CHAPTER 8

Gender and Disaster: Foundations and Directions

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Gendered disaster social science rests on the social fact of gender as a primary organizing principle of societies and the conviction that gender must be addressed if we are to claim knowledge about all people living in risky environments. Theoretically, researchers in the area are moving toward a more nuanced, international, and comparative approach that examines gender relations in the context of other categories of social difference and power such as race, ethnicity, nationality, and social class. At a practical level, researchers seek to bring to the art and science of disaster risk reduction a richer appreciation of inequalities and differences based on sex and gender. As the world learns from each fresh tragedy, gender relations are part of the human experience of disasters and may under some conditions lead to the denial of the fundamental human rights of women and girls in crisis.

We begin by briefly discussing the dominant theoretical frameworks that have guided gender disaster research to date and seem likely to develop further. We then organize and review the extant literature around seven interrelated themes. The literature review is designed to highlight published research conducted on human behavior and social consequences in primarily natural disasters and thus does not include, for example, armed conflict and displacement, HIV/AIDS, and other related literatures. The third section of the chapter examines international perspectives in the gender and disaster field. Finally, we point out knowledge gaps and some new directions we hope will guide the endeavors of those who produce and use knowledge about disasters.

THEORETICAL APPROACHES

No single theoretical lens frames disaster research on gender. Indeed, most researchers use insights freely borrowed from all angles of vision, though most begin with a social vulnerability approach (Blaikie, Cannon, Davis, & Wisner, 2004; Bolin, Jackson, & Crist, 1998; Hewitt, 1997). This way of thinking assumes that disasters are fundamentally human constructs that reflect the global distribution of power and human uses of our natural and built environments. Disaster risk is socially distributed in ways that reflect the social divisions that already exist in society. Not a question of "special" populations or a quality of the individual, social

vulnerability to disaster is a social dynamic rooted in gender, class, race, culture, nationality, age, and other power relationships. Situational and contextual dimensions cut across these lines, for example, physical (dis)abilities and health concerns, household size and composition, functional literacy, citizenship status, political experience with uniformed state authorities, different degrees of ease on the street at night, and so forth. Used uncritically, this approach can lead to overgeneralizations about women as a social category and overemphasize women's dependency and need (see Fordham, 2004). However, it also inspires many researchers to investigate specific structural sources of vulnerability related to sex and gender, from reproductive health and gender violence to land rights and poverty (Enarson & Morrow, 1998).

The sociopolitical ecology perspective, most clearly used by Peacock, Morrow, and Gladwin (1997) in their edited book on Hurricane Andrew, also calls for a broad ecological and political approach and focuses on interactions—not solely the interaction of human systems and the physical environment, but of all social systems. This way of thinking about hazards and disasters is concerned with conflict, competition, and inequality, rejecting the notion that a community is a single, autonomous social system and conceptualizing community instead as an ecological network of interacting social systems (Peacock & Ragsdale, 1997). From this perspective, social systems are no more gender neutral than they are race neutral (Enarson & Morrow, 1997; Morrow, 1997; Yelvington, 1997).

Feminist political ecology integrates many of these ideas, examining gender relations in specific environmental contexts with an emphasis on women's practical environmental knowledge and the nexus of gender inequalities, environmental degradation, and disaster vulnerability (Rocheleau, Thomas-Slayter, & Wangarai, 1996). Women's roles as primary resource users and managers, their dependence on natural resource based livelihoods, and the responsibilities they have to dependents in the household and community are central concerns. Women are therefore viewed as especially sensitive to hazardous conditions that put their families, homes, and neighborhoods at risk of mudslides, toxic spills, forest fires, gas explosions, and other environmental and technological hazards (among others, see Cutter, 1995b; Cutter, Tiefenbacher, & Soleci, 1992; Steady, 1993). Without accepting the essentialist identification of women and nature embedded in popular eco-feminism, disaster sociologists can and do draw on feminist political ecology to link gender relations to specific environmental contexts. Empirically, feminist political ecologists have analyzed gendered environmental knowledge and survival strategies in drought-prone regions and female leadership in grassroots movements against the destruction of forest resources and toxic waste disposal, among other topics.

Gender and disaster researchers also draw explicitly on feminist theory. Enarson and Phillips (forthcoming) argue that disaster sociology and feminist theories work well together and should forge an even closer relationship as they use similar concepts (e.g., social power, privilege, domination, vulnerability, empowerment, political economy, and social change) and equally embrace global, interdisciplinary, and practice-oriented inquiry with libratory intent. When disaster scholars posit that disasters disrupt "the social system," feminist theory poses the question "whose social system?"

While there are theoretical openings for understanding disaster risk in socialist feminism, postmodern feminism, multiracial feminism, and eco-feminism, most researchers draw either on liberal feminism or gender and development theory. Based on ideas from the western Enlightenment, liberal feminist theory posits that gender differences are for the most part socially created, and that women as much as men have inalienable human rights. They attribute social inequality to unfair barriers to education and achievement, focus on the cultural devaluation of women as well as the gendered division of labor, gender violence, and limitations on reproductive choice (Lorber, 1998). Disaster researchers use these ideas to explain why some

women and girls may not have access to equal resources and information in a disaster situation or face discrimination in the aftermath. This approach also leads researchers to investigate how gender stereotypes affect disaster services and emergency operations; the careers of women in the field; and gender bias in the design, funding, implementation, monitoring, and evaluation of emergency shelters, water and sanitation, health care, and other post-disaster initiatives. While liberal feminist thought potentially leads to an equal focus on gender as a factor in men's disaster experiences, this avenue of research has not been developed (but see Alway, Belgrave, & Smith, 1998; Klinenberg, 2002; Scanlon, 1998c, 1999b).

