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Gender and international crisis response: do we have the data, and does it matter?

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For more than a decade the humanitarian community has been mandated to mainstream gender in its response to crises. One element of this mandate is a repeated call for sex-disaggregated data to help guide the response. This study examines available analyses, assessments and academic literature to gain insights into whether sex-disaggregated data are generated, accessible and utilised, and appraised what can be learned from existing data. It finds that there is a gap between policy and practice. Evaluations of humanitarian responses rarely refer to data by sex, and there seems to be little accountability to do so. Yet existing data yield important information, pointing at practical, locally-specific measures to reduce the vulnerability of both males and females. This complements population-level studies noting the tendency for higher female mortality. The study discusses some possible obstacles for the generation of data and hopes to spur debate on how to overcome them.

Keywords: crisis, disaster, evaluation, gender, gender mainstreaming, humanitarian response, sex-disaggregated data

Introduction

A powerful tropical cyclone—with winds of around 250 kilometres (155 miles) per hour—struck Bangladesh in April 1991, resulting in between 68,000 and 138,000 deaths (Bern et al., 1993; Ikeda, 1995). Mortality data disaggregated by sex and age showed that, in the 20–44 age group, four times more women than men lost their lives (OCHA, 2005).

In the aftermath of the event, community members, aid workers and scholars alike studied the data, and concluded, like many others have since, that biological and physiological factors were not enough to explain women's vulnerability. Instead, many of the risks were rooted in gender norms and stereotypes that put women in danger (Ikeda, 1995).

One major reason why women were more vulnerable was that they had limited mobility. Most women had not learned to swim and the female dress code made it more difficult for them to escape (Chowdhury et al., 1993). Women needed to find their children before departing their houses for safer ground, and leaving home without being permitted or accompanied by their male relatives was seen as inappropriate (OCHA, 2005). In addition, cyclone warnings had been transmitted mainly in public places, to which women did not have access (Ikeda, 1995; D'Cunha, 1997; UNDAW and UNISDR, 2001).

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Subsequent prevention and preparedness work through the Bangladesh Cyclone Preparedness Programme built on this gender analysis. For example, an extensive warning system was set up by distributing radios to households (Peppiatt, 2005). Both men and women extension worker teams were deployed to gain acceptance from women and men that everyone should leave the house in case of warning announcements, regardless of sex and whether there was a male relative at home (D'Cunha, 1997).

It is difficult to assess the impact of prevention measures, but subsequent cyclones in Bangladesh have resulted in much lower fatalities. For instance, when a cyclone of a similar magnitude hit the country in 1994, some 750,000 people were successfully evacuated and 127 people lost their lives (Peppiatt, 2005). The prevention work in Bangladesh, including its gender-sensitive approach, and general attention to the use of analysis in response, is widely seen as a model for disaster prevention.

The Bangladesh case was an eye-opener for the humanitarian aid community. One of the authors had the privilege of directing the humanitarian response for an international relief organisation and experienced the power of the data: when first introducing the concept of gender, her staff gave it a decidedly cool reception ('we are here to save lives; we do not have time for gender'). But when the above case study was introduced, the same staff members immediately were keen to apply the concept—since it might save lives.

As pointed out by Byrne and Baden (1995, p. 3), 'a gender approach is important to identify men's and women's differing vulnerabilities to crises as well as their different capacities and coping strategies, in order to build on these, in order to design effective relief programmes'. This realisation, which refers to conflict and non-conflict situations, was indeed reflected in several international policies and frameworks from the mid-1990s. At the 1995 Fourth World Conference on Women, the international community identified women and conflict as one of 12 critical areas in the Beijing Platform for Action. Shortly after, the concept of 'gender mainstreaming' was endorsed and institutionalised through United Nations Economic and Social Council (ECOSOC) resolutions and subsequent frameworks as a strategy to promote gender equality (ECOSOC, 1997). Although the definition was formulated in generic terms, it is equally applicable in humanitarian interventions.

A number of resolutions and policies have followed up on this, recommending that gender be mainstreamed, with the aim of improving humanitarian response. They include the Inter-Agency Standing Committee (IASC) *Policy Statement for the Integration of a Gender Perspective in Humanitarian Assistance,*[1] United Nations *Security Council Resolution 1325 on Women, Peace and Security,*[2] the *Beijing +5 Outcome Document,*[3] the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)'s *Gender Equality Policy,*[4] the *OCHA Tool Kit – Tools to Support Implementation of OCHA's Policy on Gender Equality,*[5] and the IASC *Policy Statement – Gender Equality in Humanitarian Action*.[6] In these guidelines, the point is made repeatedly that the collection of sex- (and sometimes age-) disaggregated data is essential, so as to place gender mainstreaming on a sound evidence base.

