



Understanding immobility of a highly vulnerable coastal village in the Indian Sundarban

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Abstract

The Indian Sundarban is one of the most vulnerable eco-regions of the world and its vulnerability has increased manifold in the last two decades. Despite the insecurities and risks, people do not always migrate and often prefer to stay back by adjusting their lives and livelihood. This article explores the practice of immobility and the process of decision-making that results in immobility. Based on empirical research carried out at Gobardhanpur village in South 24 Parganas district of West Bengal, India, this article examines how people readjust themselves and remain voluntarily immobile instead of facing high vulnerability caused by different shocks or stresses. The empirical research was carried out with the help of both quantitative and qualitative research methods including household-level questionnaire survey, in-depth interviews and focus group discussions. The findings show that whilst the region supports multiple occupations, fishing is the prime occupation of the people. During the monsoon period, diversification in terms of livelihood is low, as fishing supports maximum respondents. In contrast, low fish catch during the off-monsoon season is responsible for high livelihood diversification. Circular migration is a very common adaptive strategy to overcome the livelihood crisis during the off-monsoon season, especially amongst the younger members of the households. The remittances earned through circular migration supplement the household income and secure their livelihood. Moreover, institutional help, robust social networks and attachment to the place also play a role in controlling the decision of immobility.

Keywords Vulnerability · Livelihood risk · Immobility · Social capital · Place attachment

Introduction

Immobility is an inevitable issue that arises when examining the socio-economic context. It is just as important as mobility in the migration–adaptation discourse. The human decision to migrate is considered to be a complex behavioural choice guided by economic, social, demographic and ecological conditions of the environment

within which an individual resides (Hunter et al. 2015; McLeman 2018; Mallick et al. 2021). Migration has been seen as an adaptive strategy, besides livelihood diversification, in the context of highly adverse environmental conditions or risks (Massey et al. 1998; de Hass 2010; Biswas and Mallick 2020). Migration is described as one of the responses to threats to life (Malmberg 1997) particularly in populated coastal regions prone to climatic hazards. However, data from the International Organization for Migration (IOM 2018) for the period between 2008 and 2016 reveals that despite of frequent natural threats, about 85% of the people chose not to relocate. This observation highlights the importance of understanding the issue of immobility. Immobility is linked to both spatial and temporal attributes. It can be described as *spatial continuity* in the centre of gravity of an individual over a certain period of time (Schewel 2019). In contrast, immobility is also observed as intentional and has been seen as an adaptation choice that arises from a person's desire to remain in their original place of residence (Van Hear et al.

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2018). Immobility is decided on the basis of capability and aspiration of an individual (Carling 2002; Carling and Schewel 2018). Aspiration without the capability to move results in people being trapped in place (Black and Collyer 2014), whereas aspiration in conjunction with the ability to remain in place is an intentional behavioural choice (Zickgraf 2018; Mallick and Schanze 2020). A place having strong social networks within the community acts as an agent to make people remain in place (Adams 2016; Bennet et al. 2017) during times of distress in vulnerable places, especially in hazard-prone coastal areas.

Coastal regions are one of the most vulnerable eco-regions of the world due to their dynamic nature, which makes people susceptible in terms of livelihood. Land use patterns in such areas undergo several changes due to frequent occurrence of climatic shocks or stresses which simultaneously change the livelihood choices. People therefore look for and adopt alternative strategies to cope with the ever-changing situations, which help them to sustain and improve their livelihood opportunities and well-being despite frequent disturbances (Ayeb-Karlsson et al. 2015; Mallick 2019). Therefore, availability of alternative livelihood choices locally reduces the probability of migration (Mistri 2013) and thus accelerates probability of immobility. Apart from livelihood, robust social networks and place attachment play major roles in immobility as people find it difficult to relocate from their ancestral place (Adams 2016). This scenario of immobility is very prevalent in the coastal part of the Indian Sundarban. With the help of empirical research, this article aims to understand how immobility persists in the Indian Sundarban and how migration decisions are influenced by livelihood and the socio-cultural set up of the place. This study investigates communities that have been affected by several natural threats, including breakdown of embankments, and in the recent past have had to adopt a strategy of shifting their houses inland from the coast as many as fifth times because of incessant encroachment of the landmass by the sea. The study focuses specifically on the southern part of Gobardhanpur village, a coastal village of the Indian Sundarban. Despite living in such a hostile environment, people prefer not to move away from there, from which the following research questions arise:

- a) Why do people stay in such a place in spite of high vulnerability?
- b) Are there alternative livelihood choices or other kinds of social support systems which lead to immobility?
- c) Is the nature of immobility voluntary or involuntary?

To find answers to the abovementioned research questions, this study focuses on real-life experiences, perceptions and reactions of the villagers who cope with the challenging situations and choose not to migrate. The article seeks

to investigate and understand the perceptions and cognitive thought process that drive people to remain in place.

