

# The influence of caste, class and gender in surviving multiple disasters: A case study from Orissa, India

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Sociological and anthropological studies in India reveal that caste, class and gender in everyday life are both rigid and dynamic, but little is known about how they influence the survival mechanisms of women during 'multiple disasters', nor about how women negotiate with these structural mores to meet their cultural and biological needs. This is explored through the experiences of 12 women-headed households from different social castes in Orissa, India. Multiple disasters or disasters that occur in 'one specific place' (such as floods, cyclone and drought) are regular events in coastal parts of the state of Orissa. The super-cyclone of 1999, two floods of 2001 and 2003 and drought of 2000 and 2002 form the case study. Participant observation, in-depth interviews and documentary evidence complement the fieldwork. The findings suggest a complex interplay of caste, class and gender in surviving the multiple disasters including structural mutability under the purview of social organization. In doing so, women demonstrated their individual and collective agencies in order to meet their cultural and biological needs under severe crisis. This research stresses that gender and disaster studies must include a consideration of caste and class for effective disaster management and social vulnerability reduction.

Keywords: caste; class; gender; multiple disasters; Orissa; women-headed households

## 1. Introduction

Multiple disasters are defined as when two or more natural<sup>1</sup> hazards affect a vulnerable population in the *same* region, singly or in combination or collaterally and at varying magnitudes, creating a complex crisis in people's lives (see Ray, 2006).

Its geographic location and climatic condition have made Orissa, an eastern state in India, historically prone to multiple hazards such as floods, cyclones and droughts (Bhatta, 1997; Government of Orissa, 2002; Ray-Bennett, forthcoming). Too much precipitation during the monsoon season causes large-scale floods affecting farmland and property, whilst too little rainfall brings drought to the state due to lack of irrigational facilities (Pradhan, 2003). Tropical cyclones from the Bay

of Bengal sweep into the low-lying coastal belt, often causing death and severe destruction. The most recent cyclone was the super-cyclone of 1999, followed by devastating floods in 2001, 2003, 2006, 2007 and drought in 2000 and 2002.

The consequences for the poor in particular are known. However, little work has been undertaken to understand the specific ways recurrent multiple disasters affect women-headed households, as one of the more vulnerable elements of these communities. More concretely, we do not know how economically poor women-headed households from different social caste backgrounds survive multiple disasters in rural areas. The research in a coastal village named Tarasahi reported here responded to this gap by documenting 12 women-headed households' social and personal experiences in surviving the super-cyclone

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of 1999 and subsequent floods in 2001 and 2003 and the drought in 2002. Some 12 governmental and non-governmental organizations from Tarasahi (the researched village), Jagatsinghpur and Bhubaneswar respectively were also interviewed.

In October 1999, Orissa was hit by two cyclones within a period of 2 weeks. The intensity of the second cyclone was such that it killed more than 10,000 people, caused severe socio-economic devastation, instigated the Orissa Relief Code (the sole disaster policy document for the state until 2007), and lastly, put Orissa into the international lime-light (Government of Orissa, 2002). Likewise, the floods of 2001 and 2003 were remarkable compared to the post-independence floods (1982, 1994 and 1995) because of the extent of the flooding, which not only affected areas much further inland than previous events, but also lasted well over a month. In addition, flooding affected those areas already badly damaged by the super-cyclone of 1999, causing widespread food scarcity and displacing more than 200,000 people (Government of Orissa, 2003). Between the floods of 2001 and 2003, the same areas observed the drought spell of 2000 and 2002, which was largely due to lack of rainfall and hence the drying up of riverbeds and ponds.

## **2. Methodology**

The approach and methods which informed this research were those of social anthropology and (early) sociologists who used observational methods, participant observation, fieldwork, unstructured interviews and the collection of statistical and documentary evidence to study a different culture (Okely, 1994; Burgess, 2001). This is discussed in detail elsewhere and hence will not be repeated here (see Ray, 2006). The fieldwork for this research was conducted in Orissa over the course of 8 months from August 2003 to April 2004. Hence, the floods of 2006 and 2007 are not discussed here. The key informants for this research included 12 governmental and non-governmental organizations and 12 widow householders.

Being unfamiliar with the place, the author's 'pre-research research'<sup>2</sup> preceded the fieldwork. From the UK, I first communicated with the Orissa State Disaster Mitigation Authority (OSDMA),<sup>3</sup> an independent government NGO exclusively assigned for the management of disasters in the state. I received their letter of assurance to help me during my fieldwork. This represented the first entry point to the field. Later, four officials from OSDMA became key informants for this research due to their willingness to partake in the interviews and due to their involvement in disaster mitigation activities after the super-cyclone of 1999.

The OSDMA officials also played an important role in locating my other informants, viz. the two NGOs, Action-Aid Orissa (AA) and Bharat Gyan Vigyan Samity (BGVS) and the Disaster Emergency Officer, the Chairman and the *Sarpanch* (village chief) at the district, block and village level respectively,<sup>4</sup> upon my arrival in Orissa. Members of NGO staff helped me to locate Tarasahi, which was affected by multiple disasters due to its unique geographical location (see below). While living in the village for 6 months, I interviewed women and village *Sarpanch* and travelled back to Jagatsinghpur (district) and Bhubaneswar (the capital of Orissa) to interview the NGOs and the government officials. Other informants included relatives, men, women, children, school teachers and others in the village. I have called the kin and the neighbourhood of my 12 respondents the 'voluntary informants'; they were equally important for this research and more so with regard to two respondents in particular, who were extremely reticent. Voluntary informants helped me to decipher the importance of kinship and neighbourhood networks in women's lives when governmental and non-governmental organizations failed them during the multiple disasters.

### **2.1. Sampling and interviewing**

Altogether, there were 80 widows in the village.<sup>5</sup> I was provided with a list of 33 widows, believed

to be impoverished and from different social backgrounds, by the *Sarpanch* and the self-help group coordinators of two non-governmental organizations: AA and BGVS. In order to select only 12 respondents for in-depth interviews I initiated a process of elimination by attempting to meet as many widows as possible from the list, with the help of the two female self-help group coordinators. The purpose of this initial survey was to ascertain the most socio-economically vulnerable women-headed households, through home visits and based on their brief introduction and my observations. I met 26 widows, the rest being either unavailable or well settled within their kinship network. These 26 women were socio-economically vulnerable and had much information to share concerning the multiple disasters. From 26 respondents, I then used a lottery technique to select only 12 women from 12 wards of Tarasahi, representing different castes and economic classes.

