although not stated, is in the context of planned relocation of population. As of today, there has been no initiation of implementation of the vision document on the part of the

government. A source from the organization at least believes the document to be a positive step towards the opening up of a dialogue of such a nature. According to him, maintaining human habitation in the next few years would be extremely difficult in the years to come and so it is only a matter of time. The government may not be undertaking any activities towards it but they are willing to have this conversation. For a vision to be realized, it takes a long time. That was the first step towards something, for at that time population movement was not even a part of the discussion. Recently, the government representatives do talk about the problem and not sweep it under the carpet like before. Recognition of the problem has been done, so in that way this vision document, for him, has been a success. There have been few people critiquing the relocation idea and that the government paying heed to it was a negative thing. But the source believes that, conversation of relocation is becoming mainstream. So, the journey has just begun and hopes the organization to be a part of this engagement, if the state also wishes to do so.

The people that would fall under the line had also been intimated about this vision. But naturally, their priorities are different from that of the organization. The organization also had an interaction with other NGOs about this vision, who considered it a 'bad idea'. There has been no conversation with the host-population in the receiving area, which is of course, opined to be necessary. A proactive vision for the receiving area also needs to be created, if this plan has to become a reality. This has to be understood within a framework of sustainable development, where this transition of relocation does not happen overnight and may even span across generations. But it is not possible for a non-state actor like WWF-I to sustain this dialogue. At the end, he believes that it really has to be the government's vision for the sustainability of both human and nature in the Sundarbans.

Map. 3: Proposed 'Biosphere district' by the WWF-I. The area underneath the green line is demarcated for mangrove restoration.
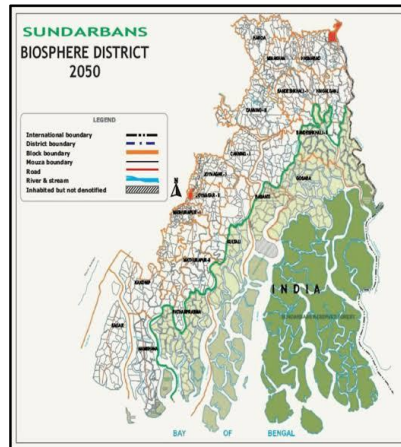
Source: Danda et al., 2011. Indian Sundarbans Delta: A Vision. WWF-I (p.36).

7.5 The politics of disaster-displacement and resettlement

According to Douglas (1992), in matters of risk perception and management, the political bone of disputation transpires when it is used to allot responsibility. The effective management of risk involves an initial step of risk assessment. It encompasses the process of categorizing hazards according to severity which is often distorted due to newer occurances (Manthorpe, 2000, p.298). Sociologist Ulrich Beck defines risk as "*a systematic way of dealing with hazards and insecurities induced and introduced by modernisation itself*". (Beck, 1992, p.21). With the passing of years, society also transitioned from traditional to a modern society whose evolvement rests on 'reflexivity' (Beck, 2002). This change has also disintegrated the traditional value system, a dependency on science and technology and where the division betwixt 'common' and 'professional' becomes less definite. The risks that technology has spawned is unlike those of the past and the manner in which people perceive them has also transformed. The resolution of the adverse repercussion of one technology leads to creation of more new technology. Thus, the modern world is characterized by the continual social creation of wealth concomitant to the social production of risks (Beck, 2002).

Deciding on a methodology of risk assessment involves political debate (Linder & Peters, 2016). The government's calculation of these methods, functions within a multifaceted network of circumstances spanning from administrative to political (Linder & Peters, 2016, p. 1). The social assessment of risks can be perceived through the presence of 'generic roles' as provided by Palmlund (1992). These are the '*risk bearers'* –those living and having livelihood activities in risky settings. The '*risk bearers' advocates*'– contesters for the liberties of the risk bearers.

The '*risk generators*' – architects of risk. The '*risk researchers*' – academician, scientists and government agencies. They are ones that conduct research on risks, people exposed to these risks and situations of acceptability or its denial. The '*risk arbiters*' - mediators, that remain backstage and uphold objectivity. Finally, the '*risk informers*'- mass media and its critical appraisal of information to the masses (Palmlund, 1992). The last role players can be the links between all the various categories (Renn et al., 1992). All these are intertwined by an intricate system of relations where action in one impact the rest. However, the different role players lack agreement on risks. Such disagreement is not because of the wide-ranging elucidations of data, but because of the data itself. This divergence of knowledge precludes agreement on disaster and risk (Fox, 1999).

'Experts' compute the 'objective' facts of risk which are juxtaposed with the 'subjective' experiences of the common populace (Lupton,1999). But these calculations of risk are embodied as impartial. The common people are often depicted as ignorant and reciprocating 'unscientifically' to risk, using mediocre sources of knowledge like 'intuition' (Lupton, 1999). An illustration was made by the Royal Society's (1992) in its report on risk, depicted a discrepancy between 'objective' and 'subjective' risk (Slovic et al.,2000). The report opined that even the responses for objective risks are subjective. Thus, even in the case of natural disaster and the risks that people in the study are constantly negotiating, this debate on the distinction between the objective and subjective, is focused. The working mechanism of such constructors on the arena is that each one group depends on the activities of the others who constitute its members. The groups in their attempt to construct what is acceptable and what is not, engage in negotiations. But the 'experts' often downplay the contextual local contributions and may only consider them during the culmination of construction (Douglas & Wildavsky, 1982).

Looking at this pragmatically, there is a credibleness of both objective and subjective risk assessments. The former can aid a logically informed discernment of the matter at hand, especially in futuristic scenarios, while the latter can enable accord development and thereby promoting political disposition amongst the stakeholders (Correa, 2011). For the ultimate aim of such a conundrum, is not just weighing risks but enabling people to detect and allay the developments that would assumingly enforce undesirable intimidations on society (Brown, 1970; Phillips et al., 2018). There is conflict over worldviews, methodology and results in the scientific knowledge, rather than in everyday experience, incapacitating action (Beck, 1992, p.21).

These risk rationalities rather than remaining static, are continually responding to changes in personal experience, local and expert knowledges (Lupton, 2005). So, then the question that the thesis ultimately attempts to answer is that who has the power and the responsibility on deciding at the brink of disaster, which risk is to be accepted or not? These risks may not have been invented in the political realm but has to be politically handled (Giddens, 1999, p.5). The outlook of both the government and the non-government sectors and the similarities or contrast that they present to the issue is of relevance to this study. The state is a powerful protagonist when it comes to conceptualizing risk and in delineating the ones that should be magnified or those that should be downplayed. But the households are the ones who have to live with the 'risks' on a day-to-day basis.

In the West Bengal Disaster Management Plan (2015-2016), the very definition of vulnerability has 'political undertones'. It has been stated that the conceptualisation of the term cannot be bereft of disputation and neither can it be politically neutral (WBDMP, 2015-2016, p.39). That vulnerbility should be considered as a "*condition of people that derives from their political-economic position*" (WBDMP, 2015-2016, p.39). The vulnerability analysis then manifests as a complex process and dependent on multiple factors including 'political determinants' (WBDMP, 2015-2016, p.39). At the start of this perception of risks is the very process of the social construction of disaster. This construction then exists in interrelated dimensions. How a disaster is defined, does have importance on how it would be managed. In the context of disasters in the state, the governmental organizations prioritise sudden-onset over slow-onset disasters. The dearth of erosion vulnerable areas in the multi-hazard maps of the WBDMP and the state DM policy is an indication of such neglect. Even the action plan and strategies lack any dedication towards such a disaster. There is therefore a mismatch of the perception of the 'outsider' and 'insider'; the outsider here being the government and the insider the local population. The situation is similar to the development strategies in the early 1950's and 1960's, where the planners were disconnected with the problems and reality of the common masses. But the former were the ones making life altering decisions for the latter and having to accept them without questions.

For Mukhopadhyay (2016), the prematurity of the delta has been argued as a justification of governmental policy inaction in the Sundarbans. The islands being low-lying and the colonial error of allowing settlement without stabilising the delta, obviously resulted in erosion and unsustainable embankments. According to a source in the nodal organization for development in the ISD, the Department of Sundarbans Affairs, the purview of matters relating to natural

hazards like the embankments do not fall under their ambit. It was pointed out by the that the department looks after post disasters works, where he recounted the tales of Cyclone Aila of 2009. According to Mortreux et al. (2018), the 'inaction' of the government towards the community is their 'risk aversion' strategy (p.124).

For those living in vulnerable locations i.e., the periphery, have an understanding of disaster which is contrasting to what the state has. The interrelationship between sudden and slow-onset hazards, is more apparent in the area. The households in the selected study area presents a scenario where the problem emerges initially with the breaching of the embankments by a sudden-onset disaster (like cyclone in this case). This results in the initiation of the slow-onset disaster (here erosion). If there is no timely embankment reconstruction, the households fall victims to flooding and inundation of salt water into their agricultural lands, thereby resulting in the decline of production. This land slowly erodes with the high degree of salinity of soil. Even floods become a regular menace for those that remain unprotected by embankments. They fall victims of entry of salt water into their houses and resultant damage of property and household goods. This process over a period of years gradually forces the households to continuously shift themselves further and further inward or even away from the village or island. The households in the area of Boatkhali-Dhablat and Beguakhali have mentioned that they had to relocate themselves at least a minimum of 2-3 times over a course of 7-8 years span of time.

The rapidity in which both the government and non-government responds to situations of sudden-onset hazards like cyclone is contrasting as compared to situations of erosion (slow-onset). The households no doubt face threats when such sudden hazard strikes and the risks then involve on how to tackle the immediate situation. The early warnings systems during cyclones have been better improved and functioning commendably in West Bengal. In the aftermath of a sudden-onset hazard, greater co-ordination is witnessed among local self-governing bodies, state government and NGOs of providing ameliorative measures for disaster recovery. This interaction is necessary in any type of disaster (Lindell, 2013). But with the recent crackdown of NGOs in India by the government, increasingly creates problems of funding and therefore survival in their project areas.

