Disaster sociologists see natural, technological and human-induced disasters as fundamentally social events reflecting human decisions about the organization of social life in the physical environment. Not the physical hazard (e.g. spring flooding) but the socially constructed vulnerability to it (e.g. low-income women living in mobile homes on flood plains) is at the heart of the process of “designing disasters.” Unsustainable development, environmental degradation, urbanization, coastal population growth and climate change are significant root causes of modern disasters as is growing social inequality within and between societies.

The risk of exposure to the effects of disasters is not distributed equally but reflects the fault lines of any society. Students of disaster see disaster risk as a function of people’s relative exposure to hazards, the degree to which the effects of hazards have been reduced (e.g. through risk assessment and mitigation, risk communication, preparedness and community organization) and people's vulnerability to disaster, understood as the relative ability to anticipate, prepare for, survive, cope with and recover from the effects of disastrous events. Social class, race and ethnicity, age, and physical abilities are generally recognized as determinants of vulnerability but gender is conspicuous by its absence. This gender blindness may reflect the urgency of immediate need in humanitarian relief and the misperception of disasters as social leveling events. Emergency management also continues to be dominated by men. A 1998 study in Australia found just 5% of participants in emergency management courses were female; while more women are entering the field, that same year just 10 of the 67 counties in Florida that had emergency management offices employed female directors.

The new gender and disaster subfield developed over the past 15 years examines not only how gender puts women and men differently at risk but the gender-based life experiences, skills, capacities and resources of women and women’s groups in disaster contexts.

**Mitigation and preparedness**

The literature demonstrates that women tend to be more risk averse and more likely to try to prepare for disasters and take self-protective measures such as evacuation. Unfortunately, they may not receive early warnings, for example when men control radios or risk communicators target people in the formal labor force and overlook women’s social networks or preferred means of communication. In one California study,
women than men were found to have responded positively to earthquake aftershock warnings on virtually every indicator, from seeking out more information to securing household items and developing family emergency plans. Women often report that this desire to act is minimized by the men in their lives as “panic” or frustrated by lack of funds or social power to take decisions for the household. Typically, women are more represented in neighborhood and community preparedness campaigns and grassroots mitigation strategies such as “drought proofing” through rainwater harvesting or monitoring water levels in flood-prone rivers. Women are also active volunteers in emergency preparedness campaigns. In an innovative collaborative project on disaster preparedness, women in sister cities in Ukraine and Oregon worked together in both countries for two years, capitalizing on women's traditional roles as community and family risk educators.

In less developed countries, women's groups are increasingly involved in grassroots vulnerability assessments and community preparedness and mitigation campaigns that save lives. The toll was high in nearby villages during hurricane Mitch, but no deaths occurred in Masica, Honduras where an explicitly gender-inclusive approach to hazard mitigation had been adopted.

Vulnerability and impact

Context-specific gender analysis is needed as women are not universally or automatically more vulnerable to the effects of all disasters in every society. But the gendered division of labor often puts women at increased risk, for example during the 2004 Indian Ocean tsunami when male fishers were able to ride out the waves at sea while women waiting on shore with nets for the catch were swept out to sea. Women jeopardize their own safety to save children and other dependent persons, and in some cases biological factors such as advanced states of pregnancy or the frailties of advanced age come into play. Case studies indicate that gender inequalities more than gender differences explain the disproportionate impacts of disasters on girls and women. High poverty rates, the HIV/AIDS pandemic, the global “maid trade,” migrant farm work and other patterns moving women across boundaries, often as undocumented workers, combine with lack of political power, low literacy rates, exposure to gender-based violence and other pressures to reduce women’s resilience to disaster in the short- and long-term. With significant differences among and between women in different social locations, women on balance are more likely at the time of an extreme environmental event to:

