CHAPTER V

TEXTS OF SOCIAL VULNERABILITY: AN ANALYSIS OF DISASTER PRONE MOTTO VILLAGE

Contemporary researches in anthropology have moved beyond chronicles of classic ethnographies of communities. These researches have successfully combined classic ethnographic methodology with vital concerns that researched communities are confronting. One is not getting into dichotomies of applied and action research, but discussing pragmatics of studies that contribute to challenges faced by humanity. Reasons for pursuing this study are rooted in the uniqueness of anthropological approach and its holistic instrumentality having the potential to uncover hidden texts of social vulnerability that other disciplines may not be in a position to unravel.

Vulnerability is a characteristic of individuals and groups of people who inhabit in a given natural, social and economic space, within which they are differentiated according to their varying position in society into more or less vulnerable individuals and groups. It is a complex characteristic produced by a combination of factors derived especially (but not entirely) from class, gender and ethnicity (Cannon 1994:19). It is also the key to an understanding of risk that attempts to break from all-too-technocratic attitudes that have characterized relationships between human societies and their environments over previous centuries, and which are often associated with Western cultural norms (Hewitt 1983b). Instead of regarding disasters as purely physical occurrences, requiring largely technological solutions, as was widespread until the 1970s, such events are better viewed primarily as the result of human action- as the ‘actualization of social vulnerability’ (Lewis 1999:8). Social processes generate unequal exposure to risk by making some people more prone to disaster than others, and these inequalities are largely a function of the power relations operative in every society.

Understanding vulnerability requires taking into account people’s experiences and perceptions and also more than simply understanding societies past and present relations with regard to disaster and development. Vulnerability is also about people, their perceptions and knowledge. People’s ideas about risk and their practices in relation to disaster, constitute the sextant and compass with which they measure and chart the landscape of vulnerability. Dorothea Hilhorst categorizes people’s
perceptions according to three different social domains of knowledge that correspond to science, governance or local custom. All three are equally valuable and necessary in understanding what makes people vulnerable and how they can set about reducing that condition. And knowledge is also intimately related to issue of power, both locally and globally (Hilhorst and Bankoff 2006).

Social vulnerability is a by-product of social inequalities and is defined as the susceptibility of social groups to the impacts of hazards, as well as their resilience, or ability to adequately recover from it (Cutter and Emrich 2006). It is a social dynamics rooted in gender, social class (Burton and Cutter 2008) which includes employment (type and stability), income, savings, and education levels (Blaikie et al. 1994; Bolin and Stanford 1998; Buckle, Marsh, and Smale 2000; Burton and Cutter 2008; Cutter 2006a; Cutter, Boruff, and Shirely 2003; Dash, Peacock, and Morrow 1997; Dwyer et al. 2004; Fothergill and Peek 2004; Lindell and Perry 2004; Mileti 1999; Morrow 1999; Zahran et al. 2008), race, culture, nationality/ethnicity, age, and other power relationships (Enarson, Fothergill and Lohri 2006) and the economic marginalization that is often associated with racial and ethnic disparities (Bolin and Stanford 1998; Burton and Cutter 2008; Cutter, Boruff, and Shirely 2003; Wisner et al. 2004).

There is general perception that villages located in coastal areas are naturally susceptible to climatic variations and natural hazards. Difference is that if these villages are inhabited then the tenacity of its impact tends to be far more. There is distinct difference in structural zones where preparedness to meet these natural occurrences is well thought out. To understand structural vulnerability of first field site-the village of Motto, it is important to examine structural and location constraints.

5.1 SOCIAL VULNERABILITY DUE TO LOCATION AND STRUCTURAL ARRANGEMENT

There are six maritime districts in the state of Odisha: Balasore (80 km), Bhadrak (50 km), Kendrapara (68 km), Jagatsinghpur (67 km), Puri (155 km) and Ganjam (60 km), with Puri district covering more than a third of the coastline (DOF 1998: 61). These six districts cover 14.5% of the total land area in the state. According to the Handbook on Fisheries Statistics of Odisha, 2000/01 (DOF 2002), Odisha has a total of 589 marine and 3289 inland fishing villages. Because of its long coastline and being one of the poorest states in India, Odisha is severely affected by natural disasters. The geographic location of the state on the east coast of India and its climatic condition have meant that the state is historically prone to multiple hazards,
such as cyclones, droughts and floods (Bhatta 1997; Government of Odisha 2002). UNWFP (2000) in its report states: The Indian state of Odisha situated on the Bay of Bengal, is one of the most vulnerable regions in the world to violent tropical cyclones. Nicholls, Mimura, and Topping (1995) reason that nearly 27% of all cyclones related deaths in the world occurred in the coastal belts of the country (cf. Thomalla & Schmuck 2004:375)

Mention may be made of the Odisha super cyclone that occurred in the year 1999. It was one of the worst disasters to strike the Indian mainland. Its magnitude impacted the entire coastline of the state. There were indeed two cyclones in the same year. The first cyclone was from 17th to 19th October with wind speed of up to 200 km/h that caused 199 deaths in four districts in southern Odisha and the second one with wind speed of up to 350 km/h also occurred from 28th to 30th October (GOI 2002; Thomalla and Schmuck 2004) 900 mm of continuous rains over three days created havoc in more than 12 districts of the state impacting lives of 19 million people. Government estimates suggest that nearly ten thousand people died (OSDMA), though other estimates suggest that many more lives were lost (Bhatt & Sharma 2002). Government of Odisha was simply not prepared for a disaster of this magnitude. *Motto* village was one of those villages that were impacted by the wrath of the cyclone.

**Map 5.1: Map showing Wind and Cyclone Zones of Odisha**

(Source: [www.osdm.org](http://www.osdm.org), Retrieved on 28/3/2013)
Motto village comes under the jurisdiction of Puri district that falls under the very high damage risk zone as per the classification of coastal vulnerability. To find out the texts of social vulnerability from this highly vulnerable village is one of the main objectives of this doctoral dissertation.

Map 5.2: Map showing combined Storm Surge, Tide and Wave set-up Map of Odisha coast


These two maps (5.1 and 5.2) show the vulnerability level of various coastal districts of the Odisha state. Map 5.2 highlights the surge values of storm in metres above mean sea level. The location of the village captured through the Google map gives some idea of its vulnerability. According to the village records it is situated in the Brahmagiri and Krushnaprasad Blocks of Puri district where the storm surge values are 4.9 and 4.7 metres respectively above the mean sea level. The elevation of this village is 30-38 ft (approx.) above the sea level.
5.2 MOTTO VILLAGE

Motto as stated earlier is a coastal village located in Puri district of Odisha near the bank of the Indian Ocean. This village is located 27 km south-west of district headquarters’ in Puri. It falls under the Gram Panchayat Rebana Nuagaon block Brahmagiri of the district Puri. As mentioned in the previous chapter, Motto village is inhabited by fishermen community known as Keuto in the local dialect. The village displays greater homogeneity as its occupants belong to a single hereditary caste group Keuto/Kaibarta who has been recognised as SC (Scheduled Caste). They put their surnames as Behra. Villagers follow Hinduism and they worship Lord Jaganath as the supreme god along with several other gods and goddesses.

The Bali Harchandi temple, which is one of the important tourist destinations of the district lies near this village. As told by the villagers, goddess (Harchandi Mata) believed to be incarnation of Drupadi (wife of the five Pandavas) played a
very important role in protecting villagers from nature’s fury, evil spirits, and bad omens. She brought prosperity and peace. Each Keuto regularly makes offerings to Bali Harichandi Mata. Each family offers some share of the fish caught on a particular day in an ordered arrangement. Every day one family from the village will make the offering. Anthropological explanations on rituals assert that these culturally accepted donations strengthen “social ties between individuals” (Geertz 1973; Durkheim 1912; and Roberton-Smith 1889) and reinforce social solidarity that helps them face disasters together. Caste distinctions are secured by ensuring that Keuto make fish offering without entering the temple. They would give the fish for offering to devotees from other caste groups that are allowed to enter the sanctum sanctorum. The villagers as blessings from the mother goddess share offerings made to the village deity.

The pattern of human settlements, housing type and construction materials, safety infrastructure, and environment are also important in understanding social vulnerability, especially as these characteristics influence potential economic losses, injuries, and fatalities from natural hazards. The village lies near the seashore, which is one of the most disaster prone areas. The structure and the location of the houses near the seashore make them far more vulnerable to structural damages. At the time of 1999 cyclone, almost all the houses were Kutchha (thatched roof) and there was no cyclone disaster shelter in the village. The houses are now built with unbaked bricks, mud walls and the poorer fishermen continue to have thatched roofs (roofs made of straws or leaves of date palms). This remains the housing pattern in one of the most vulnerable areas that was devastated earlier by high velocity winds ranging from 200 km/h to 350 km/h.

After the 1999 super cyclone, the Odisha government came under heavy criticism for its unpreparedness to meet disasters (Das, 2002; Palakudiyil and Todd 2003). Structure of the houses almost 15 years after the cyclone disaster shows that very little has been done to safeguard the lives of these vulnerable fishermen (Picture of house type shown in Pic. 5.1). Cyclone shelter in Motto village was constructed in the year 2005. Earlier there was no community or cyclone shelter in this village. It

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was only after the 1999 Super Cyclone that a cyclone shelter came up with the help of Red Cross. (Picture of cyclone shelter in Motto village shown in Pic. 5.2)

**Picture 5.1: Type of houses in Motto village**

![Type of houses in Motto village](image1.jpg)

**Picture 5.2: Cyclone cum community centre in Motto**

![Cyclone cum community centre in Motto](image2.jpg)

The geographical isolation of fishing communities has a strong bearing on their poverty and vulnerability. This is amply reflected in their limited access to infrastructure, lack of development assistance amounting to indifference by the
district authorities, poor transport and communication systems. The village Motto has no surface or road connection with the neighbouring areas. Most of the villagers used their own conveyance like cycles, motorbikes or simply walk on foot. In case of a medical emergency or natural calamity, villagers have no means to reach a hospital and if another cyclone hits the village, it will be difficult for any support to reach them quickly. Exploring embedded causes of social vulnerability in this village is another objective of present research.