During the aftermath of cyclones, relief is immediately sent to the affected areas, till the time where more definite rehabilitative measures can be developed. After the events of Amphan and Yaas, relief in the form of food, clothing, water, medicines, tarpaulin etc, were collected and

provided to the households residing in temporary shelters or camps. This relief was distributed either through the local government bodies like the panchayat or booth committees or non-government organizations (including religious organisations). Towards the later periods, it was reiterated by the local people that all relief had to be appropriated through the panchayat bodies who would distribute it to who they felt were 'needy'. The interaction with a local resident who was employed in a nationally renowned NGO triangulated this finding, mentioned by the other local populace. In this context, an incident can be mentioned. During the end of the field work in 2022, the said organization had received a project on distribution of 'Yaas relief' package to the households in Sagar. This was sponsored by an international NGO, approved by the central government. The relief was in the form of distribution of raw food materials like rice, dal, gram, oil etc, on a per household basis in selected villages of Sagar. The most affected blocks were identified and selection of households was done arbitrarily by the organization. The total number of list of households who would receive the relief had to be prepared based on their identification documents (Aadhar cards). Thorough verification of the list was done as much as possible by the distribution team, as it was reported that there had been cases faced by other organizations of a single household availing all the relief packages through faulty means. There were also instances of relief only being received by households that had a strong relationship with members of the local panchayat.

The concerned local resident was a part of the distribution team. As the day of the distribution approached, few members of the local panchayat and local political youth clubs, approached the resident and demanded that the lists should be prepared by them and not by the organization. They even further suggested channelizing the relief via the panchayat and instead of whatever package was to be given per household, it should be divided into halves and then distributed. This they rationalized that a greater number of households would get the benefits. This was something that was not approved by the resident as it was against the organization's pre-set agenda. The resident was threatened on more than one occasion by these protesters. On the eve of the distribution day, the resident was in tears as she recounted the threats and the fear towards her life and family. She informed the researcher that she had taken the help of the local youth and the police for constant vigilance of the relief that was stored in the distribution centre (local school) so that the materials would not be stolen. She had also requested for police force on the day of distribution. Fortunately for her, the distribution on the day went by smoothly with no signs of trouble. As the event came to an end, she was apprehensive of the distribution that was to be carried in the next few days in other selected villages as well.

In contrast, the nature of erosion itself makes it unable for the government to develop warning mechanisms. However, even when such hazard strikes, they do not arouse scenarios of relief and rehabilitative measures. Sea and river erosion has been a perennial problem in West Bengal. The Department of Irrigation in West Bengal had its origin prior to Independence but the name of Irrigation and Waterways only came into existence in 1946. In the present day, the department is delegated the work of even curtailing erosion, amongst others. Over the years several committees have also been created to understand the causes and recommend suggestions. In 2018, a guideline was issued to develop appropriate solution to this continuing problem of erosion. The protection works would be based on recommendations for different zones. The Sundarbans falls under Zone E of this guideline (GoWB, 2018, p.1). Anti-erosion schemes have been undertaken over the years by the department to arrest the problem.

Mukhopadhyay (2003, p.144) observed discrepancy in the prioritization of certain type of erosion over others. Analysing the departmental budget speeches, state plan proposals and also the funds that was allotted, over a period between 1997-2001, the author highlighted the importance given to the Ganga-Padma erosion as it was terminating national infrastructure. Whilst on the other hand, it has remained discreet over the issue of erosion in the Sundarbans. Furthermore, the department's lack of empathy towards erosion after the devastating cyclone of 1988, has been criticized. The author alleges that the failure to do so was as it obstructed only 'local' property and not that of the nation (Mukhopadhyay, 2003, p.144). What spells out as disaster is then also politically motivated. So, in such a context, what should be the degree of impact of a slow-onset disaster in order for it to be avowed as an emergency or a disaster?

The government schemes like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Pradhan Mantri Awas Yojana (PMAY) or even disaster relief compensation assists in providing resilience to the households but are not sustainable due to the continuous advances of hazards. Furthermore, the schemes itself are embroiled in corruption and bureaucratic hassle. The housing scheme of PMAY earlier known as IAY[100] was alleged to have been changed because of party rivalry at the centre. Households have also remarked that they had received only INR. 1,20,000 instead of INR. 1,30,000 of the allotted amount. The difference of INR. 10,000 is taken by the party members. After the Cyclone Amphan of 2020, West Bengal received INR. 2707.77 crores for relief and recovery measures by the Ministry of Home Affairs, Government of India (Anon, 2020). The Union Home Minister in 2021, alleged

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[100] The name of the scheme itself became political when the BJP-led government later renamed it to Pradhan Mantri Awas Yojana from the earlier name of Rajiv Gandhi Indira Awas Yojana (IAY).

the swindling of money by the state that was sent for Amphan (Anon, 2021). Post Yaas in 2021, the West Bengal state government announced a package of INR. 1000 crores in immediate relief in the form of a scheme named *Duare Tran* (doorstep relief). Those affected had to submit applications of claims to the state officials in distinctive camps, set up at the panchayats and blocks across the state. This would be scrutinised and for those approved, the money would be directly transferred to the beneficiary's bank account through online transfer. All this would be completed within a month (June 3rd – July 8th). This was in a way to avoid the controversy of compensation that took place after Amphan. In another media article (PTI, 2021a), it was claimed that about 381,774 applications had been received at the camps set up. But the government denied almost 50% of those claims as being 'bogus' after field verification. Nearly 162,000 were filed in South 24 Parganas alone of which 75,000 were disallowed (PTI, 2021b). During the field work, there was lack of uniformity observed in the distribution of relief, where some houses despite their eligibility, did not receive the correct amount.

A structure closely related to erosion is that of embankments. But the protection of these embankments is referred and managed as 'flood control' sector under budget of the Department of Irrigation and Waterways' (Mukhopadhyay, 2003, p.142). The embankments tend to give away to the sea-wave pressure or river currents that, results in fissures on the bed of the river. The guidelines recommended measures such as, brick block pitching or dry brick pitching and bamboo porcupine cages (GoWB, 2018, p.27-30). For the settlers of Sundarbans, the embankments itself becomes one of the important components of disaster (Mukhopadhyay, 2003, p.144). After every sudden-onset hazard, the breaching of embankments is a sure sight. In the name of urgent development work, the embankments are either patched up or land acquisition takes place for constructing ring structures. The land is then acquired by the Irrigation department, sometimes without any cooperation with the relevant line departments (Mukhopadhyay, 2003, p.144).

A case of acquisition was mentioned by a source in the Land Records Office of Sagar in an interview in 2016. This was in relation to the people of Boatkhali-Dhablat where the government had started embankment reconstruction which was due since the destruction caused by Aila in 2009. The government source claimed that compensation had also been granted. He further stated that decision of location of the embankment is based on Coastal Regulation Zones (CRZ) rules and that any construction from the coast line should be 200

metres away[101]. The conflict had arisen due to the discrepancy in compensation packages, lesser amount received, non-recognition of landless labourers, people residing within the 200 mtrs where the proposed embankment would be constructed. This has resulted in the embankment in Boatkhali-Dhablat still remaining only partially completed. A respondent in Boatkhali-Dhablat had remarked that the question of embankment crops up during times of elections, when the party members visit houses to request for votes. The houses then have to constantly retreat towards the interiors, threatened by the hazards on the one hand and embankment constructions on the other.

The Coastal Regulation Zone (CRZ) was enacted in 1991 in India, that laid down specific procedures for coastal zone management. This is under the aegis of Ministry of Environment, Forest & Climate Change (MoEFCC) and has been amended till date. This notification administers to all areas that lie within 500 m of high tide line and renders guidance and restrictions on all developmental activities (within 200m of the high tide line). The entire ISD falls under various categories distinguished in the CRZ. The Category of CRZ I caters to forested areas, sand dunes, land within 100 m of a tidal creek, unpopulated islands and Sagar Island. The remaining areas of ISD, falls under CRZ III. West Bengal was a pioneering state to acquiesce its Coastal Zone Management Plan (CZMP) in 1997 (Danda et al., 2011, p.24). Currently, the state is also a part of the World Bank funded Integrated Coastal Zone Management Project (ICZMP[102]) that included programs in Sagar for livelihood development, ecotourism, household electrification, construction of multipurpose cyclone shelters.

According to Mukhopadhyay (2016), larger development projects score an upper hand in the Sundarbans. The Sundarban embankments, although a obstinate problem, yet has failed to generate any decisions, especially by the authorities. The construction of embankments is riddled with corruption, offering individuals scope for engendering income at dissimilar levels of hierarchy (Mukhopadhyay, 2016, p.68). A 'trapped' household in Boatkhali-Dhablat complained of how they were hopeful that the embankment there would be concretised. But within a few months the construction was halted due to materials being stolen by the local populace and few political party members, re-selling it later at a higher price in the local area. WWF-I in their vision document for ISD (2011), recommends making embankments a part of

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[101] According to CRZ rules, the stipulated distance is 500 m in high tide lines.
[102] The ICZMP was started on a pilot basis in three states of India namely Odisha, West Bengal and Gujarat.

Common Property Resource (CPR), so that both the state as well as the local people or other relevant non-state actors can be a part of its use, construction and management.

The definition of disaster by the state also then influences the way in which displacement is perceived, or the social construction of it. The decision of any state intervention is on the acknowledgment of displacement itself, with disaster as the cause. Even the line of difference between migration and displacement exists in, how the state visualizes such a movement. Analysing the scenario at the international and national context, the declaration of a movement of population as 'displacement' invokes speedy and greater amount of response from the government, in comparison to it being defined as 'migration'. Defining or even acknowledging disaster-induced displacement by the state is essential for households to perceive their own definition and perception of risks of resettlement and rehabilitation. Once recognized by the state, the inevitability of planned resettlement follows. For those households that are then recognized as displaced or threatened to be displaced by the government, it is likely that they would be resettled in a 'planned' manner. The families are expected to settle once the houses in the resettlement area are completed. But there is a propensity towards the reluctance to term anything as displaced, which can be perceived as a strategy to avoid resettlement. Those households that do not fall under the ambit of this definition then have to resort to self-resettlement. Lastly, there are those that hopes for the government to intervene – the trapped population. These social constructions however do not align. The NGOs on the other hand, despite the necessity and the recognising the detrimental impact on the present and future generations of settlers, yet appear to be partially active in this construction. Therefore, the risks of undertaking planned, unplanned resettlement or remaining in their location is therefore dependent on these social constructions.

