

Women, disaster reduction and sustainable development¹

This is not an article about how any one superwoman confronted, survived or managed to reduce the impact of a major flood or tropical storm. Nor is it the opposite story about the poor and defenceless woman who could, when disaster strikes, do nothing than wait and see. This story conveys hope and the insight that both women and men are part of the same society, which as we know, does not mean we have the same rights, education and options to manage, neither in "normal" times, nor when a disaster strikes. A few examples from Central America, India and the Pacific illustrate how women's action shows a way forward. Several studies do confirm, however, that women are usually much more badly affected than men when a disaster strikes, and when recovery begins. We therefore need to address the specific concerns of women already in the initial stages of designing disaster-reduction policies and measures.

Disaster-reduction policies and measures need to be implemented with a two-fold aim: to enable societies to be resilient to natural hazards, while ensuring that development efforts decrease the vulnerability to these hazards. Sustainable development is not possible without taking multi-hazard risk assessments into account in planning and daily life. Disaster reduction is an issue that affects the lives of both women and men. Given that the magnitude of a disaster is partially influenced by the political, economic and socio-cultural contexts, mainstreaming gender into disaster-reduction policies and measures translates into identifying the ways in which women and men are positioned in society. This enables the effective mapping, not only of the different and similar ways in which the lives of women and men may be negatively affected, but also of the ways in which they can contribute to disaster-reduction efforts.

In other words, cultural patterns structuring the lives of women and men must also be clearly understood. Women's and men's differing needs, roles and

social power in different social contexts need to be taken into account. Men are usually seen as primary income generators while women's economic activities, often the mainstay of the household economy, are less visible. Women carry the primary responsibility for the care of children, the elderly, the disabled and the ill, whose mobility and survival in disasters may be limited. Sex-specific dependencies and vulnerabilities based on reproductive differences are relevant in disasters, as is the respective ability of women and men to participate fully in household, community and national decision-making about hazard and risk.

"In the smallest islands of Micronesia, virtually inaccessible except by cargo ship, society functions with very clear gender roles. Men are generally responsible for things related to the ocean and women are responsible for land-based (and near-shore reef-based) activities. These everyday responsibilities translate easily into preparatory activities of an oncoming hazard, such as a typhoon, where the men secure the structures, canoes and objects needed for fishing, etc. and the women gather plant cuttings, prop banana trees, and gather food and water and families in a designated shelter where everyone awaits the storm. Afterwards, men rebuild structures and women and children gather the salvageable palms and food, women weave thatch, and replant the gardens." (Cheryl Anderson, Science Research Institute, University of Hawaii)

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Disasters: increased impact

During the past decade, natural hazards, such as earthquakes, landslides, droughts, floods, storms and tropical cyclones, wildfires, and volcanic eruptions, resulted in significant losses in human life and liveli-

¹ Prepared by the Inter-agency Secretariat for the International Strategy for Disaster Reduction (UN/ISDR), Geneva. The UN/ISDR collaborated with the United Nations Division for the Advancement of Women in the organization of the Expert Meeting on Environmental Management and the Mitigation of Natural Disasters: a Gender Perspective (Ankara, Turkey, 6-9 November 2001). Prior to that meeting, a fruitful online debate took place in October 2001, moderated by Elaine Enarson, expert in gender and disasters. Many of the arguments and examples reflected in this article are based on the ideas and experiences shared during the online debate and the expert meeting, and a paper prepared by the UN/ISDR for the Commission on the Status of Women, 6 March 2002.

hoods, the destruction of economic and social infrastructure, as well as environmental damage. According to the reinsurance industry, economic losses have increased more than 10 times each decade during the last four decades. Losses from water-related disasters far exceed others: some statistics indicate 80-90 per cent of losses are due to floods.²

Anecdotal evidence suggests that women are typically the most affected by disasters.³ Men lose their lives more often than women due, in part, to their use of hazardous machinery in emergency relief efforts and during the rebuilding phase. In contrast, women were highly over-represented among the 120 000 people killed in the 1991 cyclone in Bangladesh, because cultural norms constrained their access to emergency warnings and cyclone shelters.

Gender relations structure is part of the social and cultural context that shapes a community's ability to anticipate, prepare for, survive, cope with, and recover from, disasters. In re-settling, extended families have been divided in many instances, leaving the old more vulnerable without the family support. Although the loss of women's home-based work space, supplies and equipment can have serious repercussions for the household economy, these losses are rarely documented.