Aims of the study

The point of departure of this study is that gender mainstreaming is one important tool for making humanitarian responses more effective and equitable, and that data by sex and age is key for providing an evidenced-based approach to gender mainstreaming. As the example from Bangladesh indicates, good **data**, well **analysed**, can form a sound evidence-base for appropriate **response**, and result in a better **impact**, or what we call here 'DARI' logic. Our initial aim therefore was to find other examples like Bangladesh, from non-conflict situations, in order to help establish an evidence base for advocating gender mainstreaming in humanitarian responses.

Our (optimistic) expectation was that we would unearth at least some examples where the evidence base, in the form of sex-disaggregated quantitative data, was clear, both with regard to the challenges and how the response had been tailored to meet those challenges. We set out to identify evaluations and other studies where DARI logic had been applied. However, as explained in the methodology section below, such cases were hard to pinpoint. Hence, we modified our aim to focus on the first two steps—data and analysis—attempting to assess what quantitative data sets are accessible on the differential impact of crises on males and females, either during the event or in its wake, and how those data have been analysed. An additional goal was to discuss some obstacles and challenges that exist in relation to collecting, analysing and reporting data by sex.

Since gender roles change throughout the lifecycle, age disaggregation is an equally important issue, and it particularly enriches any gender analysis. Consequently, we included data by age whenever it was part of data sets disaggregated by sex, but we did not review data that were available by age only. Moreover, for the sake of simplicity, we limited our focus to non-conflict situations.

Methodology

First we searched for information on impact in terms of mortality and morbidity, since those are the central concerns of humanitarian action and thus can be an opening for broader gender considerations. Then we added sexual and gender-based violence (SGBV), a vital component of gender-related impact.

Sources

The study was based mainly on secondary sources, which include both 'crisis literature' and 'academic literature'. Academic literature as a term is used here to denote pieces of work that are published in peer-reviewed journals. By crisis literature we refer to work produced by non-academic institutions, including international organisations, non-governmental organisations (NGOs), and governmental organisations. The concept of saturation (Bauer and Aarts, 2000) was applied when selecting materials to review, meaning that additional sources were included until the adding of further sources no longer generated new findings.

The core of the crisis literature was evaluation reports generated from ReliefWeb[7] or from the Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP),[8] which are some of the most comprehensive databases of materials related to disasters available to the general public. We searched for documents categorised as evaluations, matching the search word 'gender'. The ReliefWeb search generated 84 hits, and the ALNAP search generated 45. Of these, four evaluations overlapped. Hence, in total 125 such reports were reviewed.

In response to the limited availability of sex-disaggregated data in those documents, we sent a request to the Gender and Disaster Network in April 2007 to ask its members for any such data. In addition, we followed up on any leads or suggestions, such as evaluation reports, annual reports and other relevant documents of main humanitarian actors,[9] as well as documents that were circulated via the Gender and Disaster Network mailing list during 2007, or any personal communications from those who reviewed or commented on our study.

The academic literature was identified by searching the databases Pubmed, Popline and Cambridge Scientific Index. Articles matching the search words gender/mortality/morbidity and crisis/disaster/earthquake/flood were screened to identify data by sex. Whenever data were disaggregated both by sex and age this was seen as a highly useful complement, based on the understanding that gendered vulnerabilities change over the lifecycle.

Further sources were retrieved by consulting the reference lists of these sources. Many more sources were reviewed than are listed in the reference list, which focuses on the 'positives', that is, the materials that actually contained relevant information. In the academic literature, only articles published since 2000 and which covered crises in non-OECD (Organisation for Economic Co-operation and Development) countries were included.

Given the poor harvest of sex-disaggregated data, we presented the intermediate results of this study to a workshop on early recovery and gender, which was held in June 2007, and which was organised by the United Nations Population Fund (UNFPA) Geneva on behalf of the United Nations Development Programme (UNDP), and involved 23 participants, particularly humanitarian focal points from UN agencies. We asked for the impressions of the participants of why data were so difficult to find. The results are included in the workshop report (UNFPA, 2007), and are referred to in the discussion section of this study.

Definitions and concepts

The field of humanitarian response uses many concepts, but not all actors define them in the same way. Therefore, we need to make explicit which definitions we have employed.

We use the term *crisis* to describe the destructive events, covering non-conflict situations (recognising that, in the literature, 'crisis', 'emergency', 'disaster', and 'humanitarian crisis' are used rather interchangeably).

The term *humanitarian response* is used to describe the national or international response that is generated by the crisis, recognising that, in the literature, it is sometimes referred to interchangeably as 'humanitarian action', 'emergency response', 'disaster relief', and 'crisis management'.