Throughout the history of resettlement and rehabilitation in India, despite the varied causes, the process was always politically motivated. During the time of refugee resettlement in India, it was reflected in the ambiguity of terminology and conceptualisation of such category of persons. This resulted in also making resettlement practices diverse and at times discriminatory (Dasgupta, 2016). In the case of development-induced displacement, the rights of the many have been sacrificed over the needs of the few. On the other hand, in all these incidences of displacement and resettlement, some form of political mobilization either by the people themselves or with the assistance of NGOs or CSOs, has been witnessed. Such motivation for developing 'agency' seems to be lacking in the case of environment-induced displacement, here in the study area.

In the case of West Bengal, only in the case of political changes and rise to political power that the parties resorted to acknowledging environment-induced displacement and the resettlement of those affected. It can be observed that in all instances of old and new planned resettlement, it coincided with the state level government formation of different parties. Ensuing the Independence of 1947, Land Reforms became an imperative task for the newly created governments at the Centre as well at the States. A method adopted to also assert power in the state be it by the CPI-M in 1977 or the TMC in 2011. Mortreux et al. (2018) reiterated that the state's decision to act or not towards people facing environmental risks are determined by fundamental political bases. The question then arises is, would it be better to mask the risks of activeness or passivity? (Douglas & Wildavsky, 1982). For Pelling and Dill (2009), in instances of natural disasters, the state tends to abandon their responsibilities. But in doing so they therefore risk their authority. The government's unwillingness to act maybe seen as an underestimation of risks (Maor, 2014), or it could also be a form of weighing of the costs and benefits or in other words the risks of taking a particular course of action. This maybe in the form of election priorities, saving one's reputation or other forms of interests.

The term 'planned' resettlement used in Chapter 5 of this study, was more of a pseudo term. The word was utilized to categorise those displaced population that was part of the resettlement process carried out by the government. Rather it is the lack of planning that has been highlighted in the initiative of the government. Using the term would enable to differentiate between those who accepted the resettlement package of the government and those who had to relocate on their own. Furthermore, the lack of proper documentation of the old and new planned resettlers, attests the fact that the resettlement lacks planning. No one can attest as to what are the criteria for selection of the households for resettlement. A source of the Land Record's Office in Sagar opined that currently the office is now burdened with problems with regard to resettlement. Changing of the classification of land is one of them. The land in Gangasagar colony was earlier recorded as a 'live jungle' which was changed later but in colonies of Kamalpur, Mansadweep, and Jibantala, the land has been classified as 'river', as it was originally a river char. The other problem, is of land that was allotted to one was taken over by someone else. Some of the land had been encroached and so the land records are now being rectified. There are no proper land records, particularly in colonies Bankimnagar. The requirement is of changing land categories but due to lack of current land record maps it adds on the crisis, which hinders the authorities to give *pattas* of lands to the people. There are lot

of overlaps of ownership in the same land, often merged with political issues. More *pattas* are distributed for the same land with no specific demarcation of land.

During the planned resettlement process, it appears that the association with the local ruling party did benefit many of the old and new planned resettlers in varied ways. The amassing of voters in their vote bank was essential for the contesting political parties in their ascendancy to power. In the case of planned resettlers those who favoured a particular party or approached one was included with planned resettlement. Some either received larger landholdings despite their smaller family size while some were granted government jobs. One respondent of Bagpara in Ghoramara, had earlier resettled himself in Sagar and was living in a rented accomodation. Due to his stronger ties with the local ruling party and being in good terms with the then Member of Legislative Assembly (MLA) (whom he even regards as a 'God') he was again resettled in Gangasagar Colony I and provided with 2 bigha land and a government job. Later when he became the Secretary of the Krishak Samiti[103], his organization was responsible for then resettling the later resettlers from the islands of Lohachara and Ghoramara.

In the transfer of documents, the voter's card is the first document that is modified. Even the respondents in a way, also feel obligated to cast their vote in favour of those who they perceive had provided them with resettlement and that also acted as a safety-net in case of future problems that might arise. Despite acknowledging the risk of settlements in flood risk spots of cyclone-vulnerable areas, all the planned resettlement undertaken by the government have occurred in such volatile areas, like the periphery of the island. Even the unplanned resettlers are resettling themselves in such areas. The 'risk governance' in the state DM plan demands the interaction between both governmental and non-governmental organizations, at various levels of the central, state and local (WBDMP, 2015-2016). This continual self-relocation of people is not viewed as displacement by the state, which as mentioned, would have entailed a more rapid response by the government. Even multiple-displacement that the households at the periphery engage in as they retreat inland, do not count.

The processes of identifying vulnerable areas are founded on an inadequate view of risk and risk mitigation existing possibilities (Cassidy, 2021), where alternatives are not considered in detail encompassing the varied dimensions (Correa, 2011). There is an underestimation of coping strategies of households living in these risky areas. The ultimate strategy to reduce hazardous experience is then believed to be through resettlement. The focus of developers is

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[103]Farmer's association

on the technical detailing of the disasters – quantifying elements like size of population, mapping etc and not on the impacts (Bowman & White 2012). Disaster policies that affect the lives of many are left in the hands of the few to create, making the latter powerful and the people are left with no alternative but to accept them. There is an 'information deficit' in the construction of these policies that ignores the multitudes of stakeholders and their experience of disaster and its risks (Levac et al., 2012).

Around the late 1970's, the island of Ghoramara was declared as a 'No man's land'. This resulted in withdrawal of investments and funding support. This represented a conformity of the island's lack of long-term longevity and the settlements there (Mortreux et al., 2018). The declaration was a consternation for the settlers there. Even today, the state of derelict in which the island presently is in, attests to the abandoning of development activities in the island. The embankment still lies in ruins and so does the houses, agricultural fields and ponds in the interior of the island. Despite numerous requests and appeals by the people to the local and state government, the situation has not changed. The lack of recognition in the state DM plan, policy and also the district DM plan makes the situation of the island a sorry state of affairs. More than half of the self-resettlers hailed from Ghoramara island who have relocated after Yaas of 2021. Resettlement, although a necessity for the islanders of Ghoramara, is not talked about. The islanders believe that this lack of state-initiated action towards resettlement is due to the fear of losing of constituency of voters by the ruling local parties.

It is to be noted that not all households from the submerged islands underwent planned resettlement. The analysis of risk-taking then depends on the socio-economic characteristics at each individual household level. The households that opted out of the 'planned resettlement' programme and resettle themselves elsewhere, could afford to take that risk because of their own economic and social capital. Those houses that 'opted' to undergo planned resettlement could take that risk because the state was providing them with provisions of alternative. A point to be noted here is that, it is rather surprising that the criteria of selection of households for planned resettlement is not clear. The risk then for these planned resettlers was something that was in a way defined by the government. The state looks at risks in an objective manner while the oustees in a subjective manner. Thus, in the question of the situation of Ghoramara, who would determine those risks? Just like in the global scenario, the debate revolves around 'who will bell the cat'? Similarly at the local ground level, who should bear the onus of responsibility is heavily debated. Everyone is aware about the danger but no one wants to accept that there is

a danger and therefore the lack of initiative towards it. This unwillingness to recognize lay knowledge on hazards, destabilize risk reduction policies (Fox, 1999).

During the process of establishing settlements, the colonial administrators were well aware of the stability and activeness of the Sundarbans. They were equally mindful about the detrimental effects that the reclamation and resettlement would have on the 'active' regions of the delta and also suggested the curtailing of such activities in those regions (Ascoli, 1921). Thus, in the colonial period, the risks were known to the administrators but they were willing to take it at the cost of the people, to maximize their revenue but with minimum investments. If a certain scheme was thought to too steep on its costs rather than the benefits, it would be abandoned and a new one would be implemented (Chatterjee, 1990). However, even this awareness did not stop them from continuing with the process of reclamation. In the post- independent period, this was side lined and the state was embroiled in its own problem of managing the refugee influx caused by the partition of India at the time of Independence. WWF-I (Sundarbans Landscape) in their 2011 vision document has brought forward the earlier recognised disadvantage of settlements in the 'active' part of the delta. It looks like the government is not keen on publicly announcing the risk of displacement due to erosion. But the ironic question remains, that if there is a public acknowledgement and acceptance of displacement and relocation, would development then be discontinued in those areas? Does the announcement of Ghoramara as a 'No man's land in the 1970's, then resemble such a declaration? As it is, the areas that are commercially viable (in the case of selected areas of Sagar or Mousuni) or which falls under wildlife conservation areas (like Gosaba), receive attention for development, while the areas even within the same island are neglected.

7.6 Conclusion

This chapter commenced with an analysis of the legal mechanism for disaster displacement in the state of West Bengal. The major criticism can be seen in the Acts, policies or plans of the state (as well as in the national context) is the prioritization of sudden-onset over slow-onset hazards like erosion. Besides being a victim of sudden-onset hazards like cyclones and floods in the study area, slow-onset hazard like erosion is a phenomenon of crisis in everyday life of people. The DM act, plan or policy at the national, state or district level have set provisions for pre-disaster, disaster and post-disaster phase. These are strategized in terms of short- and long-term recovery measures. Temporary and interim settlement are provided to the (sudden) disaster victims where short and long-term rehabilitative measures are insured including

creation of livelihood opportunities. The socio-economic marginalization of households, declining avenues for self-livelihood generation, coupled with the hazards of both sudden and slow-onsets, has made the people equally expectant and dependent on the state for the provisions of all their basic necessities. This has resulted in the state occupying a position of centrality in their lives. The reliance is then utilized by political parties (representing the state) for political leverage. The relevant legal mechanism calls for the responsibility of the state to ensure the restoration of the life of those affected back to the previous stable conditions. But resettlement or rehabilitation of displaced population does not feature in any of the legal documents.

The analysis of legal enactments of departments relevant to the study, shed light on the grimness of the situation. The national, state or district environmental plan do not have any focus on displacement less alone resettlement. It is to be noted that the department of environment is a part of the Disaster Management structure and is also the main organization that publishes the Nation and State Climate Action Plan. The LARR Act introduced in 2013, was not adopted in the state of West Bengal. It appears that this makes the shifting of responsibility in cases of acquisition much easier for the state. The impact of the R&R process, either short-term or long-term, on the people can only be assessed once it would be completed. India's approach to resettlement and rehabilitation due to development projects have not been so commendable in the past or in the present and the cases of disaster-induced R&R are very few for one to make an analysis. It is evident that the resettled population have no choice in the selection of new locations for resettlement and often do not have the advantage of negotiation. The Department of Irrigation and Waterways in West Bengal looks after one significant infrastructure of the Sundarbans – the embankments. These structures may have a direct or indirect relationship with displacement either through land acquisition or severe erosion caused by breaches in it. But the department does not consider the erosion at Sundarbans a matter of priority. NGOs in the ISD have and continue to play a formidable role in empowerment of grassroot people and assisted in their socio-economic and ecological development. But when it comes to disaster, sudden-onset here to gets more active initiative in the form of short-term recovery, than slow-onset. In their defense, it can be said that the NGOs or CSOs assists in building capacity and resilience of the people through the enactment of their diverse programs.