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"The capacity of human societies to withstand disasters is primarily determined by the internal strengths and weaknesses of the society in question: namely, its level of social, economic and cultural development or vulnerability. Capacities to cope are different, depending on the class, gender, age and background (indigenous or not), etc., of the affected communities." (Salvano Briceño, Director, UN/ISDR)

In both rural and urban households hit by hurricane *Mitch* in Central America in 1998, significant increases were reported in rates of female headship, which doubled by some accounts. A year after the devastating storm, Honduran relief workers reported that half the households still sheltered were main-

"The women who lost all their ... belongings and their life savings in India, after the recurrent floods of the monsoons ... have not been able to compensate their losses even after decades. This situation has threatened their security within the family relationship. Children (both girls and boys) dropped out of school. And young girls, whose families lost their savings and jewellery ... which were to provide their dowry in marriage, either lost the opportunity or had to delay getting married, which has serious implications for their social status, psychology and survival." (Madhavi Ariyabandu, Programme Manager for Disaster Mitigation of Intermediate Technology Development Group-South Asia (NGO based in Sri Lanka))

tained solely by women; in Nicaragua, 40 per cent were female-maintained.⁴

Women—agents of change

Nevertheless, women are not only victims, they are also agents of change. Further, women and men, working together, can identify those hazards that are threats to their homes and livelihoods and work together to build safer communities. Some examples illustrate how this can be done.

Gender-sensitive risk-assessment model in the Caribbean⁵

Women's community-based organizations in the Dominican Republic and St. Lucia participated in an exploratory project to map risk in their communities, including the daily disasters that shape low-income women's lives and the hurricanes, landslides, and fires to which they are exposed. With training in basic research methods, the women conducted interviews, recorded life histories, developed photo essays and drew risk maps to assess their own strengths and the dangers they face. This information was then compiled into community vulnerability profiles to be used by community leaders and shared with local emergency managers. A set of practical guidelines

2 Figures are higher if the consequences of the many smaller and unrecorded disasters at the community level are taken into account.

3 No systematic sex disaggregated data are available.

4 Patricia Delaney and Elizabeth Shrader, 2000: *Gender and Post-disaster Reconstruction: the case of Hurricane Mitch in Honduras and Nicaragua*

5 E. Enarson with Lourdes Meyreles, Betty Hearn Morrow, Audrey Mullings and Judith Soares: *Working With Women at Risk: Practical Guidelines for Assessing Local Disaster Risk* (www.fiu.edu/~lsbr)

GENDER, DISASTER REDUCTION AND SUSTAINABLE DEVELOPMENT

Gender: While the sex of an individual is biologically determined, gender refers to the socially constructed and adopted roles and relationships that society imposes on men and women. Gender is culturally specific and changes over time. Most societies are characterized by a male bias: the male norm is taken as a norm for society as a whole. Gender perspectives are “those which bring to conscious awareness how the roles, attitudes and relationships of women and men function to the detriment of women” according to the United Nations Development Fund for Women (UNIFEM). A focus on gender stresses the identification of different needs of the community and the formulation of policies that address those needs, prioritizing equality of opportunity.

Gender analysis: Gender analysis involves the collection and use of sex-disaggregated data that reveal the roles and responsibilities of men and women that should be fed into the policy process. The analysis assesses how existing and future policies and programmes potentially affect men and women differently.

Gender mainstreaming: This is the process of bringing a gender perspective into the mainstream activities of governments at all levels, as a means of promoting the role of women in the field of development, integrating women’s values into development work. Gender mainstreaming in disaster reduction refers to fostering awareness about gender equity and equality, to help reduce the impact of disasters, and to incorporate gender analysis in disaster management, risk reduction and sustainable development to decrease vulnerability.

Link to sustainable development: State leaders at the World Summit on Sustainable Development (Johannesburg, South Africa, 26 August-4 September 2002) recognized that disasters are a major threat to development and adopted a set of specific actions to address disaster risk in the Plan of Implementation.

Disaster reduction is about taking measures in advance to address vulnerabilities, reduce risk and anticipate hazards. They involve environmental protection, social equity and economic growth, the three cornerstones of sustainable development. “Development that is not engendered is endangered.”

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was developed to help guide women’s and other community groups in community-based action research to assess risk. This model is being tested in El Salvador and Dominica and will be revised accordingly.

