

Commission on the Status of Women
Forty-sixth session
New York, 4 – 15 March 2002

PANEL II

**Environmental management and mitigation of natural disasters:
a gender perspective**

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[English only]

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Background and acknowledgement

1. It is widely known and accepted that disasters affect women and men differently. These effects have also a different impact depending on culture and socio-economic contexts. This paper describes the main aspects and outlines some possible directions on how to mainstream gender concerns into disaster risk reduction in the framework of the International Strategy for Disaster Reduction.

2. Disaster reduction is an imperative for sustainable development, as well as a topic for gender-sensitive strategies. Disaster reduction policies and measures aims enabling societies and communities to be resilient to natural hazards with a two-fold aim: to reduce the level of risk in societies, while ensuring, on the other hand, that development efforts do not increase the vulnerability to these hazards.

3. Numerous disasters could have been avoided or mitigated if disaster reduction measures had been in place. The twenty-third special session of the General Assembly entitled "Women 2000: Gender Equality, Development and Peace for the Twenty-first Century" (Beijing+5), called on Governments and other national and international actors to incorporate a gender perspective into disaster prevention, mitigation and recovery strategies. It also recommended that the international community should assist governments in developing gender-sensitive strategies applied during the humanitarian assistance following a natural disaster.

4. The work outlined in Agenda 21, currently reviewed for the upcoming World Summit on Sustainable Development (Johannesburg, 26 August-4 September 2002), that of the International Decade for Natural Disaster Reduction and the Yokohama "Action Plan for the 21st Century for a safer world" (1994) and the current International Strategy for Disaster Reduction¹ (2000), as well as the Beijing Platform for Action of (1995), all provide valuable general guidance now that now need to be more specific recommendations and actions. The ISDR secretariat is working towards a ten-year review of the Yokohama Strategy for that purpose.

5. The secretariat for the International Strategy for Disaster Reduction collaborated with the United Nations Division for the Advancement of Women in the organization of expert meeting on Environmental Management and the Mitigation of Natural Disasters: a Gender Perspective, in Ankara, Turkey, 6 - 9 November 2001. Previous to that meeting a fruitful on-line conference took place in October 2001, moderated by Elaine Enarson, disaster researcher focusing on social vulnerability and woman's studies. Many of the arguments and examples reflected in this paper are based on the useful experiences shared during the on-line vcxfdSAZconference, as well as at the expert meeting in Ankara.

6. The ISDR secretariat wishes to thank all contributors and experts for their valuable thoughts. The shaping of the future programme of action for disaster reduction should continue to be nurtured and supported by gender sensitive women and men.

Gender Mainstreaming in Disaster Reduction

I. Disaster Impact on the Rise....

7. Natural disasters are increasingly seen as a major constraint for sustainable development, noted in most of the regional reviews on the implementation of Agenda 21, prepared during 2001 in preparation to the World Summit on Sustainable Development.

8. During the past decades, natural hazards such as earthquakes, landslides, droughts, floods, storms and tropical cyclones, wildland fires, and volcanic eruptions have caused major loss of human lives and livelihoods, the destruction of economic and social infrastructure, as well as environmental damages. Economic losses have increased more than ten times each decade¹ during the last four decades, according to MunichRe. In recent years, floods in Algeria, Bangladesh, Bolivia, Ethiopia, Guinea, India, Mozambique, Nigeria, Sudan, Thailand, Venezuela and Vietnam, volcanic eruptions in Indonesia, Montserrat, Ecuador, the Philippines and most recently in the Democratic Republic of Congo, and earthquakes in Japan, Turkey, El Salvador, Indonesia, India and Peru have created widespread social, economic and environmental destruction². In some cases, natural disasters have amplified man-made emergencies or vice versa, as epitomised by the ongoing drought and events in Afghanistan. In all these cases, women were often affected differently than men.