Gender is a concept, to use the definition of the United Nations Department of Economic and Social Affairs (UNDESA), which 'refers to the social attributes and opportunities associated with being male and female and the relationships [between and among them]. (. . .). Gender determines what is expected, allowed and valued in a women or a man in a given context' (UNDESA, n.d.). Gender, like any other underlying social constructs, might be addressed differently in different phases of humanitarian response (here referred to as prediction, prevention, preparedness, acute response, and early and longer-term recovery). Although gender is not enough to reveal and understand power relations and inequalities between the sexes, it is one crucial lens through which one can ensure that humanitarian responses become more equitable and efficient. As others have pointed out, factors such as age, ethnicity, race, religious belief, and socioeconomic group are other important factors that determine vulnerabilities and capacities and which need to inform emergency responses (Hyndman and de Alwis, 2003).

For 'vulnerability' we employ the most recent definition of the United Nations International Strategy on Disaster Reduction (UNISDR): 'The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards' (UNISDR, n.d.). We note that there is rapid development in the concept of vulnerability. This includes a recognition that vulnerability should be seen as a condition that is very dynamic, varying greatly with time period, location and type of crisis, and where an effective response should be 'people-centred' (for instance, concentrating on the social and economic situation and inter-relationship of individuals and communities) if possible, taking a localised and predictive/preventive approach, rather than focusing on physical structures, or post facto analysis. Relevant to the concept of vulnerability is the coping capacity of the local population. Both vulnerability and coping capacity need to be factored in when understanding risk to a potential disaster (Boudreau, 2009).

Usually the 'acute response' phase is seen as one where the overriding priority is to 'save lives'—with neither the time available nor the goal of changing underlying social constructs, including gender. However, gender is important even in that phase, both because the disaster may affect the two sexes differentially, and since the response (such as food) may not reach certain groups, for example women, unless specific efforts are made.

Outside the acute response phase, acknowledging inequalities in those underlying social relations may be a particularly important part of 'building back better' in early recovery, and thereby influencing the number of future lives being saved.

With respect to *gender mainstreaming,* we use the 1997 definition of ECOSOC: 'the process of assessing the implications for women and men of any planned action,

including legislation, policies or programmes, in all areas at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality (ECOSOC, 1997).

Main findings

Finding 1: in both the 'academic' and 'crisis' literature, we found only a few data sets disaggregated by sex, and presentation is variable in approach

In the crisis literature reviewed, most documents quoted quantitative data of some sort (such as access to services, displaced, injured, mortality). However, few referred to data by sex (or by age). For example, of the 84 evaluations referring to gender on ReliefWeb, only two quoted crisis impact data disaggregated by sex, both focusing on tsunami-afflicted areas (GoSL, 2005; TEC, 2006). Of the 45 evaluations retrieved from the ALNAP website, none referred to crisis impact data disaggregated by sex. Adding the sources that were generated while searching the academic literature and other crisis literature we could locate only quantitative data disaggregated by sex for eight disasters or groups of disasters in non-OECD countries since 1988. The crises include earthquakes (in Armenia in 1988 and Taiwan in 1991), floods (in Bangladesh in 1991 and 1998, and China in 1999), and the tsunami (in various countries in 2004). In addition, two population-based studies were identified, covering various crises, geographical areas and different years (see Table 1).

There were a number of accounts of women being affected disproportionately in relation to men, but the foundation for this was almost exclusively based on qualitative data. A common assertion in evaluation reports is that 'women were hit worse than men', or 'the majority of those who died were women and children' (see, for example, University of California, Berkeley East–West Centre, 2005).

Where quantitative data were quoted, documents reviewed sometimes mixed different sources, and used different definitions and indicators, making comparison difficult (Couldrey and Morris, 2005; Dakkak, Eklund and Tellier, 2007). Methodological errors also were identified as a major impediment to the availability of timely and accurate data to guide decision-making during crises (Spiegel et al., 2004).

Moreover, whereas 'women' and 'gender' were mentioned on a number of occasions in the narrative of key reports of humanitarian actors, the statistical annexes made no references to sex-disaggregated data. The few exceptions include the International Committee of the Red Cross (ICRC)'s *Annual Report 2006,* which has some data by sex pertaining to services provided to women, men and minors, but no data on mortality or morbidity (ICRC, 2006).