Vulnerability to natural disasters in this coastal village is believed to be a consequence of pre-existing patterns of community settlement and development (Anderson 1994; Pielke and Pielke 1997; Pulwarty and Riebsame 1997; Varley 1994) including ‘the on-going social order, its everyday relations to the habit and the larger historical circumstance’ (Hewitt 1983:25). The effect on any particular household, therefore results from a complex set of interacting conditions, some having to do with geography and location, some with the dwelling, and still others with the social and economic characteristics of the people living there (Bates and Peacock 1987; Hewitt 1983; Quarantelli 1987).

Some of the embedded causes of social vulnerability in the village Motto include poverty, education, occupation, health and nutrition, caste, political condition, marginalization, location and structural arrangement of society. But the most important of these is acceptance not only by the villagers but also in certain ways by intervention agencies is their belief in divine intervention.

Most respondents from the village attribute their poverty to the divine causation. They are not willing to look for worldly causes for their economic or structural vulnerability. They refuse to articulate that their poverty could be due to discrimination on account of caste ascriptions. Kamini Behra (Pseudo name) from the village said,

Cyclones occur and usually strike in our village due to divine punishment. Whenever mankind commits sin which are unpardonable, the supreme gods or goddesses in anger gives us punishment by inflicting disasters on us.

3 To retain the confidentiality of the respondents, all the names written in this thesis have been changed.
Steinberg (2006) describes these as ‘morality tales of disaster’. Acceptance of morality and nature as causes of disaster also made governance agencies prudent and callous in their approach towards these communities. They argued that if fishermen are not willing to examine man-made causes of disaster, why agencies should waste their time and energy in generating preventive measures and providing awareness. Villagers are not willing to voluntarily participate in security drills and they are not cooperative in responding to cyclone alerts and often regard emergency evacuations as futile exercise. There is also a lingering fear among the villagers that if they vacate their houses during emergency, someone may rob their houses in their absence.

For any researcher working on disaster management strategy, interpolating factors of fate and poverty in a feasible equation of pragmatics of management is an onerous task. Fishermen are not willing to believe that heavy losses that they have suffered in the past due to various cyclones were manageable to the extent that their losses could be minimized. For them, they were doomed to suffer loss of life and property and human interventions cannot minimize these losses. Social science research in the last fifty years has acknowledged the limitations in accepting this ‘Acts of God Model’ (Wiseberg 1975) or the ‘peccatogenic’ model (Groh, Kempe, and Mauelshagen 2003); and underscored the necessity of incorporating political, social and economic factors in propagating theories for the future. Ortner (1978:1) wrote rituals “dramatize the basic myths and visions of reality, the basic values and moral truths, upon which …..(The)…..world rests” (cf. Dirks 1988). The simple fisher folk believe in the mystic powers of the deity of the temple of Bali Harchandi to provide divine protection to the entire fishing community of the village. They pray to the deity for keeping them safe. Their worldview and their day-to-day life revolve around her. Fisher folk attribute their present day living conditions and sufferings to fate.

In the 1970’s ‘alternative’ approach was mooted by scholars refuting notions of divine causation. It brought in social vulnerability as a key instrumentality for evolving coping strategies and questioned dominant approach of divine causation for its ability to offer adequate mitigation. The alternative approach (Bosher 2007; Maskrey 1989; Wisner et. al. 2004; c.f. Nibedita S. Ray-Bennett 2009) recognizes that even though natural hazards are trigger for social disasters it is imperative to
acknowledge the vulnerability of the marginalized that has severe consequences for their survival.

A conscious effort was made to delink disaster from assumed constructs of nature and ‘God made’. There is growing acceptance that it is essential to evolve an understanding of the relationship between ‘nature and society in a given context’ (Chakraborty 2007). Technocratic view of disaster management that prevailed in Odisha after the super cyclone of 1999 was based on what Chakraborty (2007) described as notion of ‘incomplete transformations’ or ‘absences’ popular in west centric discourse on development and co-opted for developing coping strategies for disaster management. This view promoted a pervasive construct of universal strategy. It distanced from anthropological perspective that focused on locally constructed community based specific strategy for mitigating disasters.

In an attempt to analyse the present data, stimulus was drawn from several other analyses of disaster situations in different parts of the world. One of these paradigms promoted by Meyer, Hasse, and Scheller (2007) argued that vulnerability cannot be understood independently of constructs of adaptability and resilience. They followed Amartya Sen’s (1981) analysis of poverty in terms of access to food and differing entitlement for livelihood. Meyer, Hasse, and Scheller (2007:212) writes “one of the most important features of these new approaches was to look at the people involved in disasters not as mere victim, but as actors who decisively contributed by their own decision making to the different ways in which they were affected before, during and after a crises”. With intent to incorporate the ‘alternative approach’ in my analysis, verbatim accounts from the field were generated to evolve alternative constructs.

Anthropological methodology insists on developing these constructs from the narratives of the respondents. A problem that is recognized in accounting for these narratives is the question of translation. As I dwell on these translations in the next section of the chapter, I want to admit that the case studies narrated in the coming sections have come through two translations. In the beginning of the thesis, I admitted that I come from the north-east and my mother tongue is Manipuri. I am comfortable speaking English and conversant with Hindi but I have little expertise in Oriya that was the language in which most of the narratives were originally articulated. My
interpreter translated these to me for the first time. He comes from the same district. The advantage was that he understood the context of my research and having lived in that area was familiar with the local discourse. Second translation happened, when I tried to summarize these case studies in the language of research that was standardized English. While writing these narratives, I have been acutely aware of my inability to cite these conversations in the original dialect. I do not know whether these subsequent translations would conform to Geertz’s (1973) portrayal of “thick description” or not?

5.3 POVERTY: A MAJOR CONTRIBUTING FACTOR OF VULNERABILITY

Poverty is counted as a vital aspect of vulnerability due to its direct association with access to resources, which affects both baseline vulnerability and coping abilities. Poor people tend to live in more marginal and hazardous areas making them more susceptible to the impacts of extreme events. All sources of income for coastal communities are dependent on climate (cf. Adger 1999). Climate change impacts their livelihood and increases their social vulnerability and absolute poverty (Blackwood and Lynch 1994).

CMFRI census 2011 reported that there are 3288 marine fishing villages with a total marine fisherfolk population of about 4 million. Around 61% of the fisher families were under BPL category. A large percentage of fishermen are involved in artisanal, small-scale fishing operations in open water bodies including the sea, rivers and creeks, as well as in fish trading, processing and related activities. Based on the definition of poverty as the inability to secure a minimal standard of living (National Institute of Rural Development – NIRD 1998:5), the majority of coastal fishers can be defined as poor. The nature of their livelihoods and their living conditions make them one of the poorest and most marginalized groups in the country. NIRD report lists following factors impacting fishing dependent livelihoods:

- Declining access to and availability of fish resources;
- Increasing competition for fishing grounds and in the market place;
- Overcapitalization of fishing and post-harvest activities; and
- Macro-economic factors that undermine the traditional structures and mechanisms that are used to protect fishers’ livelihoods. (NIRD 1998: 5)
The land in the *Motto* village is not favourable for practicing agriculture. Being a coastal area, the soil is saline. Fishing is their major occupation and the only means of livelihood. From June to October, fishing activity comes to a standstill because of restrictions imposed by Marine Society of Puri. These restrictions are put in place to protect the lives of the local community and to mitigate possibilities of cyclones increase many fold during this season. Marine society encourages fishermen to contribute small savings in its account and during the lean period, these savings are returned to their respective holders with interest. Locals informed that it was not mandatory to contribute to this saving account. Fishers were free to contribute any amount that they can readily afford. When there is slump in the fishing season, many fishermen work as daily wage labourers in nearby villages.

Household survey conducted by the researcher records a total of 191 households in the village. Out of these 191 households, 36 were listed below the poverty line. All of them had BPL cards and were getting rice, wheat and kerosene from the authorized dealer in the village. There were murmurings that the poorest of the poor fishermen were not always getting the allotted supply of subsidies. Villagers were reluctant to complaint against local authorities. Power was bestowed with the head of the local body. He controlled most resources and was responsible for its distribution. Doing fieldwork in his presence was a daunting task as he monitored my activities in the village. Before I dwell on the economic condition of the villagers any further, there is a caveat that I want to address. When I read Foucault (1983) and his constructs on power, I did not grab the full potential of these profound statements. But here was empirical evidence that fitted his model perfectly. The head of the local body had graduation degree from a college in Puri district. He no longer visualized his identity of being a *Keuto* alone. His political position had helped him and his family amass certain amount of wealth. He had moved certain notches and positioned himself in the construct of horizontal hierarchy within the caste system at a higher position.

*Sarpanch* and his three brothers were engaged in fishing earlier, but now that one of members of the family had education, political clout and economic backing, they had withdrawn from the fishing activities. Other than active local politics, there was no evidence of their being engaged in any other occupation. Being the head of the local body, *Sarpanch* was responsible for all the disbursements to the local fishing
community. He controlled daily life of an average fisherman in the village. They were dependent on him for securing loans, for getting BPL cards, and for any cash subsidies during lean period. The mobility of the Sarpanch was a case of an individual moving the social, economic and political ladder. The other fishermen in the village were facing extreme resource constraints. With increasing prices of essential commodities and food items, many of them were forced to mortgage their land to money lenders living in the nearby village. Indebtedness has thus become one of the major causes of poverty in the village. With declining fish resource and increasing number of fishermen, villagers face a major threat to their source of income.

