



A Case Study on the Impact of Natural Disaster on ‘Women’

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This study aims to provide a specific overview of the problems experienced by women in disasters. The special needs of women have to be taken care in a country like India where the population is very high. In India women are the highest victims of all the past disasters and are still prone to become victims during disasters. This study addresses how to mitigate and prepare women effectively on existing experience and mechanisms by mobilizing women toward greater preparation in facing disasters. The role of social work intervention in creating awareness to the women in facing the challenges is also discussed.

Keywords: Disaster, Mitigation, Prevention, Psycho social considerations, Resource mobilization.

1. Introduction

India is one of the most disaster prone countries of the world. It has had some of the world's most severe droughts, famines, cyclones, earthquakes, chemical disasters, air collisions, rail accidents, and road accidents. India is also one of the most terrorist threat countries. India was, until recently, reactive and only responded to disasters and provided relief from calamity. It was a relief driven disaster management system. India also has world's oldest famine relief codes. In recent times, there has been a paradigm shift and India has become or is becoming more proactive with emphasis on disaster prevention, mitigation and preparedness¹. "The frequency of natural disasters, particularly in Asia Pacific regions, has drastically increased in the recent years"².

Problems of women in the broad context of disasters and emergencies have recently been addressed. Gender usually has not been a conscious criterion to effectively assist the so called "vulnerable groups" in their special needs when an emergency or disaster occurs. "The very concept of crisis has been reformulated and refined into and under a more generic category, collective stress situation"³. Vulnerability of women is a fact, based on the larger number of women and woman-headed households in emergencies and on the responsibilities borne by

women related to the stability of the domestic group, including a disproportionate responsibility for dependent children. "Natural disasters and emergencies often produce single-parent families. Vulnerability can be minimized if adequate measures of assistance and physical infrastructure are created properly"⁴. "There are four core dimensions of disaster: events, impacts, social units and responses"⁵. "It seems desirable to place risk-management decisions in the hands of local officials"⁶. "Before a disaster, most homeowners, private business, and the public sector do not voluntarily adopt cost-effective loss reduction measures"⁷. "Places characterized by greater proportions of disadvantaged populations, housing damage, and, to a lesser degree, more densely built environments were significantly more likely to experience outmigration following the hurricanes"⁸.

1.1. *Significance of the study*

Disaster disrupts the flow of regular assistance threatening women's ability to care for themselves and their children. Women in several Gujarati villages in India reported that the earthquake abruptly terminated their health care. The gendered nature of disaster continues into the reconstruction phase as women and families seek out new ways to make ends meet. Women heading households' natural disasters leave many women in charge of both household duties and supporting their families. In addition to widows who become wholly responsible for their children and elderly family members, wives head their households when their husbands migrate to find employment. Caring for more with less as the primary caretakers in most developing countries, women experience an expansion of their household responsibilities after a disaster. Displaced family members seek refuge with those who have already resettled, and women face the challenge of providing for their growing families while access to resources dwindles. A thorough methodology was developed to assess the opinion of women in disaster preparedness, planning and mitigation. During disasters women are more vulnerable group affected hence there is a need to study the prevention, mitigation and preparedness of women during disaster for the long-term development.

2. Methodology

2.1. *Study Area*

India is a sub-continent, nearly 3,200 kilometers from north to south and 2,800 kilometers from east to west. Its coastline is 6,080 kilometers long and its area is 2.08 million square kilometers. Rural India constitutes of 5,80,781 villages where 76 languages, 1652 dialects are in use and there is diversity in religion, cultures, sub-cultures, traditions, dressing patterns, food habits and social customs. The state of Tamilnadu has 15,822 villages' out of which Nagapattinam district which was

recently affected by Tsunami was purposefully selected for the study. The district comprises of nine towns and 434 villages.

2.2. Sampling

Stage One: Two villages were selected from each panchayat union using simple random technique adopting lottery method. A total number of 18 coastal villages were selected from 9 Panchayat Unions. The villages falling within the limit of Corporation and Municipalities were excluded.

