



# Gender and Health in Disasters

There is a general lack of research on sex and gender differences in vulnerability to and impact of disasters. The limited information available from small scale studies suggests that there is a pattern of gender differentiation at all levels of the disaster process: exposure to risk, risk perception, preparedness, response, physical impact, psychological impact, recovery and reconstruction.

Globally, approximately 2 billion people were affected by natural or technological disasters between 1990–1999, with almost 600 000 fatalities<sup>a</sup>. More than 86% of people killed by disasters during this period succumbed to natural events. Windstorms claimed the largest proportion of lives (35%) while floods accounted for the largest proportion of people affected (75%).

Since the mid-1990s there has been an increase in the recorded number of all types of disasters and the number of recorded fatalities resulting from disasters, especially in developing areas and despite disaster preparedness programmes. People in low-income countries are 4 times more likely to die from extreme natural events than those in high-income countries. During the 1990s, more than two-thirds of the deaths from disasters occurred in Asia, which was also the continent most frequently hit by disasters<sup>b</sup>.

Although human-made technological disasters reportedly claim fewer lives than natural disasters (13.5% during 1990–99), they have profound implications for public health. For example, about 5 million people, including 500 000 children, are estimated to have been affected by the Chernobyl nuclear disaster in 1986. Nearly a decade and a half later, there continues to be a large case load of health problems linked to the Chernobyl disaster. Many of the survivors of the 1984 Bhopal industrial disaster

have suffered respiratory damage or are affected by repeated infections because of compromised immune or metabolic systems.

## What do we know?

### Exposure and vulnerability throughout the disaster process

#### *Interaction of biological and social risk factors*

There is some evidence showing that women and men may suffer different negative health consequences following a disaster. It is not clear whether this is because of biological differences between the sexes, because of socially determined differences in women's and men's

## Definitions<sup>c</sup>

- **Disaster** is a difficult concept to define; existing definitions tend to be either too broad or too narrow. The World Health Organization/Emergency and Humanitarian Action Department defines disasters as, "Any occurrence that causes damage, ecological disruption, loss of human life or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community area."
- Disasters are **classified** as *human-made (non-natural)* and *natural*.
- **Natural disasters** are environmental events, not (directly) human made, such as volcanic eruptions, earthquakes, floods, cyclones or more long term, epidemics, drought, famine (catastrophic food shortage).
- **Human-made or technological disasters** are primarily caused by hardware failure and human error resulting in toxic emissions, for example explosions and transport accidents onsetting a chemical spill, leading to insidious air, water and soil pollution and food contamination.

a. Figures do not include public health disasters such as the AIDS pandemic or other epidemics as per CRED (the Center for Research on the Epidemiology of Disasters) and EM-DAT statistics as quoted by ICRC *World Disasters Report 2000*.

b. Excluding conflict and chronic health disasters as per CRED and EM-DAT figures as cited by ICRC *World Disasters Report 2000*.

c. Human conflicts which give rise to complex emergencies are beyond the scope of this information sheet. A forthcoming information sheet will specifically address gender and health issues in complex emergencies.

roles and status or because of an interaction of social and biological factors.

- In 1976 an accident in a chemical plant near Seveso, Italy, exposed the local population to dioxin. A twenty-year follow-up study which compared those in exposure zones with a reference population in a surrounding non-contaminated area found that fifteen years after the accident, mortality from rectal cancer and lung cancer increased among men in high-exposure zones. An overall increase in diabetes mortality as compared to those living in the non-contaminated area was reported, notably among women.

Studies have also reported adverse reproductive outcomes following disasters, including early pregnancy loss, premature delivery, stillbirths, delivery-related complications and infertility.

- A study from Israel reported an increase in delivery rates during the 48 hours following an earthquake and a significant increase in the premature delivery rate.
- In India, 24% of pregnant women exposed to isocyanide during the 1984 Bhopal explosion had spontaneous abortions, as against 6% in a comparison group.

Social taboos around menstruation and norms about appropriate behaviour for women and girls are reported to contribute to health problems in young women in disaster situations.

- During the 1998 floods in Bangladesh, adolescent girls reported perineal rashes and urinary tract infections because they were not able to wash out menstrual rags properly in private, often had no place to hang the rags to dry, or access to clean water. They reported wearing the still damp cloths, as they did not have a place to dry them.