The poverty of fishers is reflected in their substandard housing and sanitation systems, their meagre access to basic amenities such as clean drinking water and health care, and illiteracy. Most of the houses were built with unbaked bricks with thatch roofs. There is no public transport system plying to and from this village. Roads connected to the village are not cemented. During rainy season roads are covered with muddy waters, potholes, making it unfit for pedestrians and cyclists. Nearest bus stop for going to the district headquarters Puri or other nearby towns is at Kathuadi, which is around 6 km from the village. Villagers use their personal mode of conveyance like cycles or at best few of them have motorcycles. Others walk on foot to their respective destinations.

Unavailability of the public transport system is one of the major causes of high school dropout rate. Few students opted for higher studies in nearby areas. There is only one primary school for children. After completing primary levels, children have to move out to nearby towns or villages to pursue higher studies. Instead of providing a high school for the children, government has decided to open a polytechnic in the vicinity of the village. The government acquired land for the polytechnic without seeking the consent of the villagers. Villagers agitated as the land that was acquired demolishing the cashew nut and casuarinas trees which provided a means of livelihood to the villagers.

The physical mobility of the villagers gets highly restricted in the absence of adequate transport system. It was ironic that the Polytechnic, which deprived them of their additional source of income, was now bringing a concrete road to the village.
When I went to Motto village for the first time to do my pilot survey, I had to walk to the village from the nearest motorable road. On the second trip, there was a *Kutchha* road and I was able to hire an auto-rickshaw after paying an exorbitant amount as mentioned in the section on methodology. On my third field trip, I noticed that a metalled road was under construction.

5.4 VILLAGE ECONOMY

Since the village is located near the sea-shore, agriculture was never a feasible alternative occupation. Some of them own lands that have cashew nut trees. The fish economy is dependent on the nearby markets. Wholesale fish sellers from district headquarters in Puri and neighbouring areas come to the village to buy bulky quantities of fish. Temporary fish market is located inside the village. Fishermen would normally return with their catch in the evening. Immediately after that fishes were weighed and sold to the merchants who would come from the town. Large motorboats generally have fifteen to twenty fishermen in each boat. All of them pool their catch and it is sold collectively in the market. Earnings generated from the total sale on that particular day are equally shared except for the owner of the boat. All other fishermen get 1/3rd of the entire income generated for that particular day and the boat owner gets 2/3 of the total income.

Women also help their families by selling fish in the neighbouring villages and towns. Some traders from the neighbouring towns come to sell food items and clothes in the village. Occasionally they exchange these items for fish. Barter in these villages is a common practise. Local merchants bring basic food items to this village from the nearby villages. Few fishermen have moved out of their customary occupation to move into merchant class. They work as vendors selling food items to the villagers. Being an exclusive Scheduled Caste village, it has remained on the social periphery. Even the profit-oriented merchants have not come to the village to establish shops. There are few tea shops in the village. These tea shops are community spaces for gossip and recreation. In the course of my fieldwork, I spent lot of my time sitting there, sipping tea and generally talking to the villagers. Some of the best data inputs came from these conversations.

Local market in the village is seasonal. It operates only when fishing season is at its peak. The market comes to standstill twice in a year. The fishing according to
the directive of the Integrative Coastal Zone Management (ICZMP) is banned from 15th April to 31st May and then again from 1st November to 31st May. When sea fishing is stopped, fishermen move to Chilka Lake. Fishermen are not allowed to take trawlers or large-size motorboats to the Lake. This brings down the quantum of the catch. Sometimes they just get enough fish for personal use and if they sell it, then their respective families stay hungry.

In the absence of a permanent market and facilities for cold storage, fishermen are forced to sell their fish on minimum rates. The time and effort that is invested in fishing is far more than the returns that an average fisherman gets. Even after slogging for more than 8-12 hours under deep water, often during high tide or strong sun, these fishermen are not able to make a decent living. Food insecurity is a major concern. Following narratives from the village are evidence of the enormity of the problem.

Balabh Behra, 42 year old makes a living by fishing. He has a wife and four children (Two daughters and two sons). His family lives below the poverty line (BPL). They get some benefits because they have a BPL card. Narrating his life history, he tells me:

I started fishing, when I was about 15 years old. I went to the sea with my family for the first time and have not looked back. I did not go to school and have not trained for any other job. I regret it till date. I want to send my children to school and educate them. But I am not able to do that. I have little money to spare. I live under perpetual fear of death. My wife helps me in selling my little catch in the market. She is not permitted to fish in the sea or in deep waters. I often wonder if something happens to me, what my family will do. My children are too young to go out for fishing. My daughters will never be allowed to fish. I am the only bread earner for my family. Our village is in the most vulnerable zone. We are allowed to do fishing in the sea only for a limited period. During that period, fishermen do collective fishing in groups of ten to twenty. Earnings from the catch are equally shared. My earnings from it are meagre and certainly not enough to sustain the family during lean period. We get few items on subsidized rates but the remaining things are to be bought from the market. We have to often kill our hunger and eat as little as possible. It is difficult to see your children crying of hunger. Our problems are slowly multiplying. There are fewer fish and far more fishermen.

Poverty is one of the critical components that determine the degree of social vulnerability. Balabh has no alternative choices. He cannot leave his occupation or his home. He has no skills or money to move away from a location that is a perpetual potential threat to him and his family. He is forced to live below the poverty line- a
threshold arguing that an individual in a rural area can live for as little as rupees twenty eight a day on BPL.4

Sedarchan Behra another 45 year old respondent from the village echoed the same sentiment. He makes a living by catching fish along with his community members. Poverty forced his 15 years old son to give up his studies and move to distant Tamil Nadu in search of a living. His verbatim account transcribed here presents his pain.

I struggled for many years to support my family with my wife’s help. I went for fishing with other men and my wife went to the market in a nearby village to sell dry fish. I wanted to educate my children. My elder son was good in studies. But when he was in class 7th, he had to drop out of the school. I had to send him to Tamil Nadu with some other villagers to earn his living. Imagine our grief; we had to send him away, kill his dreams of having a decent life. I am not even sure how he supports himself. He probably works as a daily wage earner. I am a poor fisherman, live a simple life by catching fish and find it difficult to make both ends meet. I have a BPL card but sometimes it is not possible for me to even pay small amount for what I can get under the scheme. I live in a dilapidated house and have no money to repair it.

Sedarchan’s narrative draws attention to another dimension of poverty. Dreams are shattered, when your present occupation is not able to provide economic sustenance to support education of your children. Both parents work, but they failed to make enough money to give food security, health care and education to their children. They live in a house that will not survive high velocity winds that precede cyclones. Some efforts by the government both central and state have brought in a ray of hope for the villagers. Setu Behra another sixty year old native from the village told me that his two elder sons aged 25 and 20 years respectively were forced to drop out of school and start fishing at a very tender age. But now because of Sarva Sikhsa Abhiyan (SSA) programme, his ten-year-old youngest son is able to get education.

These narratives vividly document social vulnerabilities of an average fisherman from the village Motto. First narrative documents fisherman’s inability to send his children to school though he admits the need to provide alternative skills to his children. Second narrative gives evidence that a BPL family that works hard to send their children to school but poverty compels them to withdraw their fifteen year

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4 Below Poverty Line is an economic benchmark and poverty threshold used by the Government of India to indicate economic disadvantage and to identify individuals and households in need of government assistance and aid.
old brilliant son from school and send him away to earn a living. Third narrative comes with a semblance of hope because government intervention in the form of SSA is providing opportunities for free education till class 8th for all. It comes with a midday meal scheme that gets children some nutrition while studying in the school.

Another vulnerability that impinges on the life of these fisher folk is susceptibility to disease and sickness. Factors responsible for this are lack of nutritive food, absence or negligent access to state supported health care services and inability to afford private medical care because of its exorbitant cost. Batu Behra another respondent from the village narrated his misery when his son became a victim of Polio.

My family belongs to the BPL category. I have a daughter and four sons to support. Now my bones are old and not fit for fishing. My two sons have taken up fishing. My third son is sick. He fell sick, when he was a toddler. I had no money to take him to a doctor in the city. We were not able to know what he was suffering from. As he started growing, he was not able to walk. We collected some money from our meagre savings and took him to a hospital. Doctors told us that he was suffering with Polio. He had become physically disabled and will have to live with it, as we have no money for any expensive treatment in the city. My son is now ten years old. Because of Sarva Shiksha Abhiyan, he can go to school. He is now studying in 3rd class. My two elder sons support the family and are engaged in fishing. Fishing is dangerous. There is always a perpetual threat to our lives. We live in one of the most vulnerable villages. Our village experiences regular cyclones. Fishing is halted because of bad weather and due to restrictions imposed on us by the government. I fear for their lives too. We get limited supply of ration and Kerosene because of our BPL card. But it is not enough for a family of five. My biggest worry is how long my sons will be able to support all of us. They have to get married and have their own families. My youngest son will never be able to go for fishing. He will have to find some alternative occupation or work that will provide livelihood to him.

Fishermen in the sample represent some of the poorest of the poor in India. They are victims of economic social vulnerability. Food insecurity is one of the natural outcomes of economic insecurity. Food insecurity is often measured using indicators like consumption, malnutrition among children (Chung et al in Alwang, Siegel, and Jorgensen 2001:16 cf. Gupta: 2010:4), absence or unavailability of any food stock resulting in starvation and lack of any assured income or supply of food. It is ironic that a developing country like India still has 27% of its population living below the poverty line. Odisha is one of the poorer states of India having 46.8% of its population living below the poverty line. It was surprising that only 36 households in the Motto village had BPL cards. These cards give them basic necessities on
subsidized rates. But there is no assurance for regular supply if the fishermen are not able to pay for the sponsored food. Recently passed ‘Food Security Bill’ has generated more controversy than support.