Conceptual framework

Tropical coastal areas are high-risk zones owing to factors such as rapidly growing population, reduced biodiversity, degradation of environmental quality and consequent increasing rate of vulnerability towards natural threats (Mallick et al. 2009) that together influence the livelihood choices of people. Livelihood includes capabilities, possessions (comprising both material and social resources) and activities undertaken to earn a living (Chambers and Conway 1991). The concept of sustainable livelihood is linked with vulnerability and resilience (Allison and Ellis 2001). The relation amongst these concepts is usually described by the livelihood approach. Sustainability is defined as ‘the ability of a system to maintain productivity in spite of major disturbances such as is caused by intensive stress or a large perturbation’ (Conway 1985, p.12). In line with this idea, livelihoods can be sustainable when they can cope with and recover from several stresses and shocks; increase the capabilities, assets, and resources of an individual or community and provide livelihood opportunities to the next generation for a shorter or longer period of time (Chambers and Conway 1991; Serrat 2008).

Furthermore, the concept of sustainable livelihoods is also partly concerned with the understanding of differential capabilities of rural people to cope with the changed system. The literature on sustainable livelihood focuses on the assets of people and how differential possession of assets creates change in the ability to withstand shocks (Swift 1989). This idea is closely linked with the concept of vulnerability. Vulnerability is defined as the degree to which a system is exposed to shocks or stresses and is unable to cope with the adverse effects (Adger 2006). Vulnerability has dual aspects—external threat and internal coping capability (Allison and Ellis 2001). Livelihoods may be challenged by external threats due to climate change or sudden disaster, and it is the internal coping capability that helps to overcome the threat. This capability is determined through asset holding capacity, support from the community and governmental support schemes. The concept of resilience according to the livelihood perspective originating in this context is defined as the ability of a livelihood or ecological system to ‘bounce back’ from stress or shock (Allison and Ellis 2001).

Livelihood diversification is a form of adaptation strategy in areas with dominant natural resource-based activities, as these activities are extremely vulnerable to environmental threats (Mistri and Das 2020). Livelihood diversification is a process by which people simultaneously engage in several income generating activities to

enhance their standard of living (Ellis 1998). Diversified economic activities thus eliminate sole dependence on any particular livelihood choice and also reduce the risk or vulnerability in terms of income generation. Therefore, it is a strategy to achieve sustainability and resilience in terms of livelihood.

In any socio-ecological system, the concept of resilience considers the ‘question of human agency, social practices, power relations, institutions, and discourses’ (Keck and Sakdapolrak 2013, p.11). Consideration of human intervention in the socio-ecological system helps in developing the concept of social resilience. Social resilience comprises of three dimensions that involve (i) coping capacities or reactive measures, which dictate how people overcome threats with the available resources they have; (ii) adaptive capacity or pro-active measures, wherein people learn from their past experience and readjust themselves for upcoming challenges and (iii) transformative capacity, where people access assets and assistance from a wider set of institutions that help in their well-being for future (Obrist et al. 2010; Keck and Sakdapolrak 2013). Therefore, social resilience is the outcome of the presence of robust social networking within the community that develops social capital. It is the resource of a community that can ‘stimulate multiple functions for mutual benefits carried by the members of the network bonded by a formal or informal social structure’ (Sanyal and Routray 2016, p.102). Social capital makes people dependent on their community, which increases affection for that place, since it provides benefits to people in a variety of different ways (Adams 2016). Bonding with a place provides benefits in terms of human needs, which are directly related to identity, feelings of self-belief and attitude towards the future (Twigger-Ross and Uzzell 1996; Fresque- Baxter and Amritage 2012), and disruption of the bond results in psychological and health-related problems (Lewicka 2013). This kind of positive attachment with a place is key to making people feel dissatisfied with the decision of moving out from the place (Adams 2016) and therefore results in immobility.

Immobility is considered as a natural and desirable state of affair in research studies (Malkki 1992), which makes immobility a normal phenomenon (Schewel 2019). Meanwhile, the decision of migration is the outcome of rational calculation of cost and benefit of moving as described by the Neoclassical theory of migration (Mallick and Schanze 2020). From this perspective, even when the benefit of moving outweighs the cost of staying, people prefer to remain in place. ‘Aspiration to migrate’ as a component of migration is described in the cohesive migration theory (Massey et al. 1998). According to this theory, immobility is an intentional and complex behavioural choice in contrast to migration (Mallick et al. 2021). Migration and immobility can be seen as functions of aspiration and capability of an individual, where capability refers to the ability to aspire or

the ability to realise an aspiration (Carling 2002; Carling and Schewel 2018).

Depending on the aspiration-capability framework, immobility is divided into two categories: (a) *Involuntary immobility*: It can be described as the condition when an individual or community has the aspiration but not the ability to move. In this case, people are called ‘trapped’ (Black and Collyer 2014) as they have limited resources which make them stay behind. (b) *Voluntary immobility*: It can be described as the condition when an individual or community has the ability but not the aspiration to move out. This happens when one member of the household migrates instead of the whole family. In contrast, capability with aspiration to remain in place is intentional by nature and is described as ‘voluntary sedentarism’ as it is the adaptive strategy of people to stay home (Mallick et al. 2021). Voluntary immobility involves capability of relocation, whilst involuntary immobility holds people in place due to resource constraints limiting their capability of relocation, especially in the place of environmental disturbances (Mallick et al. 2021).