Most of the international research in the field is grounded in gender and development theory (e.g., Fernando & Fernando, 1997; Tinker, 1990). From this perspective, disaster vulnerability cannot be understood outside patriarchy and the historical dynamics of global capitalism and colonialism still shaping the developing world today. Free trade policies that undermine local markets and increase pressures on men to migrate for wage work, for example, leave more women and children impoverished in unsustainable rural environments or displaced to risky urban settlements. Like liberal feminists, gender and development theorists view inadequate maternal and child health care and lack of education for girls as important factors in gendered disaster vulnerability. But gender and development theorists also emphasize the possibilities for women's agency and self-protective action in risky environments based on their reproductive, productive, and community work. This perspective is moving the field from a beneficiary or victim model to one based on barriers to the realization of women's and girls' fundamental human rights in disasters (Acar & Ege, 2001; Enarson & Fordham, 2004). It also invites attention to women's coping strategies in risky environments and brings into view such marginalized groups as female migrants and refugees, women agriculturalists, street vendors, home-based workers, single mothers, widows, and impoverished and low-caste women.

There is ample room for development in every set of ideas that is currently guiding the work of researches and practitioners concerned about gender. As noted by Quarantelli (1998), the focus on gender relations in disaster contexts is one of the contemporary forces for change in thinking and theorizing about hazards and disasters.

KEY EMPIRICAL FINDINGS

While some early disaster research included sex as a survey variable, no careful, thorough, explicit, and purposeful examination of gender in disasters was undertaken until the 1990s. In a key review of the literature to date, Fothergill (1996) summarized a wide range of work documenting significant empirical findings on gender differences and inequalities across the disaster cycle. In the intervening decade, the field has grown considerably and has become increasingly international (see the special issues in the book edited by Morrow & Phillips, 1999 and Phillips & Morrow, forthcoming). Catastrophic events such as the Indian Ocean tsunami and Hurricane Katrina will certainly inspire more gender-focused research in the future. In the following sections we highlight some of the major work to date and draw conclusions in seven interrelated areas.

Class and Gender

Though in-depth class analysis is still relatively rare in gender-focused disaster research, studies that have been done in this area show that class status is an important difference in

women's disaster experiences (Finlay, 1998; Fordham, 1999). Indeed, when a disaster does occur, it is clear that those already living in poverty are impacted in different and significant ways compared to other members of society, as Fothergill and Peek (2004) concluded in their major review of the disaster and social class literature. Feminist theorists have long argued that women's experiences and social locations are not universal but are shaped by critical differences grounded in class, caste, age, sexuality, race, ethnicity, religion, nationality, and other factors.

Disaster vulnerability is not synonymous with poverty, however, as the rich can and do buy their way into harm's way. While affluent women are certainly more resilient to economic loss, they do not escape the emotional impacts of evacuation and losing their homes and belongings, the stress of rebuilding, and the anxiety over health and safety in general (Enarson & Fordham, 2004; Fothergill, 2004; Hoffman, 1998). Yet it is clear that economically insecure, low-income, and poor people are most often exposed to environmental harm and have less social choice, more practical constraints, and fewer recovery resources. Because women are generally the poorest of the poor, this is most true for women; disasters frequently leave poor women even more impoverished (Bradshaw, 2001a; Enarson, 2000a, 2001a; Kafi, 1992).

Poor women have a more difficult time recovering from a disaster, as they are often living in crisis before a disaster strikes (Fordham & Ketteridge, 1998). When hunger prevails, women's and girls' food insecurity and their lower caloric intake relative to that of male relatives in some societies makes them physically weaker in the crisis of the moment and less able to survive injuries and deprivations in the aftermath of disaster (Rivers, 1982). Poor women are also more likely than other women to depend on community-based services such as public transportation and health care, including crisis counseling and shelter from violence; when these resources and services are destroyed or undermined by disaster events, poor women's health and safety are affected (Enarson & Fordham, 2001). Low-income women also tend to live in housing that exposes them to harm, living more often than low-income men in poorly maintained public housing, manufactured homes, shelters, and rental properties, and more often than men as low-income single heads of households (Enarson, 1999a). After Hurricane Andrew, poor women of color were observed to be those most in need of housing several years after the disaster (Morrow & Enarson, 1996).

The impacts of disasters on women's paid and unpaid work are well documented, and livelihood protection is the main focus of gender and disaster projects on the ground in the world's poorest nations. In the 1985 Mexico City earthquake, poor single women with children were the hardest hit by the disaster and many of them lost their homes, which were also the site of their livelihoods, as they prepared food at home to sell on the street (Dufka, 1988). Poor women do not have the economic resources (i.e., insurance, land, access to labor, tools) needed to reconstitute their lives and homes following a catastrophe. Low-income women are also unlikely to receive the mental health care that would advance their recovery, though most researchers find that gender relations put women more than men at risk of reports of posttraumatic stress (Ollenburger & Tobin, 1998; Van Willigen, 2001).

Women's long-term economic status following disasters has not been sufficiently studied to arrive at conclusions, but the work of Bradshaw (2001a), Buvinić (1999), and Delaney and Shrader (2000) from Latin America suggests that household structure and ethnicity must also be taken into account. The International Labour Organisation working paper on gender, work, and disaster (Enarson, 2000a) observed that working-class women dependent on social protection, secure employment, public services, and/or home- and homestead-based livelihoods were severely impacted by disasters.