Individual’s capacity to cope, anticipate, resist and recover from the impact of natural disaster is defined by Wisner et al. (2004:11 cf. Gupta: 2010:4) as vulnerability. But when cited narratives from the field are examined, it emanates that my respondents were not only talking about crisis situations that emerge after natural hazards but difficulties that they confront everyday. They are vulnerable every minute of their life. They are not sure from where will their second meal come? They are not certain that men out in the sea for fishing will come home in the evening. What do they pre-empt? How do they develop capacity to cope- by staying hungry, teaching their children how to cope with starvation, disease, death and finally natural calamity? Alienation and humiliation they experience for being Scheduled Castes is not even discussed here.

It is an established fact that nearly 2/3rd of Odisha’s population lives in areas that are vulnerable to natural calamites. But all of them do not experience the kind of social and economic vulnerability that fisher folk of Motto village experience. They are poor and most of them are illiterate. They are not aware of the government schemes brought in from time to time for their welfare. They are dependent on village headman for awareness and facilitation of these benefits. This dependence has added to their vulnerability. To mitigate socio-economic vulnerability, it is imperative to evolve a paradigm for intervention that is focused on education. It is with this objective that empirical data collected with the help of household survey on education is examined first.

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5 THE NATIONAL FOOD SECURITY ACT, 2013. An Act to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto. (The Gazette of India, 2013/ http://indiacode.nic.in/acts-in-pdf/202013.pdf)
5.5 EDUCATION AND VULNERABILITY

Education is linked to socio-economic status. Higher educational attainment adds to social awakening and realisation of individual rights. It also widens opportunities for alternative occupations. Lack of formal education constraints the ability to understand emergency warning information and access to recovery information (Heinz Centre for Science, Economics, and the Environment 2000; cf. Cutter, Boruff, and Shirley 2003). Literacy plays an important factor for reducing vulnerability to natural disasters. The case studies cited above have clearly asserted the positive contribution that SSA has made. Right to Education Act\(^6\) ensures mandatory education, admission and attendance in regular schools.

Sarva Shiksha Abhiyan (SSA) aims to provide compulsory education to all the children till the age of 14 years. Compulsory education along with mid-day meal schemes has certainly encouraged poor people to send their children to school. Census of India 2011 defines minimal literacy: “A person aged 7 years and above who can both read and write with understanding in any language is taken as literate. A person who can only read but cannot write is not a literate. It is not necessary that to be treated as literate, a person should have received any formal education or passed any minimum educational standard. Literacy would also have been achieved through adult literacy programmes or through any non-formal educational system. People who are blind and can read through Braille will also be treated as literates” (Census of India 2011). According to 2011 census data estimates, the literacy rate of Indian male and female are 82.14% and 65.46% respectively with an overall 74.04 percentage. Literacy rate for the Odisha state is 73.45% with male literacy reported to be 82.4% and female 64.36% respectively. Literacy rate for rural Odisha is 70.22% whereas the urban literacy rate is 85.75%. The male literacy rate is 79.65% for rural and 90.72% for urban as compared to their female counterparts 59.95% and 74.31% for rural and urban respectively. Average literacy rates for Odisha state are almost at par with the national average except female literacy for rural women that are below the national average.

\(^6\) The Right of Children to Free and Compulsory Education (RTE) Act, 2009, ensures that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards. (http://mhrd.gov.in/rte)
Table 5.1: Literacy rate of Odisha state

<table>
<thead>
<tr>
<th>Description</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (%)</td>
<td>83.31%</td>
<td>16.69%</td>
</tr>
<tr>
<td>Total population</td>
<td>34,970,562</td>
<td>7,003,656</td>
</tr>
<tr>
<td>Male population</td>
<td>17,586,203</td>
<td>3,625,933</td>
</tr>
<tr>
<td>Female population</td>
<td>17,384,359</td>
<td>3,377,723</td>
</tr>
<tr>
<td>Sex Ratio</td>
<td>989</td>
<td>932</td>
</tr>
<tr>
<td>Literates</td>
<td>21,377,915</td>
<td>5,364,680</td>
</tr>
<tr>
<td>Average Literacy</td>
<td>70.22%</td>
<td>85.75%</td>
</tr>
<tr>
<td>Male Literacy</td>
<td>79.65%</td>
<td>90.72%</td>
</tr>
<tr>
<td>Female Literacy</td>
<td>59.95%</td>
<td>74.31%</td>
</tr>
</tbody>
</table>

(Source: http://www.census2011.co.in/state/Odisha.html retrieved on 18/07/2014)

Before I examine literacy profile of the Motto village, I would like to place it in the overall perspective of the district. Average literacy rates of the district Puri are 84.4% and 87.3% in rural and urban areas respectively. The male literacy rate is 90.82% in rural and 90.96% in urban areas. Female literacy rates in rural area are 77.32% and 83.54% in urban areas.

Table 5.2: Literacy rate of Puri district

<table>
<thead>
<tr>
<th>Description</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (%)</td>
<td>84.4%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Total population</td>
<td>1,433,800</td>
<td>264,930</td>
</tr>
<tr>
<td>Male population</td>
<td>728,213</td>
<td>137,167</td>
</tr>
<tr>
<td>Female population</td>
<td>705,587</td>
<td>127,763</td>
</tr>
<tr>
<td>Sex Ratio</td>
<td>969</td>
<td>931</td>
</tr>
<tr>
<td>Literates</td>
<td>1,082,202</td>
<td>209,735</td>
</tr>
<tr>
<td>Average Literacy</td>
<td>84.16%</td>
<td>87.3%</td>
</tr>
<tr>
<td>Male Literacy</td>
<td>90.82%</td>
<td>90.96%</td>
</tr>
<tr>
<td>Female Literacy</td>
<td>77.32%</td>
<td>83.54%</td>
</tr>
</tbody>
</table>


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Among the districts of Odisha, Puri ranks 5th and has shown considerable improvement in the last decade. The overall percentage of literacy is relatively higher in comparison to several other districts of the state. These impressive rates of literacy in the official records were not witnessed in the field villages. Following table records literacy rates for village Motto-that were collected from the village using survey method research.

Table 5.3: Educational qualification of male (Motto village)

<table>
<thead>
<tr>
<th>Age</th>
<th>Illiterate</th>
<th>Lower primary(I-V)</th>
<th>Middle primary (VI-VIII)</th>
<th>High/Higher secondary (IX-XII)</th>
<th>Graduate and Above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>11 (3.9%)</td>
<td>22 (7.8%)</td>
<td>24 (8.51%)</td>
<td>23 (8.16%)</td>
<td>3 (1.06%)</td>
<td>83 (29.43%)</td>
</tr>
<tr>
<td>26-33</td>
<td>20 (7.09%)</td>
<td>16 (5.67%)</td>
<td>8 (2.84%)</td>
<td>12 (4.26%)</td>
<td>4 (1.42%)</td>
<td>60 (21.28%)</td>
</tr>
<tr>
<td>34-41</td>
<td>21 (7.45%)</td>
<td>11 (3.9%)</td>
<td>3 (1.06%)</td>
<td>2 (0.71%)</td>
<td>0 (0.00%)</td>
<td>37 (13.12%)</td>
</tr>
<tr>
<td>42-49</td>
<td>25 (8.87%)</td>
<td>5 (1.77%)</td>
<td>2 (0.71%)</td>
<td>2 (0.71%)</td>
<td>0 (0.00%)</td>
<td>34 (12.06%)</td>
</tr>
<tr>
<td>50-57</td>
<td>24 (8.51%)</td>
<td>4 (1.42%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>28 (9.93%)</td>
</tr>
<tr>
<td>58-65</td>
<td>20 (7.09%)</td>
<td>0 (0.00%)</td>
<td>1 (0.35%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>21 (7.45%)</td>
</tr>
<tr>
<td>66-73</td>
<td>14 (4.96%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>14 (4.96%)</td>
</tr>
<tr>
<td>74-81</td>
<td>5 (1.77%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>5 (1.77%)</td>
</tr>
<tr>
<td>Total</td>
<td>140 (49.64%)</td>
<td>58 (20.56%)</td>
<td>3 (13.47%)</td>
<td>39 (13.84%)</td>
<td>7 (2.48%)</td>
<td>282 (100%)</td>
</tr>
</tbody>
</table>
Bar Diagram 5.1: Male educational qualification

Table 5.4: Educational qualification of female (Motto Village)

<table>
<thead>
<tr>
<th>Age</th>
<th>Illiterate</th>
<th>Lower Primary (I-V)</th>
<th>Middle Primary (VI-VIII)</th>
<th>High/Higher Secondary (IX-XII)</th>
<th>Graduate and Above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>18 (6.84%)</td>
<td>32 (12.17%)</td>
<td>14 (5.32%)</td>
<td>10 (3.80%)</td>
<td>1 (0.38%)</td>
<td>75 (28.52%)</td>
</tr>
<tr>
<td>26-33</td>
<td>19 (7.22%)</td>
<td>23 (8.75%)</td>
<td>2 (0.76%)</td>
<td>1 (0.38%)</td>
<td>0 (0.00%)</td>
<td>45 (17.11%)</td>
</tr>
<tr>
<td>34-41</td>
<td>40 (15.21%)</td>
<td>13 (4.94%)</td>
<td>1 (0.38%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>54 (20.53%)</td>
</tr>
<tr>
<td>42-49</td>
<td>23 (8.75%)</td>
<td>1 (0.38%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.005)</td>
<td>24 (9.13%)</td>
</tr>
<tr>
<td>50-57</td>
<td>21 (7.98%)</td>
<td>2 (0.76%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>23 (8.75%)</td>
</tr>
<tr>
<td>58-65</td>
<td>17 (6.46%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>17 (6.46%)</td>
</tr>
<tr>
<td>66-73</td>
<td>14 (5.32%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>14 (5.32%)</td>
</tr>
<tr>
<td>74-81</td>
<td>11 (4.18%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>11 (4.18%)</td>
</tr>
<tr>
<td>Total</td>
<td>163 (61.96%)</td>
<td>71 (27%)</td>
<td>17 (6.46%)</td>
<td>11 (4.18%)</td>
<td>1 (0.38%)</td>
<td>263 (100%)</td>
</tr>
</tbody>
</table>
Number of literates in the village was far lower than the illiterate. This was contrary to the projections for the district and the state. Only 50.35% males ever went to school in comparison to district average of 90.82% and few of them completed primary education. Only 38.02% females from the village ever went to school vis-à-vis district average of 77.32% for the rural areas. Percentage of illiterates in the village out scores the literate recorded to be 61.96% for females and 49.64% for males. There is only one female graduate in the village and six male graduates and one postgraduate. The only male postgraduate from the village is working in Bhubaneswar.

