A scene from the aftermath of the 2015 Nepal earthquake. Rajan Journalist/Wikimedia Commons

Progress in the Development of Globally Accessible Early Warning Systems: The Gender Dimension of Disaster Risk Reduction

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This year's International Day for Disaster Risk Reduction, which was observed on 13 October 2022, focused on the objective to "Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030", which is the seventh and final target of the Sendai Framework for Disaster Risk Reduction 2015–2030 (https://www.undrr.org/implementing-sendai-framework/what-sendai-framework).

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Disasters do not discriminate, but people do. Research reveals that disasters reinforce, perpetuate and increase gender inequality in terms of loss of livelihoods, gender-based violence and even levels of mortality during and in the aftermath of disasters. In this context, women's vulnerabilities in disasters have been highlighted often, along with the need for gender-specific disaster risk reduction (DRR) measures and the need to better recognize women's role in DRR efforts. Early warning and early action save lives. Such efforts should include timely evacuation and provision of appropriate shelter, prepositioning relief items and other measures that can help reduce and prevent a disaster. To meet these key objectives, early warning systems must be inclusive.

Inclusive Early Warning

The impacts of hazard events are not gender-neutral. Women are often placed at greater risk through a lack of timely and relevant information about imminent hazards. Women often do not have equal access to technology, communication or services, and thus miss out on critical information. This is particularly true for women and other marginalized groups living in rural or isolated areas. Higher mortality rates for women have been observed during recent disasters. For example, in the 2004 Indian Ocean tsunami, the reported number of women's deaths was four times higher than for men.[1] In the 2015 Nepal earthquake, it was reported that 55 per cent of those killed were women and girls.[2] Studies suggest that there are many reasons for these different outcomes. It has been found that in some societies, women are restricted from acquiring lifesaving skills, such as swimming, due to cultural practices and norms. During the aforementioned tsunami, many women drowned due to their inability to swim. This demonstrates how socially constructed gender norms can limit women's access to information and important skills, making them more vulnerable in disasters. Similarly, studies have shown that access to resources and wealth in households and society, and access to education, also decrease their vulnerabilities to disasters.

Traditionally, women have been considered victims of disasters,[3,4] and still constitute only a marginal percentage of the DRR decision makers, though they have considerable representation as implementors at the grass-roots level. Recent efforts have focused on identifying the capacities and skills of women and how they could contribute to DRR efforts. Despite this, in practice, the role of women in DRR is uneven across different nations, regions and continents.[5] The true position of women in DRR can be seen only when this figure is

further broken down. Eighty-four per cent of women in DRR hold secretarial posts, whereas only 10 per cent are employed in a professional capacity; the remaining 6 per cent are craft and trade-level employees. Another survey shows that the ratio between male and female management staff is 94 per cent to 6 per cent.[6] Further, in the "managerial and administrative" category, women are concentrated in specialist positions, including personnel and public relations, rather than mainstream management.

> " An integrated approach to early warning is needed, one that is inclusive of the actors that are not typically recognized as part of the system, such as women and those in political and administrative roles, as well as community leaders.

The first step to enhancing the participation of women in DRR would be to identify the barriers that prevent their role in decision-making, governance and any DRR efforts. Women need to be recognized not only as valuable role models but also as powerful agents of change at the national and global levels. The major argument for increasing the role of women in DRR early warning and decision-making is their potential for enhancing the responsiveness and effectiveness of government. This, in turn, supports the achievement of inclusive development and democratic governance, which helps improve trust and confidence in government institutions and increase the sustainability and responsiveness of public policies.

Women are often the drivers, strong networkers, managers, organizers and caretakers in a community, playing a constructive and productive role in DRR. There are plenty of success stories of women's achievements in reducing disaster risk and in building resilience at the community level. Yet still today, women tend to be categorized as "victims" and as a "vulnerable group" in need of protection from the impact of disasters. This fails to recognize women's capacities and contributions to DRR, and to promote their leadership and role as change agents in building community resilience to disasters. Further, when you talk about disasters at the highest level, the ones who are talking—and making the decisions—tend to be men.[7] This has been attributed to existing socioeconomic conditions, cultural beliefs and traditional practices, and neglects women's potential contributions to DRR.

The human factor plays a significant role in a people-centred approach to risk reduction in the case of natural hazards. Women's needs are inadequately met and their gender-specific contributions and solutions remain unleveraged because their voices are often absent in the design and decision-making processes for early warning systems. An integrated approach to early warning is needed, one that is inclusive of the actors that are not typically recognized as part of the system, such as women and those in political and administrative roles, as well as community leaders. Empowerment of women is a critical ingredient in more inclusive early warning systems.

Policy context

The Sendai Framework for Disaster Risk Reduction 2015 – 2030 (https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030) (SFDRR), the 2030 Agenda for Sustainable Development (https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement) and the Paris Agreement (https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement) all include the common objective of reaching gender equality and parity by 2030 while building coherent approaches between sustainable development, climate change adaptation and disaster risk reduction. Specifically, SFDRR emphasizes that "women and their participation are critical to effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk reduction policies, plans and programmes. Adequate capacity-building measures need to be taken to empower women for preparedness as well as build their capacity for alternate livelihood means in post-disaster situations".

Evacuation centre registration during early warning drill, part of the Indian Ocean Wave 2018 (IOWave18) for Sri Lanka, an Indian Ocean-wide tsunami warning and communications exercise, 5 September 2018. Photo provided by author.

