



## Exploring Gender Vulnerability to Natural Disaster: A Study of Cyclone Fani in Odisha

**PRADEEP KUMAR PARIDA**

*Professor, Department of Sociology, Pondicherry University, Puducherry-605014. India*

**Received :** 11 August 2023 • **Revised :** 13 September 2023;

**Accepted :** 20 September 2023 • **Published :** 30 December 2023

**Abstract:** Odisha is indistinguishable with diverse natural disasters as every year the state faces several natural disasters affecting people directly and indirectly. Like other states of India, poor and vulnerable women – single, elderly, physically challenged women etc. are extremely impacted by natural disasters in Odisha. This paper seeks to investigate the situation of women before, during and aftermath of cyclone Fani as well as their distinct susceptibilities and surviving methods. Both secondary and primary data are employed to establish women's overall condition. Findings revealed the social construction of gendered susceptibility that was linked and formed by many supplementary variables. The paper recommends initiating a long term planning by involving gender issues in disaster risk reduction.

### Introduction

---

Over the years the study of vulnerability has been a focal point in disaster scholarship. A burgeoning literature suggested that natural disasters are gender-biased impacting woman more than men (Bradshaw, 2013; Enarson and Morrow, 1998). This is not to say that men are not impacted at all or all females face risk under disaster situation. However, it is found that voluminous females are made vulnerable due to their inborn susceptibility, including access to resources and emergency communication. They have limited decision-making power in disaster mitigation and preparedness programs that made them excluded from disaster recovery and reconstruction operations and planning at different level (Parida, 2015a, 2015b).

### Cyclone Fani in Odisha: An unprecedented disaster

---

Cyclone fani is considered as one of the exceptional summer cyclones that hit the Odisha coast adjacent to Puri on 3 May 2019 between 0800 and 1000 hours Indian

---

#### TO CITE THIS ARTICLE

Parida, P.K. (2023). Exploring Gender Vulnerability to Natural Disaster: A Study of Cyclone Fani in Odisha, *Anthropo-Indialogs*, 3: 2, pp. 113-123. DOI:10.47509/AI.2023.v03i02.02

standard time. According to the Indian Meteorological Department (IMD), the storm wreaked havoc in Puri and Khurda districts and made widespread destruction to life and property with a maximum speed of wind ranged between 175–180 kilometers per hour (kmph) besides gusting of 205 kmph. It may be noted that Odisha has previously made a worldwide yardstick in managing disasters by strengthening individual and institutional measurements and building resilient measures. As a larger disaster management plan of maintaining zero casualty, the state initiated one of the greatest individual evacuations with a highest 1.5 million individuals being moved in just 24 hours. The indomitable courage displayed by the people of Odisha attracted overwhelming praise and attention at both the national and international levels. However, being a disaster prone state, the issue of vulnerability in general and gender vulnerability in particular is less understood and discussed including the knowledge of theoretical and practical magnitudes of disasters.

### **Rationale of the Study**

---

Odisha is considered as one of the most disaster-prone states of India. Diverse natural disasters including droughts, floods and cyclonic storm cause significant damages to the people. It is acknowledged that natural disasters are increasing with great intense, resulting in substantial human and economic losses. Odisha has a longer coastal belt and cyclones hit the coastal belt exposing people and landscape significantly (Parida, 2009). Since the 1999 super cyclone disaster, the state has witnessed many more cyclonic disasters that have led to destruction of public life and property. As natural disasters are occurring more regularly than ever, the question of vulnerability and its interpretation has taken central place in disaster scholarship. Although disaster affects everyone, the impact is felt more by certain sections of the society. It is understood that susceptibility of women in Odisha is higher due to several interrelated factors, including, social norms, poverty, people's attitudes and women's marginal position in the society (Parida, 2002; 2004). It is apparent that catastrophes escalate women's household liability and destabilize well-being owing to greater reliance on financial accomplishments connected to the home.

Scholars have already acknowledged gender as an important theme in disaster risk reduction (Enarson, 1998) as it's assessment not only defines women's everyday requirements before, during and after disasters, but finds the accountabilities of men and women and the associations between them (Enarson, 2000a; 2000b). It is acknowledged that like many other states of India, women in Odisha engaged in domestic related work as well as farming deeds to live their everyday life (Parida, 2009;

2010). However, periodic disasters and marginal conditions augmented their problem and hardship consistently.