Many villagers in conversations lamented that they wanted to study but their circumstances did not allow them to pursue further education. Rathi Behra, a 45 year old man dropped out of school when he was only 12 years and was studying in class IV because he had to support his family. He told me:

*Bhai apann bhalia mu bhi patha padhiba chahunthili. Path padhiki bhala jeevan chahunthili. Nija pilla mana ko bhala school ku pathea pain chunthili. Par kan kariba ye sabujaki muar bhagaya re nahin, mun to gotie chotta matsajevei, macha dhari ki nija ghara ku paluchi, posuchi. Muar bhagya re ehi lekha thila.*
Brother, I also wanted to study like you like. I also wanted to live a good life. I too want to send my children to school. Alas! This is not my destiny! I am a small fisherman who makes a living by catching fish. This is my fate and I will have to live with it.

Api Behra another respondent from the village echoed the same sentiment. He narrated at length how he had to leave school to make a living. After struggling to make both ends meet by fishing alone, he went to Pondicherry to work in the cotton textile industry. He was paid a paltry sum of Rs. 1200 as monthly salary. With this meagre amount of money, it was impossible to live in a distant town and save some money to support his family back home. Finally he decided to return to his native village. His dreams for a better life were shattered. He said if he had better education, he could have become a supervisor in the factory and earned more money but his lack of education restricted his ability to earn. He told me that all of his community members worked as labourers in that factory because they don’t have higher qualification. These were not isolated real life accounts. Villagers have aspirations but lack of support system hinders their desires to have a better quality of life.

Only positive that emerges from these statistics is that there is slight improvement in the levels of literacy among the younger respondent. Out of total 282 male respondents, 83 in the age group of 18-25 went to school. Infrastructure for providing formal education in the village was found to be dismal. There was only one lower primary school in the village. Boys from the village would go to the nearby villages for higher education but most of the girls would drop out of school. Poverty often forced many young boys from the village to leave their education midway to take to fishing to support their families. In two of the case studies cited above, boys in the age group of fifteen and above were made to join the ancestral occupation as senior male members grew older and had to opt out of tough life in rough waters. Lack of education, poverty and absence of any other alternative work opportunities in the village and in its immediate periphery has compelled youth to follow their ancestral occupation. The story of six graduates from the village informs inadequacy of alternative employment opportunities in the village. Two of the graduates were teaching in the village school. One was the Sarpanch- epicentre of power in the village. His brother was also a graduate and was helping head of the village in managing village affairs. Another graduate from the village moved to Bhubaneswar, completed his post-graduation and is now employed there.
One of the school teachers from the primary school came from a fishing family of the village. Sarthak (name changed) graduated from a college in Puri that was nearly 30 kms away from the village. Village school was named *Motto Prathamik Prakalp Vidyalaya* (Primary School). This school accommodates children up to 8th class. After completing primary school, most children drop out of school. Few others move to high school in *Palank* village located near *Puri-Satapada* highway at a distance of 5 kms from this village. Present school had 131 children studying in different classes. Village primary school lacked facilities. Children were sitting on the floor. Some of them brought jute mats from home to sit on it. Electricity supply came to the village in 2009. At the time of 1999 super cyclone, there was no cyclone warning system in the village. High casualties from the village were a consequence of lack of adequate warning system. He along with three other teachers from the neighbouring villages was running the village lower primary school. The enrolment of students has increased due to impetus given under *Sarva Shiksha Abhiyan* by the Government of India.

According to the Government of Odisha report, the coastal districts rank highest in the state in terms of literacy (1996b: 24). But among the fishing communities, literacy rates are rather low as compared to other communities. Report of FAO Bay of Bengal Programme (BOBP 1987b: 10) documents that literacy rates in the coastal villages of Odisha were far below average for their respective districts and also below the national average. The report further suggests that the literacy rate among marine fishers were even lower. One of the reasons given for low level of literacy was early engagement in productive activities for income generation. The report probably did not examine the issues of infrastructure availability, and support provided by the state to these poorest of poor fishermen to facilitate education of their children. Venkatesh (2006) reasons that it is the relative isolation of these communities in far-fetched remote villages that is partly responsible for low literacy rates among these fishing communities.

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7 *Sarva Shikhsha Abhiyan (SSA)* is programme of the Government of India to provide free and compulsory education to all the children in 6-14 years age group, a fundamental right as mandated by 86th amendment to the constitution of India. Under this programme new schools will open in those habitations which do not have schooling facilities and strengthen existing school infrastructure through provision of additional class rooms, toilets, drinking water, maintenance grant and school improvement grants. (http://ssa.nic.in/)
The field data from Motto suggests that some of these villages remained isolated because of deliberate negligence. We saw that till recently, a mere two-kilometres stretch of concrete road was not made to connect the village to the road. The nearby Harchandi temple had approach road but the district authorities failed to provide that essential route for connectivity to the village. It was only after the district authorities encroached on common village land and acquired the forest cover for constructing a polytechnic that a road was being built. One fails to understand how mapping for felt needs of the community is made. There is no high school anywhere close to the village. Most of the girls from the village are not able to study beyond primary school. Children have to trek on kutccha pathways or ride cycle to school in other villages. The forest cover acquired for building polytechnic had cashew nut trees on it. Fruits from these trees provided additional income to the villagers. Polytechnic will not meet any of the immediate needs of the villagers. Children from the village do not have access to basic education that can facilitate their entry into polytechnic. There are no qualified personnel from the village competent to get any job in the polytechnic. This polytechnic is built with private funding and locals are not employed even as labourers because the construction is not done under MNERGA.

There is a direct relationship between education and social vulnerability (Cutter et al 2008). Higher the level of education lower will be the level of social vulnerability. Not only that education will make people aware of impending natural hazards approaching their living quarters or fishing zones, it will also make them conscious of their fundamental rights as stated earlier. The state and the centre keep introducing welfare schemes for vulnerable fishing communities. If they cannot read and write, even if they are aware of these schemes, there is every possibility of exploitation. There were several instances in the field, when it came to my notice that the village headman coming from the same community was not sharing the details of some of these welfare schemes with the villagers. Even for getting them BPL cards or giving them ration and kerosene under the BPL entitlement, he was exercising his authority and discretion.

“The Mahatma Gandhi National Rural Employment Guarantee Act, 2005. provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work and for matters connected therewith or incidental thereto”. (The Gazette of India, 2005, http://nrega.nic.in/rajaswa.pdf)
One of the important inferences that emerge from this section is that if the agencies responsible for intervention are serious about mitigating disaster susceptibility, concrete steps are required to supplement existing infrastructure for education in the village. Positive impact of SSA is already visible in the village. There is immediate need to provide quality education. It was evident that those villagers having gone to school and studied unto class 5th or 8th were not able to read and write properly. Their mathematical skills were dismal. Most of them were not able to keep account of money that was generated by selling a catch of fish in the local market. When I went to the only school in the village, there was only one teacher present in the school to look after all the classes. Better regulatory mechanism need to be put in place that would ensure that appointed teachers take their responsibilities seriously.

5.6 OCCUPATIONAL VULNERABILITY

Social science literature on disaster management recognise that some occupations especially those involving resource extractions like self-employed fisherman may be severely impacted by a hazard event (Bolin 1982; Clark et al. 1998; Cutter, Boruff and Shirley 2003; Hewitt 1997; Puente 1999; Venkatesh 2006). Evidence generated from the field in the form of narratives supports these contentions. Fishing is the main occupation of the villagers from Motto. Their life is interwoven with catching fish on the sea and lake. They practice both small and large-scale fishing in the famous Chilka Lake and ocean.

Fishing is a seasonal activity. It is restricted first because of weather conditions and second due to restrictions imposed by authorities of the Odisha Marine Fisheries Regulation Act (OMFRA). The act regulates activities of about 88,244 fishermen in the state. The reason for this regulation is stated to be declining number of marine water species of the fishes and turtles and other sea species. The provisions under the act impose ban on fishing from 15th April to 31st May every year along the sea coast. This implies that there is a ban of 46 days on any fishing activity in the sea. In addition there are certain designated spots namely, Devi River Mouth, Rushikulya River Mouth and Dhamara River Mouth that happen to be breeding and nesting sites for Olive Ridley Sea Turtle; where fishing by Mechanized vessels within a radius of 20 kilometres is banned from 1st November to 31st May. If we calculate this period, then this would mean that effectively commercial fishing has a total ban of 213 days.
out of 365 days in a year. Imagine the survival cost of poor fishermen from Motto village whose only source of livelihood is commercial fishing using only 6 to 8 large Mechanized boats that the village currently owns. The fishing activities pursued on small boats on Harichandi River or Chilka Lake hardly brings in enough catch to sustain a family of 5 to 7 individuals.