9. Although natural hazards may happen anywhere, it is particularly the least developed countries which are most affected due to their higher vulnerability. According to UNDP, 24 of the 49 least developed countries face a high level of disaster risk; at least 6 of them have been hit by between 2 and 8 major disasters per year in the last 15 years, with long-term consequences on human development.³ These figures would be much higher, and some experts estimate at least double or more, were the consequences of the many smaller and unrecorded disasters that cause significant losses at the local community level taken into account. 97% of disaster victims live in developing countries. It has often been observed that women are more affected by larger or smaller disasters than men, due to higher vulnerability and marginalization, even though no systematic gender sensitive statistics are available.

10. The capacity of human societies to withstand disasters is determined primarily by the internal strengths and weaknesses of the society- the level of social, economic and cultural vulnerability. The capacities to cope with the disaster impact are different depending on social conditions; poor and rich, men and women, young and old, indigenous or non-indigenous, etc. Gender cuts across these various groups and has important light to shed on the devising of specific strategies to cope with disasters. During the on-line conference mentioned above⁴, gender inequality was considered a root cause of social vulnerability to disasters. Interacting with a host of other social structures and shaped by cultural and physical environments, gender relations pre-conditions people's ability to anticipate, prepare for, survive, cope with, and recover from disasters.

11. "The vulnerability of women is much greater because of their subordinate position in the family arising out of patriarchy and traditionally embedded cultural values. This is reflected in unequal work burden due to productive as well as reproductive responsibility, lack of control

¹ Munich Re. Topics 2000, Natural Catastrophes - the current position.

² ISDR, January 2002, Backgroundpaper 5, Second Preparatory Committee WSSD

³ UNDP, ERD. Disaster Profiles of the Least Developed Countries. May 2001

⁴ UN/DAW, UN/ISDR. Gender Equality, Environmental Management and Natural Disaster Reduction. Report from the On-Line Conference. Prepared by Elaine Enarson, Nov. 2001.

over the means of production, restricted mobility, limited facilities for education and lack of employment, inequalities in food intake relative to men, etc.” “The housewives and young mothers affected from floods and displaced. . . found it more difficult to find wage labour and other income-earning opportunities. The women who had lost all their meager belongings and their life-long savings 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 from schooling. And young girls whose families lost their savings and jewellery during the floods, which was 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. . . With regard to the old, in re-settling the extended families have been broken up in many instances leaving the old more vulnerable without the family support.” *Madhavi Ariyabandu, Programme Manager-Disaster Mitigation, ITDG-South Asia,*

12. “Sliding lands at the edges of mountains and hills because of the increasing rates of urbanization which is not properly planned by governments [leads] to more women and men being homeless. Men usually leave behind the mother-headed family to seek a job in the flourishing areas and leave the mother to carry the burden of the family alone, especially [in] those critical areas usually occupied by poor families.” *Samia Galal Saad, Advisor to the Minister of State for Environmental Affairs, Cairo*

II. Strategic Components of Disaster Reduction

13. The promotion and implementation of a comprehensive and sustained policy for hazard awareness and disaster reduction has numerous elements, strategic components, many of which need to be looked upon from a gender perspective. A balanced and equal participation of both women and men in formulating and implementing policies and programmes will allow to utilize the maximum talent available. Such an approach can help identify the different needs, perception and roles, and facilitate public policy that is effective and sustainable, to help promote gender balanced disaster reduction strategies, plans and programmes.

14. The strategic components of disaster reduction apply globally, nationally and locally and each has its own range of activities. Some are given priority attention by different societies based on their respective traditions and exposure to hazards, primary conditions of vulnerability and the resulting risks of natural disasters. Additionally, the various cultural contexts, geographical conditions and social structures- including gender specific-, status and roles of women, as well as necessities imposed by the particular procedures of chosen forms of government in different countries, all contribute to the values and eventual decisions that determine the overall commitment to creating a culture of prevention and safety.

15. Taken together they form the basis for educating people, formulating policies and undertaking activities that contribute to protecting the livelihoods, material property and environments on which all people and communities depend upon. With the addition of appropriate criteria, these strategic components can also serve to benchmark relative progress in various areas and can provide a structured foundation to evaluate the overall accomplishment of national or community-based strategies.