## **Vulnerability**

---

As discussed earlier, understanding the issue of vulnerability makes disaster scholarship holistic as it explains diverse power relations and emphasizes prospects to fix inequalities. Research shows that although disasters are a complex synthesis of natural hazards and vulnerability, susceptibility basically occurs due to several factors, including physical, social, economic, political and cultural features of individuals, communities and nations (Bradshaw, 2013; McEntire, 2005; 2012). The meaning of vulnerability by Wisner et al (2004) is worthy to discuss here which claim, “by vulnerability we mean the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” (Wisner et al., 2004: 11). It is meaningful to note that during the 1970s and 1980s “vulnerability model” arose as an alternate framework to “hazard model”. Scholars and policy makers recognized the role of social, economic and political influences in making a disaster. Since social structures produced inequalities such as gender, class, caste, age, health, disability, the context of marginality decides who is susceptible and how a hazard develops into a disaster (Blaikei et al., 1994; Hewitt, 1997). Although disaster agents in the form of hazards are natural, disasters happen when hazards combine with the societal dimension of marginality and vulnerable people (Morrow and Phillips, 1999). It is within these overlapping dimensions, vulnerability unfolds.

To elucidate (Wisner et al., 2004), one can see that elements that form susceptibility are intrinsic in “root causes, dynamic pressures and unsafe conditions”. All these factors “influence how hazards affect people in varying ways and with differing intensities” (Wisner et al., 2004: 7). Thus, the notion of vulnerability has to be understood from a “relative and dynamic way” as socio-economic settings change over time and so does susceptibility change in every disaster context.

## **Gender in Disaster**

---

Although sex and gender are closely connected yet one finds a lot of differences between them. Generally, the ‘sex of a person’ denotes the biological variations between men and women, where as gender signifies dynamic social processes that are profoundly entrenched within society and are guided by “socially constructed gender roles, identity, gender norms, learned behavior and attributes considered appropriate for

men and women” (WHO, 2015). A plethora of studies showed how gender shaped the relationships between women, men and others (Fothergill, 1996; Ikeda, 995). It is also acknowledged that natural disasters and gender are socially constructed because of diverse socio-economic, political and cultural conditions that differ “within and between societies across the Globe and have complex consequences for women, men and others” (Fothergill, 1996). Thus, this paper examines the condition of women and how their sufferings got intensified during and the aftermath of cyclone Fani. The following section explains the objective of the study.

### **Objective of the Study**

---

This paper examines the gender vulnerability to natural disasters with special reference to cyclone Fani in Odisha. The objectives of the study are:

- to inspect the pre, during and post-disaster impact of cyclone Fani on women
- to evaluate the practices and gender related influences of women during various stages of cyclone disaster
- to recommend essential policy that can be acquired before, during and after a disaster as well as to mitigate gender-differentiated impacts of disasters.

### **Research Methodology**

---

This study employed both secondary and primary sources of evidences. Data were collected from various secondary sources, including articles, books journal, archival records and Internet websites etc. Primary data was collected from two disaster-prone districts of Odisha, including Puri and Khorda as the storm significantly impacted both the districts. A total number of 105 household samples and 8 case studies were selected for this study. The process of data collection was done from May 2022 to September 2022 through face-to-face interview.

### **Findings**

---

Data showed that the impact of cyclone Fani was owing to the combined effects of its intensity and people’s vulnerabilities. People’s exposure to risk was because of their physical exposure, socioeconomic vulnerability, and limited capacity to reduce disaster risk. It is found that women’s abilities to lessen susceptibilities and threats arose out of a complex mix of factors such as poverty, social class, age group, ethnicity and gender relations.

Data indicated that the devastating impact of Fani occurred with an uneven distribution of risk, marginality and vulnerability. Although disaster doesn't discriminate between man and women, the distribution of risk in the case of cyclone Fani tilted mostly towards the womenfolk. In Odisha, the gender relation between men and women are acquired from different roles and responsibilities. Such disparities are mostly unfavorable to women, leading to gender inequality. It is found that women's critical socio-economic condition and lack of access to resources inevitably increased their pre-disaster and post-disaster vulnerability and risk (Parida, 2010; 14). In the following section, women's distinct gender roles and resilience as well as uneven distribution of risk are discussed.

### **Pre-disaster (before the Cyclone Fani)**

---

Women and girls played dynamic roles before, during and after cyclone Fani. Data showed that they had knowledge about household and surroundings that led to assess preparedness. Most of them preserved matchbox, fuels, dry food like puffed rice and flattened rice, and medicine at home and arranged movable mud stoves for future use. They stored firewood, seeds, blankets, and valuables in dry places for later use as well as fodder for household domestic animals. In the previous disasters, they were the first to offer nursing care for the injured whether it was a flood or cyclone, before any official relief work started. In some areas, they took care of poultry and other small assets knowing that the impact of Fani may be serious. Respondents in the focused group discussion (FGD) narrated how they sold valuables and borrowed umbrella, cooking rice and sanitary materials from neighbors for survival.