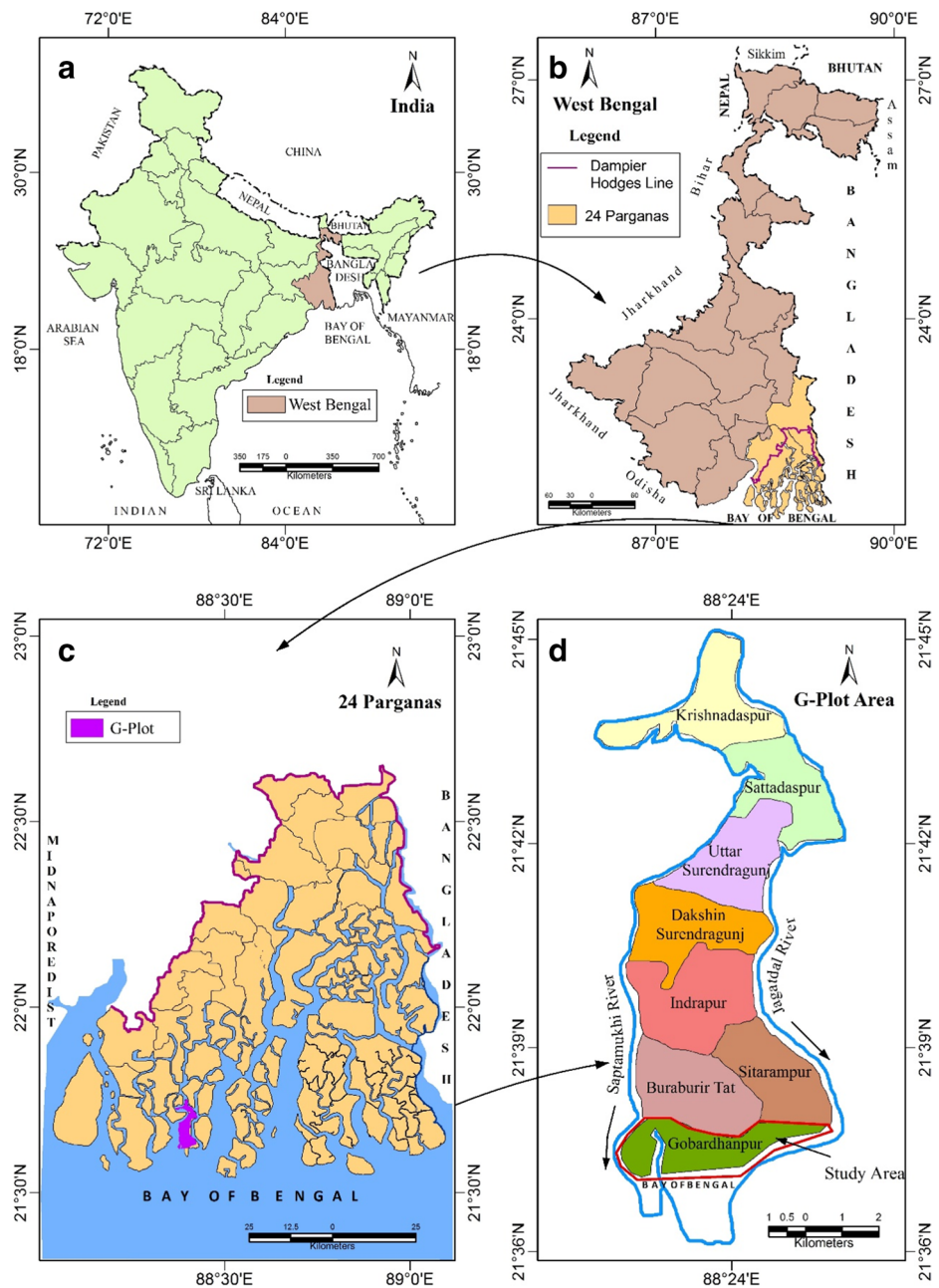
Another set of theories discussing the role of remittances in immobility claims that the money remitted by migrant members lends support to the family and hence they remain in the same place. For instance, according to the New Economics of Labour Migration (NELM), the remittance money of a migrant member helps to keep the household in place (Stark and Bloom 1985). However, this theory has been criticised for lack of applicability in research studies (de Hass 2010). In the case of circular-migration, people migrate for financial reasons temporarily, return to their native place often to stay connected to the community and send remittance money to help the households on a sustained basis (Mallick et al. 2021). Therefore, both the economic and the socio-cultural set up of a place influence a household’s aspiration for migration.

Study area

The Indian Sundarban is one of the most vulnerable regions of the country, especially the coastal part, which faces several natural threats such as rise in annual temperature, change in monsoonal pattern, increase in the intensity of tropical cyclones resulting in storm surges, rise in sea level, land erosion, salt water intrusion and collapse of embankments (Chand et al. 2012). Prominent erosion zones comprise of twelve sea-facing southern islands amongst which G Plot is one (Hazra et al. 2002). The plots were named by English alphabets, such as ‘L Plot’, ‘G Plot’ and so on.