SFDRR further proposes empowering women to provide resources, decision-making powers and incentives. For example, in its fourth priority, the Framework emphasises empowering women in disaster preparedness strategies and enhancing their capacities towards more resilience. In addition, Section 36 a (i) highlights the necessity of empowering women as key stakeholders in DRR. It underscores their role in designing, resourcing and implementing gender-sensitive DRR strategies for effective risk management.

There has recently been a critical shift in the mainstreaming of gender perspectives into DRR, from a women-focused approach to a long-term, proactive, disaster risk and vulnerability reduction, where gender and DRR are considered necessary to achieving sustainable development. The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (https://www.un.org/womenwatch/daw/cedaw/), which was introduced in 1979 by the United Nations General Assembly, provides General Recommendations on the "gender-related dimensions of disaster risk reduction in the context of climate change" (https://digitallibrary.un.org/record/1626306?ln=en): to promote and protect women's human rights at all stages of disasters, including prevention, preparedness, response, recovery and adaptation. In addition, 2015 marked another milestone, reconfirming gender equality and women's empowerment to achieve the Sendai Framework targets and the Sustainable Development Goals by 2030, with the publication of the SFDRR framework. Recommended actions include developing gender-sensitive risk management national policies and plans, setting dedicated budgets, creating plans that provide adequate capacity-building and recognizing woman's existing capabilities and roles, collecting sex-disaggregated data, assuring women's access to social protection and insurance, and promoting and mobilizing women's leadership and gender equality.

> **66** Women need to be provided with opportunities and empowered to assume leadership roles in DRR, preparedness, response and recovery positions.

While progress has been made in the implementation of SFDRR since 2015, it is widely recognized that serious gaps and challenges remain in delivering on the international community's commitments to gender equality and women's rights in DRR efforts. Engagement and leadership of women as change agents in their societies are still often overlooked in disaster risk management. Women have a right to equality in all areas. The principle of equality must be embedded across institutional processes and legal systems, and upheld in laws and legal practices. Law and policy play an important role in addressing gender inequality and preventing gender discrimination in disasters. All efforts must be made to cut the roots of gender discrimination wherever they appear and to allow for equal opportunities for all women and girls, notably in terms of accessing information, job opportunities and funding mechanisms, and in influencing decision-making.[8]

What can be done to increase the voice of women in early warning systems?

Empowerment of women. Women everywhere experience serious obstacles that limit their opportunities to seek leadership positions in civic organizations, political parties and public institutions. Women need to be provided with opportunities and empowered to assume leadership roles in DRR, preparedness, response and recovery positions. This will help women influence the direction of development, and enable more progressive gender roles and relationships to emerge.

Institutionalisation. The prioritisation of gender equality in all facets of DRR governance, in particular, national and local planning, is a key enabler of sustainable DRR results for women and men. National legal frameworks, policies and organizational arrangements for DRR should be reviewed to include specific provisions for practical and measurable targeted actions for the achievement of gender equality and women's participation and leadership in institutional strategies. Gender responsive governance should be clearly defined in the legislative system, promoting gender-equal policies, strategies and institutions, and introducing rules and regulations, more specifically, women's roles and responsibilities. This can be achieved, for example, through constitutional reforms and other legislative documents.

Image. Merely implementing a positive image campaign without revealing the real picture may attract more women but is unlikely to retain them. Other strategies for creating the "right image" could be inviting DRR women role models to schools and letting them share their experiences with female students, and organizing workshops for women on how to work successfully in a male-dominated industry. Women's engagement in early warning systems and other preparedness activities can reduce the need for them and others to be "rescued". Projecting the "right image" can create such scenarios.

Education. SFDRR highlights the importance of engaging multiple stakeholders in DRR. However, questions remain about whether the increasingly broad range of people who are required to make more informed decisions about DRR actually have the professional competencies to do so. Women need more than basic education and an income to influence high-level decision-making. Their peers (and for elected officials, voters) need to view them as credible, which often means having higher education and technical knowledge, economic independence and, in some countries, wealth or access to patronage networks.

A photograph of the 2004 tsunami in Ao Nang, Krabi Province, Thailand. David Rydevik/Wikimedia Commons

Participation. Women must be positioned as active stakeholders and decision makers in DRR efforts and not only as a human and economic resource for DRR. Leadership by women can be facilitated when they are systematically included and informed, and when their participation is supported. This means removing barriers for women to voice their needs and priorities, to access and use of information, capacity-development opportunities, training and the prioritisation of formal and informal education on disaster risk reduction. This can be supported by enhancing women's equal access to information, including early warning, training, education and capacity-building to strengthen their self-reliance and ensure the implementation of gender-responsive public information and communication systems.

Networks. Women rely on each other and mobilize collective social capital through networking to resolve many of the issues they face. These may include professional networks or affinity networks, which create platforms for women to trade and gain access to credit, marketing, child-care, etc.[9] Networks of women are confident and more articulate when they are empowered and are able to bring about change in local risk management in their communities.

Gender equity in national DRR strategies. The national and local DRR coordination mechanism needs to have a gender equity policy that supports women's full and equal participation in DRR planning, including early warning, as well as leadership opportunities that are measured/indicated by the number of representatives with gender expertise who sit on the national and local platforms/coordinating mechanisms.

Further research on women's empowerment. Research on women and their engagement in DRR is a necessary factor for enhancing their role and leadership in decision-making. More research is required to identify the barriers as well as benefits of women in decision-making, which can benefit policy makers and practitioners, enabling them to take action aimed at securing women's empowerment.

Notes

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