Available databases within the humanitarian community contained limited sex-disaggregated data. There were more than 16,000 disasters captured in the Centre

Table 1. Availability and type of emergency data by sex (and age)

#	Place of crisis	Time of crisis	Type of crisis	Type of data	Data by sex	Source
1	Armenia	1988	Earthquake	Injury by sex and age.	60 per cent of injured were female.	Armenian et al. (1992)
				Access to health service by sex and age.	63.5 per cent of all hospitalised cases were female.	Armenian et al. (1992)
				Mortality by sex and age.	2.9 per cent of all females died, 2.2 per cent of all males died.	Armenian et al. (1997)
				Injury by sex and age.	4.6 per cent of all females injured, 4.2 per cent of all males injured.	Armenian et al. (1997)
				Depression by sex.	111 females and 66 males suffered depression.	Armenian et al. (2002)
2	Bangladesh	1991	Flooding	Mortality by sex.	Four times more females than males died.	OCHA (2005)
3	Bangladesh	1998	Flooding	Nutrition status by sex and age.	Nutrition status went down for 16 girls and 61 boys.	Hossain and Kolsteren (2003)
4	Taiwan	1999	Earthquake	Mortality by sex and age.	Mortality for females was 1.5 times the mortality for males. However, women in the 50–69 age groups had lower mortality rates.	Liang et al. (2001)
				Mortality by sex.	867 (53.9 per cent) females and 743 (46.1 per cent) males died.	Chou et al. (2004)
5	China	1999	Flooding	Health status by sex.	Males, especially those aged 30–45 years, were more prone to health effects than other gender and age groups in the flood areas.	Li et al. (2007)

#	Place of crisis	Time of crisis	Type of crisis	Type of data	Data by sex	Source
6	Tamil Nadu, India	2004	Tsunami	Mortality by sex.	Among the sample population, 6 per cent of males and 8.6 per cent of females died.	CRED (2006)
				Injury by sex.	Among the sample population, 27.7 per cent of males and 24.3 per cent of females were injured.	CRED (2006)
	Southeast Asia	2004	Tsunami	Mortality by sex and age.	1.2–2.1 times more females than males died.	TEC (2006)
	Sri Lanka	2004	Tsunami	Mortality data by sex.	Sixty-six per cent more females died (3,677 females, 1,926 males)	GoSL (2005)
	Various tsunami-afflicted areas	2004	Tsunami	Mortality by sex and age.	In one village mortality data was: 8 men, 3 women, 9 boys, 1 girl; in another village mortality data was: 6 men, 2 women, 14 boys, 10 girls.	Wetlands International et al. (2008)
				Suicide by sex.	In one village 14 men and 8 women committed suicide after the tsunami.	Wetlands International et al. (2008)
	Indonesia	2004	Tsunami	Hospitalisation by sex.	Sixty-four per cent of hospitalised people with tetanus were males; 80 per cent of hospitalised people with malaria were males.	CRED (2005)
7	Seven countries	1998–2000	Various causes —all surveyed were internally displaced persons (IDPs)	Mortality by sex.	Underreporting of male deaths. At first it seemed women had higher mortality (157 women, 148 men), but the survey found 159 females and 166 males.	Spiegel et al. (2001)
8	Various locations	1981–2002	Natural disasters —various causes	Impact of disaster on life expectancy by sex.	Females more adversely affected than males.	Neumayer and Plümper (2007)

for Research on the Epidemiology of Disaster (CRED)'s data bank, all of them with overall numbers of fatalities, but none with accessible data on sex-disaggregated fatalities.[10] Thus, the finding would seem to be that, whereas data sets are available on thousands of disasters, only a handful report fatality by sex.

In some cases, sex- and age-disaggregated data were collected, as evident by questionnaires, added as appendices to some reports. However, the findings were not presented by sex and age (see, for example, UNHCR, 2002). This suggests that even where data may be available, it does not get reported and tabulated in a systematic way.

Finding 2: several documents reviewed express a frustration with the lack of quantitative data, especially baselines

The lack of a baseline was documented as an obstacle to gender assessments in emergencies in 1995 (Byrne and Baden, 1995). We note that there are two types of baselines: those that are gathered before a disaster hits, and those that are collected just after.

The literature reviewed expressed frustration at the lack of baselines. For instance, one evaluation noted that 'the absence of pre-tsunami data rendered a complete gender analysis and comparison with the past situation virtually impossible' (WFP, 2005, p. 62).

Even in the World Food Programme (WFP), evaluations sometimes concluded that the organisation's 'Commitment to Women', which includes collecting and utilising sex- and age-disaggregated data, was not always fulfilled (WFP, 2002).

Finding 3: nevertheless, academic literature in particular does yield a few data sets, which show intriguing patterns, both similarities and variations

We turn now to the eight quantitative data sets generated, as captured in Table 1. Wherever available, data by age will be included in the analysis. Data will be presented by mortality, morbidity (including injury), and SGBV.