G Plot is a fish-shaped island located in South 24 Parganas district in the State of West Bengal. Gobardhanpur village, the southernmost end of the island (Fig. 1d),

Fig. 1 Location of the study area. **a** Map of India shows the location of the state West Bengal; **b** map of West Bengal shows the location of the 24 Parganas (south and north) districts and northern limits of the tidal zone marked by Dampier Hodges line; **c** map of 24 Parganas shows the location of G-Plot Island; **d** map of G-Plot showing the location of eight villages including Gobardhanpur having a location confronting regular coastal erosion



has been chosen as the study area for this article. Gobardhanpur is frequently affected by cyclones and storm surges which result in the failure of embankments. Monsoon season is the most crucial period for the people of Gobardhanpur as every neap tide during the new moon causes a collapse of the embankment in several places, which further results in inundation of residential as well as agricultural land.

Methodology

Data on migration at the village level in the Indian Sundarban area is not available from the official population data from the census of India. Therefore, this article is completely based on empirical data collected from the field level survey and analysis. We have tried to capture the socio-economic conditions, livelihood choices and immobility

patterns of the households under survey. As a case study, the study interviews the households that have been affected by several natural threats like failure of embankments and have adopted a strategy of shifting their houses from coastal areas to inland areas in the past, instead of taking the decision of moving out from the region entirely.

According to the Census of India Report (2011), there are 243 households in the village. After a thorough investigation of their experience of vulnerability through verbal discussions with the village men, we narrowed the number down to 40 households who have shifted the location of their houses more than four to five times in the last two decades due to recurrent natural hazards and associated problems of encroachment of land by the sea. These 40 households are presently located within 100 m from the coast line and have been selected for empirical survey. Thus, the households selected for this field survey do not represent a selected sample, rather, they constitute the total number of households we targeted for survey. The main objective of this research was to understand the conditions of immobility. Thus, the study targeted only those households which have faced extreme vulnerability multiple times in the recent past, but decided to stay put in the same village rather than migrating. Investigating their decision to stay put instead of moving out from this region of environmental adversities helped us to understand what drives their immobility.

We completed fieldwork in two rounds and used both quantitative and qualitative methods of empirical research. In the first round, we surveyed these 40 households with a semi-structured questionnaire survey. This questionnaire survey is the source of quantitative data linked to their conditions of life and livelihood. Collecting data through the questionnaire survey also helped us to build rapport with our target group for the later rounds using qualitative methods. We reached out to the household head for the questionnaire survey but also interviewed the person next to the head in his absence. From the conversation during the questionnaire survey, we tried to understand the important issues that impacted their decision of non-migration.

In the second round, we tried to develop a deeper understanding of immobility through qualitative methods of informal interview and focus group discussion. In this round, we conducted 22 in-depth interviews and 3 focus group discussions in total to cover different aspects of this research to explore the complex interplay of sustainable livelihoods, vulnerability and migration decisions. For the most part, participants who had experienced circular migration during 1 year before the period of survey were selected for 22 in-depth interviews. These 22 in-depth interviews were conducted with young individuals belonging to the age range of 15–35, as they are the dominant group of people who undertake circular migration to supplement family

income and to build household resilience in combating vulnerability generated by both slow and sudden disasters. In this method, we focused on young people, since existing research on vulnerability induced migration suggests that the chances of migration amongst them tend to be higher. Through this method, we also wanted to explore the role of place attachment as a factor of immobility.

Focus group discussions were organised to understand how migration decisions are impacted by place attachment, public support system enhancing the living conditions and social capital as a means of building community resilience. The three focus groups consisted of (a) elderly people above 60 years of age; (b) working men (aged 18–60) and (c) women from both working and homemaker categories. The average number of participants in these groups was 5–6 persons. These group discussions were carried out to see how social connections and emotions of an individual can influence the decision of migration in the broader sense of the term, and how the people value a public support system and community help.

The socio-economic and demographic profile of the studied households has been analysed with the help of data collected from the household survey. The households are involved in six economic activities: (i) fishing; (ii) repairing of fishing accessories; (iii) working as labour in fishing trawlers; (iv) working as day labour within the village; (v) working as labour outside the village and (vi) farming. Dependence on multiple activities over the year reveals a diverse pattern. There are several methods for measuring livelihood diversification, such as Simpson index, Herfindahl–Hirschman index, Ogive index, Entropy index, Modified Entropy index, Composite Entropy index and Index of maximum proportion (Joshi et al. 2003). To strengthen the theoretical construct, two diversification indices are employed in this study. These are the Simpson Diversity Index (SDI) and Herfindahl–Hirschman Index (HHI).

Simpson's Diversity Index (SDI) is calculated by the following formula:

$$SDI = 1 - \frac{\sum n(n-1)}{N(N-1)}$$

where N = total number of income sources of the village and n = number of individuals associated with each income source. The value of SDI ranges between 0 and 1. The tendency of value towards 0 means livelihood diversification decreases, whereas value towards 1 means livelihood increases.