In instances of displacement caused by conventional causes of development, political conflict, conservation amongst others, there is always someone who could be assigned responsibility to or liable for it. The oustees in the study area have been uprooted by causes that they cannot

actually pinpoint the culpability or the responsibility for implementing corrective measures. In this scenario, the question thus arises, who does the onus of the burden of resettlement and rehabilitation lie upon? The chapter thus attempted to highlight the significance of risk definition and assertion of disaster on the part of the government inorder for 'planned' resettlement to bear fruit. The risk here in the case of planned resettlement was something that was defined and pre-determined by the state. Many of the 'planned' resettled households of Ghoramara (particularly those living in Khasimara Char) that were interviewed talked about how their houses were still standing when they left the island and was submerged much later after their resettlement in Sagar. Due to this definition of disaster and the proclamation of displacement by the decision makers ie., the government, action could be taken. As has been mentioned, not all the households became a part of the planned resettlement; those who had the resources or on other words were less vulnerable, were able to take the risk of resettling on their own to either to the neighbouring areas of Kolkata or even farther to Medinipur. Furthermore, even the criteria for selection of households for planned resettlement is not lucid. Those that were more vulnerable had to take the option that was provided for their resettlement by the government.

The central argument of this chapter, is that the dearth of a definition is leading to a lack of recognition, which then further leads to an exactness of the total number of people actually displaced and resettled. This results in the deficiency of effective decision making. Furthermore, displacement and resettlement even in the case of environment-induced, similar to the other causes, have been politically motivated. The next final Chapter 8 entails to build up a comprehensive understanding of the entire thesis and suggests initiatives for developing sustainable resettlement pathways in the age of environmental changes and resulting human mobility.

CHAPTER 8

CONCLUSION

8.1 Summary of findings

On 26th May 2021, the 'very severe cyclonic storm' Yaas around 9 am (IST), made landfall at the south of Balasore, Odisha, with a wind speed of 130-140 kmph[104]. The cyclone accompanied by storm, high tides and torrential rainfall, flooded the coastal regions of West Bengal, including South 24 Parganas and Sagar Island. The situation report of UNICEF (28th May, 2021), estimated a total of 10 million affected people, located in 4619 villages of West Bengal. Till today, the scale of overall devastation is yet to be fathomed. Relief and other services could not be delivered to Sagar Island instantly, as the only mode of traversing the island from the mainland is through the river Muriganga which was impossible to cross.

According to a prominent public policy think tank based in India[105], in between 1970-2019, West Bengal has witnessed a five-fold surge in cyclones and seven times higher severe flood events (CEEW, 2021). The region was yet to recover from the devastating impact of Cyclone Aila of 2009, when the recent occurrences of Cyclone Amphan in 2020 and aforementioned Yaas in 2021, inflicted mayhem in the lives and livelihoods of millions of people. There is no doubt that incidences of sudden-onset hazards like a cyclone, causes massive destruction and even mortality. But fixating only on those section, would mean to overlook the other half of the population that continue to live in circumstances, where slow-onset hazards like erosion form a part of their everyday existence. The population of the Indian Sundarbans Delta (ISD) is growing significantly, due to a combination of natural growth and migration. However, the overall land area has been steadily decreasing. Since 1969, there has been a loss of 210 sq.km. and the beginning of 2001, shows a net loss of 44 sq. km (Danda, et al., 2011, p. 4).

This research was undertaken to understand the symbiotic yet dialectical relationship shared between humans and their immediate environment (nature), negotiated within the backdrop of natural hazards. The research questions that this thesis hoped to answer were – (i) what are the livelihood strategies and risks people continually construct and negotiate in a natural hazard pre-disposed region, living under the threat of environmental displacement? How does the dynamics of displacement and voluntary migration feature in this context? (ii) What significance does these constructions and negotiations have on the resettlement and

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[104] Kilometre per hour.
[105] Council on Energy, Environment & Water (CEEW).

rehabilitation outcomes, whether 'planned' or 'unplanned'? What works and what does not when the total structure of these dismantled transitioning societies, tend to reassemble within new environments? (iii) Does the conceptualization of natural disaster and the perception of risks of displacement and resettlement involved, align between the local people, government and non-governmental organizations, within a social context? The study area selected to contextualise the research problem was Sagar Island, administratively a Community Development Block and a part of the Indian Sundarbans or Indian Sundarbans Delta (ISD).

The human settlements in the study area of Sagar Island as well as in the larger Indian Sundarbans, has been geographically and historically shaped by the ingress and egress of various powers. The spatial, socio-political development and functioning of this region went concurrently with the environmental changes and calamities. Numerous methodology and methods were applied to 'tame' this wilderness, mainly through agricultural expansion. The ambitious plans of the colonisers were time and again disenchanted by natural hazards. However, what resulted was not just a geographical re-shaping, but also emergence of a complex system of agrarian relations. By the time, the British left India, the agrarian relations in this deltaic region had become far too chaotic. There has been a debate amongst scholars, that the post-independent period mirrors an over-priortisation of conservation of the eco-system, over human development, evident by the dearth of amenities in the inhabited islands of the region.

Based on the above research questions, objectives were delineated and this concluding chapter attempts to synthesise both of them together. The first objective of the study was to *find out the livelihood strategies and responses of the households living under the threat of environmental/natural hazards*. In the study area, livelihood decision-making and strategies for endurance against hazards, is deliberated at the household level. Analysis of livelihood can be an effective method for understanding the varied components of vulnerability of people. During a disaster, a household's vulnerability can be assessed by their accessibility to, and capability of successfully applying the means of safeguarding themselves. Therefore, the livelihood activity that a household undertakes and how they cope with its fluctuations, in a natural-hazard prone environment, reflects where the household is located in the spatial and socio-economic vulnerability spectrum. The repercussions that a natural hazard has on the livelihoods of people is, one of the central criteria for it to manifest into a disaster. It is impractical to ascertain a particular social characteristic as an inherent factor in the construction

of vulnerability to environmental hazards. Vulnerability here develops through the intersectionality of aspects.

Throughout the inhabited islands of the region, there is an inconsistency in the socio-economic characteristics of its inhabitants. A household's monthly income is quite difficult to ascertain owing to the instability of espoused livelihood activities. These differences become more pronounced during the occurrences of disasters. While considering the strategies for livelihood subsistence, the household has to deal with not just external threats of hazard, but their own internal societal dynamics as well. The primary livelihood of the (respondent) household in the study area, is agriculture, where they belonged to marginal, small, semi-medium farmers or landless labourer categories. The declining land holding of the settlers due to severe erosion, over the years, is also influencing their economic and social status. Households over time, have switched from cultivating salt-tolerant rice varieties, primarily for consumption, to freshwater growing varieties and later to high yielding varieties (HYV), for market as well. Despite the high dependency on agriculture of the local economy, there are lesser number of irrigation channels, and no (artificial) irrigation facilities catering to Sagar Island (and even block). The landless households that rely on tenancy, sharecropping or agricultural labourer, prefer to cultivate paddy rather than other crops, because of the minimum risks attached to it. There is an increasing trend towards diversification of crops, for more commercial varieties like the cultivation of Pan (betel leaves). The production of betel leaves suffered a setback after the two consecutive cyclones in 2020 (Amphan) and 2021 (Yaas).

The deltaic island regions and especially the low-lying type like the Indian Sundarbans, elicits the risk of cyclones and tides, importing large quantity of water immediately and inundating the agricultural land. The breaching of embankments, also result in flooding of the cultivated land with saline water. The saline water imposes different levels of damage to the crops, being contingent on the duration of water stagnancy on the land as well as the time and amount of rainfall that would flush out the salt later. The process of flushing out the salt deposits is extremely slow. The absence of rainfall could result in additional crisis where the groundwater is either contaminated with salinity or not replenished with fresh water. Add to this, the degradation of land and erosion of soil. All these ensues in a decline of food security of the region. The researcher observed desertion of land by the original households and in few instances such land had been converted to aquaculture ponds for market consumption (often unlicensed).

Amongst the households, there was significantly a lesser percentage of population that were dependent on fishing as their primary livelihood activity. The practice being associated with landless small-scale fishermen - '*Matsajibis*' in the local parlance. This mode of living, is however embroiled in caste and religious prejudices, which has its roots in the pre-colonial and colonial era. The severity of hazards has necessitated the dismissal of caste and religious scruples to occupation. Some of the households while considering their options for survival, had turned from agricultural dependency to fishing. Comparatively fishing is a riskier livelihood strategy than agriculture but equally (or maybe even highly) remunerative. The transformation to the collection of prawns and its seedlings in the nearby *khals* or *nadi*, represents the last resort for any household. The major challenge in case of both agriculture as well as fishing presents itself in the form of poor transportation. The diminishing land size is resulting in a loss of common property resource (CPR), creating issues for those dependent on them for livestock grazing. Thus, sustaining animals on a larger quantity has become difficult due to the dearth of grazing space. Within hazardous setting, the households that are vulnerable, recurrently needs to endure assorted setbacks to their lives, livelihoods and settlements. Livelihood vulnerability and risk is comparatively higher for the households in the periphery than in the centre, due to the relentless danger from both sudden and slow-onset hazards. Over the years, the value of land in the periphery has decreased and there is least likelihood of anyone voluntarily purchasing a land there, a state of affairs observed more after the recent cyclone Yaas. Any change in the environment is bound to affect the livelihood risks that households undertake.