### **Traditional gender roles and early resilience**

---

As discussed, women's pre disaster vulnerability was because of their customary gender roles, limited participation in disaster policy and planning and inadequate access to resources. All the respondents indicated that their position in the community decision-making remained "invisible", whereas men took part in several disaster management training and programme because of their noticeable importance in the society. Like other part of India, men became the family's breadwinner in all the studied areas, while women mainly performed the reproductive role. Several women respondents narrated how they were confined to the domestic space, including looking after children, cooking and cleaning, that made them extremely difficult to understand the impact and consequences of hazardous disaster.

I found women's community management role was restricted by the mechanism of exclusion and patriarchy that dominated in their day-to-day living standard and excluded them from the decision-making process, including disaster mitigation planning and policies. All the respondents explained the significance of their presence in local disaster planning and policies. It is also found that women of all ages were more calorie-deficient than men. Poor health and calorie deficiency made them vulnerable, especially during the peak hours of the cyclone. These conditions convoluted women's adoptive capabilities and capacities to cope with cyclones and other adverse effects.

### **Women's inability to secure themselves**

---

Findings revealed that females' movement was constrained because of their prior responsibilities to their children and other members, including elderly and disabled persons. Socially constructed roles and responsibilities made them susceptible to various disasters including cyclone Fani. Moreover, most of them could not persuade the male members regarding the severe impact of cyclone Fani, as a result faced heightened mental trauma. Thus existing gender inequality in all sectors of society increased their exposure to the cyclone risk, weakening the entire society to face the impact of disaster. It is worthwhile to mention that highly vulnerable women have specific need and requirements during various cycles of disaster. However, although the Government of Odisha took the largest evacuation task before the landfall of cyclone Fani, it failed to recognize the issue of gender vulnerability.

### **Lack of education**

---

Findings revealed that illiteracy and low education downgraded women's capacity to get complete information on disaster risk reduction (DRR), including early warning, evacuation, relief, recovery and reconstruction. Moreover, people who participated in emergency relief, resettlement, and reconstruction efforts following any natural disasters required noteworthy expertise and training that could significantly advantage communities. In fact, socio-economic and cultural roles, norms and values restricted women and girls to go for higher studies as a result they knew less about the impact of the impending disasters.

### **The immediate emergency: A gendered evacuation**

---

Respondents from their past experiences revealed that evacuation due to disasters has always been gendered. The issue of privacy and security is often ignored and

compromised in earlier disasters. Similarly, the entire evacuation process of cyclone Fani conceded the basic human needs, exposing women and girls to violence and sexual abuse. Although lakhs of people were evacuated from the coastal affected areas to various safer places, the post-disaster and during the disaster phases presented a host of challenges for women and girls, especially due to limited access to cyclone shelters. Respondents narrated that they were impacted considerably during the cyclone because the cyclone shelters provided to them got lack of privacy. They said that families started to go to the cyclone shelters on the evening of 2 May 2019, thinking that they could avoid the fury of the disaster. However, finally they had to leave with plenty of physical and mental health discomfort. One newly married woman confessed to experiencing ongoing trauma because of being assaulted by few male evacuees.

There are some cases, where women unknowingly evacuated without their husband's knowledge and found being sexually battered getting social embarrassment and mistreatment for not obeying their male partners. This shows the intolerance from the male members. There were lack of independent toilet services and inadequate space for household stock. Respondents also confronted unfair relief supply and shortage of medicines, food and drinking water. One respondent narrated how she was instructed by her father in law to save her mother in law, even at the cost of her own life. Thus, it may be said that the coping strategies and evacuation process are gendered as men took the responsibility of rescuer and distributed relief operations, whereas women engaged in household related activities and became the victims.