I used this technique to obtain the selective sample, in order to counteract any possible external influence by the gatekeepers – the *Sarpanch* and the self-help group workers. In the initial phase of my fieldwork, I encountered some suspicion regarding my presence in the village, whilst also experiencing subtle attempts to influence my sample selection by my gatekeepers, who assumed that my study would yield material benefits to those selected. To counterbalance this suspicion, I made recurring attempts to explain honestly the academic motives of the study and, to ensure transparency, involved my gatekeeper in the selection of the lottery chits. However, a residual misunderstanding remained throughout my fieldwork, both for the respondents and others (see Ray, 2006).

I also interviewed at least 13 NGO staff, stationed both in BBSR and Jagatsinghpur district offices and in the village, several times on various occasions over a period of 7 months. However, the key informants were the field officer of AA, two district coordinators of the BGVS, and two self-help group coordinators in the village. The two district coordinator respondents were interviewed while living in the

office-cum-residence in Jagatsinghpur, and the latter group of respondents in the village, while I was living in one of the self-help group coordinator's houses. These two NGOs were chosen for this research due to their presence and developmental work in the village. They formed a partnership to rescue and rehabilitate people after the super-cyclone in 1999. In the post-super-cyclone phase they formed 33 self-help groups for women in Tarasahi and offered micro-credit to buy livelihood assets. I have discussed the details of the micro-credit activities in relation to women's caste elsewhere (Ray-Bennett, forthcoming).

Documentary evidence such as policy statements and secondary literature also complemented the fieldwork. All the interviews with the women were tape recorded except those with government and non-government workers, due to their refusal. All the records of the interviews with the 12 respondents were carefully translated from Oriya into English by the author and a translator. To maintain confidentiality, the names of the respondents used here are pseudonyms.

## 2.2. Women-headed households

Although the term 'women-headed households' encompasses a wide range of domestic arrangements (Chant, 1997), it will be used here only to refer to units headed by widows (usually with children) who perform the functions of socialization and economic subsistence for the household (Rao, 1992).

Women-headed households are now an increasing phenomenon worldwide (Moser, 1987; Chant, 1997). In Orissa, they account for approximately 10 per cent of households and the relationship between women-headed households and poverty is quite close and profound (Panda, 1997). These households are dominated by their 'triple role' burden (productive, reproductive and community work) and constitute the poorest of the poor in those households where the mother is the sole adult income-earner

supporting many dependent children (Moser, 1993; Panda, 1997).

The intrinsic link with poverty, coupled with specific vulnerability such as the caste, class and gender of the head householders, means that these households tend to be disproportionately affected by disasters, a characteristic that will surely further worsen unless adequate measures are put in place to address this linkage between women's poverty and their vulnerability to disasters.

### 3. Caste, class and gender: women's vulnerability

Vulnerability here refers to 'exposure to contingencies and stress, and difficulty in coping with them' (Chambers, 1989, p. 1). Vulnerability reflects a lack of buffers against contingencies such as disasters, exploitation and so forth (Chambers, 1989). Vulnerability itself can be traced back to quite 'remote' roots and general causes, which include socio-economic processes and political factors that are fundamental to understanding why environmental hazards affect people in varying ways and why people experience disasters differently (Winchester, 1992; Bankoff, 2004; Wisner et al., 2004).

According to Dube (1996, 1997) and Chakravarti (2003), women's subordination and vulnerability in India is grounded in Hindu caste practices and patriarchal kinship practices which put women at a highly disadvantaged position in their everyday lives. In times of disaster, this subordinate position increases the likelihood of women's vulnerability to environmental hazards (Enarson, 1998; Cannon, 2002). But little is known about how women's vulnerabilities such as caste, class and gender influence their survival and coping strategies during the most serious events such as multiple disasters. Furthermore we know little about how women negotiate with those structural boundaries that appear set and internalized in women's lives in order to facilitate their coping in multiple disasters. Still further it is unknown whether these

structural mores are mutable in a multiple disaster situation or how they entrench women's vulnerability.

These questions are addressed through the experiences of my sample of 12 women-headed households – each from different social-caste backgrounds – while surviving the hazard events and accessing the 'emergency shelter' in the super-cyclone of 1999 and two floods of 2001 and 2003 in Tarasahi. Here the focus is less on the impact of the drought of 2000 and 2002 as that (slow onset) hazard had no direct impact on women's lives and shelter, except that in the following year they experienced a shortage of hay. Besides, while narrating their experiences of survival in the multiple disasters the respondents focussed mostly on the cyclone and the two floods owing to the sheer impact and devastation these events had on their lives and livelihoods, compared to the conditions of drought (see Ray, 2006).

#### 3.1. Caste, class and gender: evidence of change

M.N. Srinivas (1962, p. 3) describes caste as:

a hereditary, endogamous, usually localized group, having a traditional association with an occupation, and a particular position in the local hierarchy of castes. Relations between castes are governed [...] by the concepts of pollution and purity, and generally, maximum commensality occurs within the caste.

The complexity of caste is further compounded when 'Jati' and 'Varna' systems are both described as 'caste' in English (Deshpande, 2002). The *Varna* system is the ancient system of hereditary, endogamous and hierarchical groups: *Brahmans* (the priest and teachers), *Kshatriyas* (warriors and royalty), *Vaishyas* (traders, businessmen) and *Sudras* and *Ati Sudras* (all manual jobs). The *Jati* system developed in line with the *Varna* system but they are not the same. It is a much more complex occupational structure and

contains more rules of living depending on place and context (Bayly, 2001; Deshpande, 2002). Nonetheless, *Jati* and *Varna* are still valuable assets in India (Bayly, 2001). *Jati* is more than a group or network of intermarrying descent groups either compactly or sparsely distributing but infrequently straddling linguistic frontiers (Sharma, 1999). Currently there are about 2,000 to 3,000 *jatis* in existence in India and arranging them in a linear structure for the definition of caste inequality is a daunting task. Besides, the fluid nature of the *Varna* system over time complicates this further (Deshpande, 2002).