Mortality

Recent population-level research has established that natural disasters have a more negative impact on female rather than male life expectancy, especially where women's status already is low (Neumayer and Plümper, 2007). Other studies support this. For example, the 1991 flooding in Bangladesh and the 2004 tsunami showed higher female excess mortality (Bern et al., 1993; GoSL, 2005; OCHA, 2005; CRED, 2006;Nishikiori et al., 2006; TEC, 2006). The reasons for women's greater vulnerability are many, but one quoted frequently is that women are less likely than men to be able to swim. However, such conclusions may require further disaggregation. For instance, the excess female mortality during the tsunami in Sri Lanka cannot be explained only by insufficient swimming skills. Data show that between 15 and 20 per cent of women were able to swim as compared to 75–85 per cent of men. Yet the small proportion of women who were able to swim was fairly constant among

different age groups, whereas excess female mortality occurred mostly in the age group 20–49 (CRED, 2006). Hence, there must have been other factors at play, possibly including mothers trying to save their children.

Excess female mortality also was reported in the 1988 earthquake in Armenia (Armenian et al., 1997). This paper, though, does not refer to sex when analysing other variables, and does not thereby offer any explanation as to why women had higher mortality.

The 1999 earthquake in Taiwan also resulted in slightly higher mortality for women: 1.1 times that of men. The study suggests that lower mortality for men may be because of their generally greater physical strength. When disaggregated by sex and age, though, it became evident that women aged 50–69 had lower mortality rates than their male counterparts, and for the age group 70–79, female mortality was exceedingly high relative to males. The study concludes that the reasons for the low mortality among women aged 50–69 require further evaluation (Liang et al., 2001). An additional study confirms the finding that women outnumber men in terms of mortality (Chou et al., 2004), but again no analysis as to why this is the case is provided.

Data disaggregated by sex also revealed some gender bias in reporting. According to a study of populations of internally displaced persons (IDPs) in seven countries in Sub-Saharan Africa, when clinical data were reviewed, mortality rates were reported to be higher among women. However, when the research team undertook household surveys to compare household data with clinical data, they found that, in fact, men had higher mortality rates. A possible explanation for this was that women had more access to health clinics, and were more accustomed to seeking health care due to their reproductive role. Therefore, health personnel were aware of the deaths of most women, whereas some men died at home or while away from home, without the knowledge of health personnel (Spiegel et al., 2001).

Similarly, a report by Wetlands International states that more women than men died during the 2004 tsunami. However, the same report contains several village-based case studies, where apparently the opposite was true. The study also cites higher subsequent suicide rates for men, although there is no analysis of this finding (Wetlands International et al., 2008).

Morbidity

More women than men were diagnosed with depression after the earthquake in Armenia in 1988 (Armenian et al., 2002). But since the analysis does not refer to sex when examining other factors associated with depression it provides no assessment as to why this might be so. The lack of a more in-depth analysis of gender differences also was the case in an article on hospitalisation after the 1988 earthquake in Armenia, where 63.5 per cent were women (Armenian et al., 1992).

Other data sets challenge the assumption that, inevitably, women are more vulnerable during natural disasters. For example, in Hunan province in China in 1999, adult men were more affected by floods than adult women (Li et al., 2007). The authors suggest that '[t]his may again be due to the fact that males participated in

more relief work and engaged more frequently in emergency and dangerous situations than females during floods, and therefore had higher exposures to adverse physical and psychological environments' (Li et al., 2007, p. 303). In addition, in Tamil Nadu, India, reported injury rates were higher for males than for females after the tsunami (CRED, 2006).

That men at times undertake more dangerous and strenuous tasks in the aftermath of disasters, such as looking for missing people and building dams, may expose them to physical danger as well as to contagious disease. In Aceh, Indonesia, looking for the missing and the dead were responsibilities mostly allocated to men. This increased the risk of wounds and injuries, and as a consequence, 64 per cent of persons hospitalised for tetanus were males (CRED, 2005). Moreover, 80 per cent of inpatients with malaria were males, suggesting that high hospitalisation of males might be a result of females not having as high survival rates—as well as levels of access to hospital care—as males, for socioeconomic reasons (CRED, 2005).

Variations in gendered vulnerability do not only occur during disasters; they also manifest themselves afterwards. Thus, following the flooding in Bangladesh in 1999, nutrition levels deteriorated among boys and girls, but markedly more so for boys than girls. Eighty-six per cent of the children who went from normal to malnourished were boys (Hossain and Kolsteren, 2003). The deterioration in nutrition levels was associated with losses of assets of the respective families. However, when different factors that increased the disposition of deteriorating nutrition status were analysed, they were not disaggregated by sex.

Sexual and gender-based violence

A topic that has received increased attention in the past few years is SGBV (see, for example, Refugee Studies Centre, 2007). Many organisations conclude that women face an increased risk of violence in crisis as compared to non-crisis settings, both within and without of the household (UNFPA, 2006).

This study generated no data on SGBV disaggregated by sex in natural disaster settings, or even on women alone, hence there is no reference to SGBV in Table 1. Credible data on SGBV are notoriously difficult to collect, and some United Nations High Commissioner for Refugees (UNHCR) evaluations noted this as an impediment to assessing progress. UNHCR also noted that such reporting was increasingly included in regular reporting from refugee populations, and expressed the expectation of further improvements through the joint International Refugee Council–UNFPA–UNHCR initiative, which was established to improve and harmonise data (UNHCR, 2008).