16. The strategic components of disaster reduction are⁵:

⁵ ISDR, 2002. Draft Global Review on Disaster Reduction Initiatives.

17. Risk Awareness and Assessment

- Understanding the nature of hazards *Hazards are inevitable, but disasters are not. By seeking to understand and to anticipate future hazards by study of the past and consideration of present situations, a community or public authority is poised to minimize the risk of a disaster. It is a measure of people's wisdom and a society's values if a community is able to learn from others' experiences, rather than to suffer its own. There is a wealth of knowledge about the nature and consequences of different hazards, expected frequency, magnitude and geographical potential impact, but many fewer examples of lessons learned from them.*
- Identifying vulnerabilities and capacities *Risk is rooted in conditions of physical, social, economic and environmental vulnerability that need to be assessed and managed on a continuing basis, with the primary objective being to minimize such exposure through the development and reliance on individual capabilities and institutional capacities that can withstand potential loss or damage, or to hasten recovery if loss or damage occur.*
- Disaster risk assessment and analysis *A comprehensive risk assessment system and analysis, based on detailed and accurate information on both hazard and vulnerability, regularly updated and widely disseminated, is a pre-requisite to an adequate and successful disaster reduction strategy*

18. Institutional and Operational Contexts of Disaster Reduction

- The cultural, political, economic, environmental and sustainable development contexts
- International, regional and sub-regional context and cooperation

19. Primary Operational Functions for Effective Disaster Reduction

- Policy and legal development: national and local decision making and participatory processes
- Land-use planning
- Scientific, technical and professional applications
- Protection of critical facilities, infrastructure, in rural and urban environments
- Early warning systems
- Community processes and action
- Partnerships: public, private, professional

20. Knowledge and Information

- Public awareness
- Information management and communication
- Education and training

21. A starting point for gender analysis for disaster reduction would be to pose the following questions:

- a) How and by whom are decisions taken in a community and society in "normal times" for development purposes- and how does it apply to each of the disaster reduction components?

- b) What are the factors, which hinder, prevent or delay gender balance, and in particular women's empowerment and how does this increase the exposure and vulnerability to natural hazards?
- c) What are the elements that would be required to ensure sustainability of gender balance and empowerment of women with regards to disaster and vulnerability reduction?

III. Women as Actors for Change

22. Although women's social, economic and political position in many societies makes them more vulnerable to natural hazards, they are not helpless victims. Women are important agents for change and need to be further strengthened as such. Recognising and mobilising their skills and capacities as social force and channelling it to enhance efforts to protect their safety and that of their communities and dependants is a major task in any disaster reduction strategy. By and large, for example, African women are the backbone of the rural subsistence economy: it is their productive work that sustains families and communities. Securing food, water and fuel are key community concerns, especially in rural areas where natural disasters are more likely to devastate the very basis of people's livelihoods, since they depend more on the natural resource base for all aspects of life. Women's work in agriculture is often seen as an extension of their domestic responsibilities, rather than a separate economic activity. Distinguishing women's agricultural work from other types of labour puts them in an economic category, which means that her participation in agriculture can be recognized in national labour statistics⁶. Legitimizing women's labour in this way makes it easier to advocate for training and education programs for women agricultural workers, essential if women are to become environmentally sound farmers and thus engaged in vulnerability reduction to natural hazards.

23. There are many examples of women's informal community involvement in disaster reduction, but women are still largely excluded from formal planning and decision-making and need to be empowered to do so effectively. This is essential to ensure effective disaster reduction policies.

24. "If some decision-making is shifted to local levels (communities and aggregate of communities), then women will have major opportunities . . . One good example of how women are now holding parity (half) in local councils has occurred in villages in Thailand. Women naturally came to the foreground because they tend to volunteer their energies to improve their communities. Within 5-6 years. . . they reached parity and were learning to be community managers within the official framework, not only informally. In this case, issues of environment, disasters and development were the main topics".