Race/Ethnicity and Gender

Researchers have found that people marginalized by race and/or ethnicity in the United States face barriers stemming from language, culture, experience, stereotypes, discrimination, segregation, and social isolation in the aftermath of disasters (Fothergill, Maestas, & Darlington, 1999). However, race-sensitive gender research conducted on the disaster experiences of race-specific groups of women or men is lacking. For example, while risk communication researchers are sensitive to population diversity, we are aware of no studies that directly address these interactive effects. One early study did find that gender as well as ethnicity, measured and analyzed separately, were important factors in effective communication about earthquake preparedness in southern California (Blanchard-Boehm, 1997).

As might be expected, the intersection of poverty and race/ethnicity may combine to disadvantage women. Researchers from the United States, while rarely focused explicitly on these links, report in qualitative studies that women in subordinated ethnic and racial groups face housing-related difficulties coupled in some cases with discrimination in relief systems. Enarson and Fordham (2001) reported that after the 1997 Grand Forks flood in North Dakota, flood relief was geared away from migrant workers, hurting primarily Hispanic single mothers. Morrow and Enarson (1996), in their research on Hurricane Andrew in Florida, interviewed immigrant and migrant women from Haiti, Cuba, Mexico, and Central America, African-American single mothers and grandmothers, and others. They found that these women faced numerous obstacles, including lack of affordable housing, especially for Latinas and others with large households, slow repair of their residences in public housing units (damaged when managers failed to protect windows), interpersonal violence in the temporary trailer camps in which minority women disproportionately resided, increased "kin work" as ethnic families combined resources, and unnecessarily complex aid applications. Researchers also report that women already marginalized by racial/ethnic bias or economic exclusion are less likely than more privileged women in dominant racial groups to take an active part in long-term recovery efforts. For example, the neglect of issues specifically affecting women of color was one of the reasons for the cross-cultural coalition of women in Miami that arose in the wake of Hurricane Andrew (Enarson & Morrow, 1998). Lacking a sense of political efficacy, Latina migrant workers interviewed after the 1997 Grand Forks flood (Enarson, 2001b) reported feeling excluded from formal political power and informal community rebuilding initiatives, and some expressed interest sparked by the flood in organizing a political presence for Latinas who had worked and lived for many years in the Grand Forks region.

Systematic cross-cultural investigations with emphasis both on gender and culture or ethnicity are also rare. Enarson & Fordham (2001) reported on the "lines that divide" in their comparative discussion of how race, class, and gender affected women before, during, and after major floods in the United States and Scotland. As noted later in this chapter, gender and disaster researchers writing from low-income nations and regions often focus on poor women who are also marginalized by caste or religion, rarely addressing gender in the abstract but as a social construct embedded in a rich cultural context (Ahmed, 2004; Bhatt, 1998; Lovekamp, forthcoming; Rozario, 1997; Shroeder, 1987).

Gender Violence

It is well documented by humanitarian relief agencies and other responders that the risk to girls and women of emotional abuse and physical violence increases in the aftermath of disasters

in low-income countries. In their influential report for the United Nations Development Programme (UNDP), Wiest, Mocellin, and Motsisi (1994) state that girls are vulnerable to sexual abuse and exploitation following disasters, and displaced girls especially. More recent studies also find that violence against girls and women is a post-disaster issue for survivors. For example, Nicaraguan families hit by Hurricane Mitch faced many problems including increased family conflict and abuse that may be explained in part as the unintended consequence of the practice of many external relief agencies of targeting women in relief programs (Bradshaw, 2001a). In Cambodia, women worried about the risks of rape and sexual abuse of their daughters who were forced to migrate to find work after floods as a debt repayment strategy (CARE International, 2002). Following the 2004 Indian Ocean tsunami, there were numerous media accounts of violence against women and sexual exploitation of girls. Fisher (2005) corroborated these accounts through interviews with women's advocacy organizations and local experts able to gain the confidence of tsunami-affected women.

Measured by increased requests for service and documented in qualitative interviews with survivors and with the staff of antiviolence agencies responding to them, studies from North America also find that violence against women, especially intimate partner violence, tends to increase in disaster periods (Dobson, 1994; Enarson, 1999b; Honeycombe, 1994; Morrow, 1997; Morrow & Enarson, 1996; Palinkas, Downs, Petterson, & Russel, 1993; Williams, 1994). In North Dakota after the 1997 flood, there was an increased demand for services from the local battered women's shelter, such as counseling and protection orders from abusers, in the immediate and more extended aftermath of the disaster (Fothergill, 2004). Researchers reported that in that same event, some women apparently returned to their abusers if they were desperate for their help or had no housing alternatives (Enarson & Fordham, 2001; Fothergill, 2004). It is also possible that these events afford women the opportunity to leave abusers as a result of relief money and perhaps increased self-confidence (Fothergill, 2004; Morrow & Enarson, 1996).

In her comparison of the preparedness of antiviolence shelters and the impacts of recent earthquakes, floods, hurricanes, ice storms, and landslides on these refuges, Enarson (1999b) found more commonalities than difference between the United States and Canada. For example, more reports of increased violence surfaced in the 12 months after a given disaster event than in the emergency period, owing either to decreased levels of violence, obstacles to reporting and assistance, or some combination of these factors. Following extreme events such as earthquakes and floods, there is a decrease in police protection as social control norms change and laws regarding domestic disputes are often not enforced (Wenger, 1972). In addition, how organizational personnel perceive domestic violence issues before a disaster strongly influences the perceptions and handling of domestic violence issues after a disaster (Wilson, Phillips, & Neal, 1998).