### **Post-disaster activities**

---

Respondents revealed that in the aftermath of cyclone Fani, they were much more vulnerable to trafficking, rape and violence. In some cases, there were reports of women and children being preyed upon by traffickers. Given the limited socio-economic resources available to them, women found it more difficult to rebuild their lives. It was quite evident that they had lack of livelihood avenues, lack of access to loans and no idea about relief and rehabilitation available to them. In the case of the elderly women, all these factors are amplified. Since women are at best subjected to unplanned trials, they are not involved in relief efforts and hence left out of all decision-making. Respondents said that the psychological and mental trauma they faced while witnessing the devastation was immense that was rarely addressed by the government and NGOs. They pointed out:

Although natural disaster is very frequent in our areas, the disaster management policy does not take into account diverse practical ways to help women to overcome

disaster related issues. It is important to involve women in disaster risk reduction policies. We need socio-economic and psychological support after any emergency situation. One must understand that how difficult it is to rebuild lives in an unfamiliar surroundings

The issue of women's leadership played a vital role in the aftermath of the cyclone. It is found that women's resilience got strengthened due to the presence of women officer and volunteers. Respondents narrated that women volunteers and higher officers from government and NGOs contributed significantly to reduce their multiple post disaster recovery and reconstruction issues. They suggested that women irrespective of class and caste needed to be empowered socially, politically and economically to bring structural transformations.

Participants demonstrated how patriarchal relations and patterns of aggression got enacted during various cycles of cyclone Fani. Therefore, understanding the issue of vulnerability and women's resilience is the need of the hour. Findings corroborate that women's engagements at grass root level could produce significant transformations to the societies' overall development. Hence the emergence of key women leaders is decisive to lessen their vulnerability to disaster.

### **Gender stereotypes**

---

Existing gender inequalities in all the studied areas had amplified women's exposure to cyclone, diminishing the resilience of communities as a whole. As discussed elsewhere, the pre-existing structural inequalities made women and girls to suffer a disproportionate impact of the storm. To be specific, access to resources and opportunities, control over assets and decision-making power have been gendered because of historically and culturally progressed designs of patriarchic constructions of male supremacy that led a social construction of gender. Findings showed that lack of literacy among girls and women and uneven representation in decision-making processes augmented their susceptibility to disaster. The local institutions like the office of *Sarapanch* and Word Member failed to address gender related needs and capacities. The massive storm that led to heavy rainfall and wide devastation was thus, only a trigger. Women's real causes of vulnerabilities were structural and not at all natural.

### **Social Role, Attitudes and Patriarchy**

---

The negligence of women with regard to taking food and nutrition is well established in developing countries (Parida 2015a). Women, particularly mothers, eat less during



shortages of food and emergency situation. In rural Odisha it is often found that patriarchy and attitudes of family members persuaded women to eat after men, although things have slightly changed recently. This practice has made women calorie deficit as they consume fewer calories than their requirement. Further, lack of social mobility also kept them susceptible, as they got limited opportunities to locate a livelihood.

### **Women's Effective role-playing in Disaster Mitigation**

---

In spite of several difficulties and constraints, I found women's active role-playing during different phases of cyclone Fani i.e., before, after and during the incident. Initially, few women with previous disaster knowledge called like-minded women members from different strata and assessed the possible impacts of the storm. From their past experiences, several steps were initiated to withstand the havoc. In the second stage, they provided training and explained the severity of such cyclones to their family and neighborhood. During the recovery, they participated in relief work, which was provided by the government and non-governmental organizations. Similarly, several women provided medicines and immediate nursing to the victims in spite of threats to their own health issues. They were also very effective and energetic in cooking food and supplying among the victims. Even during reconstruction phase, they contributed significantly without formally being included in the post-disaster reconstruction process.

### **Discussion and Conclusion**

---

The preceding discussion revealed how women were the worst victims of disasters because of several interrelated complex factors. Women are more vulnerable to disasters than men because of the intersectional nature of the gendered exposure and inequalities. Their socially constructed roles interacted with diverse factors, including high rates of poverty, low human rights, political and economic status, and exposure to violence made women more vulnerable before, during and after cyclone Fani. Evidence from cyclone Fani in Odisha supports several earlier research that the issue of gender vulnerability cannot be discussed to a single cause but is embedded in complex social constructions and shaped by many additional variables that vary between societies, locations and even within neighborhoods.

Therefore, improved livelihood, access to land, information and education, self dependence, increased participation in decision making and access to support services like domestic violence center, health clinics must be ensured to counter the consequences

of natural disasters. Since the frequency and impact of natural disasters is increasing, we must oblige to construct a comprehensive mechanism of disaster mitigation and prevention (Parida, 2008). Hence the paper in this regard recommends a gender lens in vital disaster risk reduction policy.

### Acknowledgement

---

I thank ICSSR for the award of Major Research Project - F. No. 02/183/2021-22/ICSSR/MJ/RP, dated 12.04.2022. This paper is largely an outcome of this Research Project sponsored by the ICSSR. However, the accountability for the facts stated, opinions articulated and conclusions drawn is entirely mine.