Jeanne-Marie Col, United Nations, on-line conference, Oct 2001

25. An example, discussed during the email forum, related to Indian women, who reportedly gained self-confidence following gender-sensitive relief measures targeting women after the Orissa cyclone 1999:

"Disasters can be great liberators!! While witnessing a very vocal meeting of rural women in village Srirampur, Orissa, about a year and a half after the cyclone of 1999, I was informed by the NGO there (Church's Auxiliary for

⁶ Hilary Anderson, Women, Health and Development Program, Pan-American Health Organization

Social Action) that before the cyclone, women would rarely come out and interact on social issues, let alone interact with outsiders. This changed after the cyclone, because relief packages of most NGOs, and even the government, were targeted at, or through, women. That phase really empowered them, made them amenable to interacting on social issues, and also increased their self-esteem and their status within their families and society!

-What are the factors, which lead to women's empowerment that is sustainable and gender equitable? The one that clearly stands out is control over resources. The Orissa example is one where the fact that women received the family relief kits, house building grants, loans and . . . memberships, and passed on the benefits to the families, made all the difference.

-Self-help income-generating measures following South Asian cyclones started a new social system, wherein the position of women is higher than it ever was. This appears to have been well accepted by everyone. Also important here is the role of an Indian Constitutional Amendment reserving one-third of seats in elected local governments (rural and urban) for women. Though there have been teething problems in the process, there is promise of a very positive impact.”

Anshu Sharma, SEEDS, India. On-line conference, Oct. 2001.

26. Another example is found in Bangladesh, where a widow, who lost her husband in the 1970 cyclone, formed a Women's organization in 1985.⁷ By the loss of her husband she was encouraged to take action to educate herself and then help prepare the community to face natural hazards. The organization empowers women with knowledge and skills in income generation and saving, health and rehabilitation of disaster victims. This organization was the driving force behind women and children moving to safer areas during the 1991 cyclone. Women moving out of households into cyclone shelters were opposed initially by male members of the community, but was endorsed soon after, when they had seen the effects.

IV. Linking gender issues and disaster reduction to sustainable development

27. We often tend to discuss sustainable development and disaster reduction as two separate 'components'. However, fundamentally the aims are the same in both. Sustainable development is incomplete and not reachable unless disaster reduction (in particular prevention and mitigation measures) is reconsidered and integrated as an essential element in it, and disaster reduction cannot be managed apart from development. Disaster reduction is about taking measures in advance, addressing risk reduction, involving environmental protection, social equity and economic growth, the three cornerstones of sustainable development, to ensure that development efforts do not increase the vulnerability to hazards. Gender cuts across and is built in for both disaster reduction and sustainable development. It addresses, in essence, gender equality and balance, and the methods of analysis and tools of application should therefore be the same for both processes⁸.

⁷ Sabiha Khatun, in the video South Asian Women, Facing Disasters, Securing life, by Duryog Nivaran, 1999.

⁸ Madhavi Ariyabandu, Programme Manager - Disaster Mitigation, ITDG South Asia.

28. It is important to stress that gender equality in disaster reduction requires, above all, empowering women to have an increasing role in leadership, management and decision making positions.

29. Caution should also be raised against implementing gender-targeted programming without full and complete gender analysis⁹, since they then may get a non-wished, negative impact. “What responding agencies actually do before, during, and after disasters matters to both women and men, who may be hurt by gender-blind programming, for example with respect to reconstruction resources or information or access to health services”, concluded participants at the above mentioned email discussion. They argued for more community-based, inclusive, non-bureaucratic approaches to disaster management, informed by a nuanced gender perspective understanding and respect for local cultures and the causes of root causes of gender inequality and need of local solutions, enhancing of management and leadership capacities, and links with development theory and practice.