The Gendered Division of Labor

Building on their knowledge of women's multifaceted work roles involving productive, reproductive, and community labor, gender scholars of disaster have analyzed how the division of labor at home, particularly regarding caregiving roles and responsibilities, may increase women's pre-disaster vulnerability and place additional burdens on women during recovery. Women's labor often helps their families to prepare for and cope with disastrous events, and some researchers posit that it is women who have held their families together after a disaster (Dann & Wilson, 1993; Fothergill, 1999; Millican, 1993; Morrow & Enarson, 1996). Disaster

work takes on added significance as part of the "second shift" of household labor documented by sociologists (Hochschild, 1989). In most societies, the everyday and immediate responsibilities of parenting and caring for dependents are women's work. In the event of evacuation, it falls to women to create and re-create a sense of security for children in what is often a series of makeshift shelters or temporary houses; for women on the other end, hosting evacuees or displaced relatives and friends, the emotion work of disaster reconstruction can take a large toll (Enarson & Scanlon, 1999). Women's and men's ideas about their appropriate family and household responsibilities have major consequences for their risk perception (Major, 1999), preparedness (O'Brien & Atchison, 1998), and evacuation (Bateman & Edwards, 2002), all of which have documented gender differences. Generally, women often appear to find risk warnings more credible and act on this knowledge by taking protective actions for themselves and their family members (Fothergill, 1996).

In a disaster, mothering becomes more difficult and complicated as conditions become unsafe and as surviving children need more attention during and after the crisis. Slow-onset disasters often degrade water quality and quantity, which puts women's and children's health at risk and greatly expands the demands on mothers to keep children well (Halvorson, 2004; Sultana, forthcoming). A study in Cambodia discovered that women, as the health and child care providers in the family, were under great stress as they felt compelled to keep a vigilant eye on young children while also carrying out other critical work responsibilities in flood disasters (CARE International, 2002). In the aftermath of a disaster, caretaking also becomes much more difficult for women who care for disabled family members, or are disabled themselves (Fothergill, 2004). In the United States, lack of child care was a major barrier to women's return to work and hence to business recovery after the Red River flood that destroyed child care centers and home-based child care facilities (Enarson, 2001b; Fothergill, 2004).

At the most fundamental level, Ikeda (1995), Miyano, Jian, and Mochizuki (1991), Rivers (1982), and others note that caregiving responsibilities put women more at risk of injury and death as they strive to save their children. Gender differences in fatalities can in large part be attributed to the daily patterns of life that put women and men, respectively, at higher risk depending on the time of day and gender-differentiated working patterns.

While female headship is not synonymous with disaster vulnerability, Wiest et al. (1994) argued that women are particularly vulnerable in the developing world because of the large number of women-headed households and the difficult conditions of household management in poor communities in the best of times. The increase in households maintained entirely by women is a well-documented effect of recent disasters. After Hurricane Mitch, women's domestic labor expanded greatly as a result of male desertion and/or the imperative of economic migration (Delaney & Shrader, 2000). Wiest (1998) also documented the "flight of men" in the case of Bangladesh floods with the result that women were forced into wage labor for local landowners.

Field researchers internationally find that, except where cultural norms limit women's contacts outside the home, securing relief assistance and the immediate necessities of life falls largely to women. Both women and men in the United States and elsewhere resist the stigma and shame of receiving public assistance after a disaster event, but it is women who ultimately stand in the lines, negotiate the bureaucratic paperwork, and seek long-term help for family members (Enarson & Fordham, 2004; Fothergill, 2003). Regarding the gendered division of labor in agricultural work, Paolisso, Ritchie, and Ramirez (2002) reported on women's and men's substantially different views of economic impacts on their coffee crops in post-Hurricane Mitch Honduras, suggesting the practical need for gender-specific data

and gender-aware impact assessments, especially of economic recovery programs affecting primarily low-income families.

Relief Services and Recovery Efforts

Research shows that gender is relevant in understanding who is assisting with disaster relief services and recovery efforts. For example, women's groups are often actively involved in the crisis period, delivering food and other supplies. Occasionally these are newly formed groups, but more often they are preexisting women's community groups that expand their work to disaster relief operations. Women generally step into relief from established leadership roles at the neighborhood level (Serrat Viñas, 1998) and it is not uncommon for some to move on to progressively more responsible relief and recovery positions (Barnecut, 1998). Both women and men work voluntarily for the most part, sometimes in a sex-segregated fashion, as Cox (1998) demonstrated in her account of a rural Australian community coping with wildfire, and sometimes in more gender-integrated ways, such as in sandbag lines during floods in the United States (Fothergill, 2004).

Overall, however, despite women's considerable work in relief and recovery, most research finds that women are not in positions of authority. A survey on women's roles in disaster management in the Caribbean demonstrated that women were involved in the implementation of relief activities, but not in the decision-making and planning process (Noel, 1998). This was also found in Bangladesh, where women were excluded from disaster response decision-making activities (Khondker, 1996), given fewer relief supplies, and not trusted with response tasks (Begum, 1993). An early Red Cross survey documented organizational barriers to the occupations and rankings of women (Gibbs, 1990), a finding echoed by more current investigations from emergency management organizations in the United States (Wilson, 1999). Women were found to represent only 5% of those trained in emergency management in Australia (Wraith, 1997). Phillips's (1990) groundbreaking study of gender bias in emergency management reported that women were underrepresented in the emergency management field and easily excluded from the organizational "old boys' network." However, the study also found that women contribute positively to the profession and often bring a heightened sensitivity to the socioemotional needs of survivors.