In the Tenth Plan, Department of Animal Husbandry, Dairy and Fisheries, Ministry of Agriculture, Govt. of India has a centrally sponsored national scheme for welfare of Fishermen. It provides for saving cum relief package “under this component a total of rupees six hundred thus collected will be matched with fifty percent contribution that is rupees 300 each by the state and central government separately. Total sum of rupees twelve hundred thus collected will be distributed during the four lean months (closed season) to the beneficiaries in four equal monthly instalments of rupees three hundred each” (http://dahd.nic.in/dahd/reports/compendium-of-schemes/centrally-sponsored-national-scheme-of-welfare-of-fishermen.aspx). Fishermen told me that all of them were not able to spare even three hundred rupees in a year to pay for the scheme. If they do not contribute, then the state will also not add its share. It is thus ironic that those who deserve support and are the poorest of the poor will not be able to get any financial support under this scheme. In the later part of this section, discussion on compensation packages conceptualized by the state authorities will be deliberated. The focus here is to have a comprehensive understanding of how fishermen deal with these constraints.

To add to their agony, the period during which fishing is permitted is the time when fishermen face threat of the tropical storms. Generally tropical cyclone strikes in the Bay of Bengal during the months of May-November. Fishing is freely permitted from 1st June to 30th October. This is also most vulnerable period for cyclones; super cyclone came in the month of October which is one of the most productive months for fishing. But if the cyclone comes they remain in their village. Cyclone warning system installed in the village in the form of the ringing bell sometimes fails to reach fishermen in deep waters. Radio is another source used as a warning system. Kelu Behra a 53-year-old fisherman, who started fishing when he was only 17 years, has faced three major cyclones. In his words:
The most dangerous and powerful cyclone was that of 1999 Super Cyclone. Some of us were unaware of the intensity of the disaster waiting to happen. There were warnings in the news and announcements made on the radio. But this was common for us. During these few months of fishing when we can go in large motorboats in groups of 8 to 10, sometimes even more, is the only time in the year that we can make some money and save it for bad times. If we were to pay heed to every warning, we have to come home empty handed and then we would die of starvation. That night, I was sleeping in the boat along with my other companions. The boat was tied by a rope to a big wooden plank near the bank of the ocean. Suddenly a strong windstorm swept away the boat towards the ocean. Some fishermen resting nearby shouted loudly. But we just kept floating. When the boat finally stopped, we were very far from the shore stuck in the windstorm. We started praying to mother goddess (Bali Harchandi Mata) for our lives. In our prayer we repeatedly begged for our lives and kept repeating, Please save our life oh! Dear kind mother. We are the lone bread earners in our family. If you take our life, who will feed our family. We will offer some share of our fish each time when we return from catching fish. We survived and with the help of rescue workers returned home. In 1999 there was no electricity in the village. The village was partially submerged under water. Our families survived but our houses had disappeared. We believe that we survived because of divine intervention. Mother Goddess accepted our prayers and had pity on our families to give us another lease of life.

Two important themes that emerge in the above narrative are that of ignoring warning because the choice between staying on and risking life and returning and having no food to eat is a Hobbesian choice difficult decision. These explanations fall in the domain of theories of moral intervention or the dominant theories of divine desire. In the beginning of this chapter I talked about Steinberg’s construction of notion of ‘moral tales of disaster’. This narrative falls in that category. Kelu Behra is not ready to accept that the threat to his life emanated from ignoring the warning that he had been constantly receiving on the radio. He believed that if he were destined to live, he would survive. This fatalistic attitude is a consequence of a sense of helplessness that they have experienced for years. Let me pause and take an empirical view and return to the first theoretical proposition-‘if I come back, we all die of starvation’. Kelu has a family of five to support. If he heeds to the warning and decides to come back what are the alternative choices he has? Probably none!

There is no point in going very far back in the history. It is well known that more than 30,000 people have died in Odisha between 1998-2000 due to cyclones (Thomalla & Schmuk 2004: 375). The government of the state have proposed alternative programmes for livelihood. The India Integrated Coastal Zone Management Project (ICZMP) is a joint venture of Government of Odisha, along with Ministry of Forest and environment, Government of India in collaboration with The
World Bank. The project will cover two coastal stretches—Paradeep to Dharma and Gopalpur to Chilka. Village *Motto* falls within the project area. One of the objectives of this programme is to “balance multiple human activities and demand on coastal systems and the maintenance of the function and services which they provide” (Humphery and Burbridge cf. www.iczmpOdisha.org). The point of contention here is that during those 172 days that the fishermen are allowed to do commercial marine fishing, climatic conditions are often adverse. They will not risk their lives, if they have enough to live on. The project summary states that “it would benefit about 4 lakh people from 235 coastal villages of Jagatsinghpur, Puri, Kurda and Ganjam--- by creating direct employment opportunities------ through eco-tourism--, capacity building and empowerment of 600 Self Help Groups from 60 villages to help 9000 families” (www.iczmpOdisha.org). The project summary on its official website admits, “The livelihood of the poor marine fishermen of the area is adversely affected due to the ban imposed on fishing (1st November to 31st May each year)------they have no alternatives for their subsistence during the ban period. These fishers are mostly landless or having small land holdings that is not sufficient to sustain their livelihood”. Following alternative fishery activities were visualized in the project:

- Composite Fish Culture
- Poly culture (Fresh water fish + Fresh water prawn)
- Scampi Culture: Fresh water prawn (mono & poly) culture mode
- Integrated fish farming (fish + dairy/poultry/duck rearing/vegetables)
- Fish seed hatchery
- Fish seed (fingerling) rearing
- Crab culture (fattening)
- Sea bass (Bhekti) culture Shrimp culture

**The allied fisheries activities are:**

- Hygienic fish drying (both sun drying and Solar dryer method)
- Value addition of dish and fisheries product
- Fish and Prawn pickles making
- Fish and Prawn powder production

The project started in 2010 for a period of five years with a financial outlay of 227.64 million (Crores). *Motto* falls within the precincts of the project. There was one self-help group in which villagers were asked to deposit any amount that they can
afford and this is given to them during the lean period or as and when they require it. There was no evidence of any other proposed initiative. Previous section on education documented that the villagers have little access to education. Given these hard choices what do they do? Following narrative puts some of these hard facts in perspective:

Dinu Behra (65) year old fisherman has a large family of five sons and three daughters. He and his wife worked hard to support the family but they continue to live below poverty line (BPL). His two sons and one daughter are now working in Tamil Nadu in some factories. He says:

Fishing is traditional occupation of our caste group, which we have inherited from our forefathers. Education was not that much important during our childhood as it is now. I never went to school. Learning skills for catching fish was more important for us because it would provide livelihood. But gone are the days, when fishing alone can serve ones family. With the prices of commodities, items of daily use are going sky high, with this single income source; I am not able to manage my family’s daily needs. I could not send all my children to school. One of my daughters is mentally retarded. I have tried medical treatment available in the village and also visited different shrines to offer prayers for her wellbeing but her condition is deteriorating. When all the local medicines failed to help her, I took her to a nearby primary health centre and consulted a doctor there. He advised me to take her to Bhubaneswar, but I have no money to pay for the treatment. Seeing the financial condition of our family, two of my sons along with their sister have gone to a place called Kaklada in Tamil Nadu. There they work in a factory and earn around rupees 1500-3000. These children were the only ones in the family who had some education. My eldest son studied up to X class, second left school in VII class and their sister studied till IX standard. I know they will not be holding any high position in the factory. But life has to go on my son!

Arjun another 60-year-old illiterate fisherman was also forced to send his second daughter to Tamil Nadu to work in Incense stick (Agarbati) factory. He had only three daughters. He married his eldest daughter to a boy from the same village and had to take a loan from a money lender from a nearby village Satapada on interest. He had to pay 10 per cent interest per month on the borrowed amount. To help him pay off his debt, his daughter decided to go out of the village to earn a living for the family. His narrative also brought to the fore, son preference that was the norm in the Keuto caste. This was primarily because daughters were not allowed to take ancestral profession of fishing. With changing livelihood opportunities and given the personal circumstances this attitude is witnessing dramatic change. His verbatim account explains the transition:

I had three daughters with no son. The wish to have a son was our singular dream, which remained unfulfilled. Now we have no regrets for not having a son. These are all
games played by Almighty. Now my eldest daughter is married in our village whereas the middle daughter is working in Tamil Nadu in a factory. She had studied up to VII standard in the village school. When my eldest daughter was married, I borrowed some amount from a money lender, which was given to me at a very high rate of interest. I had agreed to pay him 10% interest every month out of my earnings from fishing. Soon, I came under heavy financial burden. In my youthful days I was able to work hard for the family and earned enough to keep the family going. I am 60 year old now and have lost my strength. Sensing my helplessness, my second daughter accompanied some villagers who work in Tamil Nadu in factories. My daughter’s income somehow supports our family. Every day we pray to mother Goddess Harchandi Mata to protect my daughter and keep her safe. I am very fortunate to have a daughter!

Migration for earning a living and supporting fishing family back home had become a kind of norm in the village. These case histories were unique because they presented trends that deviated from the normative practises because the unmarried daughter of a family moves out of her natal home to another state or location to support her family of orientation, as employment opportunities for single and widowed women were negligible in the village itself. Customarily, women from fishing communities are not allowed to fish. Dinu’s other two daughters have to face much greater challenge. One is differently abled and there are no schemes known to the locals for getting state assistance for her medical treatment and for finding any work opportunities for her. He took the courage to send his daughter to a distant destination in another state, knowing full well that this may jeopardise her matrimonial alliance within the community. Arjun also took the same risk. To settle one daughter after marriage in the same village, he had to send the other away to pay for the loan he took for getting elder daughter married.