Herfindahl–Hirschman Index (HHI) is calculated as follows:

$$HHI = 10,000 \sum_{i=1}^n s_i^2$$

Table 1 Summary of the socio-demographic profile of households

Parameters	Scale/unit	Observation <i>N</i> = 40	Mean	Max	Min
Gender	Male	40	3.27	8	1
	Female	40	2.35	5	1
Household size	Value in number	40	5.625	13	2
Age	< 18	40	1.95	6	0
	18–60	40	3.12	9	0
	> 60	40	0.57	2	0
Education	Illiterate	40	1.12	4	0
	Below 10th standard	40	4.05	10	1
	Above 10th standard	40	0.45	2	0
Agricultural land	Value in hectare	40	0.23	0.75	0.00
Women's involvement in economic activity	Number	4	0.88	2	0
Monthly income in off-monsoon season (October–May)	Value in INR	40	5802.5	12,000	1500
Monthly income in monsoon season (July–September)		40	8425.0	20,000	5000
Migrant members (circular migration)	Number	40	0.58	4	0

where n = number of the total income sources present in the village and s = shares of income sources. The value is multiplied by 10,000. But in some conventions, the value is expressed in decimal. The value ranges either from 0 to 10,000 or from 0 to 1. The value towards 10,000 or 1 means livelihood diversification increases, whereas value towards 0 means low concentration of livelihood choice, or diversification decreases. The changes in the diversification of livelihood opportunities are measured between the monsoon and off-monsoon seasons.

Results

Summary of the socio-demographic profile

Socio-demographic profile of households plays a major role in understanding life and livelihoods of people of any area. Table 1 represents that picture. The average household size in the village is 5.62 with around 57% households of size between 5 and 10. Most of the households have more than one earning member to ensure sustainable livelihood. The working age group (18–60) forms the major proportion of all households with a mean value of 3.12, upon whom the two other age groups (less than 18 and above 60) depend. Moreover, the category of people above the age of 60 years comprises only 10% of the total population of households, which is a clear indication of the low life expectancy rate. About 20% of the people are illiterate, another 72% have an educational level of below class 10 and the remaining 8% are educated above class 10.

Land ownership usually holds social pride and power in a village community. However, in Gobardhanpur village, land has lost recognition as a sound resource in the village community. About 28% of households own agricultural land, but only 5% of them can cultivate their land once a year. About 23% of households cannot cultivate due to the high soil salinity, which makes the land unproductive. Around 72% of the households reported that they had owned land in the past, which was washed away by the sea. Non-dependence on land drives people to occupations other than cultivation, especially to fishing. Fishing supports the maximum number of surveyed households during its peak season, that is, monsoon (July–September). Each household has at least one member engaged in fishing. Women also participate in income generating activities in the village. Women contribute to the household income through their engagement in catching prawn seeds and crabs from the adjoining sea, along with repairing fishing accessories. Majority of households have women actively participating in economic activity, with a mean value of 0.88 per household (Table 1).

Monthly income shows a slight jump from the off-monsoon to monsoon season. This change is contributed to by the availability of Hilsa fish (a costly fish) in the sea during the monsoon. The maximum and minimum monthly income as reported by the households is 12,000 INR and 1500 INR, respectively, during the off-monsoon season, which rises to 20,000 INR and 5000 INR during the monsoon season. But other than during the monsoon season, it is difficult to sustain on fishing or fishing-related activities, and that calls for diversification of livelihood. Therefore, people depend on multiple livelihood choices and even

Table 2 Share of economic activities in different seasons and livelihood diversification

Categories of livelihood choice	Monsoon (no. of household engaged with activities)	Off-monsoon (no. of household engaged with activities)	Monsoon (% share of activities)	Off-monsoon (% share of activities)
Fishing	31	24	77.5	60
Repairing of fishing accessories	25	22	62.5	55
Working as labour in fishing trawler	15	10	37.5	25
Working as day labour in the village	8	16	20	40
Working as day labour outside village	8	12	20	30
Farming	0	2	0	5
Simpson's Diversity index			0.750	0.800
Herfindahl–Hirschman index (HHI)			2560 (0.256)	7032 (0.703)

practise circular migration, especially in the case of the young members of the households. The maximum number of migrant members per household is 4. As reported by the households in this study, 12 households practised circular migration.

Nature of livelihood diversification

Amongst the livelihood options, fishing is the dominant occupation in the village. Most of the households are engaged in fishing activities. Investigation reveals that the male members of the households are engaged in deep sea fishing besides fishing in the shallow seas of the coastal areas. The amount of fish-catch varies from season to season and from place to place. The respondents have reported that the greatest quantity of fish is caught during the monsoons. Moreover, Gobardhanpur is a noted place for hilsa (a special category of costly fish) caught during the monsoon and this catch acts as the major source of income to sustain their families for the entire year. Fishing in surrounding areas is thus mostly undertaken to support households for sustenance during seasons other than monsoon. This phenomenon drives people to depend on multiple livelihood choices.