Reducing women’s risk, capitalizing on window of opportunity after hurricane Mitch

Several studies show that increased violence against women is often a secondary effect of post disaster stress all over the world. The NGO *Puntos de Encuentro* was particularly active after hurricane *Mitch* in Nicaragua, conducting a major household survey, participating in a social audit, launching public education campaigns and developing workshops on women and reconstruction. To mitigate possible violence against women in the aftermath, *Puntos de Encuentro*

integrated antiviolenence education directly into post-disaster recovery work. Working through various media outlets, they developed a community education campaign to transmit this message: “Violence against women is one disaster that men can prevent.” One observer recalled:

It is clear from the looks on participants’ faces that this workshop is not only enabling them to work through the emotional difficulty of post-traumatic stress but also to consider the need for transforming gender roles in their community.

Like other NGOs and women’s groups, *Puntos de Encuentro* was highly involved in hurricane relief and recovery but went much further. Their proactive work around violence against women seems likely to help mitigate violence against women in future disasters and is certainly a model for capitalizing on the win-

6 Patricia Delaney and Elizabeth Shrader, 2000: *Gender and Post-disaster Reconstruction: the case of Hurricane Mitch in Honduras and Nicaragua*

7 Mayra Buvini, 1999, Hurricane Mitch: Women’s Needs and Contributions. Inter-American Development Bank, Sustainable Development Department Technical Papers Series.



Mangrove planting by volunteers saves lives and money in Viet Nam. Since 1994, the Viet Nam Red Cross has been planting and protecting mangrove forests in the north of the country to protect the coastal population from typhoons and storms. (Photo: Viet Nam Red Cross)

- 4 dow of opportunity to challenge structural inequalities that undermine community solidarity in the face of disaster⁶.

Women's efforts pay off. When the rural town La Masica, Honduras, reported no deaths after hurricane *Mitch*, some applauded women's extensive involvement in community education programmes undertaken by a programme channelled through the Central American Disaster Prevention Centre with German support, months earlier. A study conducted by the Inter-American Development Bank⁷ in the aftermath of the hurricane stated:

Gender lectures were given and, consequently, the community decided that men and women should participate equally in all hazard management activities. When Mitch struck, the municipality was prepared and vacated the area promptly, thus avoiding deaths ... Women also took over from men who had abandoned the task of continuous monitoring of the early warning system.

Some 20 years earlier, a similar pattern developed in Honduras after hurricane *Fifi*, when women stepped in to carry on the soil-conservation measures abandoned by men.

Reducing social vulnerabilities: skills training for women following disasters

Increased opportunities for non-traditional skills building and employment are often reported in the wake of natural disasters, although the gendered division of labour defines the broad contours of both women's and men's emergency response work. In

India, women received skills training in safe housing-construction techniques after the Latur and Gujarat earthquakes in India, working through community-based women's groups, mitigation agencies and government recovery programmes. They also helped redesign new homes better suited to their needs as workers whose homes are workplaces as well as residences. Some accounts from the USA suggest that, after a flood or a hurricane, women may manage home construction, organize work crews, learn and practice new home-repair skills and negotiate with insurance agents to rebuild their homes. Some work in warehouses, landscaping, and construction during the recovery

period.

This was also evident in Montserrat when half the population was displaced due to widespread volcanic eruption. Women there started a new group called Women on the Move which assisted women displaced from their homes and workplaces by offering skills training in both traditional areas and non-traditional fields such as information technologies. Through their efforts, more work became available for more women on male-dominated construction sites and women gained in self-confidence and economic independence. The group's consensual decision-making process reportedly helped unite women traumatized by this unfolding disaster, robbing them of their way of life. Not only did Women on the Move advance women's long-term recovery, it also fostered faith in women's "own ability to shape and direct their lives" and encouraged women to "enter into new relationships with their men and the society in which they live."⁸

Early warnings and getting the message across—overcoming the barriers

Cheryl Anderson, University of Hawaii, gives some examples from recent studies which illustrate how women are excluded from timely and understandable