Stage Two: Voter list of the selected village was obtained from each panchayat union office and kept as a population frame. From each village 5 percent from the total families were selected proportionately using simple random sampling technique adopting lottery method. In all, 502 women respondents were selected for the study. However data from two women respondents were incomplete.

2.3. Data Collection

The author used interview schedule as a tool for collecting the data for the present study, which consist of both open and closed-ended questions. The First part of the interview schedule covered the questions pertaining to the personal and socio economic background, family data and occupational data of the respondents. The Second part of the interview schedule consists of questions on the specific issues related to the problems of women in disaster management.

The Third part of the interview schedule consists of questions on prevention, mitigation and preparedness of women during disasters. The researcher collected data from the respondents through face-to-face direct interview. The investigator took three months to complete the data collection. The data were collected from the women in the family.

3. Research Findings

3.1. Profile of the respondents

Table 1 profiles the respondents with respect to religion, mother tongue, type of family, marital status, educational status and type of house. Approximately 72.20% of the respondents belong to the Hindu religion and 82.40% of the respondents' mother tongue is Tamil. 79% of the respondents lived in joint family system. Most of the respondents are married (73.20%). Approximately 34.60% of the respondents studied up to high school level. Only 12.40% of the respondents reached degree level. And 74.6% of the respondents are living in their own house. The socio economic profile shows 29.6% of the women living in the coastal area are illiterates and 3.6% of the respondents are widows. It is clear that still women are living in the shadows of ignorance losing the chances of getting education.

Table 1 Profile of the Respondents.

Items	Percentage(N=500)
<i>Religion</i>	
Hindu	72.20
Christian	18.60
Muslim	09.20
<i>Mother Tongue</i>	
Tamil	82.40
Telugu	11.40
Kannada	06.20
<i>Type of family</i>	
Joint Family	79.00
Nuclear Family	21.00
<i>Marital status</i>	
Married	73.20
Spinsters	23.20
Widows	03.60
<i>Educational Status</i>	
Up to High School	34.60
Higher Secondary School	23.40
Degree	12.40
Illiterate	29.60
<i>Type of House</i>	
Own House	74.60
Rented House	25.40

From Table 2 it is clear that a vast majority of 91% of the respondents are having fear of disaster. Women's experience can contribute to the process of assessing vulnerabilities and capacities; they can also play key roles in the planning and implementation of physical measures to mitigate disasters. "The prevailing conditions in most developing societies have generally impeded local development of institutions to enhance disaster preparedness"⁹. But despite the lack of organizational infrastructure, the first-hand experiences of disaster victims should not be discounted. People who have experienced disaster are often the ones who know best how to mitigate its effects and how to recover. A majority of 99% of the respondents are of the opinion that early warning systems are not available. Consciousness of the problem and solutions are often present. In some circumstances people need outside assistance to gain confidence and consciousness of problems and solutions. What is almost always needed from outside is assistance with access to modest resources. It is evident in the areas of public service provisions such as health, housing, child protection etc, where the "private, public and voluntary organizations are expected to collaborate for the benefit of the community"¹⁰ 88.5 % of the respondents accept that they are at high risk. 77% say that there is no escape routes and evacuation plan, 91.2% are of the opinion that lack of knowledge

Table 2 Psycho-Social Considerations of the Respondents.

Psychosocial considerations	Frequency (N = 500)	
	Yes	No
Fear of disaster	91.0	09.0
Availability of early warning system	01.0	99.0
Women at high risk	88.5	11.5
Absence of escape routes and evacuation plan	77.0	23.0
Lack of knowledge is the cause for becoming victims	91.2	08.5
Absence/low perception of disaster risks	86.0	14.0
Insecure livelihood	96 .0	04.0
Absence of disaster management system	66.5	33.5
Need for improvement of disaster management measures	93.5	06.5
Not aware of the availability of community structure	83.0	17.0

on disaster preparedness is the cause for becoming victims. "The most recognized academic paradigms and policy guides include disaster-resistant communities, disaster-resilient communities, a sustainable development and sustainable hazards mitigation"¹¹. 86% say that absence/low perception of disaster risks, 93.5% are accepting that there is a need for improvement of disaster management measures and 83% of the respondents are not aware of the availability of community structure for the disaster management. "The emergency response capabilities of government and private relief organizations are limited"¹².