On the other hand, 'class is an economic concept; classes are not communities but exist where people share a specific component of their "life chances", especially as determined by their economic position' (Sharma, 1999, p. 12). Class, in particular, plays a very important role in the creation of social inequality and it can make the influence of other sources of disparity (such as gender) much sharper (Sen, 2005). In fact the relationship between caste, class and gender in Indian society cannot be understood outside a consideration of their mutual impact (Chakravarti, 2003); they are intertwined and interlinked, creating and reinforcing inequality (Sen, 2005).

According to Sen (2005, p. 207):

Class does not act alone in creating and reinforcing inequality, and yet no other source of inequality is fully independent of class.

Consider gender. South Asian countries have a terrible record in gender inequality [...] unusual morbidity and mortality rates of women [...]. At the same time, [...] belonging to a privileged class can help women to overcome barriers that obstruct women from less thriving classes. Gender is certainly an additional contributor to societal inequality. [...].

Similarly turning to caste, even though being lower caste is undoubtedly a separate cause of disparity, its impact is all the greater when the

lower-caste families also happen to be very poor.

Caste is based on a ritualized purity, with the *brahamana* on top and the (former) 'untouchables' or the low caste at the bottom of the hierarchy. Class is based on political and economic status, with landlords at the top and landless labourers at the bottom, representing a unique form of inequality that is perpetuated by caste (Chen and Dreze, 1992; Chakravarti, 1995; Subramaniam, 2006). In an assessment of the contemporary state of the gender-caste overlap, Deshpande (2002) suggests that the economic condition of women continues to be defined and constrained by their caste status. The practice of endogamy and other mechanisms exercising controls over women's labour and sexuality intersect with caste and gender inequalities. Lower-caste women have much more autonomy to seek gainful employment outside their homes in comparison to their upper-caste counterparts, but they are not better off as they belong to a group that is materially at the bottom of the ladder. Deshpande (2002) observed that Dalit women are worse off than upper-caste women in terms of standard of living, decision making at a household level, and the prevalence of domestic violence,<sup>6</sup> suggesting that caste, class and gender intersect in increasing or decreasing women's vulnerability.

Since the 1960s and 1970s, many sociologists have in particular questioned the traditional simplified *Varna* system that perpetuates class and gender inequalities based on purity-pollution. The empirical reality suggests an alternative and a more complex view in which not only do different castes have different hierarchical elaborations but also those castes who find themselves in extremely humiliating and subordinate positions currently refuse to accept the theory of Karma and purity-pollution when it comes to caste ordering (Gupta, 2000, 2004).<sup>7</sup> Social scientists have begun to find, as a result, caste identity both fixed and immutable, and 'clean' and 'unclean' castes had become the most powerful and enduring expression of 'modern' caste

experience. In western Uttar Pradesh virtually all the substantial tillers call themselves Jat whereas their 'clean-caste' counterparts in south India identify themselves as Gounders in Tamil Nadu's dry-grain Konku region and Kammam and Reddis in the Telegu country (Bayly, 2001).

In this light the work of Chatterjee and Sharma (1994, p. 6) is particularly useful. They draw attention to agency and not only structure on the parts of the Hindus 'who have/belong to/talk in terms of castes'. As a result the everyday experience of caste not only brings alternative language to Brahmanical purity and pollution but also the way it is 'performed' in a variety of ways (forming caste associations, formulating marriage requirements and so on). These authors suggest that it would be useful to look at caste as something which people 'do' rather than something which they 'are'; this idea appears to go against the grain of modern interests in identity but both are complementary (Chatterjee and Sharma, 1994, p. 9). Secondly, whilst caste is a very important characteristic to Indians, it is not integrated by a single systematic principle apart from that of differentiation (Chatterjee and Sharma, 1994).

Caste is not a unitary phenomenon, yet social scientists have grossly overestimated the degree of coherence or consensus that has existed about caste (Sharma, 1999). In reality, what goes under the name of caste is highly diverse and means different things to different people. For instance, belonging to a large locally dominant caste must always have felt different from belonging to a small scattered caste. Likewise for untouchables Dalits, it is still a defining feature for their social identities (whether they like it or not) including the scope of their opportunities (Sharma, 1999; Bayly, 2001). Therefore caste in an Indian context is not a fixed and rigid form of identification but changes over time, with scope for both invention and rejection of tradition. If this is the case, Sharma (1999, p. 75) posits, then 'there is no enduring content to the "institution" of caste. It is whatever people say ... or do in its name at any one time'. In the context of this research this will be particularly

evident in the case of the circumstances of one low-caste woman while surviving the super-cyclone in 1999 (see below).

Since independence in 1947, caste practices in India have undergone change including in the rural areas. This is partly due to the independent movement, rapid population growth, education, industrialization, urbanization, the reservation of seats for low castes in the local governing bodies and so on (Patnaik, 1969; Government of Orissa, 1990; Apffel-Marglin and Purna Chandra, 1995; Sharma, 1999; Gupta, 2000, 2004; Bayly, 2001). Ritual restrictions which prevailed have lost much of their force. Inter-caste marriages have increased and general relations on commensal restrictions have reduced even in rural areas, although this breakdown of barriers is evident between 'adjacent' castes rather than between castes at the extreme of the hierarchy. Sharma (1999) posits that this decline in ritual distinction has occurred not due to the Indian Constitution but due to the impossibility of expressing ritual distance from inferiors unlike the erstwhile isolated and parochial villages. Modernization and rapid urbanization have made these practices difficult to sustain.

Caste-based hereditary occupational linkages are no longer rigid. Modernization and industrialization have not only introduced machines but also, more importantly, altered caste and class relations (Gupta, 2000). The effect of modernization led to the opening up of the village economy and the concomitant freedom of the lower castes from economic bondage to rural oligarchs (Gupta, 2000). Likewise, opportunities opened up for the upper-caste rural elites in terms of acquiring higher education in urban areas, taking new jobs and escaping penury (especially in densely populated cash-crop regions, where their much-subdivided holdings had become uneconomic) (Bayly, 2001). Karanth (1996, p. 98) argues that caste-based hereditary occupations and social mobility in the rural areas also led to 'dual culture', by which he means: 'patterns of behaviour [...] that is adherence to traditional values in one context and modern and egalitarian ones in another. Dual

culture may also be seen as reflecting a transitional stage in a dynamic process in rural society wherein notions of purity and pollution are gradually being eroded'. This once again reinforces the element of human agency discussed earlier.

