

The Critical Role of Women in Social Resilience and Development in Disaster Management: A Comprehensive Review with a Focus on Iran

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Date of submission: 25 Jun. 2025

Date of acceptance: 10 Sep. 2025

Review Article

Abstract

INTRODUCTION: Women represent half of the world's population and play a crucial, yet often unrecognized in disaster risk reduction, sustainable development, and social resilience. Their involvement in caregiving, informal leadership, and crisis response, especially in a disaster-prone country like Iran, has a significant impact on community recovery and long-term development. However, socio-cultural barriers often limit their formal participation in disaster management processes.

METHOD: This narrative review employed a descriptive-analytical approach supported by a systematic literature search. A total of 20 key articles were selected from both Persian and English academic databases, including Magiran, Noormags, Civilica, ISC, SID, Scopus, and Google Scholar. Inclusion criteria focused on peer-reviewed literature published between 2010 and 2024 that addressed women's roles in disaster management and sustainable development within Iran or comparable contexts.

FINDINGS: The analysis reveals that women in Iran play essential roles in environmental sustainability, psychological recovery, and community rebuilding in the aftermath of disasters. Despite their critical informal contributions, structural challenges—such as limited access to education, healthcare, leadership positions, and disaster preparedness resources—continue to hinder their involvement in formal Disaster Risk Management (DRM). The findings highlight the effectiveness of grassroots efforts led by women and the need for institutional support to enhance their impact.

CONCLUSION: According to the results, there is an urgent need for gender-sensitive disaster response policies that recognize and empower women as active agents of change. Involving women in disaster planning and response through targeted education, community participation, and legal reforms will not only reduce vulnerabilities but also advance sustainable development and societal resilience in Iran.

Keywords: Sustainable development; Social resilience, Women; Disasters; Disaster risk reduction; Iran.

How to cite this article: Karimi F, Mousavi AS, Feli S. **The Critical Role of Women in Social Resilience and Sustainable Development in Disaster Management: A Comprehensive Review with a Focus on Iran.** Sci J Rescue Relief 2025; 17(3): 205-210.

Introduction

Women represent approximately 49.6% of Iran's population (1), yet their potential as critical actors in Disaster Risk Management (DRM) and sustainable development remains underutilized and frequently overlooked. Across the globe, women have demonstrated indispensable roles in disaster preparedness, response, recovery, and mitigation (2&3). Their traditional ecological knowledge, social networks, and caregiving responsibilities contribute not only to household-

level resilience but also to broader community recovery and long-term sustainability strategies (4).

One of the basic requirements of sustainable development is the proper use of available resources, and one of the most important criteria for measuring the degree of development of a country is the importance and prestige that women have in that country, because they are an important factor for growth and development. As long as they are not given sufficient attention as half of the human force in the development process, the realization of sustainable development seems an

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impossible dream. By educating and raising the level of literacy of women and increasing their participation in social, economic, cultural and environmental issues, human growth and development can be enhanced. In order for women's organizations to achieve sustainable development, their educational and cultural status must be examined and changes must be made in the education process (5).

In Iran—where natural disasters such as earthquakes, floods, and droughts occur frequently—the integration of women's capacities into DRM frameworks is particularly vital to reduce vulnerabilities and enhance social resilience (6).

While international frameworks such as the Sendai Framework for Disaster Risk Reduction (2015–2030) explicitly advocate for gender-inclusive approaches, significant gaps remain in translating these global principles into localized, actionable strategies within Iran (7). The socio-cultural context of Iran, characterized by traditional gender norms, restricted mobility, and unequal access to education, employment, and resources, continues to limit women's formal participation in disaster management systems (8).

Nevertheless, growing empirical evidence suggests that women in Iran actively contribute to informal leadership, initiate grassroots resilience efforts, and engage in sustainable environmental practices—activities that are crucial for both immediate recovery and long-term development (9).

Given this context, the present study aims to provide a comprehensive review of existing literature on the role of women in disaster risk reduction and social resilience within Iran. Specifically, it examines how these roles intersect with the broader goals of sustainable development; identifies key barriers and enabling factors affecting women's participation in DRM; and finally, proposes actionable, context-sensitive strategies and policy recommendations aimed at enhancing the visibility and effectiveness of women's contributions in disaster-prone Iranian communities.