There were other stories of migration too. Purna Chandra after marrying his two elder daughters and two sons was forced to send his youngest son to Faridabad in Haryana to work in a shoe factory to earn some extra money. He parted with his fishing equipment and boats to help his married sons set up their independent homes. He borrowed to marry his daughters. He is too old to go for fishing and had no choice but to send away his youngest son to work. His older sons find it difficult to support their respective families and had no money to support their parents. Chayal 57 years old was never able to afford a boat of his own. Fishing in his opinion is always a hard choice. It depends a lot on chance and there is no consistent income. He struggled with his ancestral occupation and realised there was no future in it. He sent one of his sons to Gujarat to work in a warehouse. He makes more money than he would have
ever been able to do by fishing. His other two sons and married daughter live in the same village but can hardly make both ends meet.

These narratives brought into focus shallow promises made by the state to provide alternative livelihood opportunities in the village. Fifteen years after devastation caused by super cyclone, there was no infrastructure development nor education and health care facilities. Primary occupation after centuries of facing uncertainty and natural hazards remains marine fishing. They spend most of their time near sea and river. For them sea is like mother, they have grown in her lap.

A village of 191 household had only ten mechanized big boats, though for some reason, sarpanch wanted me to believe that they had only eight mechanized big boats to go for marine fishing. Those who owned these boats often borrowed money to buy these. Minimum cost of each trawler is anywhere between 50,000 to 1,00,000 (one lakh).

There were no cold storage facilities provided in the village to help fishers preserve their catch and sell it on a later date on a better price. They are forced to sell their catch immediately, lest it gets rotten and wasted. They do dry some quantum of fish for future sale but that amount is very small. Fishes are highly perishable from heat and moisture. They need proper preservatives. There are many methods of fish preservation like drying, salting, smoking, canning and freezing with ice or in electrical refrigerators. But traditional method of drying in the sunlight is the only method available to them. After drying, fishes are put in bamboo baskets and carried away to other villages by women. In the process they are deprived of adequate price for their catch. Government has failed to create regulated fishing markets for traditional fishers to help them earn better. Lack of education also makes them vulnerable to cheating.

There were no provisions for high school education and children were forced to leave school after class eighth as is evident in all these narratives. Few of them took courage to go to neighbouring schools for studying further but had to drop out because of poverty and lack of transport facilities. Given these limitations, when they do decide to migrate looking for alternative jobs, they are compelled to take low paying jobs like that of truck drivers, labourers in factories and daily wage labourers. Their poverty is chronic and endemic asking for a revolutionary intervention.
Coudouel et al. (2000) recommend policy reform as the only way forward to meet structural vulnerability rooted in chronic poverty. Structural vulnerability resulting in chronic poverty has two more dimensions built into it and these are access to health care services and a situation peculiar to India, alienation and discrimination rooted in the caste system. In the concluding sections of the chapter, I address these two important components of vulnerability and its repercussion for the fishers of Motto village.

5.7 HEATH AND NUTRITION VULNERABILITY

When populations live below the poverty line, it is their health and nutritional status that gets impacted. Health and nutritional vulnerability is defined as “probability of inadequate food intake needed to live a normal and active life (National Research Council, 1986), or the probability of suffering nutrition-related morbidity or mortality (e.g. Davis, 1996) ----Typical indicators of nutritional vulnerability are anthropometric indices, chemical analyses and food intake analyses. The missing link in comprehending the text of nutritional and health vulnerability is complete absence of any comprehensive evaluation and mapping study to have a basic understanding. Young and Jasper (1995) are of the opinion that to understand health and nutritional vulnerability, we must know their access to public services, environmental conditions, local knowledge and practices and also elements of hereditary in closed endogamous communities.

One of the major causes of ill health is lack of clean drinking water. Motto village has 35 public hand pumps and 14 individual household hand pumps. But the quality of water is very poor. Water is saline because the village is located near the seashore. Villagers have got used to the saline taste of drinking water. Ground level water is contaminated because villagers use rivers banks, and bushes to attend to nature’s call. Improper disposal of human excreta, open defecation are the major sanitary problems faced by the villagers. None of the houses have proper sanitation system. Garbage was thrown in the open grounds. Villagers recalled trauma of post 1999 super cyclone. The village was fully submerged under water due to which no drinking water was available and nauseating smells had spread over the entire village. Rescue teams arrived in the village only after three days. It was some miracle or as
the villagers put it, blessings of mother goddess Mata Harchandi that no epidemic was reported from the area.

The villager’s dietary pattern includes rice, dal (Pulses) and seasonal vegetables. Since agriculture is not practiced, vegetables are brought from the nearby areas. There are no primary health care services available in the village. Many cases of individuals with mental problems were recorded during the fieldwork. Most of the victims belong to the economically lower strata (mostly BPL family). Even if they catch fish, they consume poor quality fish. The good and fresh fish are sold in the market whereas the remaining fish were dried in the sunlight to remove moisture. These dried fishes are also one of the most important items included in their daily diets.

In the previous sections reference was made to difficulties being encountered by two families; one had a polio infected son and other family was living with the trauma of looking after a mentally challenged daughter. Poverty and near absence of medical expertise in the village or in its vicinity have been forcing them to live with the thought that if they had resources, they would be able to take their children for better care and treatment.

The nearest primary health centre for Motto village is situated in Rebanuagaon. It is at a distance of six kilometres from this village. There is no chemist shop any where close to the village. Six kilometres is the minimum distance that the villagers have to travel in case of a medical emergency. Village Dai use to perform deliveries; trained accredited social health activists (ASHAs) have now replaced them. They assist pregnant women and ensure that they get necessary supplements during pregnancy. In 2005, ASHA⁹ started as part of National Rural Health Mission—flagship programme of Ministry of Health, Central Government to

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⁹Accredited Social Health Activists (ASHAs) is the key component of the National Rural Health Mission (NRHM) is to provide every village in the country with a trained female community health activist ASHA or Accredited Social Health Activist. Selected from the village itself and accountable to it, the ASHA will be trained to work as an interface between the community and the public health system.

¹⁰National Rural Health Mission (NRHM): It was launched by the Hon’ble Prime Minister on 12th April 2005, to provide accessible, affordable and quality health care to the rural population, especially the vulnerable groups. The key features include making the public health delivery system fully functional and accountable to the community, human resources management, community involvement, decentralization, rigorous monitoring & evaluation against standards, convergence of health and related programmes from village level upwards, innovations and flexible financing and also

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ensure availability of health services to all. ASHAs are health activist(s) and are responsible for creating health awareness and community mobilization for maintaining local health services. This programme, encourages local women who are trained to act as educators and promoters in their communities (National Institute of Health and Family Welfare 2005)

Sovita (18 years) is the eldest daughter of Daitari, a poor fisherman. Her family belongs to BPL (Below Poverty Line). According to the information provided by her father, she had started developing some mental problems at the age of 10. At that time she was studying in class VI in the village school. She was withdrawn from school because of her erratic behaviour. In the beginning, family believed that some evil spirits have possessed her. She was taken to the Mata Harchandi temple and the priest offered prayers on her behalf. He offered Agarbati and padus to appease the mother goddess. She was later shown to the village doctor and he offered prayers to Bantei goddess in her name. But when her condition kept deteriorating, she was taken to a nearby primary health centre located in Rebana Nuagaon on Puri-Satapada highway. Doctor on duty there advised them to take her to advance hospital in the city. Daitari lamented that he had no money to take his daughter to an advance hospital for adequate treatment. He was apprehensive of all the expenses, he would have to incur for her treatment. He told me; “as a father I am helpless and in a dilemma! I do not know where I should go for seeking financial aid. We are forced to lock her indoors and restrict her mobility. One of the members from the family has to stay with her all the time. She cannot be left alone”.

Another case of mental sickness was reported by Sridhar from the same village. His wife became mentally challenged nearly ten years into their marriage. She was seventeen, when he married her. They had two children and were managing within their means. Suddenly, she started showing symptoms of schizophrenia. Sridhar said “my children were toddlers, when my wife became sick. I had to go out fishing and there was no one at home to look after my children. I had no alternative but to marry again. I married my wife’s younger sister, as I believed that she will take good care of the children and will also look after his sister. I now have a daughter


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with her. My other two children are grown up. My son is studying in class 10th in a school in another village. My elder daughter is in class 7th. I have taken my sick wife to Kalinga hospital in Puri district which is at a distance of 27 kilometres from the village Mott. Nearest primary health centre (PHC) is located in Brahmagiri on Puri-Satapada road at a distance of nearly 6 kilometres from the village. There is no primary health centre in the village. In case of any emergency, I have no idea what will I do, where I will take her”.

Sridhar was not the only one reporting wife’s mental sickness few years after marriage. There was another 70 year old fisherman with a similar case history. His first wife had two daughters and a son and was perfectly normal for the first ten years of marriage. She then started developing symptoms of mental sickness. He said, he visited various shrines and offered prayers but never took her to the city hospital. After few years, he found it difficult to manage his livelihood and also take care of his sick wife and children, so he married a much younger woman again. He has a daughter from her. His elder two daughters are now married and his son is doing fishing and lives with the family.

There were ten cases reported by the villagers that may fall in the medical domain of depression/schizonephria. In the absence of appropriate medical diagnosis, it is difficult to say what exactly it is. In a small village of only 889 individuals, such high incidence of mental illness was decidedly alarming. Endogamous marriages were norm in the village community. Some of them married relatives from nearby villages belonging to the same endogamous caste. It is difficult to discern if mental sickness was due to some genetic disorder or lack of adequate nutrition. Kar et al. (2007) have reported that after the super cyclone of 1999, the post-traumatic stress disorder was present in 30.6% adolescents and children. Another 13.6% suffered with sub-syndrome PTSD. Systematic studies by mental health experts are required to understand the reasons for nearly 1.12% of the total population suffering with undiagnosed mental distress.