Despite these welcome changes since the 1950s, nonetheless sociologists still cast a note of scepticism as to whether caste has really changed or disappeared in modern India. According to Gupta (2004, p. xiii) 'caste has not changed intrinsically', but rather modernization has brought to light aspects of caste that were previously darkened by imperfect lenses. Caste identities are still very strong even though castes are no longer locally confined. Concomitantly caste mobility is now much more of a routine affair than it ever was in the past (Gupta, 2000). Over half the Indian population still live in rural areas and, according to official statistics, half this population consists of agricultural labourers from ex-untouchables or Scheduled castes (Shukla and Verma, 1993; quoted in Bayly, 2001). They are largely poor labourers and smallholders despite the emergence of a prosperous and educated 'creamy layer'<sup>8</sup> element within lower-caste populations. These groups still reportedly have far lower average levels of income and literacy than Indians of 'clean-caste' origins (Bayly, 2001, p. 318). However, sociologists and other social scientists at least agree on one point, that caste is dynamic, flexible and changing over time with plenty of scope for rejection and innovation of tradition and, at times of disaster, it can assume specific forms (see below).

### 3.1.1. *Negotiating honour/lajo*

Chakravarti and Dube have examined women's collective honour/*izzat*/dignity, a notion that can be measured by the degree of respect shown by others. In Hinduism, women are considered as guardians of family honour through their virtue and modesty. The failure to maintain these traits can bring dishonour to the family and sully the purity of their caste (Apffel-Marglin

and Purna Chandra, 1995; Kabeer, 2000; Menon, 2000; Chakravarti, 2003). However, these studies (including the mainstream sociological studies on caste, class and gender discussed earlier) provide no discussion of the fluidity of this concept for disaster situations. The question to be posed and answered is, how do women negotiate with honour or *lajo* when they experience environmental disasters and consequential displacement? I return to this particular question later through the instance of accessing emergency shelters. However, we can initially note that research into environmental disasters in South Asia (Khondker, 1996; Rashid and Michaud, 2000; Rozario, 2000), and war-induced famine in the Horn of Africa (Bushra and Pizzalopez, 1994) revealed a mixed response from women in accessing relief centres, refugee camps, and cyclone/flood shelters under dire circumstances. All confirm the preservation of honour/prestige as being absolutely paramount to women.

Evidence also suggests that women are not passive recipients of caste, class and gender, but rather 'conscious acting subjects of social relationships and processes [...] characterized by the institution of caste', which signifies women as both perpetrators of caste and the agents of exerting challenges to the same (Dube, 1996, p. 1). Concomitantly they do not 'operate so much through individuals as through units based on kinship' (Dube, 1996, p. 1) or the larger kinship that is the village as a unit (Dube, 1997). As a result, there has been considerable relaxation of the rules and norms governing commensality and to some extent exogamous marriages, although the consequences of this has often been harmful to women (see Dube, 1996, 1997). However, in her works, Dube explains little as to what form caste, class and gender can take during [multiple] disaster situations, and how women may cope and negotiate through these events. The research reported here attempts to respond to this gap through the instance of women-headed households who have experienced multiple disasters over a period of five years (1999–2004).

#### 4. Tarasahi: the researched village

Tarasahi is within the Balikuda block in Jagatsinghpur district. According to the 2001 census it had a population of 2,050 spread over 12 wards. Tarasahi is surrounded by two rivers – the Debi and the Aloka on the western side, and the Bay of Bengal on the eastern side leaving the waterway as the only way of travelling to Tarasahi. Due to its unique geographic location, people of Tarasahi have experienced severe floods, cyclones and droughts.

Tarasahi is a Hindu village and reflects the offshoot of the jajmani system where the relatively newly settled villages attempted to replicate jajmani relationships, having *Khandayat*s (the landed-militia caste) at the top of the hierarchy, complemented by functional castes or service providers: barbers, washermen, potters, milkmen, etc. (Government of Orissa, 1990). Under the hierarchy of the caste system in Tarasahi, *Brahmins* occupy the highest position, followed by *Khandayat* or the landed militias, and the *Mohanty* or the literate and scholars. After *Mohanty*, there is a large number of intermediary or middle castes, referred to in the constitution as Other Backward Classes (OBCs). To mention a few middle castes, there are in Tarasahi *Behera* (also known as *Keuto*): the fishing community; *Barik*: the barber community; *Goal*: the milkman community (literal translation into English). The lowest of all are the *Dhoba* (also known as *Shetty*), the washerman community and *Bhoi*, the scavenger community (literal translation into English), who were together formerly untouchables and referred to in the constitution as Scheduled Castes (Government of Orissa, 1990; Appasamy et al., 1996).

According to an unofficial estimate, 30.1 per cent of the population belonged to the high caste, about 19.6 per cent to the middle caste and 49.75 per cent to the low caste (calculated from Panchayat Development Report, AA-BGVS, 2001). This depiction of the caste structure, its hierarchies and divisions, provides a basic outline that ignores many of its *jati* nuances. For instance, in the intermediary caste, *Barik* is

higher than the *Goal* and the *Keuto/Behera*. Likewise, the *Dhoba/Shetty* is higher than the *Bhoi* (ex-untouchables) and these highs and lows in the social ladder make a significant difference in the way they cope with the multiple disasters. This will be observed in the survival strategies of the respondents from different castes. The upper castes occupied the slightly elevated part of the village, which was also the mainland or the village centre; the middle and low castes occupied the periphery of the village, closer to the river Debi. Consequently, the latter castes became the first casualty of floods.

Of the 12 respondents, three belonged to upper castes (*Khandayat* and *Mohanty*), five were middle castes (*Behera/Keuto*) and the other four women belonged to low castes (*Dhoba/Shetty* and *Bhoi*) (see Table 1 for their socio-economic profiles). Each caste in the village lived in an individual and independent *sahi* (hamlet) such as *Mohantys* living in Mohantisahi and *Beheras* living in Beherasahi. Each caste practiced patrilineal marriage practices (Government of Orissa, 1990; Menon, 2000), which meant that all except one of the women came to Tarasahi after their marriage.

In relation to the caste and gender norms, the upper- and middle-caste women were involved in family-based occupations which included cattle rearing, small-scale farming (one respondent from a middle caste), cashew nut farming (one respondent from the upper caste) and the small-dry fish business (two middle-caste women). Low-caste women were landless and earned their living through daily wages, the selling of cow dung cakes and some cattle rearing.