VI. Some Ways Forward

30. Disaster reduction is envisioned within the ISDR framework¹⁰, aiming at building disaster resilient societies and communities to withstand natural hazards and related technological and environmental disasters, and to reduce environmental, human, economic and social losses:

31. The Strategy is built around four major objectives, which are:

- **Increasing public awareness** on hazard risks, vulnerability and actions for disaster reduction;
- **Obtaining the commitment from public authorities** to engage in disaster risk reduction, and commit to necessary legal, institutional and budgetary arrangements at national and local levels.
- **Stimulating inter-disciplinary and inter-sectoral partnerships** and the expansion of risk reduction networking of a cross cutting nature, involving sectors such as education, health, environment, science and technology, disaster management, economy and finance.
- **Fostering better understanding and knowledge** of the causes of disasters, as well as the promotion of research.

32. Special mandates are given to the ISDR secretariat to support and coordinate international cooperation to reduce the impacts of El Niño phenomenon and other climate variability and to strengthen early warning capacities to ensure disaster reduction. (*For more information on ISDR, see box at the end*)

33. These objectives also apply to mainstream gender effectively in disaster reduction along the lines discussed at the Expert Meeting on “Environmental Management and the Mitigation of Natural Disasters: a Gender Perspective”, in Ankara, Turkey, 6 - 9 November 2001¹¹. The

⁹ **Gender analysis:** Gender analysis involves the collection and use of sex-disaggregated data that reveal the roles and responsibilities of men and women, to be fed into the policy process for enabling assessments of how existing and future policies and programmes potentially affect men and women differently. Gender analysis needs to be both quantitative and qualitative.

¹⁰ Inter-Agency Task Force, 2001: Framework for Action for the Implementation of the ISDR

¹¹ The report is available at: http://www.un.org/womenwatch/daw/csw/env_manage/

recommendations outlined in the final report of that meeting constitute a good guide to integrate gender concerns into disaster risk reduction.

34. In the context of disaster risk reduction gender mainstreaming¹²: refers to fostering awareness about gender equity and equality, etc, to help reduce the impact of disasters, and to incorporate gender analysis in disaster management, risk reduction and sustainable development to decrease vulnerability. Gender mainstreaming in disaster reduction is a parallel but inter-linked process to the mainstreaming of disaster reduction into sustainable development policies and activities.

35. Based on the objectives of ISDR, these are some specific conclusions, drawn from then literature and the expert meeting in Ankara:

Increasing public awareness

36. The profile and benefits of gender sensitive disaster risk reduction policy must be explained, promoted and clearly demonstrable.

37. Up-to-date and high quality statistics and studies need to be undertaken, as well as a framework for collection of disaggregated data taking into account different social relations, affected population by sex and age, roles and responsibilities in disaster management, development and environmental management and risk reduction. As pointed out by the expert meeting in Ankara, evidence available is mostly anecdotal. Integrating gender concerns into the strategic disaster reduction areas mentioned above, is still a rather undocumented domain. The gaps in the research need to be addressed and existing research results and case studies need to be widely disseminated to policy makers and planners.

38. Specific programmes to encourage and support research by relevant academic and training institutions need to be developed. Sensitive education is needed at all levels (Pre-school, primary, secondary and tertiary), and programmes addressing the need for change in government or non-governmental sectors, as well as programme-targeted training or awareness-raising. Education content should foster sound environmental management, risk management and address how and why gender is a central concern in the work ahead to build safer, more equitable, and disaster-resilient communities.

Obtaining commitment from public authorities.

39. A major challenge ahead is to integrate gender, development and environmental management and disaster risk reduction both in research and praxis. This means new approaches and challenging of the boundaries between ways of thinking and working, and between distinct institutional responsibilities. There is a need for practical gender analysis tools that help demystify and overcome gender stereotypes and provide practical strategies so that the potential of both women and men are developed in a balanced manner.

¹² **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 builds on the knowledge and lessons -learnt from previous experiences with gender equality policies.

40. By working towards increased commitment for disaster risk reduction from public authorities, gender sensitiveness should be an inherent, cross-cutting concern. In this regard, national legislation and regulation must be reviewed to identify gaps and obstacles to gender equality.