All factors combined, the household's dependency on the State is much high. In the rural areas of ISD including Sagar, one of the most commonly availed schemes for employment, is the government funded Mahatma Gandhi National Rural Employment Guarantee Act/Scheme (MGNREGA). But this too is caught up with its own set of issues. Voluntary migration for work to areas outside the region or state, has now become one of the most important and burgeoning livelihood strategy of the households. The unpredictability of the setting, unavailability of adequate livelihood opportunities, combined with the non-deliverance of schemes like MGNREGA, 'pushes' the households to seek avenues outside of the study area. There is an assortment of work in which the migrants are engaged in, which is temporary or seasonal, depending on the availability of work and also on the social characteristics of the household – age, sex etc. It has been observed that in the aftermath of a natural hazard, like in the case of Yaas, there is an increase in the volume of migrants outside the original area of

residence. A transformation from agricultural to non-agricultural practices or trend of de-agrarianisation/de-peasantisation is evident. Thus, each and every livelihood change be it in-situ or ex-situ, signifies risks in itself. The social construction of risks occurs at the household level, that incorporates its calculation and management. In the everyday life of a household, struggling with erosion, this construction exists in a dynamic state. Thus, the ecology of an environmental setting is bound to affect the overall dimensions of a society and vice versa. Time and again the livelihood sustainability of households are tested by the tenacious natural hazards in the Indian Sundarbans. The severity of hazards combined with equally unsustainable coping strategies, has increased the household's inability to withstand the pressure and ultimately turn towards more riskier measures.

This brings us to the second objective which was *to understand the process of displacement, resettlement and rehabilitation of 'planned' resettlers.* The ultimate challenge to the households that the environment presents, is the threat of displacement. During 1975-1990, the Indian Sundarbans was a quarry to the highest rate of erosion, leading to the submergence of islands of the archipelago viz., Lohachara, Suparibhanga, Bedford, Kabasgadi, along with the villages of Khasimara, Khasimara Char, Lakshmi Narayanpur, Bagpara, Baishnabpara of Ghoramara. The smaller islets, once a part of the larger Sagar Island, entwined in active socio-cultural and economic interactions, separated and eventually vanished. These have been considered as 'old resettlers' in this study. Instances of 'new planned' resettlement have also been focused. The reason why this category has been termed as 'new planned' is because the resettlement was fairly recent in between the period of 2010-2021. By the time the households were displaced, those who claimed had bigger landholdings, had become small, marginal and landless farmers, facing downward mobility of their status and living on inland roads and were barely surviving.

The basic elements in the resettlement and rehabilitation package consisted of land-for-land and housing. However, there were no parity in the distribution of the packages, within the old resettlers itself as well as between the old and new resettlers, as detailed in Chapter 5. In both the cases, the process was led by the political parties in power, through the local government - panchayat. The party in power may have changed hands, but the internal workings of the programme remained more or less the same. The 'planned' nature of resettlement in both the cases, unveils rather a failure of planning. Apart from the initial discussion of the choice of resettled land, the resettlers had no other role in the decision-making of their own resettlement process. The size of the land holding depended on vacant vested land and most of the land are

located in vulnerable peripheral areas, which is closer to the embankment, river or *khal*. The infrastructural provided in the both cases of relocation were neglected, inadequate and also creating pressure on the existing ones, on which even the host-population depended upon. As no livelihood opportunities were granted in the resettlement package, the resettlers took a longer time to recuperate. The manifold missing elements in this resettlement did not allow the process to be rehabilitative. Hence, in this case, displacement was acknowledged by the state (although through the party in power) and therefore actions for planned resettlement were undertaken. The struggles that they had to endure to make the place habitable, generate livelihood, were the risks that they thought were necessary for their existence in their new location.

The third objective of this study, was *to analyse the emerging trends of resettlement and reestablishment practices of recently displaced households*. This objective takes into consideration the 'unplanned' forms of resettlement strategies and risks undertaken by the households. The account of 'self-resettlers' that has been captured in this research, all occurred within a recent time frame (from 2003 onwards). As it is obvious, these were resettlers who had to undertake the entire resettlement process on their own, without any government or non-government help. There is a merging of slow and sudden-onset hazards, that were influential factors for forcing households to move. The trend takes place across both intra and inter-island. All possible in-situ coping strategies are applied prior to taking the decision to resettle themselves.

Two main factors were identified that acted as the impetus for households to undertake the choice of self-resettlement, which either worked separately or in unison. The households when faced with the question of displacement, relied on their *social capital* (as conceptualised by sociologist Pierre Bourdieu) for eliciting in this risk of self-resettlement. This social capital was in the form of consanguineous and affinal kin relations who were either residents or prior-residents in the destination area. When the households were displaced, their social networks had given them refuge, in the form of small size of land and a pre-constructed house. The social capital also became an important mechanism that allowed the self-resettlers to adjust and navigate their lives in the new environment.

The other factor was voluntary migration of members of household, outside of the study area, either within the state or outside. The nature of migration is temporary, with relatively higher proportion of male migrants. In the ever-transitioning disaster-prone area, the struggle for

existence is made possible by the remittances of the migrants that sustains the households, providing greater resilience and solidity. Resettlement is made possible through the remunerations that the migrants send back home. This maybe utilised for purchasing land from their social network, renovation work of the new resettled house etc. Although, the migration of the members of the households does ensure financial support, but it occurs at the cost of the mistreatment and deplorable living conditions of the migrants at the receiving area, with no legal protective measures. This out-migration of men is also generating a situation of 'left-behind wives' or women (in case of unmarried men and their mothers), who are now burdened with the dual responsibility of managing the inside-household chores as well as outside-work. Those left-behind then experience disaster on an everyday basis. Thus, in the context of slow-onset disasters, there is a blurring of the boundaries between voluntary migration and displacement. Distinguishing between migration and displacement maybe ideal for policy formulation, but pinpointing one as a cause or consequence is rather impossible as well as impractical.

As for all the old and new resettlers, their residences might have altered, but their problems endured. The irony of the resettlement status quo is that, Sagar Island itself is facing severe coastal erosion and land loss. There is a state-induced 'impermanency' in their resettlement, reflected in the denial of the grant of *pattas* or legal titles of the resettled land to many of the households. The state can usurp power to acquire the land or even forcefully evict the households. The ability to only partially change the address in their legal documents, has proved to be disconcerting because of their inability to access government schemes, for all new planned and unplanned households. The address of their voter card is often the first document to be corrected which was believed to be necessary for seeking favours from parties in the new resettled area. In the case of inter-island resettlement, the connections between the two islands remained. This were either in the form of legal networks or utilisation of infrastructural facilities or also social, economic and cultural relations. Household along with family has become fragmented or diminished in size due to the resettlement process itself, as acquiring such a larger space for relocation of the entire household/family was uncertain. The other main cause of diminishing household size was, the migration of its members to other states for work. In certain scenarios, a phenomenon of multi-spatial extended household is also developing.

On the other hand, there is a spatial-induced impermanency, as all planned resettlement colonies are situated in the periphery of the island. In addition, more than half of the self-resettlers have resettled themselves in both old and new planned colonies. The situation of all

the resettlers can be best explained through the idiom 'out of the frying pan into the fire'. A difference in taking risks can be observed due to pre-existing inequalities in socio-economic resources. The people perceive that the households belonging to higher income category or social position were able to relocate themselves, in the interiors of the island or to neighbouring peri-urban areas of Kolkata or even East Medinipur. Furthermore, those at the lower rung of the ladder, moved either nearby to their earlier place of residence, but not very far from the place of disaster. These available areas then all tend to be in the periphery of the island. The notion and experience of disaster for the ones in the interior is starkly different from the ones residing in the periphery. For those belonging to the lower economic category, despite having high level of risk discernment, they are inhibited by their deficiency of alternative choices for risk-mitigating actions. In the current contexts, the threat of changing climate, regular occurrences of natural hazards and the household's lack of resources to combat with them, are pertinent issues. Sustainable embankment construction or repair was highlighted as the need of the hour. Few have left it on fate and believes that strategies would be developed as when the situation arises. For others, the responsibility should be of the state, if instances of re-displacement do occur.

The question then arises – do the people when left endangered to risks of disasters, consider resettlement as one of the viable coping strategy or as the last recourse? The answer to this question maybe both. The households while strategising and executing all available coping strategies for livelihood maintenance in order to subsist, considers resettlement as one. All coping mechanisms comes with its assorted risks. This risk perception, calculation and often even management has to be carried out at the household level. Resettlement (in any form) would be the last option that the household may deliberate upon when threatened by displacement, but comes with its own set of risks. Both planned and unplanned resettlement here in the study area, exists in a never-ending cycle. As evident in this study, whatever resettlement options that the households undertake, does not guarantee them long-term resilience or sustainability. New resettlement areas itself are spaces of human-nature conflict where the latter here appears to have an ascendancy over the former. With the continuous threat to livelihood even in the resettled area, in addition to lack of policy support and with no concrete solutions at hand, the households once again enter into this edacious and never-ending cycle of looking for new means of coping.

What is occurring is a state of 'trapped households' in four interconnected dimensions - physical, economic, social and political[106]. An observation can also be made here that even within the notion of trapped households, due to the differential socio-economic characteristics, there exists certain members of the household who are far more vulnerable than the others. For instance, women, physically challenged, elderly, children, that reveals a difference in inter-household and intra-household construction of disaster. Notable instances have also occurred where a household voluntary engages in 'entrapment'. Households for whom fishing is their primary livelihood, reside temporarily nearby periphery areas and return to their original residences once the season is over. Few households utilise 'dual' residentialship as a strategy to derive benefits of government and non-government schemes or programmes from being residents of both the islands. A special mention should be made of the island of Ghoramara, which can be considered as existing in a state of neglect and entrapment, ever since been declared as a 'No man's land' in the 1970's.

The final objective was *to assess the role of the government and the non-government organizations in these dynamics*. The main aim of this objective was to understand on whom does the responsibility of disaster, displacement and resettlement rests upon. In the social construction of disaster, apart from the local households, the government ('first sector') and non-government organizations ('third sector'), are important stakeholders. Livelihood and disaster risks are deliberated and experienced by the household at the local and everyday level, but their management somehow demands public responsibility at the governmental level. What the State defines as disaster contrasts to how the local people as well as the non-government organizations perceive it. As such, what spells out as disaster is also politically motivated.