#### 5. Surviving the multiple disasters: upper-caste women's experiences

All three upper-caste respondents reported that they survived the super-cyclone by taking shelter in the concrete houses of their neighbours in their respective *sahi*. But during the floods of 2001 and 2003, the women's experiences were much more organized and calculated due to the nature of the hazards. According to the

**TABLE 1** Socio-economic profile of the women-headed households

Names	Age	Livelihood/income	No. of dependants	Education
<i>Upper caste</i>				
Konika Mohanty	59+	Cow rearing, widow pension and owned 5 acres of land but currently eroded	None	Literate
Lolita Nayak	45	Cow rearing, widow pension, two cashew trees and had two decimals of land but currently silted	1	Literate
Tilotoma Biswal	27+	Cow rearing, owns 2 acres of land but does share-cropping with her brothers-in-law	Childless	Illiterate
<i>Middle caste</i>				
Latika Behera	46	Cow rearing, small scale farming in her 2 decimal land and petty business such as selling dry fish	1	Illiterate
Sulochona Behera	29	Cattle rearing, widow pension and petty business such as selling dry fish	3	Can sign
Manimala Behera	28	Cattle rearing, small-scale farming in her 4 decimal of lands	1	Illiterate
Ullash Behera	30	Cow rearing and widow pension	2	6 <sup>th</sup> class
Jhumpa Behera	40	Cow rearing, widow pension and does share-cropping with her brother-in-law in her 4 decimal of lands	1	Illiterate
<i>Low caste</i>				
Proshilla Bhoi	41	Cow rearing, day-labour and petty business such as selling cow dung cakes	3	Illiterate
Him-Sheetol Bhoi	35+	Rears goats, day-labour and petty business such as selling dry fish	3	
Chumki Bhoi	42+	Cow rearing, day-labour, some share-cropping and petty business such as selling cow dung cakes	3	Illiterate
Tanika Shetty	24	Cattle rearing, day-labour and vegetable farming	Childless	5 <sup>th</sup> class

Source: Ray, 2006.

experience of Lolita (45), an upper-caste *Khandayat* widow:

My house was affected in the floods of 2001 [...]. There was water everywhere and snakes. But we still did not go to the *bali*<sup>9</sup> (sand mound), rather stayed at home. We do not have any male members so how can we (sisters-in-law) go to the *bali* taking young girls with us? However by that time fortunately my sister-in-law's IAY<sup>10</sup> house ceiling was done and we took shelter there [...]. Thankfully due to the completion of my concrete house, the present flood (referring to 2003 flood) was not

that bad [...] we were at home (December 2003, Tarasahi).

Unlike during the super-cyclone the block and the local administration undertook preparedness measures in both the floods. As Tarasahi lacked any formal high buildings, the government set up an 'emergency shelter'<sup>11</sup> on the sand mound with bamboos and tarpaulins. Special provision of relief was also arranged for the flood evacuees by the local government.

But Lolita did not access this emergency shelter in the 2001 floods because she had a 15-year-old daughter who was soon to be eligible for

marriage. Likewise, her sister-in-law (a de facto household) who had also two adolescent girls and one ready for marriage decided not to go to the emergency shelter in order to avoid any un-honourable incident that might sully their marriage prospects. Both families lacked male family members to escort them in their displacement in the intermediate sphere of the shelter, which was co-shared by both men and women from different castes and classes. In order to maintain honour and avoid any *lajo* or shame that might befall on their castes due to the exposure, both Lolita and her sister-in-law decided to stay at home despite the heightening risk of inundation, fear of collapsing mud walls on them and the possibility of snake bites<sup>12</sup> in the floods of 2001. Their coping strategies suggested gendered experience but were consolidated by caste practices and associated class privileges like the availability of concrete houses during the super-cyclone and the floods.

As a result the scope for structural mutability was constrained. Konika Mohanty, from *Mohanty* caste (a socially higher caste than the *Khandayat*), offered a slightly different experience of the multiple disasters. Unlike Lolita, Konika did not experience the impact of the floods and the cyclone severely. During the super-cyclone she took shelter in her neighbour's concrete house and during the floods her house was not flooded. This was because her house was located in the elevated part of the village which acted as a natural barricade from inundation. Winchester (1992) observed similar settlement patterns in Devi Seema, Andhra Pradesh, where the upper and dominant castes occupied the mainland, this being also the highland that protected them from annual flooding. As a result the piece of elevated land on which Konika's house was located, by virtue of her high caste, helped her to reduce the physical risk posed in the post super-cyclone disasters.

Such patterns of settlements actually reflect social and economic structure and an individual's bargaining position to access and occupy such constructed space (Maskrey, 1989; Winchester, 1992). In this context, the upper-caste women's

accounts revealed a gendered and caste experience in surviving the multiple disasters, but the privileged class of their kin and neighbours (such as ownership of concrete houses) allowed them to cope more effectively and also maintain their caste and honour practices, which was not possible for their middle- and low-caste counterparts.

## 6. Surviving the multiple disasters collectively: accounts of middle-caste women

The majority of the middle castes (*Behera* and *Goal*) lived in the periphery of the village. Unlike the upper castes, the households of the middle castes were dispersed but they were also clustered and shared the same area with their kinship. Five respondents from the fishing community had their houses in the most low-lying areas of the village which were also closest to the river Debi. Additionally these wards were further separated from the village centre by a rivulet that passed through the heart of the village. Consequently, the low-lying areas and the overflowing of this rivulet during the floods played havoc in the lives of these women.

Prior to the super-cyclone there were no concrete houses in these *sahi* where the middle-caste women lived (except in one hamlet, Beherasahi, in which one respondent named Sulochona took shelter). As a result the respondents were directly exposed to the environmental risks. There was literally no preparedness amongst the respondents before the super-cyclone due to lack of information, and no cyclone shelter in the village. It was when the cyclone broke their homestead trees and roofs that all five respondents ran out from their houses to save their lives. They then sat together in their kin and neighbours' courtyard covered with polythene sheet or traditional mats. Some reported that they sat there for more than 24 hours with their children. This was similar to the experience of the low-caste women, which will be discussed later. Without any evacuation response by the government and the lack of concrete houses in these hamlets, the impact of the

super-cyclone was severe. The respondents overcame their social and physical vulnerabilities, exacerbated by the super-cyclone, collectively. This collective effort of surviving the later disasters, namely the two floods, was also emphasized repeatedly by these respondents.