4. Pre-Disaster Preparedness Planning

Planning for disaster prevention and mitigation should be based in large measure on the accumulated wisdom of the people in the areas concerned. Particularly in disaster-prone areas they will have much to contribute toward identifying vulnerabilities and resources, designing potential prevention and mitigation measures and planning response strategies. "Three major aims of disaster preparedness are saving life, relieving pain and distress"¹³. Because of the critical social and economic roles they play, women's knowledge and involvement are fundamental., Planning for community evacuation in an area threatened by armed conflict, flooding or industrial disaster are highly essential. In some disaster-prone areas emergency response committees have shown their value in increasing both the speed and effectiveness of emergency response. In many communities' women typically have a strong involvement in new community groups. There they can be used effectively as mobilizes. In a pre-disaster situation, women should be mobilized in their own communities. Women's groups could identify and diminish their risks and vulnerability to a disaster. Elements which can reduce risk are the knowledge of physical, socio cultural, political, and economic environmental features. Through

this knowledge, women are able to systematize a series of preventive measures. Such measures may include workshops, a simulation of evacuation procedures, or an orientation for women in how to build structures resistant to disaster impact. One of the most important issues in preparedness and mitigation is that all women should receive complete non-formal training in the activities that need to be performed in the aftermath of a disaster. Women need to be motivated to efficiently participate in all phases of pre-disaster. Community associations could provide emergency plans, evacuation procedures, shelter locations, food depots, alternate sources of water, and elaboration of risk maps. Women should be in charge of organizing to meet basic needs such as food, basic services supplied to the house, and building safety.

Woman need to be fully aware of first aid, evacuation from the house, hygiene and safety procedures. Where possible, it is very beneficial to communicate in advance the locations where basic articles will be made available to the survivors of a disaster. Women in leadership roles should contact key persons or institutions immediately after disaster occurs. "The decision support system technology to be an integration of computer hardware and software that is designed to complement the cognitive process of human in their decision making"¹⁴.

5. Awareness Generation Among Women

It is clear from Table 3 that a majority of 93% of the women are not aware of the disaster planning and preparedness. Recognizing that awareness on women about vulnerabilities is a sine qua non for inducing a mindset of disaster prevention, mitigation and preparedness, the Government has initiated a nation-wide awareness generation campaign as part of its overall disaster risk management strategy. In order to devise an effective and holistic campaign, a steering committee for mass media campaign has been constituted at the national level with due representation of experts from diverse streams of communication. The Committee has formulated a campaign strategy aimed at changing peoples' perception of natural hazards and has consulted the agencies and experts associated with advertising and media to in still a culture of safety against natural hazards. "Disaster management involves complex issues of decision-making, because most decisions are taken in an uncertain environment"¹⁵. Only 65% are ready to face the challenges and a majority of 95% is ready to extend their support to the local government during disaster. Apart from the use of print and electronic media, it is proposed to utilize places with high public visibility viz. hospitals, schools, railway stations and bus terminals, airports and post offices, commercial complexes and municipality offices etc. to make women aware of their vulnerabilities and promote creation of a safe living environment. "Planners at central government level, most of whom are men, will perhaps consider women's needs and position after a disaster strikes"¹⁶. "Action on disaster risk reduction can support sustainable development under climate

Table 3 Prevention, Mitigation and Preparedness of the Respondents.

Prevention, mitigation and preparedness	Response (N = 500)	
	Yes	No
Disaster planning and preparedness	07.0	93.0
Ready to face the challenges	65.0	35.0
Local government taking steps to mitigate the impact	82.0	18.0
Difficult in organizing the process and identifying/assessing the roles for the community members to help women	76.0	24.0
Access to financial and professional resources for mitigation investment will be a big challenge	83.0	17.0
Ready to extend support to local government	95.0	05.0
Willingness to attend courses to gain awareness	81.0	19.0
Willingness to involve in planning and implement programs	78.0	22.0

change"¹⁷. A novel method being tried is the use of government stationery viz. postal letters, bank stationery, railway tickets, airline boarding cards and tickets etc. for disseminating the message of disaster risk reduction on women. Slogans and messages for this purpose have already been developed and have been communicated to concerned Ministries/agencies for printing and dissemination. The mass media campaign will help build the knowledge, attitude and skills of the people in vulnerability reduction and sustainable disaster risk management measures. "Greater emphasis on human factor may be the key to mainstreaming disaster mitigation and other new or marginal approaches to development"¹⁸.