Regarding access to help, women's short-term needs and long-term interests are often neglected. Social class, race, and ethnicity were found to be powerful determinants of aid in qualitative profiles from the aftermath of Hurricane Andrew (Enarson & Morrow, 1997; Morrow, 1997; Yelvington, 1997). Poor women did not always receive the assistance to which they were entitled as relief was based on a single "head of household" model that tended to privilege men (Morrow & Enarson, 1996). Childers (1999) found that low-income elderly women were disproportionately in need of economic assistance but less likely to receive it. Women were also at a disadvantage in federal disaster relief programs for small businesses (Nigg & Tierney, 1990), and women-owned businesses had disproportionately high failure rates in one flooded mid-western community (Staples & Stubbings, 1998). Women are less often employed in housing construction roles than men but do find work in human service jobs created after a disaster; hard-hit women lacking college degrees or professional experience often benefit the least from these new jobs (Enarson, 2001a).

Limited political rights and lack of information about existing legal rights compound the barriers to women's recovery created by gender relations, as illustrated in the accounts from

Bangladesh after a cyclone (Hossain, Dodge, & Abel, 1992). Reports of bias against women in Food for Work relief programs in developing countries reaffirm this point. Poor women in poor countries face extreme obstacles to receiving equitable relief help, which are often compounded by bias based on religion and caste. Generally, it is women at the lowest levels of the caste system who are unable to seek help; however, Ahmed (2004) noted in a study from northern India that high-caste women able to afford the economic constraints of extreme sex segregation (purdah) were also unable to leave the family compound to seek aid after devastating floods. Relief efforts undertaken without knowledge of the cultural barriers to specific groups of women and without culturally competent female staff cannot help communities equitably.

Women's Grassroots Strategies

While often excluded from more official avenues, there is evidence that women organize at the grassroots level to manage risk and respond to disaster (see Enarson, Childers, Morrow, Thomas, & Wisner, 2003; Gopalan, 2001; Weidner, 2004). One reason is that women, as primary users and managers of threatened natural resources in developing nations, organize with other women around environmental and health concerns (Ariyabandu, 2003; Chowdhury, 2001).

Examples from the United States and around the world demonstrate the effectiveness of women's grassroots strategies, despite limited resources and initial, external opposition in some situations. Yonder, Akcar, and Gopalan (2005) present case studies of innovative, women-focused, nongovernmental organizations (NGOs) following earthquakes in India and Turkey in the 1990s. The NGOs organized local women's groups so that women could participate in relief and recovery and build the skills they needed to continue their involvement. These grassroots women's groups established centers for women and children, repaired and strengthened houses, and took on visible leadership positions. The NGOs had to develop strategies to help the women deal with social hostility, and over time community cooperation grew. Another study on Pakistan (Bari, 1998) explains how women's work in a grassroots housing project after the devastating 1992 flood began the process of empowerment in the women's lives. The women were central in the design and layout of the new homes, they were able to sign contracts to co-own their homes with their husbands, were instrumental in all stages of planning, and gained a new level of confidence because of their involvement in the rebuilding project. Men who were initially skeptical and resistant came to believe that women, while mostly illiterate, could be trusted with money and the responsibility for loan payments.

In the United States, Neal and Phillips (1990) found that women are active in grassroots groups addressing environmental hazards, often as a result of their female friendship networks, and often despite officials who stereotype them as incapable or incompetent. In Miami after Hurricane Andrew, the unexpected result of a catastrophic disaster was also an increased sense of political efficacy and personal empowerment for women (see Enarson & Morrow, 1998). The research found that the grassroots feminist coalition, Women Will Rebuild, worked to unite women in the rebuilding process and stand up to a male-dominated recovery plan. However, there are conflicting data on whether disasters are indeed opportunities for social change and whether they can be transformative for women over time (Bradshaw 2001a, 2001b, 2002; Hoffman, 1998).

Practical Applications

Most areas of disaster sociology are policy or action oriented, and the gender and disaster field is no exception. Indeed, the disaster field has been doing "public sociology" for many years, particularly by working to demythologize and democratize knowledge, two key tenets of public sociology (Burawoy, 2005). Based on field experience and empirical study over the last two decades, an increasing number of gender-sensitive policy guides, training manuals, and other applications are available to help reduce risk and vulnerability and transform the recovery process.

Outstanding among the applications that have been produced are the practice and policy guides to gender-aware disaster risk management for South Asia (Ariyabandu & Wickramasinghe, 2004); a Canadian development agency guide to gender and relief (CIDA, 2003); gendered training manuals on risk reduction, such as one in South Africa (Von Kotze & Holloway, 1996); and the field checklists produced by the Food and Agricultural Organization (FAO) of the United Nations and by the umbrella organization InterAction for use in humanitarian relief efforts (Morris, 1998). A number of excellent new training videos are now available as well, among them films produced by earthquake-affected women in India, women organizing to prevent future loss following Hurricane Mitch in Honduras, and a dramatic presentation of the principles of gender-aware disaster management based on the experiences of tsunami-affected women in Sri Lanka (see the Gender and Disaster Network, 2005).

Finally, one goal of post-disaster women's projects is moving from immediate and very practical emergency needs to the long-term strategic interests of women in political participation, decision making, self-confidence, and technical knowledge. One group working on these issues is Disaster Watch, a project of the New York-based Grassroots Sisters Organizing in Solidarity, which involves community-led studies of grassroots women in risky environments and a peer learning information exchange model involving disaster-affected women from around the world (see Disaster Watch, 2005).