In the floods of 2001 and 2003, the middle-caste hamlets were the first to be inundated due to the low-lying areas, in comparison to the upper-caste hamlets. This supports the observations by Cannon (cited in Wisner et al., 2004) in north India in 1976 and 1979, noting that the homes of lower classes and untouchables were typically located in the flood-prone low-lying areas around settlements.<sup>13</sup> Unlike the upper-caste respondents discussed earlier, these respondents were forced to leave their houses and take shelter in the emergency shelter with their neighbours and kin, except for one woman. This respondent named Shalini decided to stay at home with her three young daughters and elderly father and mother-in-law due to the lack of a strong male member to support them during the displacement.

As mentioned earlier, studies have documented the severe consequences of women's exposure in intermediate spaces like war camps and shelter camps formed during times of natural disasters, revealing serious instances of rape, abuse and social stigma (Wijkman and Timberlake, 1984; Bushra and Pizza-Lopez, 1994; BBC News, 2005). A study conducted by Rashid and Michaud (2000) to investigate the social aspects of a group of adolescent girls in the floods of 1998 in Bangladesh is telling. Like Shalini, a widow with adolescent girls in Rashid and Michaud's study chose to stay in her home, although she had to live on her roof. She preferred to remain close to her neighbours for assistance in case her daughters faced harassment from *mastans* (strangers), and unfamiliar male faces that tend to increase during floods (Rashid and Michaud, 2000, pp. 62–63). These studies indicate that instances like these put extreme pressure on women in maintaining their caste and honour attributes during the time of disasters. In the absence of any appropriate government

measures, the pre-existing vulnerabilities of women appear only to get further entrenched by (multiple) disasters.

To explain the situation of the other four respondents who accessed the emergency shelter, I quote Latika, a widow from a fishing community:

In both these floods (referring to 2002 and 2003) we had to flee to the *bali*. In the former big-flood (referring to 2001) my daughter was with me and in the later big-flood I flee with my sisters-in-law, Jhumpa (another respondent) and others. I sat on top of the bed but later this also became very difficult to do. The whole hamlet was full of water and then there were snakes in the hamlet. The flood water entered their holes and they all came out. I could not shut the door due to flood water inside my house. So I had to leave it open when I left for the emergency shelter. Consequently, the house became the abode of snakes everywhere in the roof and the door (January 2004, Tarasahi).

Unlike in the super-cyclone, the local administration erected an emergency shelter during the floods and all the four middle-caste respondents accessed it. However, Latika moved to the shelter only when she could no longer sit on her bed – at what Thompson and Tod (1998) called a 'trigger point' – and the house turned into an abode for snakes due to inundation. Similar accounts were given by the other middle-caste respondents. It was only in a severe life-threatening situation that the respondents' actions were triggered and they were forced to access the emergency shelter in the public space. In doing so they overcame their strict caste and gender norms and spheres prevalent in their everyday lives.

In accessing the emergency shelter, most of the middle-caste respondents indicated the fluidity of caste and gender spheres for them, but this was not the case inside the shelter. The emergency shelter erected by the government lacked separate space for women or a toilet facility. Consequently the respondents experienced the intense burden of maintaining their internalized

values of honour, shame and sexuality inside the shelter for themselves and for their daughters. To maintain honour, one respondent (Latika) spent the nights at another married daughter's house in the highland of the village, and returned in the mornings to the shelter. Others who stayed inside the shelter mentioned that they did not feel comfortable and their discomfort manifested itself through sleeplessness, embarrassment and obsessive compulsive behaviour of the young girls to cover up their bodies while sleeping so that none of their body parts were exposed to attract male attention. Women also attempted to keep themselves awake and on guard through singing devotional songs (Ray, 2006).

In this regard, when the block administration and the *Sarpanch* were interviewed, the Chairman of Balikuda block told me:

In the recent flood [referring to 2003] the block administration is satisfied by its work. [...] the relief operation ran well, vulnerable pockets were identified; free kitchen(s) were provided, drinking water was supplied, tube wells were implanted [...]. Boats were deployed and a special boat was allocated for women in Tarasahi for their sanitation purpose. [...] (Field diary, block Chairman, February 2004, Bhubaneswar).

Likewise the village *Sarpanch* gave similar types of response:

Oh yes! We deployed special boat for women's needs [...] (Field diary, November 2003, Tarasahi).

The extracts suggest that the main aim of the local and the block administration was in meeting the gender-neutral needs of the evacuees rather than the gender-specific needs of women. Dividing the tent into two halves for men and women or providing a toilet facility for women received lesser attention. The narratives also bring to light the differing perceptions between government officials and women experiencing the effects of the disasters even when they managed to access the emergency shelter provided (Ray, 2006).

Nevertheless, as mentioned by the *Sarpanch* and the block Chairman, a special *donga* (boat) was deployed for women's needs during the floods. According to the respondents this targeted boat service collected women and girls from their homes and from the emergency shelter for their sanitation needs and bathing twice a day – before sunrise and at sunset. But women found living inside the shelter extremely difficult without any facilities to cater to their sanitary needs during the nights. This is what Latika, Jhumpa, and her brother-in-law's 19-year-old daughter, Parboti have to say in one of our conversations:

It was a very difficult time for everyone. There was water everywhere. When you get the nature's call can you stop it [...], at that time can you feel shy about it? We just did it! At times only a yard distance from another man (December 2003, Tarasahi).

The extract suggests how women negotiate and renegotiate with the boundaries of shame and honour attached to gender norms, when exposed in the emergency shelter. In situations of crisis these three women and others adopted certain norms which were usually unacceptable in their everyday lives, for instance urinating or defecating in public. But according to them it was the severity and the collective difficulty posed by the disasters that forced them to overcome strict social and cultural boundaries to meet their biological needs.

Earlier it was noted that the middle-caste women survived the super-cyclone collectively with their kin and neighbours in order to reduce their physical and social vulnerability. In this instance they once again emphasized that it was the collective difficulties of their *sahi-bhai* and *bahuni* (village brothers and sisters), caused by the multiple disasters, that helped them preserve their honour in displacement and even go unnoticed when adopting certain normally unacceptable behaviours while living in the intermediate sphere.