### *Gender roles*

Women's vulnerability to the impact of disasters is also increased by socially determined differences in roles and responsibilities of women and men and inequalities between them in access to resources and decision-making power.

- Excess deaths among females following an earthquake in Maharashtra, India were attributed to women being in homes damaged by the earthquake and men being in open areas. Men were sleeping in fields during harvest time and were away from the home in preparation for a festival, boys were at school away from the village, and many men were away from affected areas as they were employed in other districts or states.

- One study on a 1991 cyclone in Bangladesh noted that many women perished with their children at home as they had to wait for their husbands to return and make an evacuation decision.

When compounded by a calamity, the comparatively lower value ascribed to girls in some societies may take on lethal manifestations. One report from Bangladesh describes a father who, when unable to hold on to both his son and his daughter from being swept away by a tidal surge, helplessly released his daughter, because "... (this) son has to carry on the family line".

Men, on the other hand, may suffer other disadvantages in different situations and for different reasons from women, because of their gender-role socialization.

- Field notes from a Western Ethiopian refugee camp report an instance where young Sudanese men fleeing conscription continued to starve in refugee camps despite receiving prompt shipment of food aid. The food they were given needed to be cooked before it could be eaten, and as men, they had never learned to cook.
- Researchers reported that in the aftermath of Hurricane Andrew in the United States of America, men who had traditionally been the family providers and protectors struggled with their feelings of inadequacy and failure.

Men's roles as protectors may place a greater responsibility on them for risk taking during and after a disaster, both within their households and as volunteers and rescue workers. The vast majority of the 800 000 plus 'liquidators' – soldiers and civilians who helped clean up the Chernobyl site over several years, and were most exposed to the radiation – were men.

### **Perception of risk and access to relief services**

Gender differences may exist in the perception of hazard risks. It has been suggested that women perceive disaster



events or threats as more serious and risky than men do, especially if they threaten their family members.

Traditional gender roles are also played out in the response phase of disaster situations. In a study on hurricane Andrew in the US, women were responsible for caring for family members, stocking supplies and preparing the household while men were responsible for securing external areas of the house. Following a flood, one researcher observed that while men would build roads and houses the role of putting lives back together was the women's.

Differences are also reported around post-disaster relief. Cultural norms have been found to inhibit women from visibly accessing relief centres, or they cannot leave their homes to go to relief centres due to child care responsibilities. In settings where women are forbidden to interact with male members of the community who are not their kin, they may have difficulties in accessing relief services from male relief workers. Further, where food distribution targets household heads, women may be systematically marginalized, as they would only be registered as household heads if no adult male was present.

### **Impact of disasters**

The impact of disasters is felt differentially within societies, and those most socially excluded and economically insecure bear a disproportionate burden. The impact of disasters also varies between women and men.

#### *Social and economic consequences*

Loss of the ability to take care of the family may cause adjustment difficulties for some men, especially those with more traditional gender role norms. Others may view receiving financial aid as a stigma and feel challenged in their role as breadwinner.

Women may find themselves burdened with even greater responsibilities than before. Post disaster "flight of men" often occurs, leaving women as sole earners. This phenomenon has been observed in Miami, rural Bangladesh, the Caribbean, and Brazil where it is reported that men abandoned women and families and used relief aid for themselves.

At the same time, lower literacy levels and very low levels of ownership of land and other productive assets may leave women on the verge of destitution.

- One study reports instances of women in Bangladesh becoming destitute following a disaster as male relatives confiscated family land from a woman in the event of her husband's and son's deaths, leaving women and daughters poverty stricken and destitute. There were no legal provisions to protect women and their families against such problems.

#### *Domestic and sexual violence*

Although hard evidence on the influence of disasters

on domestic and sexual violence is limited, several field reports suggest that the safety of women experiencing violence in the home may be compromised in the aftermath of disaster and they may not have access to disaster relief and recovery resources. These women often live in a world of narrow social networks. Attending to preparedness or evacuation warnings, stabilising their lives in a disaster-stricken neighbourhood, or accessing recovery resources may be impossible tasks.