⁸ Adapted from Judith Soares and A. Mullings, 2002: "A we run tings': women rebuilding Montserrat". In: G.D. Howe and Howard Fergus (Eds.), *A Will to Survive: Volcanic Impact and Crisis Mitigation in Montserrat*. Jamaica: University of the West Indies Press

early warning information. She recounts that a colleague's research in a Peruvian fishing village focused on forecasting methods and impacts from climate variability, specifically an El Niño-Southern Oscillation (ENSO) event. After a strong El Niño event, it was discovered that the fishermen had been warned about the upcoming event, and knew that the fishing would be poor or even non-existent for the next several months. The women in the village did not receive any warnings about the upcoming conditions, because the climate forecasters issued warnings to those who would be directly impacted. The result of the ENSO warm event was increased poverty, unemployment and harsh economic conditions. The women in the village manage the household budgets. Had they known about the onset of ENSO, they would have saved more household funds and budgeted expenses differently to prepare for the event. For some socio-cultural reason, the men did not discuss the warnings with their wives and continued to spend their money without regard to their future situation. One of the problems with male-dominated networks of information is that women are primarily responsible for gardening/agriculture, securing land-based food resources, and budgeting water resources for household consumption and gardening in these places. Without access to information, they cannot minimize risks associated with their regular activities.

On a more positive note, Cheryl continues with an example of a study in Hawaii. During the 1997/1998 El Niño event, women participated as community educators and there were three locations out of seven in the study where a few women participated on the ENSO task forces to mitigate drought. These women were responsible for developing public education and awareness programmes. Information was carried from village to village and public service announcements were broadcast on radio and television. The drought impacts were severe but would have been much worse without the penetration of information that resulted in conservation and public health programmes. The campaign to treat water before drinking (where rivers had dried considerably and groundwater was

limited and/or suspect) actually reduced the recorded incidence of reported diarrhoeal disease significantly. This is an example where targeting women with forecasts and warnings may have some direct bearing on reducing the impacts of hazards.

When radios aren't enough

Another study, reported by Emma Archer (International Research Institute for Climate Prediction/Columbia University/National Oceanic and Atmospheric Administration, USA/South Africa) found that women farmers in South Africa (particularly those who are not the head of the household) prefer seasonal climate forecast information to be made available through the extension officer or school, rather than the radio (preferred by male interviewees):

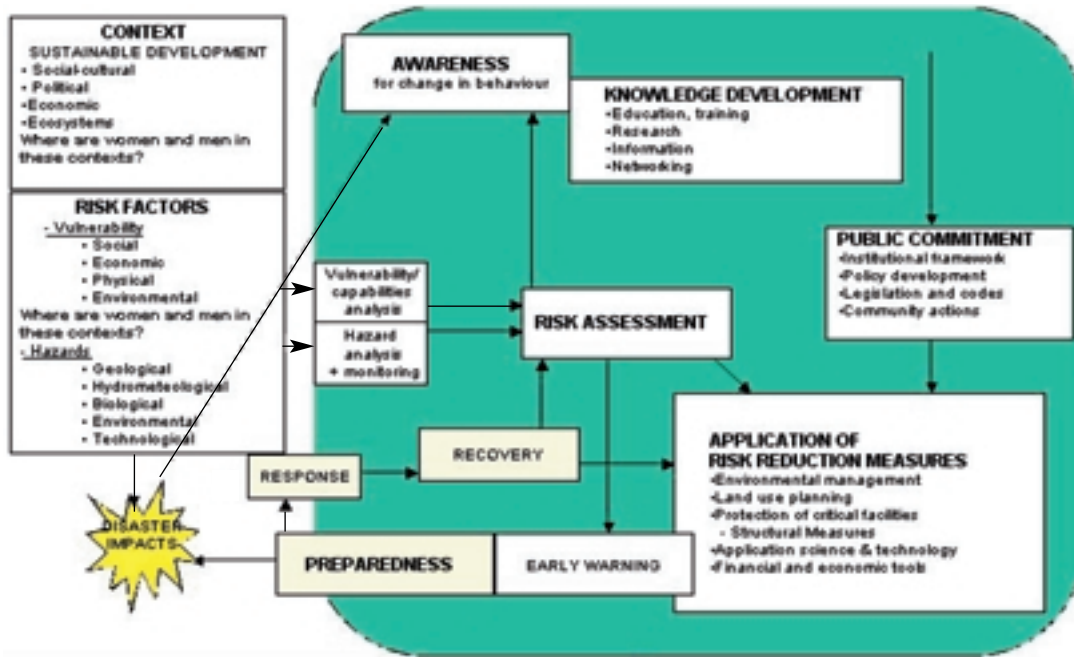
The farmers state that, in attempting to balance farming, child care and other domestic responsibilities, they are less able to schedule a fixed time to listen to the radio. They also prefer information to be provided on site, in an environment where queries can be handled immediately, and discussion can take place. This confirms a growing sense in the climate impacts and applications community that women are a crucially underserved clientele.