Finding 4: only a small proportion of the literature adopts gender as an analytical concept or states a clear approach on how to undertake a gender analysis

In the crisis literature reviewed, only a small proportion referred to gender. For example, of the 437 documents listed as 'evaluations' on ReliefWeb, only 84 had gender as a keyword, and of the 929 on the ALNAP website, only 45 did so.

Of those that did mention 'gender', it was often referred to, sometimes along with environment and human rights, as a crosscutting issue that should be included systematically. Typically, the terms of reference for the evaluations made no reference to gender, or merely had a sub-item to review to what extent crosscutting issues had been incorporated in the response work, without giving guidance on how this broad ambition was to be met. By way of example, the terms of reference for the Food and Agriculture Organization of the United Nations (FAO)'s tsunami evaluation included gender in parenthesis as a sub-item of one of nine main items, which involved evaluating actual and potential effects and the impact of beneficiaries/stakeholders:

> *Directly affected populations, including smallholders, artisanal fisher folk, as well as small agri-businesses in agriculture, forestry and fisheries (with specific attention to gender aspects and the conditions of most vulnerable groups)* (FAO, 2007, p. 64).

Of the reports referring to gender, apart from the evaluations of WFP programmes, which do mention the collection of sex- and age-disaggregated data as part of their gender checklist, we could find only a few evaluations that specified what was implied by gender, such as by quoting a definition, a checklist, or a standard.

Although UNHCR has published a *Practical Guide to the Systematic Use of Standards and Indicators in UNHCR Operations,* in which almost 50 per cent of 52 core indicators are disaggregated by sex (UNHCR, 2006b), this guide was not referred to in any of the evaluations examined here. This is in contrast to other areas: for instance, some NGOs and bilateral agencies quoted the rather concrete Sphere standards for water or health in the terms of reference for the evaluations (see, for example, CARE, 2006; Irish Aid, 2008).

Of the evaluation reports that did refer to gender, a large proportion concluded that, although there are many small steps towards gender mainstreaming, gender has fallen between the cracks (see, for example, ENN, 2004; IASC, 2006; OCHA, 2007). OCHA made the same finding in its desk review of evaluations and desk studies on gender mainstreaming (OCHA, 2007). As one evaluation from Ethiopia stated:

> *Gender equality, analysis and disaggregated information collection are very weak throughout all sectors in relief and development programmes in Ethiopia. The few studies that exist on gender and generational issues are not fully integrated into programme design and implementation processes* (Steering Committee for the Evaluation of the Joint Government and Humanitarian Partners Response to the 2002–03 Emergency in Ethiopia, 2004, p. 51).

Moreover, often it was assumed that gender covered issues relating to women only, such as SGBV (although men also are victims). Another typical simplification of how 'gender' was conceptualised and operationalised was to pay attention to the proportion of staff or beneficiaries who were women (see, for example, UNHCR, 2006a). Other times, gender issues were understood to be those related to the reproductive functions of women and consequently gender was assumed to be covered

by programme content related to maternal and child health. The inclination of the crisis literature to reduce gender issues to women's issues also has been documented elsewhere (see, for example, Dakkak, Eklund and Tellier, 2007). One evaluation report of the Darfur crisis summarised the lack of attention to gender as follows:

> *While many assessments were conducted for a variety of programming reasons, (. . .) single sector assessments minimised or overlooked the impact of other factors on the situation. The vast majority of assessments were carried out without reference to protection or to gender dimensions, apart from SGBV* (OCHA, 2006, p. 8).

Analysis was generally limited. Only a few documents contained a thorough analysis of the gendered vulnerabilities and capacities of the affected population. Those reports were based on qualitative data and frequently written by NGOs and community-based organisations (see, for example, WCRWC, 2000; Oxfam, 2005; Southasiadisaster.net, 2005), which had staff who were trained in and strongly committed to addressing gender disparities. Even where some quantitative data were available, analysis was modest, as alluded to in Finding 3. For instance, the ICRC's *Annual Report 2006* included many references to figures pertaining to services provided and whether the target group was male, female or minors (ICRC, 2006), but little analysis of why this was so, and whether services were proportionate to needs.

Discussion

One of the main findings of this study is the lack of sex-disaggregated data. This could be because our methodology is not capturing available data sets. Originally we thought that this was true, and so did some of our commentators, and thus we followed up on innumerable leads kindly provided by them from the beginning of 2007 to September 2009. Yet, none resulted in additional data sets meeting our criteria (mortality and morbidity data by sex in non-conflict disaster settings). The finding is supported by the fact that so many evaluations also deplore the lack of data. In any case, any data that were not captured by our methodology seem not to be readily available.