Therefore, in the instances of surviving the multiple disasters and accessing the emergency

shelter, the middle-caste women highlighted not only their physical and social vulnerability in comparison to the upper-caste women but also the complex interplay of caste and gender, public and private, honour and shame boundaries that appear fixed in women's lives yet are in fact both mutable and non-mutable. In so doing the middle-caste respondents acted as conscious actors in constantly negotiating and renegotiating their caste and gender norms and boundaries in multiple disasters to suit their biological and social needs, but within the purview of their social organization.

### 7. Coping with purity, impurity and concrete houses: accounts of low-caste women

*Bhoi* (Harijan) and *Shetty/Dhoba* (washerman) are the low castes of Tarasahi. The houses of the four low-caste women were in between those of the middle and high castes. Due to their social and economic vulnerability, this group of women were the hardest hit. Proshilla Bhoi (41), a low-caste woman, is quoted in this instance. Her husband died prior to the floods of 2001. According to her:

On the day of the super-cyclone my husband was with us. The wind was so strong that we could not go anywhere. My coconut trees broke and fell on the roof. [...] We ran to Beherasahi in order to take shelter in the concrete house. But the *Behera-gharo* (house-owner) told us '*tumee Bhoi chuee nee, chuee ne, tumee jao*' (you are a *Bhoi*, do not touch us, and go away from here). We then survived by embracing a tree all together. [...] later we all five of us took shelter in the corner of the primary school and survived. During the floods we were not displaced luckily because my concrete house was completed by then [...] (September 2003, Tarasahi).

This account illustrates how caste can enact in the most inhumane fashion at times of disaster. In the absence of any concrete house in Bhoisahi, Proshilla and her family decided to take shelter

in the concrete house of Beherasahi. This concrete house was owned by a middle-caste wealthy man, socially higher caste than the *Bhoi*. The house-owner denied them access to his house on the grounds of maintaining purity and cleanliness of his caste, forcing the family to survive by holding on to the tree. In this instance the purity and the impurity attributes of the caste further entrenched the social vulnerability of this low-caste family rather than transforming it.

However, Chumki Bhoi and Tanika Shetty, the other two low-caste respondents, revealed the fluidity of caste practices during the same crisis. Unlike Proshilla, Chumki was not turned out by the same house-owner, rather she managed to seek some space on the veranda of that house. On the other hand Tanika was given access to the same concrete house although they were also the first to be evacuated by the house-owner. Tanika came from a *Shetty/Dhoba* community, socially slightly higher than the *Harijan* caste. According to Tanika:

We took shelter in the concrete house [...]. We sat amidst many people. [...] On the third day the house-owner fought with us and asked us to leave his house. [...] I could barely walk because my legs and limbs were stiff and painful for sitting in one posture. We somehow managed to walk to the primary school and take shelter in the veranda. The school was full of people [...] (December 2003, Tarasahi).

However, during the floods of 2001 and 2003, the low-caste respondents were less vulnerable physically because the IAY concrete houses protected them: their poverty and caste made them eligible for the IAY concrete housing scheme. The only exception was Tanika, who did not accept the grant, thinking she might not be able to complete the house due to her penury and lack of social support.

Therefore, like the middle-caste women, the low-caste respondents explicated the complex interplay of caste and class in addition to purity and impurity boundaries during the super-

cyclone of 1999. Proshilla was the one who experienced the backlash of caste most intensely when she was denied access to the house by a middle-caste/middle-class house-owner on the ground of maintaining the purity of his caste. However, this explanation remains inconclusive in the case of the other two respondents who were given access to the same house. In this instance the 'dual culture' (Karanth, 1996) of the house owner and the element of 'agency' (Chatterjee and Sharma, 1994) come into play.

Earlier, caste was discussed as something which people 'do' rather than something which they 'are' (Chatterjee and Sharma, 1994). Elsewhere, Shukra (1994), himself a low-caste 'untouchable' by birth, explicated this through his moving personal narrative. In one instance the author was denied drinking water from the water-pot of an upper-caste during the harvest season. However, a few years later the same family sought his help to tutor one of their sons with his studies. On that occasion he was fed like an honoured guest (Shukra, 1994). In this context caste is experienced not so much as something which you 'do', rather something which is 'done to you' by other high-caste people (Chatterjee and Sharma, 1994, p. 9). And the rules of untouchability are also not static but flexible and depend on contexts such as 'who was applying it in what situation' (Shukra, 1994, p. 171). It was due to this (let alone Proshilla's incident) that Chumki and Tanika, the two low-caste respondents (former untouchables), were allowed access to the concrete house. These same respondents (Tanika, Proshilla and Lolita) also reported similar incidents, such as sitting next to each other in the primary school during the super-cyclone and their children and kin dining in the 'community kitchen' with different castes and classes during the floods (see Ray, 2006).

## 8. Conclusions

The survival experiences of the 12 respondents in the multiple disasters reported here therefore suggest a complex interplay of caste, class and

gender mediated by the circumstances that emerged during multiple disasters. For the upper-caste women their privileged kinship and neighbourhood, ownership of concrete houses and their residence on the elevated part of the village land helped them to cope with multiple disasters more effectively. Without these assets the middle-caste women (except one) were displaced and forced to access the emergency shelter with their kin and neighbours. In accessing the emergency shelter the respondents negotiated their caste and gender boundaries in order to suit their cultural and biological needs but within the purview of the social network. In the case of the low-caste women, they were the hardest hit during the super-cyclone due to lack of robust houses and social network. However, in the later disasters they were less physically vulnerable because their caste and class position came as an advantage by making them the primary beneficiary of the government's IAY concrete housing scheme, which was not possible for the middle-caste group. However, it is not claimed that concrete housing reduces social vulnerability (see Ray, 2006).

Albeit through the instance of surviving the multiple disasters, an attempt is made here also to explore the mutability of caste, class and gender, but this subject deserves further scrutiny. More sociological and anthropological research is required to understand the mutability of structural mores in women's everyday lives and then compare these findings with how they are enacted during and after multiple or environmental disasters. Also we need to explore how and in what forms women act as guardians in protecting social structures when they are exposed in intermediate spaces during environmental disasters, and compare this behaviour with that of those who stayed at home despite higher risks. Furthermore it will be useful to explore women's agentive capabilities when they thrust change to caste, class and gender, or perpetuate them in order to mitigate the impact of environmental disasters on their lives and livelihood assets.