Radios and TVs are not always found in homes. Fainula Rodriguez, International Institute for Disaster Risk Management, Philippines, says:

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Women's impoverishment and economic insecurity undermine resilience to disasters as do their high levels of malnutrition and chronic illness, low levels of schooling and literacy, lack of information and training, inadequate transportation, and cultural limitations on mobility. Caring for others takes many women's lives when sudden choices must be made about self-preservation or rescue of children and others. (Photo: PAHO/WHO)



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Living with risk—a global review of disaster-reduction initiatives and gender-sensitive strategies (ISDR, 2002)

In some countries (Bangladesh, among others), women who are confined to the house or family plot have no access through radio, TV or otherwise to warning information. This may seem self-evident, but there are many examples of how this is not considered—most warning programmes being designed as one-model-fits all. Therefore, not only is there a need to develop gender/culture/economic ... sensitive warning systems, but also to ensure that the other key elements are in place, in particular focused information, education and public awareness programmes and the necessary support for women and children to act on the warning. Preparing to leave an area about to be hit by a cyclone can mean taking with you some very cumbersome assets which are basic to survival in 'normal' times.

In many regions, women have been engaged in risk-reduction activities outside formalized programmes. For example, on the fragile charlands inhabited by poor people in Bangladesh, women engage in extensive homestead gardening and raise crops with medicinal properties for home-health care. Preserving seeds, conserving water, composting to improve poor char soil, constructing housing resistant to strong winds and planting seedlings to stabilize the shifting charlands are common activities developed over time by women to make life safer during floods.

These examples contributing to the shaping of the future programme of action for disaster reduction should continue to be nurtured and supported by policies, data and analyses that take into consideration the roles and needs of both women and men.

Understanding the scope of disaster and risk reduction

The United Nations adopted the International Strategy for Disaster Reduction in 2002, as a partnership with governments, UN agencies, regional bodies, civil society and communities, to further pursue awareness and public commitment to vulnerability and risk reduction, expanded partnership and networking, as well as research and implementation on hazards, risk and specific disaster reduction measures. Disaster reduction, as envisioned within the ISDR framework, aims to build disaster-resilient societies and communities to withstand natural hazards and related technological and environmental disasters, and reduce environmental, human, economic and social losses.

ISDR, in addition, supports international cooperation to reduce the impacts of the El Niño phenomenon and other climate variability and to strengthen early warning capacities for disaster reduction. One of the main partners within the Strategy for this purpose is WMO. WMO chairs the Working Group on Climate and Disasters of the Inter-Agency Task Force on Disaster Reduction within the ISDR.

For a comprehensive understanding of the scope of disaster reduction, the graphic representation below/opposite describes the main context and activities, including elements necessary for gender-sensitive strategies. It is important to stress that gender equality in disaster reduction policies and measures require promoting women to have an increasing role in leadership, management and decision-making, as well as recognizing women's positions in their community and the larger society. Since disaster-reduction activities are part of development, they are linked to promoting the general welfare of societies, without increasing the risk to hazards.

Disaster-reduction strategies include vulnerability and risk assessments, as well as a number of institutional capacities and operational abilities. The assessment of the vulnerability of critical facilities, social and economic infrastructure, the use of effective early warning systems, land-use planning, environmental management and the application of many different types of scientific, technical, and other skilled abilities are essential features of a disaster reduction strategy.

The sharing of information and experience, both for the purposes of public information and all forms of education and professional training, is as important for creating a safety culture as the crucial involvement of local community action and new forms of partnership motivated by cooperation and shared responsibilities. Above all, functions associated with disaster reduction need to be viewed not as an expense, but as an investment in a society's future.

Consideration of the needs and roles of women is crucial in this context. There are fundamental elements in every disaster reduction strategy, but the priorities, relative emphasis, available resources, and specific ways of implementation must take into account practices that are most suited to local conditions, understanding and effectiveness.

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authors of this article) or visit the ISDR Websites:
www.unisdr.org, www.eird.org (Elaine Enarson
collaborated with the ISDR secretariat in compiling
examples)*

*The results from the on-line debate quoted in the article
can be found at:
www.un.org/womenwatch/daw/csw/env_manage/*