INTERNATIONAL PERSPECTIVES

Like most disaster social science, gendered disaster analysis in the United States is generally event driven and prone to snapshot case studies of disasters triggered mainly by natural hazards of sudden onset. Most studies are long on description and short on theory, focus on impacts and emergency response, and tend to lack historical perspective and consideration of root causes. These studies also fall short of an integrated analysis of racialized and classed constructions of gender or the intersection of gender with age and (dis)ability. But gender and disaster research also goes against the grain of mainstream disaster social science: Most researchers who study gender and disasters are women, and their topic is usually women; they investigate gender relationally with attention to power differences between women and men in myriad contexts; and many emphasize the proactive and preventative efforts of women and women's organizations in disasters (see Enarson & Meyreles, 2004).

To further identify regional patterns and themes in this growing literature, Enarson and Meyreles (2004) analyzed more than 100 case studies in English and Spanish. Noting strong contributions from South Asia but also dominant voices from the wealthier industrialized nations (more than one third of all publications were from the United States alone), they concluded that the new gender and disaster literature is developing along parallel tracks; that

is, researchers in different regions have many common concerns about gender but distinct empirical and theoretical foundations.

Writing from affluent societies in North America and Europe, researchers tend to examine gender (read: women) as a stand-alone category, explore discrete disaster events, address response and relief issues and the social vulnerabilities of gender, undertake studies at the individual and household levels, and are especially interested in women as caregivers and professional emergency managers. The contrast is striking when compared to the work of researchers studying cyclones, floods, earthquakes, and drought in the poorest countries of the world. Here researchers tend to work with gender in cultural context as one among other dimensions of social life; study communities from the inside-out, often utilizing participatory research methods; and take a much stronger interest in risk management through vulnerability reduction, hazard mitigation, capacity building, and sustainable development and reconstruction. Researchers focus more on collective than on individual impacts and responses and on the transformative potential of disasters for empowerment. Women's livelihoods and earning potential and women as grassroots community leaders in risk reduction are major concerns. A disastrous cyclone or landslide is understood as the manifestation of a process with deep historical, cultural, political, economic, and environmental roots. Indeed, women may be more visible to disaster theorists from lesser-developed countries because what is under investigation is not the crisis, but the conditions leading up to the crisis. Some of these differences in theoretical perspectives are explained by environmental context, stage of development, and research inspired by high-profile disasters in which gender differences and inequalities were difficult to miss on the ground or theoretically. Other factors are the research agendas of international women's organizations and movements and the particular development of disaster sociology in the United States. It may be that some of the effects of globalization will foster a convergence of what now appear to be distinct lines of analysis and research. At a minimum, extremes of wealth and poverty arising through increased globalization mitigate against simplistic analysis of "gender relations" or "women" as unitary concepts.

We argue that the best theoretical work with the most urgently needed practical dimension is written from the world's most dangerous places and about women and men who must learn to live with risk. Practitioners, policymakers, community leaders, emergency managers, activists, and scholars concerned about gender equity and open to gender analysis have much to learn from those writing at the turn of the century from the world's most fragile places.

KNOWLEDGE GAPS AND FUTURE RESEARCH

Once conspicuous by its absence, a gender perspective is embraced today by an international community of scholars who see gender as an intersecting dimension of human life and hence of disaster risk management. Since 1990, researchers, policy makers, community members, and disaster practitioners have gathered seven times for major conferences in Costa Rica, Australia, Pakistan, Canada, the United States, and Turkey. United Nations agencies focused on gender and on disasters, respectively, have made the experiences of women and children salient, for example, through the 1995 United Nations International Decade for Natural Disaster Reduction (UN/IDNDR) campaign on "women and children as keys to prevention" and, more recently, the 2001 United Nations Division for the Advancement of Women Expert Working Group on Gender, Environmental Management, and Disaster Risk. In the wake of the 2004 Indian Ocean tsunami, the World Health Organization (WHO), the United Nations Development Fund for

Women (UNIFEM), the International Labour Organization (ILO), and other international governmental organizations (IGOs) and international nongovernmental organizations (INGOs) took a strong interest in the survival needs of women and children. The United Nations International Strategy for Disaster Reduction (UN/ISDR, 2003) continues to strongly promote gender equality and disaster risk reduction (see Briceño, 2002). It is noteworthy that the electronic Gender and Disaster Network (2005) now includes more than 300 women and men in its membership database. While this is a rich and productive field, there are many areas in need of further study. In the following section, we briefly present nine specific knowledge gaps where we believe more research is warranted. We present these using the imperative verb form, but with appreciation for researchers already working in these areas.

Think More About Bodies and Sexuality

It is important that scholars and practitioners recognize that in real emergencies there are no disembodied "emergency managers," "volunteers," or "parents" and no degendered "disabled," "poor," or "seniors." All people are embodied social actors with multiple and fluid identities and interests. Our bodies imply differences that matter in disaster contexts. Aging populations are female dominated, so planning with and for elders means attending to gender issues germane to older women. Imbalanced sex ratios in disasters hitting women or men disproportionately matter in assessments of community vulnerability generally and gendered vulnerability specifically; these warrant much more attention. Sexual difference demands more analysis of women's and men's reproductive health needs and maternal health in particular. Gender violence is a fact of life for legions of girls and women and must be investigated as a factor reducing individual, household, and community resilience. Among "the disabled" are women living with cognitive and/or physical disabilities, HIV or AIDS, and chronic illness—and with disproportionately high rates of gender violence, poverty rates, and responsibilities for others.