Methods

This study used a narrative review to synthesize existing knowledge on the topic and conducted research throughout 2024. A comprehensive search was performed across Persian-language databases including Magiran,

Noormags, Civilica, ISC, SID and international databases such as Scopus and Google Scholar. Keywords in both English and Persian included combinations of: "women," "gender," "disaster management," "social resilience," "sustainable development," "crisis management," and "Iran." In the next step, studies published between 2010 and 2024 were prioritized to ensure relevance to contemporary conditions. The inclusion criteria were: empirical studies, surveys or policy analyses related to the role of women in disaster management and sustainable development; focus on Iran or similar cultural contexts in the Middle East; peer-reviewed journal articles and official reports indexed in reputable databases.

Articles that did not provide gender data or analysis or non-scientific sources, theoretical articles or articles for which the full text was not available were excluded from the review criteria.

About 112 articles were identified and after reviewing the title and abstract, 48 articles were fully screened for eligibility. Ultimately, 20 studies met all criteria and were analyzed for thematic content related to women's role in environmental management, psychological well-being, social resilience, vulnerabilities, and empowerment strategies. Data on study design, population, key findings, and recommendations were extracted. A thematic synthesis approach was used to integrate findings from qualitative and quantitative studies, focusing on identifying patterns relevant to Iranian conditions.

Findings

Women's Contribution to Environmental Sustainability and Disaster Risk Reduction

Environmental degradation exacerbates disaster risk, and women are key custodians of natural resources, especially in rural Iran. Studies report women's active engagement in water conservation, soil management, and sustainable agricultural practices, which mitigate hazard impacts such as drought and floods (10&11). For example, rural women in Lorestan province utilize traditional ecological knowledge to manage irrigation systems and preserve biodiversity, indirectly contributing to disaster preparedness (12). These practices align with sustainable development goals related to clean water, climate action, and life on land (13).

Psychological and Social Resilience Post-Disaster

Women's caregiving roles extend beyond physical recovery to include vital psychological and social support, which is fundamental to community resilience. In the aftermath of the 2003 Bam earthquake, women's participation in community counseling and peer support groups was critical for reducing trauma and fostering social cohesion (14). Similarly, a study in Kermanshah post-2017 earthquake showed that women's informal social networks facilitated information dissemination and mobilization of local resources (15). These roles contribute to restoring normalcy and preventing long-term mental health deterioration in affected families (16).

Social Capital and Leadership

Women in Iran often serve as the backbone of community organizations and NGOs involved in disaster risk reduction. Their involvement in grassroots movements enhances social capital and collective efficacy, essential components of resilience (17). Studies reveal that empowering women as local leaders improves disaster preparedness education and increases community participation in risk mitigation activities (18). However, formal recognition of women's leadership in disaster governance remains limited, due to socio-cultural constraints and gender norms (19).

Gender-Specific Vulnerabilities and Challenges

Despite their strengths, women are disproportionately affected by disasters. Structural inequalities, including limited access to education, economic resources, and healthcare, increase their vulnerability (20). Cultural norms in Iran may restrict women's mobility and participation in public decision-making, reducing their influence on disaster planning and response (21). Women with disabilities, elderly women, and female-headed households face compounded risks and often receive insufficient support during disaster response (22). These vulnerabilities affect not only women but also the well-being of their families and communities.

Empowerment Strategies and Policy Recommendations

Empowering women through targeted education, social inclusion, and policy reforms emerges as a critical pathway to improving disaster resilience. Initiatives focusing on disaster risk education for women have shown positive

outcomes in enhancing knowledge and preparedness behaviors in Iranian communities (23). Gender mainstreaming in national disaster management plans, provision of financial support for women-led disaster risk reduction projects, and legal reforms promoting gender equality are imperative (24). Collaborative efforts among government, civil society, and international organizations are needed to dismantle barriers and promote women's meaningful participation (25).

Discussion and Conclusion

The multidimensional role of women in disaster management in Iran is deeply intertwined with the socio-cultural fabric, environmental challenges, and development trajectories of the country. This section provides a comprehensive analysis of the implications of the findings, situating women's role in the broader context of sustainable development and disaster risk reduction.

The Intersection of Gender, Culture, and Disaster Risk

Gender is a critical determinant of disaster vulnerability and resilience, shaped by cultural norms and power relations (26). In Iran, traditional gender roles often confine women to domestic spheres, limiting their formal participation in decision-making processes related to disaster management (27). However, these same roles position women as primary caregivers and managers of household resources, giving them unique insights and capacities to mitigate disaster impacts at the micro-level (28). The dichotomy between public exclusion and private empowerment reflects broader social dynamics, where informal networks and community-based actions led by women compensate for their lack of formal authority (29).