6. Resources Mobilization and Access

Once relief assistance is provided to meet the basic needs for water, food, sanitation, shelter, health and clothing, women as members of the larger community are often able to construct more sustainable types of shelter using locally produced materials. Access to such materials as poles, thatch from grass, bricks and other forms of support, will determine in part their rate of success in construction projects. Rural women usually participate in hut construction with male members of the family. However, urban women may not participate readily due to assumptions governing male/female labour division in home construction projects with building resources, credit, and some support, women have a better chance of being integrated into the construction of emerging communities after disasters or the upgrading of marginal settlements. Different cultural expectations and local conditions need to be taken into account. Even before becoming displaced by disasters, most women are often sidelined. None the less, disaster reconstruction offers opportunities for new social and political alignments and reorganization of access to resources. In emergency settlements, women allotted small plots of

land have been able to cultivate and produce food crops. In some cases, livestock such as cows, goats and poultry have been supplied within income-generation projects. These have provided sources of meat, eggs and milk for the families. In turn, they have improved nutritional intakes considerably. Women have played a significant role in feeding their families, often weaning themselves from settlement food rations. Increased economic independence of women in emergencies tends to promote their social status and empower women in the community. "Litigation is a critical characteristic of disasters that precludes timely community recovery and promotes chronic social and psychological impacts"¹⁹.

7. Reconstruction After Disaster

Development planning and initiatives need to be grounded in thorough knowledge of local social organization and production systems. "Identifying where and when conditions of hazardousness and vulnerability were present creates the potential for acting before disasters occur to reduce the risk"²⁰. Research information for development initiatives should be available on such issues as family and social organization, gender relations, division of labour, land tenure systems, political organization, legal systems, and religious and cultural beliefs and practices. Ideally, this would involve a comprehensive social work or sociological analysis. Likewise environmental assessments would provide planners and developers with a better understanding of production strengths and limitations. "In order to keep track of hazard-prone sites and to co-ordinate relief and rehabilitation work, it is urgent to evolve structures to effectively manage disasters"²¹. "Every effort should be made to assure local input into assessments and planning. Disaster on children's respiratory health has not been definitively established"²².

Women should be drawn into the process to the fullest. Integration in to the "mainstreaming". Providing vital information on access to women for their livelihood will help them to reduce their dependency. Development planning that is truly in the interest of those it is meant to help will inevitably encounter obstacles. "Recent sharp criticism has been directed at the programmes which subsidies and liberal forgiveness provisions have contributed to the relief cost"²³.

Programmes for the vulnerable, especially women, can challenge community processes and leadership, leading to dramatic failures on occasion. Obviously, full integration of women would be best achieved if the society were convinced that anything less would be a loss. It is critically important to consider the impact of local-level and national level politics on communities, and on women in particular. The empowerment of women for the betterment of their societies can come only with concessions from the established power structure is released.

Most developing countries are thoroughly enmeshed in the global economy. Both governmental and non-governmental organizations have their own agendas. These also need to be understood and assessed critically. Therefore, a perspective

that accommodates local development problems in a global model is more likely to arrive at an accurate assessment of the needs of women in emergencies. Costs are always a factor in development planning and initiatives. A great portion of the cost of development assistance goes to maintain the development planning infrastructure. Efforts taken by relatively voluntary organizations targeted to grass-roots local organizations are most successful.