In this respect the United Nation's International Decade for Natural Disaster Reduction

(IDNDR) (1990–2000), the Yokohama Strategy (1994), the 46th United Nations Commission for the Status of Women (2002) and the Hyogo Declaration (2005) have all recognized the importance of gender issues in disaster risk reduction, but the gap between government responses to the gendered experience of disasters and everyday gender vulnerability persists (Ariyanbandu and Wickramasinghe, 2003; Benson et al., 2001; Enarson, 2001). The case study from Tarasahi illustrates this, particularly through the instance of the emergency shelter which lacked sanitation needs and a separate space for women. Policymakers and practitioners have to be bolstered with the theoretical understanding that caste, class and gender (in south Asia) do not operate on their own; they intersect to intensify women's vulnerabilities before, during and after multiple disasters. This requires that disaster studies go beyond gender analysis and understand the impact of multiple disasters in intersection with social caste, class and other diversities underpinned by empirical reality. Unless this is understood, multiple disasters will continue to be destructive agents in exacerbating social vulnerability. Currently the Orissa Relief Code, the only relevant state policy document, is defunct with regard to the issues raised in this paper, although a Central Disaster Management Act 2005 has come into place in 2007. The revision of the Code is of paramount importance.

Lastly, it was observed that women-headed households are not a homogenous category. Policymakers and practitioners ought to be aware of the multiplicity of their needs and design suitable disaster and developmental policies. This may include micro-credit programmes, micro-insurance, robust housing schemes, support for diversification, and training and effective disaster preparedness throughout the year (Moser, 1987; Pantoja, 2002; UN-WCDR, 2005; Ray-Bennett, forthcoming). Currently, women-headed households are an increasing phenomenon worldwide and they are often the poorest of the poor. Arresting their marginalization deserves the primary concern of policymakers and practitioners because climate change and global warming will

alter both the magnitude and scale of disaster risks, and rural livelihoods (not least in coastal zones) will be the first to bear the brunt of the effects. Understanding people's responses and offering support is the only way forward to mitigate the impact of increasing multiple disasters in the developing nations and beyond.

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### Notes

1. Non-natural hazards can also contribute to the making of multiple disasters. I would like to thank one of the referees for pointing this out. Since the original piece of research (Ray, 2006) was hazard specific, the inclusion of non-natural hazards is not covered here.
2. Johnson introduced this term as the precursor to the attempt to gain *entrée* to a setting (for example, the selection of a setting; and how to collect information, etc.). Preparation is important because gaining and managing a successful *entrée* to field research will decide its preconditions, and negotiation may have important consequences for how the research is viewed, socially, by members of the locality (Johnson, 1975).
3. The OSDMA was inaugurated on 28 December 1999, and tasked with dealing exclusively with disaster mitigation measures in the state. The OSDMA's brief is oriented towards coordination with local and international NGOs and multinational organizations during disasters, as well as towards the implementation of disaster preparedness programmes and structural mitigation measures in the post-super cyclone era (Government of Orissa, 2002, p. 41; Samal, 2003).

4. Indian states comprise a three-tier administrative structure. Several *gram sansad* (villages) or wards (hamlets) constitute a *gram panchayat* (GP), several GPs constitute a *panchayat samiti* (PS) or block, and several PSs constitute a *zilla parishad* or a district (interview with an OSDMA official, Bhubaneswar, September 2003).
5. The purpose of selecting women-headed households was due to the author's experience of rehabilitating widows after the super-cyclone in 1999 as a relief worker on behalf of the state government, in the district of Jagatsinghpur.
6. About 60 per cent of the Scheduled Caste (SC) population lies in the monthly per capita expenditure (MPCE) classes of less than Rs 380.00 (£5.00), compared to 40 per cent for all groups and less than 30 per cent for Others. Looking at the nature of decision making, it is only on 'what to cook' that the SC (86.2 per cent) and ST (87.6 per cent) women report higher percentages than OBC (84.4 per cent) and Others (84.7 per cent) and for 'own health care' the proportion of women involved in this area of decision making seems to increase in the higher castes; 49 per cent for low-caste and 53 per cent for upper-caste women. Likewise the prevalence of domestic violence decreases substantially as the standard of living increases (Deshpande, 2002).
7. Gupta noted that throughout history there have been caste revolts and caste mobility. Illustrations include the emergence of Rajput and Gujara-Pratihara kingdoms in medieval India, and the rise of the Jats from the 13th Century onwards, to the assertion of Izhavas and later of Mahars in the modern India (for details see Gupta, 2000).
8. The term creamy layer refers 'to the few comparatively well-off families who are generally said to be found among all but the lowliest Scheduled "communities", usually as a result of a previous generation's educational and economic advances. Typical examples here would be the families of both Phule and Ambedkar, whose immediate forebears were notably better off than other low-caste Maharastrians, or the near-untouchable [...] "uplifted" through involvement with evangelical missionaries, or success in commodity production. Such comparatively prosperous people and their descendants have tended to be the main beneficiaries of the Republic's post-Independence welfare provisions' (Bayly, 2001, p. 277).
9. The *bali* (sand mound) is a deposition of sand by the rivers and the sea over a period of time. The people of Tarasahi are advantaged by three such natural barricades, which protect the village from severe inundation (Ray, 2006).
10. The Indira Awas Yojana (IAY) is a centrally sponsored self-help concrete housing scheme which since 1995–1996 targets widows below the poverty line as the primary beneficiary group (IAY Guidelines, Government of India).
11. According to the Orissa Relief Code (Government of Orissa, 1996) (the only disaster policy document until 2007) the District Collector can make arrangement for 'emergency shelter' prior to and during floods and cyclones in the coastal zone (Section 60, 90). The emergency shelter can be buildings belonging to government (*gram panchayat*, educational institutes, etc.), or other institutions of a public nature (community buildings, temples and storm shelters), or in places where there are no such appropriate buildings available, temporary structures with bamboos and tarpaulins should be raised on high mounds or embankments (Government of Orissa, 1996).
12. Fear of snakes and snake-bite is severe in the village. There was one death occasioned by snake bite in the floods of 2001 (Ray, 2006).
13. I would like to thank one of the referees for pointing to this reference.

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