- live below the poverty line
- rely upon state supported social services

<table>
<thead>
<tr>
<th>SELECTED FINDINGS ON GENDER AND DISASTER</th>
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<tbody>
<tr>
<td><strong>Risk perception</strong></td>
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<tr>
<td>- Gender norms foster more “risk taking” among men and “risk avoidance” among women, with implications for preparedness and safety in disasters;</td>
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<tr>
<td>- Women express higher levels of concern than men, on balance, about environmental hazards likely to affect their families.</td>
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<tr>
<td><strong>Preparedness Behavior</strong></td>
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<tr>
<td>- Women seek out information about hazards;</td>
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<td>- Men prepare the external household areas while women prepare family members;</td>
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<td>- Women volunteer more for local preparedness programs, e.g. in schools;</td>
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<td>- Women are more likely than men to take part in community organizations addressing local environmental or technological hazards.</td>
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<tr>
<td><strong>Warning Communication and Response</strong></td>
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<td>- Women’s networks provide them with more information and warnings;</td>
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<td>- Emergency warnings from local disaster managers are more likely to be found credible by women than by men, and women are more likely to act upon them;</td>
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<td>- More men than women disregard evacuation orders; women with children evacuate earlier.</td>
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<tr>
<td><strong>Emergency Response</strong></td>
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<td>- Women with children are the least likely to help others outside the family; men are more likely to assist strangers, e.g. through search and rescue efforts;</td>
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<tr>
<td>- Women offer more sustained emotional support to disaster victims, e.g. as volunteers and within the family;</td>
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<tr>
<td>- Women are more likely to warn others and to assist in long-term recovery, e.g. as crisis workers and human service professionals;</td>
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<tr>
<td>- Men more often than women hold leadership roles in established economic and political organizations responding to disaster and are highly visible in male “first responder” roles</td>
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lack savings, credit, insurance
lack inheritance rights, land rights, control
be unemployed or work in the informal economy
be self-employed, home-based, contingent workers
reside alone, be rearing children alone
depend on functioning caregiving systems
depend on public transportation, travel with dependents
reside in public housing, mobile homes, rental housing, informal settlements
live at risk of assault and abuse, be displaced into domestic violence shelters
be responsible for others (family, kin, neighbors) as paid and unpaid caregivers
physically depend on others due to late pregnancy, recent childbirth, age, chronic illness
be living with disabilities, chronic illness
be subject to gender norms controlling mobility and use of public space
be subject to male authority in the household regarding use of emergency assistance assets and key decisions about evacuation and relocation.

These patterns are all too evident when disastrous events unfold. In the Indian Ocean tsunami, an Oxfam report found that in one village male survivors outnumbered female survivors by three to one. Eighty percent of all deaths were female in the worst affected village. Lack of sanitation and medical services jeopardizes the physical and emotional health of pregnant women who may have also lost homes, livelihoods, and families in the quake. In the US, studies generally find that women express more mental health problems while men are more likely to suffer the effects of substance abuse. Violence against women may also increase. In Grand Forks, ND, requests for temporary protection orders rose by 18% over the preceding year and counseling with on-going clients rose 59% after the Red River flooded the entire city in 1997; similar patterns were reported in a study of women’s organizations responding to the tsunami in Sri Lanka. Women’s family work expands under much more difficult conditions and their home-based livelihoods are disrupted or even destroyed. They also tend to remain in temporary accommodations longer than men; in the first weeks after hurricane Mitch, the proportion of families headed by women living in shelters in Tegucigalpa was already 41% and rose to over half (57.6). The post-disaster “flight of men” increases the number of women heading households in the wake of destructive social and environmental events.

### Emergency response and recovery systems

Women often have less access to what disaster managers consider to be key assets for survival and eventual recovery, e.g. diverse income, health and safety, time, information, transportation, language skills, citizenship status and social support. The urgent need to meet family needs in the aftermath also increases their dependence on external aid. Women are far more likely than men to seek help over the long-term from outside agencies despite their resistance to “charity” and such practical obstacles as lack of transportation or child care to access disaster assistance services. Gender norms in some cultural contexts also restrict their ability to publicly seek help or use emergency shelters in which they come in to contact with unrelated men. Poor and marginalized girls and women are least likely to receive needed assistance, as are women whose everyday lives diverge from the norms embedded in traditional emergency management systems about male headship, heterosexual marriage, and women as caregivers not earners. For example, the Sri Lankan government offered 5,000 rupees (about $49US) to families affected by the tsunami but, as only male-headed households were recognized in some parts of the country, many widows went without. When hurricane Andrew hit Miami, FEMA still adopted the head-of-household approach to relief. Even simple sanitary packs for women were reportedly hard to come by in the wake of the tsunami. Men also tend to have more access to paid reconstruction jobs while women’s home-based livelihoods take second place in the rebuilding process.

While women are primary users of emergency help systems, male-dominated planning and relief systems typically exclude their voices and concerns. International organizations working toward gender-sensitive disaster response identify these and other concerns in project planning and implementation:

- the need for consultation with women’s groups and material support of women’s advocacy groups
- women’s organizations and networks as resources through the disaster cycle
- the need for culturally competent and gender-aware staff in humanitarian relief
- livelihood recovery projects recognizing women as environmental resource users and managers
- barriers to women receiving and acting on emergency communications and warnings
- women’s increased risk of gender violence in the aftermath of disasters
• women’s need for income and the restoration of their livelihoods after disasters
• the need to provide child care so women can access relief resources and seek employment
• the need to support women in their formal and informal roles as caregivers to disaster-impacted children, partners, and dependents
• reproductive health care in emergency and temporary shelters
• women’s need for gender-aware psychosocial support
• women’s increased risk of forced or early marriage (e.g. “tsunami marriage” to older men)
• the likelihood of early school-leaving or truancy among girls
• the need for gender-specific data as a planning, budgeting and evaluation tool