Data collection always is a challenge, especially in crisis situations, and one should not expect special efforts to procure sex-disaggregated data. However, some data (especially overall mortality) do get compiled. If nothing else, it seems important to discuss what obstacles might exist to collecting data by sex, rather than repeating the call for such data. Such a discussion follows below, and builds on the literature, as well as feedback from the June 2007 UNFPA–UNDP workshop mentioned above.

First, there are obstacles related to *perceptions*. 'Gender' and 'gender mainstreaming' are at times perceived as unclear and unnecessary concepts, and met with frustration (WFP, 2002; UNFPA et al., 2007). A common perception with regard to gender and emergencies is that 'it is not my job – my job is to save lives, regardless of sex', or 'we cannot change gender relations without changing the underlying culture – that is for development workers to do'. Moreover, the need for sex- and age-disaggregated

data is not always seen as urgent (IASC, 2009). In addition, there is an impression that 'we already do it', that is, guidelines, for instance, quote a standard proportion of refugees who are women and children (80 per cent), or how many women are pregnant (20 per cent). Such estimates are seen as enough for the quick action needed. The authors find the standard expression of '80 per cent women and children' particularly counterproductive. Such estimates are fuzzy and meaningless, given that 'children' are not defined (does it refer to persons aged less than 18?) and most populations, even in the absence of disasters, have 70–80 per cent women and children. Furthermore, the purpose of the statement is unclear: is it to indicate that 80 per cent are 'innocent', or particularly vulnerable? If so, it may be inaccurate, given that a 17-year-old male may not be particularly vulnerable, that the elderly may be more so, and that males aged 18 or more may have vulnerabilities. And it gives the impression that females are to be counted among those who have not reached majority.

Second, there are obstacles related to *low operational priority in various guidelines*. For example, the Sphere standards are a widely known and utilised agreed set of standards for accountability. They include a Common Standard 2 related to 'initial assessment', in parallel with other operational standards such as on water or health. However, the standard is mild with respect to sex- and age-disaggregated data, recommending that users ensure that, 'whenever feasible, data are disaggregated by sex and by age' (Sphere Project, 2004, p. 29). Moreover, Guidance Note 9 points out that the collection of sex-disaggregated data is not urgent in the early stages of a disaster, where the most pressing task is to collect data on mortality and morbidity for children less than five years.

Third, there are obstacles related to *bureaucratic and political issues*. Sometimes data were collected at the local level, but not used or transmitted upwards, because they were not available for all areas and therefore could not be aggregated in reports. Furthermore, there may be security concerns among the affected population, meaning that data are kept locally for confidentiality and privacy reasons, particularly issues related to SGBV (IASC, 2009).

Fourth, there may be obstacles due to *a lack of data collection and analysis skills* among practitioners and government officials in disaster-afflicted countries. These include poor methodological skills and a lack of gender analytical skills, as well as statistical skills. Similar observations have been made elsewhere (Dakkak, Eklund and Tellier, 2007; UNFPA, 2007; Hyndman and de Alwis, 2008; IASC, 2009). As noted in the IASC (2009) report on *Sex and Age Disaggregated Data in Humanitarian Action,* the lack of such data is related to broader issues of information management in the humanitarian sector.

Nevertheless, the few available data sets provide us with intriguing insights, especially when combined with age-disaggregated data, which help to show the situation at different lifecycle stages.

The data sets used paint a diverse picture, which underscores that each crisis has its own logic. Sex differentials varied at different stages of the lifecycle, and with the crisis concerned. Although women usually had excess mortality and morbidity,

sometimes so too did men. This confirms findings from other studies (WHO, 2002; Enarson and Meyreles, 2004; SADR, 2005). This information might be useful in complementing population-based studies on the impact of disasters, such as the one by Neumayer and Plümper (2007), which demonstrate excess female deaths in natural disasters as directly linked to the lower status of women. The conclusion from population studies would seem to be that women's status needs to be improved in general, which might be perceived as outside of the remit of humanitarian response. The smaller studies might demonstrate the need for more local, specific prevention measures, such as providing radios in houses, teaching women how to swim, and ensuring that households headed by men are helped with child care. If based on local participation, it might also help to find locally and culturally feasible ways of doing this—for instance, under what circumstances is it acceptable for women to attend planning meetings (Twigg, 2004). Thus, it would support the recent recommendations on more people-centred, local, preventive measures (Boudreau, 2009).

In addition, we suggest that there may be a general lack of gender-sensitive indicators. Had the indicators been more sensitive to women's needs and concerns, they may have revealed more instances of women being more affected than men. The same argument can be made for the few indicators found of women's strengths and capacities. In many parts of the world, much of women's work takes place in the domestic sphere, which may not be an area included in assessments, surveys and evaluations. Similar points have been made with regard to a lack of gender-sensitive data in non-crisis situations (see, for example, Danner, Fort and Young, 1999).