Schizonephria is a chronic, severe, and disabling brain disorder. People with this disorder may hear voices other people don’t hear, make no sense while talking and extremely agitated. Scientist believes several genes are associated with an increased risk of this disease, but that no gene causes the disease by itself. Many environment factors may be involved, such as exposure to viruses or malnutrition before birth, and other not yet known psychosocial factors. http://www.nimh.nih.gov/health/topics/schizophrenia/index.shtml
Gwatkin et al. (2000) correlate nutrition and health outcomes with socio-economic status measured in terms of household assets. If this measure is taken to assess the vulnerability index of villagers of Motto village, it can be concluded that low household asset index is directly responsible for high nutritional and health vulnerability status of the population. Most villagers appeared malnourished. Few of them had access to adequate anthropometric nutrition value. Disaster analyst concur that to meet any future probability of vulnerability, we have to map health risks and present state of their socio-economic susceptibility (Dash 2011). The social determinants of health depend upon factors like housing, education, transportation, access to services, physical environment, socioeconomic status/position, discrimination by social grouping, social and environmental stressors, etc. This perspective is often defined as entitlement approach by Amratya Sen (discussed in the beginning of the chapter) and drawing from it, several other disciplines titled it as Asset Based Approach (Bebbington 1999; Moser 1998; Reardon and Vosti 1995; Seigel and Alwang, 1999). Drawing from these intellectual assertions, importance of social capital to human and social development is now recognized even by economists. With this perception development implies improved nutrition, hygienic living and working conditions, greater awareness of health problems and wider accessibility to health care services, which have a favourable effect on health status of the people (Gangadharan 2011). It is a sad commentary on our planning processes that till today fishermen of Motto villages are deprived of these basic minimal facilities. In addition, social alienation because of caste factors further marginalizes these poorest of the poor fishers from this coastal belt of district Puri. In the last section of this chapter, a brief discussion on this inherent vulnerability is provided.

5.9 CASTE AND VULNERABILITY

The village Motto is exclusively inhabited by a fishing community that belongs to caste group Behra better known as Keuto. In addition to numerous socio-economic factors that are discriminatory towards the fishers of this village, the hereditary burden of belonging to a Dalit caste is adding to their vulnerability. Anthropological understanding of caste is that, it is a hierarchical occupational specialization. Over the years many structural characteristics of the caste system have undergone significant transformation. Fishing is no longer restricted to traditional fishing castes but is also practised as hobby by many and as an alternative occupation
by several higher castes. Economic security that it provided to Keuto/Behra community is now being challenged. None of the other tangible or intangible assets have shown any upward mobility for the community and little financial security they had is also under threat. Several narratives from the respondent in the village draw researcher’s attention to this so far unperceived threat to the livelihood of Keuto.

Rathi Behra 50 year old started fishing when he was only 14 years old. He is the only earning member of the household. He is not trained for any other vocation. For years, he made small earnings because the fishing nets and boats they used were small and the catch was also subsequently very small. They were not able to have enough money to sustain their families. Large motor boats came to the village only about fifteen years back. They are now able to go in groups of ten to twenty fishermen in one boat and use large nets to have a much bigger catch. Large boats also brought competition. Large trawlers used by big commercial enterprises started encroaching on the ancestral marine territories for fishing prawns and fishes. Common complaint from the villages was that number of fishers has multiplied over the years but fishes have declined significantly in numbers.

Territorial rights on marine or river waters are now becoming a contested issue. There was no upfront debate on the subject in the village. There were murmuring and deep concerns expressed by the local fishermen on how gradually their rights were being usurped by former affluent farmers. These farmers have now abandoned their agricultural land because of paucity of adequate irrigation facilities. The money they got after selling some portion of their land is now invested in the purchase of large fishing motor boats. Farmers earlier regarded fishing as a polluting occupation. They have now adapted the vocation but continue to alienate Keuto/Behra and retain social distance. Amarinder Behra in his narrative brought to light the case of higher caste group of Khandayats, traditionally worked as traders or agriculturalist but has now taken to fishing. Khandayats realized that with large investments, fishing can bring greater profit than agriculture or trade. Social taboos on fishing for their caste group were set aside to make a better living. But they continued to alienate traditional fishermen socially. This has created fissures and there are several cases of disputes that have even been reported to the local police. Benta Behra (54) sums it up “The caste based occupation is fading slowly but caste system is still prevalent in this area. Traditionally only our community of Keuto/Kaibarta along with migrant
fishermen from Andhra Pradesh known as Nolias practised fishing. These days everybody is fishing”.

In the past, each caste was associated with a distinct traditional occupation, and many were further divided into sub castes in keeping with differences in occupational practice. The emergence of a large number of modern, ‘caste-free’ occupations has greatly weakened the specific association between caste and occupation; but still there is a general association, such that those in superior non-manual occupations are mostly from the upper castes, and those in inferior manual occupations invariably come from the lower castes. This ranking has been characteristically expressed in the ritual idiom of pollution and purity, although economic factors were always important and are now increasingly so.12

Bougle (1971) postulated a set of three underlying characteristics- hierarchy, economic interdependence and separation-based on an opposition between the pure and impure. Hierarchy is distinctively visible in the location of the village itself. It is located far away from villages of higher caste. Economic interdependence is transgressing boundaries and different occupational groups are interchanging occupational specialization. Many Keuto would like to have access to agricultural land and start farming, or acquire higher education and move to white collar jobs as was witnessed in the case of four graduates from the village. Separation between the pure and impure was something that I experienced the day I entered the village and the experience stayed with me throughout my field work. Fishermen can have tea on teashops but have to wash their cups that are kept separate. All guests are required to wash utensils after eating, as the owner of food shop is not sure of their caste. Higher caste villagers may accompany Keuto on fishing missions but will not share food with them.

The caste system is firmly embedded in this coastal area. It may be drifting away from its occupational character but its social and operational roots are deep seated. Constitution of India bans discrimination in the name of religion and caste and provides parity to all Indian citizens. However, its acceptance by a divided and hierarchical society is still a distant dream. It was discussed in the beginning of the

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chapter that Keuto were not allowed to enter the famous Mata Harchandi shrine because of caste discrimination. They are allowed to offer prayers, make offerings but have to stand outside the entrance of the temple to do so. There were no activists in the region fighting for their right to get entry to the village shrine. Brahmans-the twice born caste assigned the responsibility of mediating between the almighty and the devotee are especially brought in from other villages to offer prayers on behalf of the villagers. Hocart (1950) saw castes in Vedic times as organizations for the carrying out of sacrifice, and in modern India for worship. Brahmans are brought in precisely for serving that purpose. Keuto are regarded as lower castes (Nichi Jaati), but village barber of Barik caste is allowed to enter the temple premises.

Caste system is in practice for more than 2000 years. Its roots are not only confined to followers of Hinduism but extend far and beyond them. Followers have developed a complex theory to explain and justify these practices (Dumont 1970). In Hindu society caste rank is heredity and linked to occupational pursuits. Castes also tend to be endogamous and the boundaries and differences in rank between castes are expressed and maintained by restrictions on commensal relations and intermarriage. Gradually some of these customary and prescribed traditions are experiencing slow change. Endogamy was the norm earlier but now intermarriages with other caste groups are frequent. Intermarriages are largely confined with neighbouring fishing communities, occasionally someone may marry in other community. These are mostly those villagers who have moved out of their native villages to cosmopolitan urban areas in search of work. Caste is broadly understood as moral system (Barnett 1932; Dumont 1970; Inden 1976; Marriot 1976) and even when people move away from their native habitats, they continue to subscribe to it. These restrictive idioms contribute to other existing vulnerabilities of local population. The factors like caste and ethnicity have been recognised as key variables in vulnerability and risk assessment studies (Peacock, Morrow, and Gladwin 1997, 2000; Wisner et al. 2004).

Asset based approach to vulnerability identifies socio-economic and other factors but is not able to ascertain the extent to which each one of them can help mitigate. Ben Wisner (cited from Hilhorst and Bankoff 2006: 6) elaborates, this can lead to ever-more nuanced definitions of specific vulnerabilities among poor people, according to markers such as age, gender, sexual orientation, parenthood, location, origin and mobility but will it bring down the risk factor is to be empirically
examined. People’s vulnerability builds up gradually over time but varies immensely through rapid variation in economic, environmental factors, when these are compounded by cyclical or seasonal pattern of change (Hilhorst and Bankoff 2006). Vulnerability includes an economic element, dependent on people’s access to resources and income opportunities, and the variable element of protection against specific hazards. Some groups are more prone to damage, loss and suffering in the context of different hazards. If people are in an area prone to tropical cyclones, they may be affected in different ways by virtue of their ‘economic’ vulnerability (produced by their class, ethnic and gender position), but all may be vulnerable to the hazard in more equal terms if there is a lack of warning systems and a more general inadequacy of mitigation measures (Cannon 1994). “Because of ties between individuals, there is a collective nature of vulnerability (based on social arrangements). Institutional arrangements count, and measurement is complicated by imperfect information about social ties, social; capital and social vulnerability” (Alwang, Siegal and Jorgensen 2001:19).

My inspiration for documenting the detailed account of various factors of vulnerability that is structural, education, occupation, health and caste in conformance with the demands of assets based approach for Keuto fishermen of Motto village emanates from the lessons that are implicit in the statements of all the scholars that were cited above. We need more and more of localized empirical accounts to intervene in any substantive way in future mitigation and risk reduction exercises for these communities. With a view to have a comparative understanding of ground realities, this exclusive scheduled caste village was compared with another fishing village that had Socially and Educationally Backward Classes (SEBC), having a majority fishing community but not belonging to scheduled caste and living in proximity with trader communities. The village also had some Brahmin families residing at the outskirts of the village on a safe distance from the other households. The next village Arakhakuda being examined in the next chapter shares structural vulnerabilities with Motto as it is on the Sea shore and shares Marine territory with it. The village also suffered heavy losses and casualties in the super cyclone of 1999. A comparison of these two villages will be presented in the last chapter to comprehend how their social dissimilarities have impacted their vulnerability status.