Especially in less developed countries, women’s grassroots organizations are often engaged in disaster mitigation, preparedness, relief and reconstruction efforts. In India, the Self-Employed Women’s Association [SEWA], a union for women in the informal sector, provides disaster insurance to poor women through women’s banks as well as training in seismically-resistant construction. Local SEWA chapters helped governmental authorities direct relief supplies and provided resources to help women begin to earn again while still in tents following the 2001 Gujarat quake. The Foundation for the Support of Women’s Work in Turkey built on existing centers to create safe space for women after a major earthquake, serving over 10,000 women and children. Tenant housing coops were developed by over 100 quake-affected women who also conducted their own post-disaster impact assessment research for the benefit of local government.

Women are not the passive victims represented by the media but step in as first responders helping to search out and rescue survivors. Later, women who are able will help replace disrupted services (e.g. safe spaces for abused women, child care, peer support), host displaced women and families, meet broader community needs as volunteers, use established and emergent women’s organizations to fund raise and...
advocate for the needs of vulnerable people at risk of being overlooked, and in other ways work through and outside of traditionally gendered jobs, occupations, and social roles to help move their communities forward.\textsuperscript{25}

Disasters as windows of opportunity for women

Traditional gender relations are often reinforced as disasters unfold and existing inequalities exacerbated, leaving women even more vulnerable to subsequent disasters.\textsuperscript{26} There are also moments of opportunity for women to challenge prevailing gender norms, e.g. using relief funds to leave an abusive relationship, developing new job skills through reconstruction work, and gaining self-confidence and leadership skills through collective action to meet women’s needs and interests. The skills and knowledge of women as providers, caregivers, community organizers and volunteers, informal neighborhood leaders, family managers, and advocates for those who are socially marginalized make them key partners in disaster management. Policy makers and practitioners increasingly see that gender sensitivity is not a luxury but an essential quality of effective disaster risk management. The scarce resources made available to mitigate hazardous living conditions, provide emergency relief and recovery assistance and rebuild in ways that increase community resilience to hazards and disasters must reach those who are most at need. The mobilization of women around the world after disasters is not, however, based on efficiency values or practical relief and recovery concerns but on moral claims to women’s fundamental human rights in disasters and the need for women’s leadership before, during and after disasters. Safer, more just, sustainable and disaster-resilient communities cannot be built without the full and equal participation of women and men alike.

RESOURCES ON WOMEN AND DISASTER RISK REDUCTION

Gender and Disaster Sourcebook: http://www.gdnonline.org/sourcebook/index.htm. Developed by an international team 2004-2005 to compile English language materials for practitioners, policy makers and academics, including:
- Videos and photo essay
- Bibliography updated annually, conference proceedings
- Practice and policy guide, fact sheets
- Academic case studies in disaster social science

A CD “Sampler” of these materials is available for postage costs from the Public Entity Risk Institute Contact them at: http://www.riskinstitute.org/

Disaster Watch: http://www.disasterwatch.net/. Web forum designed to support the growth and development of women-centered community-based, post-disaster initiatives. Joint effort of the Huairou Commission, GROOTS International and Swayam Shikshan Prayog (SSP) in India. Newsletter, advocacy, action research, international collaboration for peer learning among disaster-impacted women working through women’s grassroots organizations.

Gender broadsheet: six principles for engendered relief and reconstruction:
http://www.gdnonline.org/resources/genderbroadsheet.doc. Developed on behalf of the Gender and Disaster Network in response to the 2004 Indian Ocean tsunami.


Social Vulnerability Approach to Disaster: http://www.gdnonline.org/resources/women-and-disaster-syllabus-ee2001.doc. FEMA’s Higher Education Project supported this on-line college course which includes free chapter guides for instructors, sample syllabus, exam questions, bibliography, and slides. Enarson’s sessions on gender and Morrow’s sessions on households and families are of special interest.

Women and Disaster syllabus (August 2001): http://www.gdnonline.org/sourcebook/index.htm. Lower-division college class developed by E. Enarson for the women’s studies program at Metropolitan State College of Denver.

Gender and Disaster Network: http://www.gdnonline.org. International website, network and listserv for resource sharing, advocacy and dialogue.


6 Bateman, Julie and Robert Edwards. 2002. Gender and evacuation: a closer look at why women are more likely to evacuate for hurricanes. Natural Hazards Review 3 (3).


16 Buvinić, Mayra. 1999, op.cit.


18 For a discussion from the US, see Fothergill, 2004. op.cit.


22 Good practices and practical guidelines for gendering disaster risk management are referenced in the on-line Gender and Disaster Sourcebook: www.gdnonline.org/sourcebook/index.htm

23 See SEWA’s website: http://www.sewa.org/insurance/main.asp