8. Discussion and Recommendations

The professional social workers could help the women to prepare themselves to face the challenges during disaster and crisis situations. They can apply social work methods such as social casework, social group work, community organization, social action etc. to sensitize the women. "There is a need for implementing health programmes after the disaster which reduces the impact of the disaster"²⁴. More number of voluntary organizations can work for the disaster management and preparedness specially concentrating on women and children. Social workers can conduct awareness programme in order to create awareness among the women on the how to manage crisis situation and how to overcome disastrous situation. Participatory approach will be highly suitable approach to create more alertness which mitigates the problem among women and forming of more self-help groups will help the community to short out the problems. Social workers should come forward to do more systematic research with innovative ideas; to develop better management strategies during disasters. Students with Community Development specialization should be actively involved in sensitizing the Government machineries to implement more number of programmes for the benefit of the women in disaster management.

9. Conclusion

This research study reveals that it is possible to save the life of more women during disaster situation if the prevention, mitigation and preparedness of the disaster carried out in a proper way. "No outbreaks of infectious disease were detected after the disaster"²⁵. High priority of assistance should be provided for physical and legal protection to women in disasters and emergencies. During the relief phase, women should be encouraged to mobilize themselves spontaneously. "Descriptions of organizing and role enactment during the emergency periods of disasters should be developed"²⁶. Women should be encouraged to establish mechanisms to enhance and efficiently direct these manifestations of solidarity to other victims. Such mobilization is directly related to community disaster mitigation measures. Women live a marginal existence in emergencies. The only sustainable means for disaster victims to overcome their marginal condition is

through an adjustment process of empowerment, allowing them to fulfill their basic human development needs. In these circumstances, empowerment would enable women to increase their human and economic developmental goals as defined by their families and communities. It is advisable to channel resources, facilitate training, and reorganize communities through the active participation of women in development programmes. Through their participation in planning, design, implementation, monitoring and evaluation, the processes of recovery and reconstruction can go beyond the provision of basic needs. Their participation may engender a level of community cohesiveness and security, with greater potential for realizing development goals.

References

1. Kailash Gupta, G. S. Dangayach, and Awadesh Bhardwaj. *Aviation Disaster Management: A case study of Charkhi Dadri Head-on Mid-Air Collision 1996*. Paper presented at the All India Seminar on Aviation Management, March 29, 2008, Jaipur, organized by The Institution of Engineers (India), Rajasthan State Centre, Jaipur (2008)
2. Kathleen Tierney, Christine Bevc, Erica Kuligowski; Metaphors Matter, Disaster Myths, Media Frames, and Their Consequences in Hurricane Katrina: *Annals of the American Academy of Political and Social Science*, Vol. 604, Shelter from the Storm : Repairing the National Emergency Management System after Hurricane Katrina pp.57-81 Sage Publications, (2006)
3. Quarantelli E. L. and Russell R. Dynes; Response to Social Crisis and Disaster, *Annual Review of Sociology* Vol 3, pp. 23-49 Published by : Annual Reviews, Ohio, (1977)
4. Raymond E. Wiest, Jane S. P. Mocellin and D. Thandiwe Motsisi, *Psychosocial considerations: prevention, mitigation and preparedness* published by the university Manitoba p 4, (1994)
5. Kreps. G. A.; Sociological Inquiry and Disaster Research, *Annual Review of Sociology*. Vol. 10, pp.309-330 Published by; Annual Reviews, (1984)
6. Marshall W. Meyer, Kenneth, A. Solomon, Risk Management in Local Communities: *Policy Sciences*, Vol. 16, No.3, pp.245-265, Elsevier Publishers, Amsterdam, (1984)
7. Howard Kunreuther; Disaster Mitigation and Insurance; Learning from Katrina : *Annals of the American Academy of Political and Social Science*, Vol. 604, pp. 208-227 Sage Publications, (2006)
8. Candice A. Myers, Tim Slack, Joachim Singelmann, Social Vulnerability and Migration in the Wake of Disaster: The Case of Hurricanes Katrina and Rita: *Population and Environment*, Vol. 29, No. 6 pp.271-291, Springer, (2008)
9. Bolan, Kim: The man-made side of natural disaster. IDRC Reports 19(3):18-20. (1991)
10. Gregory. W J, G. Midgley: Planning for Disaster: Developing a Multi-Agency Counseling Service, *The Journal of the Operational Research Society*, Vol. 51, No.3 pp. 278-290, Palgrave Macmillan Journals, (2000)
11. David A. McEntire, Christopher Fuller, Chad, W. Johnston, Richard Weber, A Comparison of Disaster Paradigms: The Search for a Holistic Policy Guide: *Public Administration Review*, Vol.62, No. 3 pp. 267-281, Blackwell Publishing, (2002)
12. Joshua D. Lichterman, A "Community as Resource" Strategy for Disaster Response, *Public Health Reports*, (1974-) Vol. 115, No.2/3, Focus on Healthy Communities pp. 262-265 Published by: Association of Schools of Public Health Communities, (2000)