Analysing the relevant Disaster Management Acts, Plans and Policies of the central, state and district level, it was noted that there is a prioritisation of sudden-onset hazards like cyclone, floods over erosion. The dearth of erosion vulnerable areas in the multi-hazard maps of the WBDMP and the state DM policy, is an indication of such neglect. Although restoration of homes has been mentioned, but it is not clear as to what are the methodology and methods of turning this into reality. The LARR Act of 2013, includes a clause on residential projects for households in hazard-prone locations but does not explain the execution of it further. West Bengal has still not amended its land acquisition act along the lines of the LARR act. The island of Sagar represents a contrasting ecological space, where there is an over-emphasis of

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[106] Described in more detail in chapter 6.

promotion and development of the island as a pilgrim-tourist hotspot, over its role in being a refuge for people even living in other neighbouring islands, who are susceptible to disasters. But "*even the gods aren't safe in Sagar Island*" reiterated a headline of newspaper daily, hinting at the susceptibility of the Kapil Muni temple to erosion and cyclone, that attracts millions of pilgrim-tourists in the island (Ganguly, 2021). Nevertheless, the state government intends to forward their proposal of attaining the UNESCO World Heritage tag for the Gangasagar Mela. Government schemes like MGNREGA and PMA-Y are itself embroiled in corruption and bureaucratic hassle, at the central, state and local level.

NGOs in the study area, act as mediators between the government and local populace at large. None of the NGOs were directly involved in the planned resettlement process. These NGOs do not have specific programs on displacement or for that matter resettlement. However, the NGOs from time to time do engage with the resettled households in various projects that the organizations implement. But these households are not the specific target of their beneficiaries, it is rather the villagers at large. During the events of Cyclone Amphan (2020) and Yaas (2021), both the government and NGOs have taken responsibility and concerted efforts in every phase of the two disasters; starting from early warning, evacuation, to relief and even compensation in the post-hazard phase. But in the long run, conflicts do emerge in the functioning of the government and NGOs, within the same space. The government's strike on the operations of NGOs have affected their funds, which has curtailed their functioning over the years. Unlike the other causes of displacement, the NGOs in the case of environment-induced displacement takes lesser initiative in the consolidation of the masses for political action or developing 'agency'.

The construction and re-construction of embankments is embroiled in politics itself, between the stakeholders. The decrepit state of the life-line of the people of the Indian Sundarbans, discloses the negligence of the state. The embankments reconstruction transpires on a reactive emergency response rather than proactive initiative. Although the nature of erosion itself makes it unable for the government to develop warning mechanisms. However, even when such hazard strikes, they do not arouse scenarios of relief and rehabilitative measures. The rapidity in which both the government and non-government responds to situations of sudden-onset hazards like cyclone is contrasting as compared to situations of erosion (slow-onset). The pertinent question here then is what should be the degree of impact of a slow-onset disaster in order for it to be avowed as an emergency or a disaster?

The social construction of disaster and the risks involved is a lengthier process and continues even in the post-disaster period. Thus, in this sense displacement and subsequent resettlement and rehabilitation process is also socially constructed. The definition of disaster by the state influences the way in which displacement is perceived. The decision of any state intervention is on the acknowledgment of displacement itself, with disaster as the cause. Even the line of difference between migration and displacement exists in, how the state visualizes such a movement. Analysing the scenario at the international and national context, the declaration of a movement of population as 'displacement' invokes speedy and greater amount of response from the government, in comparison to it being defined as 'migration'. The continual self-relocation of people is not viewed as displacement by the state, which as mentioned, would have entailed a more rapid response by the government. Even multiple-displacement that the households at the periphery engage in as they retreat inland, do not count. The dearth of a definition is leading to a lack of recognition, which then further leads to an inaccuracy in the assessment of people actually displaced and resettled. This results in the deficiency of effective decision making.

Defining or even acknowledging disaster-induced displacement by the state is essential for households to perceive their own definition and perception of risks of resettlement and rehabilitation. Here, too the ideologies and decision-making of the respective stakeholders are then disarrayed. Livelihood, risks and disasters even though managed at the household level, is affected by the action or inaction of government as well as non-government actors and are usually miscalculated. It can be observed that many local political conditions come into play that hinders delivery of the resettlement outcome. This relation between politics and resettlement works in two ways. In the case of old planned resettlers, those who showed inclination towards the local party in power, received benefits of larger land or a steady income job. As for the new planned resettlers, all the respondents utilized the assistance of the party in power for resettlement. There exists a mutual obligation between planned resettlers and political parties. The commitment towards resettlement is reciprocated with the casting of votes in the party's favour. This relationship continues before and even after the resettlement process.

On the other hand, conversations on matters of preventive resettlement coincides with election periods. The resettlement actions are rather reflections of 'proactive inaction' of those in power at the local or state level. This lack of initiative of resettlement on the part of the state or local government resides in the fear of losing out on their vote-bank. Vote-bank politics creates situations of entrapment. There exists a misalignment of risks perceived by the household and

those calculated by the government or state. As such, the government has a problem with the ordering of their priorities. For the household, the decision on risks was not static and changed with the availability of experiences and choices. As for the state, the decisions are guided by their political agenda and where the execution is just temporary. The NGOs on the other hand, despite the necessity and the recognising the detrimental impact on the present and future generations of settlers, yet appear to be partially active in this construction. Therefore, the risks of undertaking planned, unplanned resettlement or remaining in their location is therefore reliant on these social constructions.

8.2 Surviving in the Indian Sundarbans in a climate change era

The Intergovernmental Panel on Climate Change (IPCC, 2007), attributes anthropogenic influences as the basis of the phenomena of global warming and climate change. These exposes the natural environment, human societies and their settlement to varied risks. Miscellaneous responses are bound to develop from local, state, national and international level, ranging from callousness to advocacy (Chakrabarty, 2008, p. 197). The reports predict detrimental consequences for livelihood of 'vulnerable' population anticipated to undermine food security and continual provision of resources. Experiences of households diverge due to the social features that mould 'vulnerability' and coping capabilities (Tompkins et al., 2021, p. 204). The unequal non-climatic features of societies interact with the climatic elements, thereby increasing household's 'exposure' and 'vulnerability'. Decisions on risks towards livelihood are then assessed based on these factors.

Climate change is expected to usher in newer challenges, especially for the households that are the direct recipients of these impacts, who would then have to calculate newer risks and appropriate strategies. Thus, it becomes obvious that people who are marginalized, be it socially, economically, culturally, politically or institutionally are more susceptible or vulnerable to climate change. Apart from the multitudinous impacts, climate change is expected to affect the movement of people, in diverse ways. But the interconnectedness between climatic and non-climatic factors, makes it tremendously problematic to establish a direct relationship between climate change and migration and/or displacement. UNICEF declared India as the 7th 'most affected country due to climate change', that resulted in life-threatening hazards, killing 2,267 people and leading to an economic loss equivalent to $ 66,182 million[107]. The organization further stated that, "*17 out of 20 people in India is*

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[107] Retrieved from https://www.unicef.org/india/what-we-do/climate-change (01.01.2023; 8:30PM).

vulnerable to extreme hydrological and meteorological disasters like flood, drought and cyclone" (UNICEF, 2021). Adamo (2008) and Warner and Afifi (2014) reiterate that the households in numerous South Asian countries including India, are at risk of being dispossessed due to climatic deviations and its subsequent livelihood set-backs (Haldar et al., 2021).

The situation for Sundarbans appears grim. Coastal and deltaic regions are extremely fertile with higher cultivable potential, enticing settlements and making the areas dense. The Ganga-Brahmaputra-Meghna (GBM) delta is one of the most densely populated in the world (Reker, 2006, p. 21). The high density leads to greater human intercessions, therefore creating pressures on the ecosystem. But the deltas being low-lying are susceptible to hazards (Reker, 2006, p. 22). Deltas are supposedly 'sensitive to climate change' (Reker et al., 2006, p. 17) and highly vulnerable (Tompkins et al., 2021, p. 203). This exemplifies the dialectics of the region.

According to Hazra et al. (2002), the surface air temperature over the Bay of Bengal is increasing at a rate of 0.019°C per year. It is projected that by the year 2050, the temperature in the deltaic region will increase by 1°C (Hazra et al., 2002, p.10). The average rate of sea level rise of the Sundarbans at 3.14 mm per year, is higher than the global average of 2 mm per year. Nandi and Bandyopadhyay (2008), in their assessment of the 'Permanent Service for Mean Sea Level (PSMSL)' for the last 50 years data reveal rising sea level between +0.76mm/year and +5.22 mm/year at varied settings in the ISD. Between 2002-2009, the Relative Mean Sea Level (RMSL) was about 12mm per year (Hazra, 2010). The island is also simultaneously sinking at 1.5 to 2-4 mm per year (Reker et al., 2006, p.76; Danda et al., 2011, p. 27). In the same aforementioned study by the School of Oceanography, Jadavpur University, identified the North-East, South-East and South-West of the Sagar Island, as areas with a higher correlation between rising sea level and erosion (Hazra et al., 2002, p. 11). Rahman et al. (2020), discloses a 'strong vulnerability gradient' throughout the GBM Delta in both the countries of India and Bangladesh (p.38). The study addresses alterations in social vulnerability between 2001-2011, which observed both increase and decrease in the phenomena (Rahman et al., 2020, p. 38-39).

The Indian Sundarbans Delta (ISD) is designated as one of the most vulnerable regions in the era of Climate Change and labelled as a 'Climate change hotspot' (Ghosh et al., 2018). In 2008, India came forth with its National Action Plan on Climate Change (NAPCC), amended in 2014, while the West Bengal State Action Plan on Climate Change (WBSAPCC) was published in

2013. Unlike the NAPCC, which chose to remain silent on the issue of population movements due to climate change, the WBSAPCC, considers 'population displacement' and migration as consequences of extreme events. Sundarbans has been specifically focused as a vulnerable region in West Bengal. However, the plan lacks concrete provisions for dealing with population movements within Sundarbans and even within or outside of the state. Bearing in mind the vulnerability of coastal zones to climate change and restricting developmental works, the Coastal Regulation Zone (CRZ) was notified in 1991. The entire ISD falls under various categories distinguished in the CRZ. The Category of CRZ I caters to forested areas, sand dunes, land within 100 m of a tidal creek, unpopulated islands and Sagar Island. The remaining areas of ISD, falls under CRZ III. West Bengal was a pioneering state to acquiesce its Coastal Zone Management Plan (CZMP) in 1997 (Danda et al., 2011, p.24). Currently, the state is also a part of the World Bank funded Integrated Coastal Zone Management Project (ICZMP) that included programs in Sagar for livelihood development, ecotourism, household electrification, construction of multipurpose cyclone shelters.