Table 2 shows that during the off-monsoon season, 24 households are engaged in fishing, whilst the number rises to 31 during the monsoon. With the increase of fishing activity, the demand for fishing accessories also increases simultaneously. According to the surveyed data, whilst 22 households are engaged in the activity of repairing fishing accessories during the off-monsoon season, it increases to 25 households during the monsoon. The village has a trawler which hires labourers from within the village. About 15 households, including the owner, practise deep sea fishing during the monsoon, whilst the number drops to 10 because of the uncertainty of fish catch in the off-monsoon season. As the studied village is located near the coastline, embankments have to be repaired from time to time, as these are prone to be breached by storms and tidal surges during every

monsoon. Therefore, people get work as labourer in repair work of embankments during the off-monsoon.

Activities in the village are not sufficient to ensure economic sustenance throughout the year, and that is why people often practise circular migration during the off-monsoon period. The number of such households during the off-monsoon season is 12, which decreases to 8 during the monsoon (Table 2). Migrant members of households either work as labourers in fishing trawlers of other larger coastal villages or in the construction sector of nearby urban areas. Coastal flooding, erosion, uncertainty of fish species, salinity of land and breaches in the embankment together call for livelihood diversification. Livelihood is more diversified during the off-monsoon season as households concentrate more on fishing or fishing-related activities during the monsoon. This observation from the field has been supported by both the Simpson Diversity Index and the Herfindahl–Hirschman Index. According to the Simpson Diversity Index, the values are 0.75 during the monsoon and 0.80 during off-monsoon season, respectively. According to the Herfindahl–Hirschman Index, the values are 0.256 during the monsoon and 0.703 during off-monsoon, respectively. Low value for both the indices reveals concentration of economic activities during the monsoon season, whilst high value supports diversification of livelihoods during the off-monsoon season. Thus, livelihood diversification in the studied village is observed as a dominant strategy to achieve resilience and to increase the probability of voluntary immobility of households.

Aspirations of youth in taking migration decisions

Resources (material and non-material) enhance people's capability, and the capability of an individual means the ability to aspire (Carling 2002; Carling and Schewel 2018), which further influences migration decisions. Chambers and Conway (1991) stated that an increase in capabilities and assets is the outcome of sustainability in terms of livelihood, which helps to provide livelihood opportunities in future.

Therefore, future livelihood opportunities depend on possession of assets by an individual or household at present. Motivation for future migration amongst young people basically depends upon their relationship with asset possession and future livelihood opportunities. Fishing boats, trawlers, agricultural lands, homestead lands, social capital and savings are identified as assets in the village.

The respondents who have a relatively higher resource base would not like to opt for permanent migration. Rather, they prefer to stay engaged with traditional activities and practise circular migration which help them to absorb shocks and readjust their life and livelihood accordingly. Remittance money of the migrant members helps in asset creation and in diversifying the livelihood profile of the households, which together make the households stable enough to face the challenges of potential environmental disturbances. The decision of circular migration amongst the youth as observed is a result of two factors: (a) attachment to their own place and their traditional activity of fishing; (b) feeling of risk associated with moving to an unknown destination, especially the poor, congested areas of informal settlements in the cities. Their own words can help us to understand their feelings on this issue.

Tapan Barman (age 32) says, “Usually I go for deep sea fishing in trawler as labourer during monsoon, but off-monsoon drives me to several jobs in other destinations. I work in a potato storage in Bardhaman district from the month of February to June for loading and unloading of potatoes. Five months’ work and income, along with my income from fishing during the monsoon period, help me to sustain for the whole year. Then, why would I think of moving out permanently to an unknown place, especially the cities where I have to land up in a *bustee*”. According to Amal Das (age 26), “I have been fishing from the age of 12, as my father was unable to earn for the family. Now, I work as a labourer in trawler and also do fishing in my own boat during the monsoon. Fishing is something that I enjoy very much. But fishing during the off-season is not sustainable, as quality and quantity both are low during this time. Therefore, during the off-monsoon season, I go to Kolkata to work as the helper of a mason. It brings a wage of 480 INR/day. I get around 18–20 days of work in a month. I can send around 6000 INR/month to my home, after bearing my expenses in Kolkata. I live in a house in Kolkata where they do not take any rent, but I have to do some free work for them before and after my work time. Thus, I can escape from staying in a bad place like *bustee*”.

These narratives make their perception clear—they do not want to leave their native place and activity and do not want to land up in an overcrowded place in a city. Circular migration is mostly practised by men, and, in this case, they can keep their families in the village and can visit them whenever they wish to. They strongly identify their families with their

own native place, which they value greatly in their lives. Therefore, circular migration is nothing but a better option to supplement the shortfall in the income, which facilitates them to secure their livelihood and to stay in their place of origin. Around one-fourth of the respondents, who have very low possession of household assets, would like to move out if they get favourable condition and scope in future. These households are more vulnerable to shocks as they have very limited assets to fall back on in the village. Thus, possession of assets brings sustainability in the livelihood profile, which further controls future migration decisions.