Women as Agents of Sustainable Development and Environmental Stewardship

Women's knowledge and practices related to environmental conservation are critical in a country facing desertification, water scarcity, and climate change challenges (30). Their active participation in sustainable agricultural practices, water management, and biodiversity preservation demonstrates how gender-sensitive approaches can align disaster risk reduction with sustainable development goals (SDGs) (31). Empowering women in these domains can accelerate progress

toward SDGs 5 (Gender Equality), 6 (Clean Water and Sanitation), and 13 (Climate Action) simultaneously.

Psychological and Social Dimensions of Resilience

Disasters have profound psychological impacts, and women play a central role in buffering these effects through emotional support, caregiving, and community mobilization (32). The findings suggest that women-led psychosocial interventions and informal support networks facilitate quicker recovery and reduce long-term mental health problems (33). Incorporating gender-specific mental health support in disaster response programs is crucial, especially given the cultural stigma around mental illness and women's limited access to formal healthcare services in some Iranian regions (34).

Barriers to Women's Participation and Empowerment

Despite these strengths, women face systemic barriers that hinder their full involvement in disaster risk governance. Patriarchal norms, restricted mobility, unequal access to education, and lack of economic independence reduce women's capacities and agency (35). Moreover, institutional neglect and the absence of gender mainstreaming in disaster policies perpetuate these inequalities (36). Addressing these barriers requires legal reforms, gender-sensitive programming, and sustained advocacy to transform social attitudes and power structures.

Policy Implications and Pathways Forward

To strengthen disaster resilience and sustainable development in Iran, a multi-layered, gender-responsive approach is essential. First, gender must be mainstreamed into all phases of Disaster Risk Management (DRM), from risk assessment and planning to response and recovery. This requires systematic gender analysis and the inclusion of women in national and local disaster governance structures. Enhancing access to reproductive health services in disaster-prone regions is also critical. The establishment of mobile clinics and the training of female emergency responders and midwives can ensure that women's health needs are not neglected during crises.

Supporting women's environmental leadership is another key priority. Women should be provided with financial resources, capacity-

building programs, and secure access to land and water rights to lead effective climate adaptation strategies. Similarly, investment in gender-sensitive psychosocial support programs is vital. Community-based mental health services, particularly those leveraging women's informal support networks, can play a crucial role in trauma recovery and long-term resilience.

Additionally, the development and use of gender-disaggregated data are imperative for effective planning. National databases should capture the differentiated impacts of disasters based on gender, age, disability, and socio-economic status. Cultural barriers also need to be addressed through sustained public awareness campaigns, involving community and religious leaders to challenge harmful gender norms and promote the recognition of women's roles in resilience-building.

However, this review also highlights several limitations and directions for future research. Many existing studies are cross-sectional and do not capture long-term gendered impacts of disasters. Furthermore, the experiences of rural women, ethnic minorities, and marginalized populations remain underexplored. Future studies should adopt intersectional approaches that consider the overlapping vulnerabilities related to gender, age, disability, and economic status. Longitudinal and participatory research methods are recommended to better understand the dynamic roles women play before, during, and after disasters, and to inform inclusive policy development.

Women's empowerment is not only a social and moral imperative, but also a fundamental strategy for sustainable development, increasing the resilience of societies, and enhancing national security. As the axis of the family and a key factor in crisis management and the development process, women play a vital role in achieving social justice, reducing inequalities, promoting the physical and mental health of families, and strengthening social capital. In fact, women's active participation at various levels of decision-making, policy-making, and local management can lead to improving the quality of life, promoting sustainable development, and strengthening social cohesion.

Women play a pivotal role in the resilience of Iranian societies in the face of disasters, and their roles are diverse and essential, ranging from reproductive health and emotional care to environmental management and informal leadership. Therefore, structural support, creating

supportive environments, inclusive education, strengthening women-centered NGOs, and supporting women's entrepreneurship, especially in rural areas, are key measures to achieve this goal.

Compliance with Ethical Guidelines

There were no ethical considerations in this research.

Funding/Support

This research has not received any financial support.

Author's Contributions

In this article, Freshete Karimi, the first author, was responsible for conducting the research and methodology. However, the second author Ashraf Sadat Mousavi was responsible for collecting, design and analyzing the data and correspondence and editing the final manuscript submitted to the journal.

Conflict of Interests

The authors declare no conflict of interest.

Acknowledgments

None

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