Stimulating inter-disciplinary and intersectoral partnerships and the expansion of risk reduction networking

41. Improved networking among national and local disaster, risk management related agencies and organizations with sustainable development networks needs to be encouraged. Women and community-based organizations should be invited and stimulated to participate in local and national networks.

42. There is a need for a focus on the disaster and sustainable development planning processes and ensure a participatory approach and involvement of non-traditional/non-conventional ideas and partners. If the process is cumulative, it can incorporate lessons learned and improve the outcomes from the next event¹³.

Fostering better understanding and knowledge of the causes of disasters, as well as the promotion of research.

43. The challenge is to go beyond the study of the impact of disasters, the emergency phase, and look into the role of gender in contributing to increased risk- or at the contrary, to cope with risk and reduce vulnerability.

44. In the first place, development and sectoral research need to be reviewed to identify gaps and constraints to gender balance in disaster management and risk reduction. Furthermore, there is insufficient targeted research regarding the relationship between gender, natural hazards and related environmental vulnerability as well as co-ordinated application of the results generated by research programmes at the national and international level. This includes, in particular, international co-operation to reduce the impact of climate variability, as well as desertification and drought, and other environmental degradation processes.

45. There are few existing case studies, which clearly demonstrates the benefits of a gender sensitive approach to disaster risk reduction. The following are some anecdotal examples taken from the on-line conference:

46. “[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] warm event. After a strong El Niño event, it was discovered that the fishermen (all male) had been warned about the upcoming event, and knew that the fishing would be poor to 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 reason (socio-cultural), the

¹³ Cheryl Anderson, University of Hawaii Social Science Research Institute, USA. Email discussion, Oct. 2001.

men never discussed the warnings with their wives and continued to "blow their money in bars" 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" *Cheryl Anderson, Social Science Research Institute, University of Hawaii*

47. "We're finding that women farmers (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 under-served clientele." *Emma Archer, IRI/PSU/NOAA, USA/South Africa*

More on the International Strategy for Disaster Reduction

The International Strategy for Disaster Reduction (ISDR) was established by the UN General Assembly in January 2000 (Resolution 54/219) and confirmed in December 2001 (Resolution 156/195) as a successor arrangement to the International Decade for Natural Disaster Reduction (IDNDR, 1990-99). ISDR serves as a global framework for action with the aim at building disaster resilient societies and communities, in order to reduce human, economic and social losses from the effects of natural hazards and related technological and environmental disasters.

The ISDR involves a conceptual shift from an emphasis on disaster response to the management of risk and reduction of vulnerabilities. The ISDR builds on the experience of IDNDR, the Yokohama Strategy and Plan of Action (1994) and the Strategy "A Safer World in the 21st Century: Disaster and Risk Reduction"(1999)

The following core activities are undertaken within the ISDR:

- Inter-agency co-ordination and policy development;
- Scientific co-operation, joint development of technology, networking and partnerships for application of existing knowledge;
- Sharing of knowledge and information – a disaster reduction clearing house function;
- Strengthening of risk-monitoring capabilities and early warning systems as integrated processes, with particular attention given to emerging hazards with global implications, such as those related to climate variables and change; and
- Promote awareness about what can be done to reduce the vulnerability of societies to the social and economic impact of natural hazards.

The institutional arrangements to facilitate the implementation of the Strategy are an Inter-Agency Secretariat and Task Force. The Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR) serves as the focal point within the UN system for the co-ordination of strategies and programmes for natural disaster reduction. It is dedicated to the building of disaster resilient societies by promoting increased awareness of the importance of disaster reduction initiatives and by supporting such initiatives in order to reduce human, economic and social losses. The ISDR secretariat also provides support the Inter-Agency Task Force for Disaster Reduction (IATF/DR), which has the role of devising strategies and policies for the reduction of natural disasters, identify gaps in disaster reduction policies and programmes and recommend remedial action among relevant international and regional organizations.