Sexual orientation is a vastly understudied dimension of human experience in crisis. In the aftermath of the September 11 attacks, gay and lesbian communities were among those not well served by disaster assistance organizations (Eads, 2002). Gay and lesbian advocacy organizations are rare in all countries and hard pressed to meet even the most fundamental needs of gay, lesbian, bisexual, and trans-gender persons after disasters. How can emergency managers plan to help without even rudimentary knowledge of their living conditions, capacities, and vulnerabilities in a social crisis?

Focus on Girls and Women

Gender scholars are often charged, correctly, with focusing mainly on women. While in the following paragraphs we call for more gender analysis of men in disasters, here we argue for more research on gender inequalities—and that means women and girls first. We say this not because gender norms do not matter as much to men, but because there is already evidence that girls and women are endangered in times of crisis by sexual and domestic violence, cultural constraints on their mobility, poverty, language and literacy barriers, insecure housing, limited or nonexistent land and inheritance rights, barriers to their fair access to new information technologies and to "old" media such as radios, and overt and covert constraints on their public presence and voice. In the 2004 Indian Ocean tsunami, the everyday facts of life for

women and girls cost tens of thousands their lives—simply because they did not know how to swim or wore restrictive clothing or, more often, because of the gendered division of labor, the cultural imperative to protect their children, lack of autonomy to move freely in a world of men, and the urgent need of poor women to protect the dowry jewelry and other assets that represent their daughters' futures (Oxfam International, 2005). Having said this, it is also vital that we de-link "women and children" analytically and ask: Which women? Which children? Girls and boys? In what context? The lives of children in risky environments cannot be fully understood without gender analysis but, too often, we are quick to assume a common interest rather than empirically investigating when or whether the needs and interests of women and their sons and daughters are the same.

Acknowledge Capacities and Strengths

While it is important that we understand the ways in which women and girls may be vulnerable in disasters, it is just as critical that we understand their capacities and strengths in disaster situations. Gender scholars have been concerned that females are portrayed in the media and in scholarship as helpless victims who need rescuing in a disaster, and that by focusing solely on that image we have lost sight of the ways in which women are capable, strong, and resilient. Therefore, in future research we must investigate gender-based resources and strengths with the same enthusiasm we bring to the study of gendered vulnerability. Gender researchers across the disciplines have shown that the life experiences of women and men often lead them to different kinds of social bonds, community knowledge, information networks, power and influence, technical and administrative skills, family care experience, livelihood assets, environmental knowledge, and activist traditions. These experiences are relevant to our central research questions and must be considered in order to develop a more complex and comprehensive understanding of women's and men's lives.

Look Inside the Household

In any society the household is a distributive system in which different actors bring different resources to bear as they prepare for disasters and strive to recover from their effects. Gender analysis helps answer: Who has access to and/or control over property, time, information, labor, and relief goods and services? Gender is also a key factor in decision-making in intimate relationships, for example, regarding household preparedness, evacuation, or relocation. With this knowledge, preparedness campaigns and early warning systems can be fine tuned and perhaps gender targeted; without it, initiatives may fail. We must also consider constraints on women's autonomy, asking in any community under study which women, if any, are free to speak publicly, attend community meetings, act outside the household, access shelters, and otherwise act independently of men. Gender violence against women and girls in their homes—from intimate partner abuse and "honor" killings to forced early marriage and marital rape—makes fear an everyday reality for millions of women around the world. Their risk of trafficking to sex work and other forms of coerced labor may also increase after disasters. It is important to consider how community members and risk managers can best use this knowledge.

In addition, interior living spaces and the homestead area are typically workplaces for girls and women. Here they earn income or otherwise support themselves and their families through direct care for dependents (paid and/or unpaid), food preparation (for consumption and/or sale), and home-based production and service work of all kinds. A gender lens is needed

when we study residences as workplaces in our work on economic and social vulnerability, preparedness, impact, and short- and long-term recovery.

Think Globally

To understand disaster vulnerability and gender relations, we must examine the root causes of social changes—including the global political economy, religious fundamentalism, and social movements for and against the liberation of women. This means we need to think globally. For example, we need not only document the numbers of women now heading households alone in the aftermath of an earthquake, but also analyze the gendered dimensions of international labor migration and of armed conflict that may have made them heads of households long before the disaster. Global trends impacting women can be seen as "early warning signs" of reduced capacity to anticipate, survive, and recover from the effects of disasters of all kinds. For example, women need to be included in economic recovery after a disaster in order to realize full family and community recovery. Increasing economic gaps between women in high- and low-income nations can be analyzed in light of cross-national movements for risk reduction. We note with optimism the impetus to gendering climate change research and policy and call for more context-specific research addressing gender relations as a factor in mitigation, impact, and adaptation. Action research partnerships crossing the borders of the nation-state are also essential if we are to understand and address the gendered effects of globalization on hazards and disaster risk.

Engage Gender Politics

The construction of knowledge is always a social process, so there is always a gender politic to our work as students of disaster. In our view, scholars must link women's human rights to disaster risk theoretically, in research, practice, and political work. We must ask: How do increasing social inequalities within and between nations and regions impact the fundamental human rights of men and women in crisis? How do land-use decisions affect the housing, employment, and transportation options of women and men, respectively?

What kinds of gender relations, political–economic and military contexts, and environmental pressures increase women's risk in disasters of death, injury, or disempowerment? Conversely, what configuration of gender relations enhances disaster risk reduction? As communities with more egalitarian relations between women and men seem better able to reduce and cope with the effects of disasters, we must develop this line of research.