Role of government to enhance the living condition

Respondents of focus group discussions admitted that people in the village avail benefit from several public support programmes, which helps them in securing their livelihoods and attaining social security. About 90% of respondents reported that they receive subsidised food rations at regular intervals, which offers them security of food. It is important to mention that in the entire area affected by Aila (the cyclone that occurred in May 2009), the people of the Sundarban received rations under a special scheme from the government of West Bengal that provided 15 kg of rice per household at free of cost apart from the regular supply of rice and wheat as ration at a highly subsidised price of INR 2 per kg.

Working as daily labourers under the 100 days’ work programme of MGNREGA scheme also plays a vital role in ensuring employment opportunities to the poor in the village. MGNREGA was initiated by the government of India to enhance livelihood security in the year 2005. Both men and women can work as labourers under the scheme. Labourers receive an amount of Rs 180 per day per person. Findings show that 80% of households benefit from this scheme. Therefore, this scheme acts as an important form of livelihood support for the respondents in the village during the lean season, when other economic activities are not available locally.

Furthermore, Pradhan Mantri Awas Yojana–Gramin (PMAY–G) is a rehabilitation scheme offered by the central government. Maximum respondents admitted that they received benefits from this housing scheme. To avail of such assistance, people need to be native inhabitants of the place and must have valid ration cards and Aadhar card.¹ Change in the place of their residence makes them insecure in terms of availing the benefits of different schemes. Thus, benefits from the government schemes increase their aspiration to remain in the same place, leading to voluntary immobility.

¹ Twelve-digit individual identification number which serves as proof of address for residents of India.

Role of social capital and place attachment

Respondents of the group discussions have been living in the village for more than three generations. Living in the same place for decades helps people to take pro-active measures quickly on the basis of past knowledge and experience to anticipate future risk and readjust accordingly. Moreover, local institutions like youth clubs for men and self-help groups for women provide strength in relationship building between people of the village, which further helps during distress situations even before the arrival of outside help, as reported by the respondents. This is an example of re-active measures, wherein people overcome the immediate threat with the help of local social institutions. In addition, local bodies of the government such as Gram Panchayat (GP) and Block Development Office (BDO) mobilise resources within the community after the landfall of the shock. Respondents mentioned that the GP plays a vital role for providing aid to affected households and also pressurises the government to repair embankments after the shock. Moreover, non-governmental organisations and other community organisations are proactive in providing support and relief even before the government help arrives. The government also takes action to rebuild assets such as houses, embankment and roads, which enhances the resilience capability of the affected people and helps them to stay put in their place of origin.

Therefore, assistance from inside as well as from outside the village is the outcome of a strong social bond that prevails within the village community, and a strong social structure further helps to build affection for the place. An emotional bond has been developed between people and the place, which results in the development of place attachment as conceptualised by Hidalgo and Hernandez (2001). It is clear from the responses that people of the village have a sound social bonding amongst each other which stimulates immobility as social security and makes people satisfied with their place as cited by Coleman (1988) and Mallick and Schanze (2020) in their own studies. Place attachment is difficult to measure quantitatively as it is a parameter of emotion. We have tried to capture this through prolonged group discussions. The feelings of one elderly respondent from the group discussion are given below as a representative narrative.

Mr. Kanailal Gatayit (age 65, lives in a makeshift house made of bamboo and mud beside the embankment) says, “I have lived in this village for more than fifty years. We lost most of our lands, few are still left but have become saline and consequently unproductive. Previously, I worked on the fishing trawler, but now have retired due to age and declining physical strength. My house is rebuilt for the fifth time. We live with extreme fear during every monsoon season. Neighbours extend their hands during times of need and crisis, and here we all are well connected to each other in the village.

The idea of moving to a city makes me insecure as no one knows us there and we also do not know anyone whom we can ask for any kind of help in need. I feel everything in this village is my own and those are close to my heart. I shall not be able to leave this place. Whatever happens to me, I shall try to adjust with that here in this village”.

Therefore, robustness of such non-material resources along with fear of settling down in a different place makes people immobile even in a highly vulnerable village like Gobardhanpur in the Indian Sundarban.

Discussion

Occupational transformation and livelihood diversification

Gobardhanpur, as a vulnerable coastal village of the Sundarban, experiences climatic shocks frequently, which intensifies the magnitude of human distress. Repeated adverse impact on natural resources compels people to take actions accordingly. Fishing is the prime occupation of the village at present, but agriculture was the prime occupation in the past. Shrinkage of land due to continuous erosion and salinisation of land has forced people to shift from agriculture to fishing.

Fishing and fishing-related occupations (repairing of fishing accessories, working as labourers on fishing trawlers) support households over the course of the whole year, although maximum dividend from fishing comes during the monsoon season. The village is located close to the breeding grounds of the anadromous fish, also known as hilsa (a costly fish species), which migrates to fresh water from the sea to the river at the time of spawning. People look forward to that period of the year with the aspiration of a good catch. Season-based livelihood diversification is observed in the village, as during the off-monsoon season people cannot survive solely on fishing as species are less in number and of poor quality. This nature of fishing makes households dependent on multiple livelihoods to combat livelihood risk.