But the world is entangled in manifold debates that often turns out to be political. Conflicts that arise out of indifference, denial or negligence on the part of multiple stakeholders. The start of this debate emerges out of whether climate change is a myth or not. The consequences being multi-dimensional further complicates this issue. Add to this, the conflicts at the global level, surfaces between developed and developing nations and who should be responsible for the crisis. The dynamics forces of human mobility and climate change continues to be a much-debated topic. The sudden and slow-onset disasters are believed to induce a complex nexus of voluntary migration and displacement. Even the basic terminology for designating people undertaking such movements are numerous and entangled in dispute– 'environmental refugees', 'ecological refugees', 'environmentally-displaced' or 'environmental-migrants'. The ramification of this leads to complication in the identification of vulnerable populations, the discrepancy in quantity of such movement and even seeking long-term solutions at the local, national and global level.

In 2007, Mr. Das[108], now aged 87, originally from the vanished island of Lohachara, was escorted to New Delhi by the Green Peace organization. There, at the august conference, he was requested to share a testament of his story of displacement and 'planned' resettlement. He had since been resettled in a Colony in Sagar Island in 1982. His story was shared as a living

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[108] Name changed.

example of the impending doom that the world would have to face in the forthcoming years. Global warming and climate change has been the two protagonists of that dreary future. A debate has emerged in the race for who should be considered as the first 'Climate Refugees' – the people from the submerged islands and villages of the Indian Sundarbans or the population from Tuvalu in Papua New Guinea?

8.3 Future research and suggestions for policy changes

In the present era of 'neo-liberal governance', besides state and non-state organizations, there can be several other 'actors' who take part or can contribute to the social construction of disaster and risks involved. Media in any form, can be one such body. The media outlook on the subject matter can be an interesting take on the study. During the course of this research, several newspaper clippings and social media pages had to be referred to, which revealed their significance to the social constructions of environmental disaster. The relationship between media and risks in modern society is a burgeoning topic of study. Due to the paucity of time and also the likelihood of the thesis being knotted within numerous dimensions being undertaken in the study, the researcher had to refrain the inclusion of such a position in this study. This is something which the researcher would like to pursue in the future. Another party to this social construction, would be the academic institutions. During the course of this study, the researcher had to engage in discussions with academics who have worked extensively in the Indian Sundarbans. The researcher could observe variations in the perspectives of various academicians and at the same time, conflictual. This was also something that could not be studied extensively at the present moment, but could definitely be pursued.

As is already known, the Sundarbans is shared between the two nations of India and Bangladesh. The study area of this thesis is limited only to a certain section of the Indian Sundarbans Delta and does not deal with its immediate neighbour-Bangladesh. As a greater portion of the Sundarbans falls under the administration of Bangladesh, a comparative study between the two would certainly be interesting and valuable. This comparative study would also assist in policy decisions, equally relevant for both the nations. The problems of both the nations may be more or less the same and similar explanations can form a part of the dialogue between the two. Assuming the occurrence of massive population movements, transboundary resolutions may be required.

The beginning of 2020, ushered in the pandemic of Covid – 19. One of the major impacts was the return (often forceful) of millions of voluntary migrants to their original home. The

migrants of the Indian Sundarbans were no doubt a part of this state-of-affairs. The irony of the situation was, that the people who were fleeing from their home because of the threat of natural hazards, were unprepared for the disaster that was unfolding before them in the receiving area. The researcher has in certain chapters touched upon the repercussion of Covid-19 on the households. Nonetheless, it was not feasible to pursue such an aspect towards the end of the thesis. This would be an interesting perspective to study in the future.

Gender differences in perception of disaster, was not a specific focus of this study. During the course of my field work, the researcher did come across households where women were the representatives in the interview. This was mostly due to the timing of the field work conducted. As a major part of the field work was mostly done during the first half of the day, the men of the household were out for work, while the women remained busy with their household chores. The other reason was also due to the lack of male representation as the women were 'left behind' as either their husband or son had migrated to urban areas for work. As stated above the experience of disaster would then be different for the women and men (see chapter 6). This aspect is something which would be interesting to study in future.

As mentioned in the introductory chapter of this thesis, the aim of the thesis was to suggest appropriate policy formulation to deal with the issue of environment-induced displacement. The following paragraphs details some of these suggestions.

Deconstructing disaster- the step towards actual and active decision making begins with the deconstruction of the meaning and definition of disaster itself. In the social construction of disaster, a difference occurs where there is an overt emphasis on the 'technical' and quantifiable aspects by the government, but for the people it is much more personal and qualitative. The ignorance of 'displacement' in the technical definitions, hinders the decision on resettlement and further rehabilitation. The possibility of environmental or natural hazards leading to population movements - displacement and migration, should be incorporated in the disaster management act, plans, policies at all levels of government. This can then provide scope for disaster management legal enactments to incorporate resettlement as a part of their schema. It is to be understood that sudden and slow-onset hazards in a region like the Indian Sundarbans, works in tandem with each other. The negligence of one over the other can be detrimental and make the locality vulnerable in the long run.

Prioritising embankments - the significance of embankments for the people of the Indian Sundarbans is known to all stakeholders. This importance is not just physical. Apart from its

important role of protecting the inhabitants from the onslaught of sea or rivers, the embankments serve other beneficial purposes as well. The structure is utilised for drying cow dung cakes by the women to be turned into fuel later. After the harvesting of the paddy, the slabs serve as planes where the sheaths are left to dry. For the fishing households, the structure is utilised for drying fishes which can either be self-consumed, sold in the local market or used as chicken feed. The *shukto maach* (dried fish) is a delicacy for many Bengali households. Scientific innovations and technologies, no doubt have to be considered while constructing embankments. But equally valuable would be the participation of the local people.

Yet there exists a nonchalance amongst all stakeholders towards its protection and management. The measures extended towards it appears more of stop-gap practices rather than preventive. Reconstruction and strengthening of embankments should be the priority in every policy decision-making for the Indian Sundarbans.The guidelines of the Department of Irrigation and Waterways, recommended measures such as, brick block pitching or dry brick pitching and bamboo porcupine cages. Government organizations, NGOs and academic institutions are experimenting with various techniques of securing sustainability of these structures. WWF-I and the School of Oceanography, Jadavpur University are currently engaged in a project on mangrove regeneration to curb erosion. The sustainability of this method is yet to be known. The representative of Muriganga Gram Panchayat during the interview mentioned the arrival of a foreign experts for embankment re-construction. So far nothing manifested out of it. Despite the importance, the household perceive embankment to be of state property and naturally its management should be the latter's responsibility. The Delta Vision document of WWF-I (2011), suggests the maintenance of embankments in the Indian Sundarbans, as Common Property Resource (CPR). This is believed to ensure effective management of all stakeholders involved.

Significance of traditional methods of coping – few traditional methods of coping have been elucidated in this thesis. For instance, the oral history of the households, revealed the practice of cultivation of traditional salt-tolerant varieties of rice. Practical assessment of such traditional methods of coping should be carried out, so as to consider policy mechanisms along those lines. Transforming these into 'adaptation' strategies, no doubt requires commitment to planning, execution and monitoring at all level, by all stakeholders. This thesis maintains a distinction between 'coping' and 'adaptation'. According to the Handbook on 'Vulnerability and Capacity Analysis' prepared by CARE (2009), coping strategies are more temporary and instantaneous in nature, aimed at survival. These are mere responses to pressures and may

destroy resources with no substitutions. On the other hand, adaptation refers to long-term, continuous, sustainable, efficient, that integrates traditional and new innovative strategies and therefore producing alternatives (CARE, 2009, p.7). The 'adaptive capacity' of households and communities can only be achieved if they have 'access to' and 'control of' their multiple resources (CARE, 2009, p.5). The journey from coping to adaptation is undoubtedly strenuous and would require concerted efforts from all stakeholders concerned, at the local, national and global level.

Participatory development – in recent discourses on development, participatory approach has emerged as a new paradigm. According to Mathur (1997), "*without the commitment, creativity, energy and involvement of the people, the pace of development will not accelerate. The participatory approach is, in face being viewed as the most effective way of achieving equitable and sustainable development*" (p.53). It was seen that the local bodies like Panchayats had played an important role in the planned resettlement process. The functioning of MGNREGA scheme requires participation of the panchayat, beginning with planning, execution and monitoring. Embankment reconstruction forms a part of this MGNREGA scheme. As such, projects should be planned in a participatory manner, emphasising on protecting the overall environment on which they are heavily dependent upon. Alternative livelihood opportunities need to be deliberated. These should not mere undertakings of temporary nature, but should take into account their ecology and their long-term sustainability.

As was evident in this thesis, the *role of NGOs* cannot be ignored in the social construction of disaster and displacement. Their role as mediators between local people and the government cannot be overlooked. Further, cases have been presented where *community-based organisations (CBOs)* like Self-Help Groups (SHGs) directly or indirectly play a significant role in the lives and livelihood of the people of the Indian Sundarbans. Almost all of the government and non-government schemes are channelised through the SHGs in the Indian Sundarbans. So far, the schemes and the reasons for the loans that are taken are more individual rather than as a group. The efficacy of SHGs can be more expanded if group activities are also prioritised. One of the advantages of SHG is its collectivity, that promotes group solidarity which can act as a protective force to combat collectively their common problem of natural hazard or overall climate change. The national, state and district level Disaster Management Act, plans and policies mandates integration of government and NGOs or CSOs. Indisputably, their cooperative contributions during cyclones are instantaneous. But in the post-disaster periods, conflicts do arise which directly impacts the households. As such, the groups, keeping

aside their ideological differences need to work together on a common goal. Likewise, victims of erosion require equal attention and commitments from both the groups concerned. What is also then required is a ***reorientation of political commitments***. For political parties in the Indian Sundarbans, a region where humans and nature share a symbiotic yet dialectical relation, environmental commitments should form a part of their ideologies and agendas. Embankments, resettlement, livelihood opportunities are incorporated in their assurances at the start of the election cycle, but once this cycle terminates, they are forgotten. NGOs, CBOs and political parties can act as promoters of 'agency' in local populace, to instil the spirit of environmental advocacy. Climate change would entail multi-dimensional impact, often unforeseen, which would require timely preparation, planning, implementation and monitoring. The immediate impacts and its coping solution are immediately experienced by the local households, but surviving it would require involvement of other decision-makers as well.