Explore Difference

Close examination of gender power as a social fact affecting all dimensions of risk management can and must be integral to our analysis of ethnicity and race, caste and class, age, sexual orientation, mental and physical (dis)abilities, citizenship, religion, and other categories of power—and the inverse is no less true. Gender cannot be understood in isolation. We find gender and disaster scholarship generally more nuanced and intersectional than the norm but there is much room for improvement. Understanding differences among women based on race and ethnicity, caste and class, nationality and culture, sexuality, religion, life stage, and physicality is vital. Indeed, it can be life saving. Like differences among women based on

employment, marital status, and household size and structure, these must be more carefully explored in support of gender-aware disaster risk management. We call specifically for more direct attention to gender and race/ethnicity and to gender and cultural difference more broadly.

Work with Men as Well as with Women

Unless the theoretical questions at hand relate exclusively or predominantly to men or to women, the "gold standard" of our research must be interrelationships between women and men, girls and boys. Without asking, how will we know whether or to what extent hazards and risks are constructed and experienced differently by women and men in different social, cultural, and geographic locations? How, whether, or to what extent masculine norms impinge on men and boys, for example to disempower or empower them, or make them more or less safe? Sex differences in mental and physical health should be investigated as a disaster public health concern as well as boys' exposure to gender violence and male-on-male interpersonal violence generally. Sex-based differences in vulnerability to human-induced pandemics will surely be a topic of interest to future researchers. We await more research on the gender-related experiences of South Asian men widowed by the 2004 Indian Ocean tsunami in such large numbers and now stepping into unanticipated domestic and caregiving roles in villages and towns across the region.

Collaborate with Women's Groups

Grassroots women's groups may have first-hand knowledge about environmental and population pressures, local political dynamics, and leadership structures in high-risk neighborhoods. They may have insight for researchers into those most "hidden in plain view" among the socially invisible (e.g., old women in substandard housing, women with newborns, and those caring at home for the terminally ill), stigmatized groups (e.g., women and girls living with HIV/AIDS or profound cognitive disabilities), persecuted groups (e.g., trafficked women, undocumented women doing migrant labor), and transient, homeless, and displaced women. Participatory action research is needed with women's professional, civic, educational, and faith-based organizations, and also with women working "under the radar" against environmental racism and for the rights of sexual minorities, against unsustainable local development, and for school, neighborhood, and workplace safety. More insight is needed, too, about how the actions of local activists—to name a few, those organizing locally around land-use and transportation challenges, community health, affordable housing, land rights, immigrant rights, indigenous land rights, children's rights, and disability rights—relate to disaster resilience. Their expertise and local knowledge is as valuable as the insights of professional women in disaster response and emergency management roles.

GENDERING RESEARCH AND ACTION TO REDUCE DISASTER RISK

Many lessons can be learned from gender and disaster researchers but only with concerted effort to synthesize the applications and exchange insights and concerns about gender with practitioners. There is a long way to go. In most training courses or college classes, gender

is addressed sparingly in "special populations" courses or texts. Few teaching resources are available and much of the best work has not yet been translated, especially from Spanish to English. This work must be shared and mined for use in ways that reduce avoidable suffering and mitigate the human impacts of disastrous events. The 2004 Indian Ocean tsunami is a case in point. In the weeks and months following the tsunami, NGOs, IGOs, and INGOs posted repeated e-mail requests for "checklists and guidelines" for assisting women and children. The research community readily responded with reference to existing guidelines and bibliographies, and women's groups in Sri Lanka and elsewhere articulated emerging gender threats and needs. But the large gap between survivors, policymakers, funders, practitioners, and academics was hard to miss and is more likely than not to recur.

Within the research community, moving from knowledge to action is a familiar challenge, but what accounts for the resistance to a more gender-sensitive approach? Among the answers are lack of enthusiasm for the critique of gender power, a misreading of gender analysis as an artifact of Western feminism, and the power of funding agencies, governments, and mainstream NGOs to drive the research and action agenda in every region. In the developing world, the urgent need to connect gender, development, and disaster risk reduction is clear and scholarship in these regions reflects this. But this writing is too little known or used. Internationally, we note barriers of language, technology, secure employment, technical support, travel funds, Internet access, and a host of other material resources that keep the strong gender analysis of researchers and field workers in low-income nations out of the mainstream even of gender and disaster scholarship.

What is needed? Appropriate levels of public- and private-sector support can help researchers with a new or established interest in gender undertake more gender-sensitive and theoretically informed research on a host of critical questions across regions and disciplines. Then we can teach what we learn by revising and developing courses and educational resources, and use what we learn by bringing science-based knowledge about all people to the management of risk in our increasingly risky world. Assessments are needed of how and where the gender literature is taught and what teaching techniques and resources are most effective. International teaching exchanges, paper competitions, and mentoring programs are needed for young professionals interested in gender and disaster, and material support for gender researchers from low-income countries and regions. Certainly, teaching about gender and disasters through training modules and distance education would advance the field. It is also necessary to encourage and fund scholarship that bridges the North–South divide, promote the use of gender experts on international research teams, plan special journal issues on international perspectives of gender and disasters, and support gender-sensitive multidisciplinary workshops, roundtables, consultations, and policy-oriented networks. These are among the many useful strategies that researchers in this field can advocate to see their work put to use.

CONCLUSIONS

Disaster social science is at a critical juncture, challenged by new definitions of "homeland security," the urgency of climate change, the threat of new pandemics, increasing global militarization, extreme development pressures on people, places, and resources, and entrenched social inequalities in an increasingly divided world. We are optimistic that gendering disaster theory and research will help us connect with the energies, passions, and knowledge of a larger community of activist scholars equally concerned about people, place, and risk. Expanding

the field of disaster social science in this way would be a major contribution of the gender and disaster paradigm.

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