Moreover, the findings show us that data disaggregated by sex and age are rarely accompanied by a thorough gender analysis—that is, where there is the 'D' in the DARI approach? There is no 'A'. Hence, there is a 'missed opportunity' to use the data in an intelligible way to inform emergency response and planning. Sex- and age-disaggregated data need, among other things, to be analysed within a gender framework and to be compared with and informed by qualitative data. Likewise, the reports and articles that have in-depth analyses of gender and emergencies, based on qualitative, ethnographic data, need to make use of sex- and age-disaggregated data when available, to strengthen their arguments and provide more convincing messages that can inform emergency responses.

Conclusion

Opportunities for gender mainstreaming, which can be greatly facilitated by the use of sex- and age-disaggregated data, exist in all phases of the humanitarian response cycle. Of particular importance is the collection, analysis, dissemination and utilisation of sex- and age-disaggregated data to inform preparedness plans, responses during the acute phase, as well as early and long-term recovery interventions.[11] Hence, impact assessments, monitoring of ongoing interventions, and evaluations of responses can all benefit greatly from data disaggregated by sex and age.

This paper concludes that there is little evidence that the DARI approach has been used to engender humanitarian responses, and thus there have been missed opportunities to make humanitarian action more evidence-based and hence hopefully more effective. Rather than merely echoing the call for data by sex, it might be useful to consider, and hopefully overcome, the obstacles. It might be important also to see sex-disaggregated data as part of a whole, given the challenges to data collection in general. Since evaluations repeatedly deplore that 'gender fell through the cracks', the authors believe that strategies to overcome obstacles to collecting, analysing and utilising data by sex (and age) need to be reconsidered. Otherwise, a vicious circle may develop, where limited data prevents gender from being 'mainstreamed' and a lack of gender mainstreaming prevents the collection and utilisation of sex- and age-disaggregated data. Without such data, the temptation to quote sensationalist numbers to attract attention might be great.

In addition to increasing resources and enhancing capacity, we suggest that the way forward in terms of improving the systematic collection, analysis, reporting and application of sex- and age-disaggregated data in humanitarian settings might encompass strengthened accountability mechanisms, and perhaps a designated lead organisation to set standards, propose changes to common accountability mechanisms, and help to review and disseminate results to encourage humanitarian actors to collect and report sex- and age-disaggregated data. Moreover, there are a number of issues relating to the dearth of data by sex and age that warrant further investigation and analysis. One is how budgets get allocated and used. Another set of issues pertain to why data in some instances exist but do not get analysed from a gender perspective, as this review has found. An additional issue relates to the 'invisible men', that is, that men's vulnerabilities are not well captured in existing data sets. Lastly, we suggest that donors might also begin to request that data by sex and age are collected and presented as background for requests. Hopefully this would help to build more evidence-based, effective and equitable international crisis responses.

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Endnotes

[1] See http://reliefweb.int/node/21309

[2] See http://www.un.org/events/res_1325e.pdf

[3] See http://www.un.org/womenwatch/daw/followup/reports.htm

[4] See http://ochaonline.un.org/HumanitarianIssues/GenderEquality/GenderPolicy/tabid/1190/language/en-US/Default.aspx

[5] See http://ochanet.unocha.org/p/Documents/OCHA_Gender_Equality_Toolkit.pdf

[6] To strengthen further gender mainstreaming in humanitarian responses, the IASC Task Force on Gender and Humanitarian Assistance was created in 1998 to provide technical guidance and support on gender mainstreaming in humanitarian action. In December 2006 the Task Force was upgraded to the IASC Sub-Working Group on Gender and Humanitarian Action.

[7] ReliefWeb is the global hub for time-critical humanitarian information on complex emergencies and natural disasters. Reports were accessed on 18 September 2009 at http://www.reliefweb.int/

[8] Reports were accessed on 18 September 2009 at http://www.alnap.org/

[9] Including CARE, the Centre for Research on the Epidemiology of Disasters (CRED), the International Committee of the Red Cross (ICRC), the International Federation of Red Cross and Red Crescent Societies (IFRC), the Norwegian Refugee Council (NRC), OCHA, Oxfam, Save the children UK, the United Nations High Commissioner for Refugees (UNHCR), and the World Food Programme (WFP).

[10] The database was accessed on 18 September 2009 at http://www.emdat.be/Database/terms.html

[11] One should note that the IASC Cluster Working Group on Early Recovery has developed 'Gender Profiles', which include data disaggregated by sex and age to inform early recovery interventions. In the absence of real-time baseline data, these Gender Profiles can provide useful information.

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