The 'Sanremo Consultation', organized en masse by the United Nations High Commissioner for Refugees (UNHCR), the Brookings-LSE Project on Internal Displacement and Georgetown University's Institute for the Study of International Migration with a theme[109] dedicated to Planned Relocation in relation to climate change, in 2014, concludes that a well-planned relocation could be both a form of Disaster Risk Reduction and a form of Climate Change adaptation. Relocation should only be taken as a last resort, when all in-situ options have been tested, requiring the support of multiple actors like the funding agencies, international organizations, regional bodies, civil society, academic experts, concerned government authorities etc., and the need for guidance for such relocation to national and local authorities. Lessons can be learnt from resettlement and rehabilitation practices that have been carried out in other countries, be it as a precautionary measure or a post-disaster strategy[110].

Acknowledging migration - as evident in this research, migration has now become a burgeoning livelihood strategy for the household. This strategy can transform from coping to adaptation, if its importance is not ignored. The remunerations of migrants can become important resources for households to strive for resilience during environmental crisis. Additionally, the 'voluntary' nature of migration may hinder policy formulation directed towards it. The insistence on distinguishing displacement and migration in the context of

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[109] "Planned Relocation, Disasters and Climate Change: Consolidating Good Practices and Preparing for the Future".

[110] Relocation of Vunidogoloa village in Fiji islands; resettlement of villages of Satabhaya Gram Panchayat in Odisha.

environmental disasters, would only lead to sluggishness in decision-making or its implementation. As observed in this study, within the setting of environmental hazards, the two appears in a continuum. Furthermore, despite the causes, displacement does receive some form of attention, even though it is limited in nature. Policies should be targeted towards safeguarding the interests of migrants in both the sending and receiving areas. For instance, methods like registration of migrants, migrant insurance, migrant group formation etc.

At the end, a question thus arises, can planned retreat be a possibility? In 2011, WWF-I published a report entitled Delta Vision. The debatable aspect of this vision was the proposal of a 'phased out-migration' of people from selected active parts of the archipelago to more 'stable' locations. The organization justifies the vision as a mid-way strategy to sustain this unique ecosystem as well its human inhabitants considering the vulnerability to climate change. As of today, there has been no initiation of implementation of the vision document on the part of the government but the organization considers it a positive step towards the opening up of a dialogue of such a nature. The first phase of the plan was to do away with the distinctive North and South 24 Parganas district and creation of one 'Biosphere district'. The proposal of Sundarbans as a district has been announced by the Chief Minister of the state in 2015, 2021 and even in November of 2022. But, according to the organization, their idea of a district was contrasting to that of the State, where the former had also written to the Chief Minister, stating the fallacy in the idea.

Social scientists cry in alarm, accusing it of being ludicrous and a strategy of prioritising conservation over people. A key informant of the State Department of Environment, Government of West Bengal feels that the decision to resettle or not should be wholly dependent on the individual which is evident from the following quote - "*Whether a person wants to stay in a place or relocate that should be his/her discretion. At least that is what I believe, unless and until there is some compelling factor, because you might be knowing about the small island people who says that we are not drowning we are fighting. What will you do? Will you go for a forced migration? Maybe they do move but their soul lives in that particular place, so it's not a very easy situation. The state government does have the onus of responsibility to find out that where they can have a better living but it has to be the decision of the person. He has to take the call, otherwise forced migration or migration under compulsion, I personally don't think it's a very good option for anyone. You are here today, but if it so happens that your country expels and you are here today, will that be same? They cannot be same.*"

On 5th of September, 2021, in a well-known newspaper daily, it was reported that about 30 families from Ghoramara island have been allotted 20 decimals of land each in Dakshin Haradhanpur, Sagar Island (Chaudhuri, 2021). The *pattas* for the same have been granted to the families by the Department of Land and Land Reforms, Government of West Bengal, prior to the resettlement. The primary cause of such relocation was stated to be natural disaster and the continuous havoc rendered by the simultaneous occurrence of cyclones – Amphan and Yaas. The construction of houses by the Department of Housing was still on the pipeline, but was stipulated to commence at the beginning of 2022. Besides land and pre-constructed houses, the relocation programme would also include infrastructural development and creation of livelihood options like provision of poultry, skill development, through inter-governmental department enterprises (Chaudhuri, 2021). During the field work for this thesis, even in the beginning of 2022, the resettlement process had still not been initiated.

As for the household, a respondent remarked, "*Aar jaiga kothai*? *Shey rokom hole, tahole chole jete hobe. Bhagwan ja korbe, korbe.*" ("Where is the land? If it comes to that, then we would have to leave. God will do what he will do").

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ANNEXURE I: INTERVIEW SCHEDULE

[A] Interview schedule for 'Planned' resettlers (household)

1. Name (representative of the household)
2. Age   Gender   Religion   Category
3. No. of household members
4. No. of earning member in the family; type of work and average income
5. Place of origin: (Village/Panchayat/ Island)
6. Name of resettlement colony: (Village/Panchayat/ Island)
7. Approximate year of displacement. Period of stay in the place of destination:
8. Description of their socio-economic situation in the place of origin – ownership of land, livelihood activity, no. of household's earning and non-earning members, markets, availability and access to other basic facilities
9. Describe the process of how displacement occurred.
10. How and by whom was the process of resettlement initiated?
11. What was the nature of the resettlement package given to them – as a household and community?
12. Description of the relocation process in the resettlement area.
13. What were the challenges that they had to undergo in the new resettlement colony? How was the interaction of the host population towards you?
14. Did they receive all the things that was promised to them?
15. Did they think of any other alternatives prior to resettlement?
16. Are they recipients of benefits from government schemes/provisions in the colonies? (MGNREGA, housing scheme(s), ration etc)
17. Are there any difficulties that they continue to face in the resettlement colony?
18. Condition during Cyclone Amphan and Yaas.
19. What are their thoughts on the ongoing and futuristic environmental changes? What would they do if they have to relocate again?
20. Are they a member of any NGO/CBO/SHG? What type of relationship do they share with any particular NGO(s)/CBO(s)/SHG(s)?

[B] Interview schedule for 'Unplanned' or Self-resettlers (household)

1. Name (representative of the household)
2. Age   Gender   Religion   Category
3. No. of household members
4. No. of earning member in the family; type of work and average income.
5. Place of origin: (Village/Panchayat/ Island)
6. Place of destination: (Village/Panchayat/Island)
7. Period of stay in the place of destination
8. Description of the socio-economic condition in the place of origin- ownership of land, livelihood activity, no. of household's earning and non-earning members, markets, availability and access to other basic facilities
9. Description of the conditions that led them to displacement.
10. Describe the situation during times of flood? cyclones? erosion?
11. What were the strategies that the household adopted to tackle with erosion and flood?
12. Was there provision of any relief or help in any form for erosion/flood/cyclone from the government?
13. Did the NGOs/CBOs provide any help in any form for erosion/flood/cyclone?
14. How did they relocate to the new area? Did they have any other alternate relocation area apart from here? Why did they choose to move in this particular location?
15. Did they take the help of any local authority or make any appeals to the state? Did the government take any initiative to assist them in this situation? Did they receive any compensation?
16. How did the household decide on resettlement? Were there any other alternatives discussed by the household, to resettlement?
17. What are the livelihood conditions and the facilities in the new resettled area?
18. Are they recipients of benefits from government schemes/provisions in the colonies? (MGNREGA, housing scheme(s) etc)
19. If migrant member in the household, description of the type and nature of migration
20. What are the type of challenges faced in the resettled area?
21. What are the initiatives undertaken by the government in the new resettled area? Have they been the beneficiary of any of these initiatives?
22. Did they take the help of any NGOs/CBOs? What were the initiatives undertaken by the non-government organizations in the new resettled area?
23. Condition during Cyclone Amphan and Yaas.
24. What are their thoughts on future displacement scenarios? What are their hopes from the government or non-government sectors?

[C] Interview schedule for household (selected villages)

1. Name (representative of the household)
2. Age   Gender   Religion   Category
3. Name of village/Panchayat
4. No. of household members
5. No. of earning member in the family; type of work and average income.
6. Description of the socio-economic condition in the place of origin- ownership of land, livelihood activity, no. of household earning and non-earning members, markets, availability and access to other basic facilities
25. What is the main problem in terms of natural hazards in the area? Condition during Cyclone Amphan and Yaas.
7. What are the strategies adopted by them to deal with the situation?
8. Have they placed this issue to the government or non-government organizations, or in any community meetings?
9. Have they thought about relocating elsewhere? What are the factors that are stopping the household from relocating elsewhere?
10. Do they avail the government benefits of schemes? Details.
11. Does the household have any migrant members?
12. Do they have family members elsewhere?
13. What are their expectations from the government and non-government?
14. What are their challenges in their place of stay?
15. If they are provided with compensation in any form, would they be willing to relocate?
16. What do you think is the priority area that the government and non-government organizations should focus on?

[D] Interview schedule for Government Organizations

1. Name
2. Age
3. Designation
4. Office   (Address)
5. Position held & year
6. What are their duties and role particularly in the Indian Sundarbans?
7. What are the strategies adopted or enacted to protect Indian Sundarbans from the vagaries of slow and rapid onset disasters?
8. Outlook on disaster management enforcement in the region/state.
9. What role do they play in any type of hazard?
10. Do they have any plans on controlling or curbing the ongoing displacement that is occurring? What are the methods? What should be prioritised?
11. What are the methodologies and methods administered in their assessment of situations of probable resettlement?
12. Does the government maintain records of oustees or migrants? Do they have programme for the migrants? Are there any plans/provisions for such migrant households?
13. Do they engage in collaboration in any form with any NGOs or CBOs?
14. What are their views and plans in tackling the situation in the upcoming future.
15. Have they considered any alternatives apart from resettlement?

[E] Interview schedule for Non-Governmental Organizations

1. Name
2. Age
3. Designation
4. Office   (Address)
5. Position held & year
6. Year of setup in the region
7. What are your organization's goals and objectives?
8. Details of work done in the area
9. Are they any specific programmes for people affected by erosion/flood/cyclone?
10. Do they collaborate with government organizations in this situation?
11. Have they done any specific programmes with the displaced and/or resettled households?
12. How would they deal with futuristic scenarios of environmental changes? Are there any plans being formulated to combat such crisis?

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