- Following a major Australian flood in 1990, one observer noted that women experiencing violence in the home, who were socially isolated, became even more isolated and there was an increase in domestic violence.
- After the 1989 Loma Prieta earthquake, the director of a battered women's shelter in Santa Cruz, USA reported a 50% increase in requests for temporary restraining orders.
- According to reports from a community intervention centre in the US, women left without housing in a post-disaster situation called the perpetrator of the violence, seeking accommodation.

Women and girls are more vulnerable to sexual abuse in disaster situations and may be coerced into sex for basic needs such as food, shelter and security. The sex industry often becomes part of the interaction between the refugee or displaced population and the local community. Men and boys may also be at risk of sexual abuse in such circumstances.

#### *Psychological impact*

Psychological responses to disasters include short term effects such as shock, anxiety, sleep disturbances and guilt. There are differences between women and men and girls and boys in the nature of psychological impact. Several studies have found that a greater proportion of women and girls report suffering from emotional disorders and distress as compared to men and boys.

- Female sex, lower social support and being older were associated with higher post-disaster psychological distress after the 1989 Australian earthquake.
- A survey of children affected by the 1995 Great Hanshin Awaji earthquake showed that girls were more heavily affected by trauma and that being female was a high risk factor for distress.

Women's dramatically expanded caregiving roles following a disaster, and putting family needs before their own, may explain overall declines in emotional well being.

### **Issues in planning and delivery of relief services**

Emergency management agencies and others responsible for emergency relief such as law-enforcement agencies and fire personnel have historically been dominated by

men. Male-dominated recovery groups which see disasters ‘through the eyes of men’ may organize relief work in a manner that does not take gender differences and women’s specific needs into consideration. For example, sanitary napkins, contraceptives and counselling services for psychological distress and domestic violence are rarely available in emergency situations.

There is also a tendency on the part of relief planners to take for granted women’s time and labour for work as paid and unpaid care givers in the aftermath of a disaster. Similarly, they may assume men’s physical and emotional strength, and therefore overlook their needs.

## What research is needed?

- There is urgent need for international data sets to provide sex-disaggregated data on disaster-related mortality, morbidity and long-term health consequences.
- At the local level, there needs to be better documentation of:
  - whether and how perceptions, preparedness and warning response in disaster relief and vulnerability are influenced by gender-based differences between women and men;
  - how gender relations operate in households and communities in a disaster situation and during the relief and recovery phase; and
  - how gender roles and gender relations influence coping mechanisms.
- Research is needed both at the local and at national and regional levels on structural processes and factors that increase disaster vulnerability in women and men across different social groups.
- Domestic and sexual violence in the aftermath of a disaster and the special needs of disadvantaged women, such as women with disabilities and women in violent relationships needs to be better researched.
- Gender relations in disaster organizations, effects of gendered organizational culture on staffing, funding, programming, training; and the consequences of these for women and men in disaster situations is another important area that needs to be addressed by research studies.
- Evaluation studies of recovery and mitigation programmes are needed to assess effectiveness of different

strategies which incorporate gender equity and social justice into disaster mitigation and reconstruction.

## What are the implications for disaster relief programmes and policies?

- Pre-disaster activities such as hazard mapping and vulnerability analysis should integrate gender considerations. At a minimum, this would involve taking into account:
  - the differences in vulnerability to and impact of disasters in women and men; and
  - how their roles and status affect disaster-relief and recovery.
- Community-based disaster-preparedness projects and disaster training and education programmes should include women and men, and address their respective needs and concerns.
- Information collected through rapid assessments of health status and health needs in disaster situations should be sex-disaggregated and include a gender analysis. Information is needed on reproductive and mental health needs, in addition to information on communicable diseases and on malnutrition.
- Basic health services provided as part of emergency relief should likewise cater to women’s and men’s different needs and be provided in a gender-sensitive manner.
- Disadvantaged groups such as women and men with disabilities and women in violent relationships should be identified as special-risk populations for disaster relief and recovery services. It may be useful to work with community organizations to identify these groups.
- Gender training of emergency managers and health service providers should become an integral part of staff training in all organizations and agencies involved in disaster-relief.
- The initiative for gender mainstreaming the Coordinated Appeals Process (CAP), a tool for United Nations coordination and programming for humanitarian assistance at the international level, needs to consciously address health issues from a gender perspective.



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