13. Anthony R. Bliss, Major Disaster Planning, *British Medical Journal* (Clinical Research Edition) Vol.288, No.6428 pp. 1434 Published by: BMJ Publishing Group, (1984)
14. William A. Wallace, Frank De Balogh, Decision Support Systems for Disaster Management : *Public Administration Review*, Vol. 45, Special Issue : Emergency Management : A Challenge for Public Administration pp.134- 146, Blackwell Publishing, (1985)
15. Pramod K. Mishra, Maps and Disaster Management : *Economic and Political Weekly* Vol.37, No.47 (Nov. 23-29,) pp. 4676-4677, (2002)
16. Mary Myers, 'Women and Children First': Introducing a Gender Strategy into Disaster Preparedness: *Focus on Gender, Women and Emergencies* Vol.2, No.1, pp.14-16, published by: Taylor & Francis, Ltd. On behalf of Oxfam GB, (1994)
17. Laurens M. Bouwer, Ryan P. Crompton, Eberhard, Faust, Peter Hoppe and Roger A. pielke Jr, Confronting Disaster Losses : *New Series*, Vol.318, No.5851, p.753 American Association for the Advancement of Science, (2007)
18. John Twigg and Diane Steiner, Mainstreaming Disaster Mitigation: Challenges to Organizational Learning in NGOs: *Development in Practice*. Vol. 12, No. 3/4 pp.473-479 Published by: Taylor & Francis, Ltd. on behalf of Oxfam GB, (2002)
19. Steven Picou. J, Brent K. Marshall, Duane A. Gill, Disaster, Litigation, and the Corrosive Community: *Social Forces* Vol. 82. No.4 pp.1493-1522, University of North Carolina Press, (2004)
20. Maxx Dilley, Setting Priorities: Global Patterns of Disaster Risk, *Philosophical Transactions : Mathematical, Physical and Engineering Sciences*, Vol. 364, No. 1845, Extreme Natural Hazards pp.2217-2229, Published by : The Royal Society, (2006)
21. Parasuraman. S, Relief Assistance and Rehabilitation : Lessons in Disaster Management: *Economic and Political Weekly*, Vol.30, No.27 p.1654, (1995)
22. Pauline A. Thomas, Robert Brackbill, Lisa Thalji, Laura : *Environment Health Perspectives* Vol.116, No. pp. 1383-1390, Brogan & Partners, (2008)
23. Michael J. Rettger, Richard N. Boisvert, Flood Insurance or Disaster Loans : An Economic Evaluation : *American Journal of Agricultural Economics*, Vol.61, No.3 pp.496-505 Oxford University press, London, (1979)
24. Carrie L. Elrod, Jessica I. Hamblen, Fran H. Norris : Challenges in Implementing Disaster Mental Health Programs: State Program Directors' Perspectives : *Annals of the American Academy of Political and Social Science*, Vol. 604, pp.152-170, Sage Publications, (2006)
25. Duclos.P,O. Vidonne, P. Beuf, P. Perray, A. Stoebner : Flash Flood Disaster: Names, France, *European Journal of Epidemiology*, Vol. 7, No.4 pp.365-371, Springer, (1991)
26. Gary A. Kreps and Susan Lovegren Bosworth, The Disaster, Organizing, and Role Enactment: A Structural Approach, *American Journal of Sociology*, Vol.99.No.2 pp. 428-463, The University of Chicago Press, Chicago, (1993)