### References

---

- Blaikie, P., Cannon, T., Davis, I. and Wisner, B. (1994), *At Risk: Natural hazards, people's vulnerability, and disasters*, London: Routledge.
- Bradshaw, S. (2013), *Gender, Development and Disasters*, Cheltenham: Edward Elgar.
- Enarson, E. and Morrow, B.H. (Eds.) (1998), *The Gendered Terrain of Disaster: Through Women's Eyes*, Westport: Praeger.
- Enarson, E. (2000a), *Gender and Natural Disasters*, Working paper No. 1, InFocus Programme on Crisis Response and Reconstruction, Geneva: ILO.
- Enarson, E. (2000b), *Gender Issues in Natural Disasters: Talking Points and Research Needs*, Workshop, May 3-5, InFocus Programme on Crisis Response and Reconstruction, Geneva: ILO.
- Fothergill, A. (1996), 'Gender, Risk and Disaster', *International Journal of Mass Emergencies and Disasters*, Vol. 14 No. 1, pp. 33-56.
- Hewitt, K. (1997), *Regions of Risk: A Geographical Introduction to Disasters*, Abingdon: Routledge.
- Ikeda, K. (1995), 'Gender Differences in Human Loss and Vulnerability in Natural Disasters: A Case Study from Bangladesh', *Indian Journal of Gender Studies*, Vol. 2 No. 2, pp. 171-193.
- Jaiswal, A. (2014). An anthropological vision on the impact of globalization on Indian rural women: A critical reality. *Arts and Social Sciences Journal*, 5(2), 1-9.
- Jaiswal, A. (2012). The changing occupational structure and economic profile of textile industry of Banaras, Uttar Pradesh. *Journal of Social Sciences*, 30(1), 89-98.
- Jaiswal, A. (2012). *Anthropo-Medical profile of Textile workers*. Alfa Publications.

- McEntire, D. (2005), 'Why vulnerability matters', *Disaster Prevention and Management: An International Journal*, Vol. 14 No. 2, pp. 206–222.
- McEntire, D. (2012), 'Understanding and reducing vulnerability: from the approach of liabilities and capabilities', *Disaster Prevention and Management: An International Journal*, Vol. 21 No. 2, pp. 206–225.
- Morrow, B.H. and Phillips, B. (1999), 'What's Gender "Got to Do With It"?', *International Journal of Mass Emergencies and Disasters*, Vol. 17 No. 1, pp. 5– 11.
- Parida, P. K (2002), "Towards Rebuilding a Post-Disaster Society: A Case Study of Super-Cyclone Affected Coastal Orissa", *The Indian Journal Of Social Work*, VOL. 63, Issue 2, April, pp. 243-262.
- Parida, P. K (2004), "Towards a Sociological Understanding of Flood Disaster in Orissa: A Case Study in Niali Block of Cuttack District", *Man and Development*, VOL. XXVI, No. 3, September, pp. 141-154.
- Parida, P.K. (2008) "Super Cyclone Affected Coastal Orissa: A Social Vulnerability Approach", *Review of Development and Change*, Vol. XIII, No. 2, pp. 159 – 180.
- Parida, P.K. (2009) "Vulnerability of Disaster Victims: A Study from Coastal Orissa", *Eastern Anthropology*, Vol. 62, No. 2, pp. 209-224.
- Parida, P.K. (2010) "Understanding Evacuation Behaviour in a Disaster Society: The Case of Coastal Orissa", *Sociological Bulletin*, Vol. 59, No. 2, pp. 179 -198.
- Parida, P.K. (2014) 'We are Living with Daily Disasters': A Study of Mental Health Consequences of Cyclone 'Thane', *Sociological Bulletin*, Vol. 63, No. 1, pp. 77-94.
- Parida, P.K. (2015a) "The Social Construction of Gendered Vulnerability to Tsunami Disaster: The Case of Coastal Sri Lanka", *Journal of Social and Economic Development*, Vol. 17, No. 2, pp. 200-222.
- Parida, P.K. (2015b) "Natural Disaster and Women's Mental Health", *Social Change*, Vol. 45, No. 2, pp. 256-275.
- Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004), *At risk: Natural hazards, people's vulnerability and disasters*, 2nd ed., London: Routledge.
- WHO - World Health Organization (2015), Gender, [Online] available at: [www.who.int/topics/gender/en/](http://www.who.int/topics/gender/en/) (accessed 18 July 2016).