Circular migration as adaptive strategy

It has been observed that trans-local livelihood is practised by a few people, where one or two members of a household migrate seasonally and the rest of the family remains in the village. The remittance money from migrant members helps in asset accumulation and gives people the stability to withstand shocks. Households with stronger resource bases make people reluctant to move out permanently, as they are less susceptible to shocks (Swift 1989; Adger 2006). Most young people would like to remain attached to the traditional activity of fishing, although they admit that temporary migration would always be part of their livelihood profile in future.

Public support system as resilience against vulnerability

Public support programmes sponsored by the government are important agents to bring social security in the community. Food rationing system plays a crucial role to support life especially in the time of distress. It completes their food requirement as reported by most of the respondents. 100 days' work is the scheme that enhances the livelihood profile of the people who are not moving out from the village in any time of a year as well as the people who are moving out in search of work outside of the village. People who practise circular migration also participate in 100 days' work when they return back to village. They can work for up to three mandates instead of one in a working day and use the other two days doing different work elsewhere. Furthermore, 120,000 INR in two instalments for house rehabilitation scheme (PMAY-G) is beneficial for people who do not have house but the amount is not sufficient to complete the house with two rooms, one kitchen and one toilet due to continues hike in the price of building materials in recent times. Once a person receives the first instalment, he needs to prove the ongoing construction work to the concern authority for last instalment. As the amount is not sufficient, they have to work hard and even practise circular migration to earn more money for completing the full house.

Social capital and place attachment leading to immobility

Social bonding is the framework of the relationship within a community which is developed through living for several generations in the same place. People of the village can take proactive as well as reactive measures on the basis of their perception and knowledge, which is the outcome of several years of living in the place (Obrist et al. 2010). Youth clubs and self-help groups act to strengthen social bonds, which provide dividends to the community during times of distress. These local institutions also act as bridging agents to bring help from outside, such as from NGOs. Local government bodies like GPs or BDOs act as linking agents that provide aid to the people who are in distress. Thus, social bonding, bridging and linking are three dimensions of social capital which act as resources for the community in the vulnerable village (Sanyal and Routray 2016).

Immobility: a choice of socially resilient community in a vulnerable village

Fishing as livelihood choice cannot support households over a year that makes households dependent on multiple livelihoods to combat livelihood risk, which increases their coping capacity. Diversified and multiple livelihoods are

adaptive strategies to combat the threat of livelihood crisis and enhance sustainability in terms of economic status, which can be defined as their adaptive capacity. Furthermore, assistance from government and non-governmental organisations helps to ensure the well-being of individuals as well as of the community in the village, which adds to their transformative capacity. These three capacities help to tolerate, absorb or cope with the vulnerability and thus make people socially resilient (Keck and Sakdapolrak 2013).

Robustness of social network, along with coping, adaptive and transformative capacities of the community, makes people resilient to shocks and increases affection towards their native place, resulting in the development of place attachment. These kinds of livelihood and social-cultural set ups increase the ability to cope with vulnerability and enhance the resilience-building capacity that further helps people to readjust accordingly with the changed situation. Therefore, capability with aspiration to remain in place is the primary product of voluntary immobility in the village.

Conclusion

Vulnerability has close connections with mobility. Human immobility is highly influenced by sustainable livelihood that builds resilience within the community. Adaptive strategies to combat natural threats help to readjust with the changing situation, which may lead to immobility. Livelihood risks are responsible for reducing the capability of individuals, whilst livelihood diversification as an adaptive strategy helps in achieving resilience. It also increases the aspiration to remain in the same place. Moreover, a robust resource base and institutional support reduce the probability of out-migration. Therefore, external threats to the livelihood and internal coping capability of the system can reduce the magnitude of vulnerability (Allison and Ellis 2001). This article has analysed how a place, even if it is highly vulnerable and exposed to high risks, becomes a meaningful location, and how a well-connected society embedded with rich social capital can influence people's immobility to minimise livelihood risks in migration. A place makes people resilient when there is a very strong social bond within the community. Therefore, livelihood resilience and social resilience increase the capability and aspiration that act as drivers to hold people in place voluntarily, and this form of immobility comes from people's strong attachment to their place of origin. This article concludes with the idea that the relation between vulnerability and migration is not simple, rather it is a complex one, as we have understood from this ethnographic study. The tendency amongst the young people to out-migrate permanently is very low, and a majority of the respondents are unwilling to migrate permanently. Rather, they prefer to practise circular migration of some

family members, which enhances their ability to build resilience for the future through remittances. Another important observation from this study is that people make their choices very judiciously taking all the pros and cons of a place into consideration, and if there is still a viable livelihood option, they do not want to move out, and would rather adjust. For instance, people with houses close to the embankments, where maximum land erosion takes place, would rather move their houses to a relatively safer location within the village, than migrate away from the village entirely.

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