



Entry Points for Integrating Gender Considerations in Resilient Infrastructure

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Cover photo: Indonesian engineer on construction site. Credit: rudi_suardi



Photo: A little girl with her mother inside a relief camp in Turkey after an earthquake destroyed the homes of thousands of people. Credit: 1001nights.

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The Global Facility for Disaster Reduction and Recovery's Commitment to Gender Equality

The Global Facility for Disaster Reduction and Recovery (GFDRR) provides countries with financial and analytical support in alignment with the Sendai Framework for Disaster Risk Reduction's call for inclusive disaster risk management (DRM). GFDRR also offers technical assistance to integrate social inclusion into disaster risk management programs. The 2021-2025 strategy of GFDRR emphasizes social inclusion and gender equality as cross-cutting themes, ensuring that disaster risk management programs are designed to benefit all, especially women and vulnerable groups. GFDRR's commitment to inclusive disaster risk management and gender equality also aligns with the World Bank Group's Gender Strategy 2024–2030, which seeks to eliminate gender-based violence (GBV), expand economic opportunities for women, and foster women's leadership roles.

GFDRR maintains a substantial grant portfolio focused on resilient infrastructure. From fiscal 2019 to fiscal 2023, the Japan–World Bank Program for Mainstreaming Disaster Risk Management approved 124 resilient infrastructure grants and 24 just-in-time grants, totaling US\$44.8 million. However, while 70 percent of the resilient infrastructure portfolio integrates gender considerations, only 30 percent have monitoring mechanisms to address gender disparities. This discrepancy highlights the need for additional resources and targeted actions to systematically identify and close gender gaps. By improving monitoring strategies and emphasizing gender-responsive approaches, GFDRR can better support countries in developing more inclusive, resilient infrastructure.

Preface

Executive Summary

Natural hazards disproportionately affect women due to existing social and economic inequalities, increasing their vulnerability and exposure to GBV and economic instability during disasters. This report highlights the necessity of integrating gender-sensitive approaches into infrastructure development to address these disparities effectively. Utilizing the World Bank's Gender Tag methodology, the report identifies gender gaps, proposes targeted interventions, and establishes indicators for monitoring and evaluation.

This report presents a strategic framework for incorporating gender perspectives into resilient infrastructure development, focusing on the transportation, water, and energy sectors. The aim is to enhance disaster resilience while promoting gender equality, aligning with the commitments of the GFDRR and the World Bank Group's initiatives in inclusive DRM and gender equality.

- **Transportation Sector:** Women face significant barriers in mobility, safety, and accessibility, particularly during disasters. The report recommends financial support for women's transportation during emergencies, community-based transportation networks, and improved safety measures. These interventions aim to ensure that transportation infrastructure is inclusive, resilient, and supports women's economic activities during and after disasters.
- **Water Sector:** Access to safe sanitation facilities is often limited for women, particularly during disasters. The report advocates for the provision of safe sanitation facilities, distribution of menstrual hygiene products, and inclusive decision-making forums. These measures are designed to improve women's health, safety, and participation in water management, thereby enhancing community resilience.
- **Energy Sector:** Women have limited access to renewable energy resources and face health risks from traditional cooking methods. The report suggests training programs for women in renewable energy, promotion of clean cooking solutions, and gender-responsive policies. These interventions are aimed at reducing health risks, improving women's economic opportunities, and ensuring sustainable energy access during disasters.

Recommendations: The report emphasizes the need to develop transportation and water infrastructure that prioritizes women's safety and accessibility, advocates for women's participation in policy-making processes, and provides targeted employment and training programs in the transportation, water, and energy sectors. Additionally, promoting community-led initiatives with women in leadership roles is crucial for improving disaster preparedness and response.

Incorporating gender considerations into resilient infrastructure development is essential for reducing vulnerability and enhancing recovery in disaster-prone areas. By focusing on inclusive and equitable strategies, the World Bank and GFDRR aim to build infrastructure that meets the needs of all community members, particularly women, thus fostering sustainable and resilient development.

DRM	disaster risk management
GBV	gender-based violence
GDP	gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
LPG	liquefied petroleum gas
SDGs	Sustainable Development Goals
WASH	water, sanitation, and hygiene

Abbreviations and Acronyms

Photo: Mother carrying her child, walking home in a poor area of town during a flood in Nonthaburi, Thailand. Credit: MMassel.



Although natural hazards are inherently neutral, their effects disproportionately burden vulnerable groups, including women. Disaster impacts depend on hazard type, intensity, exposure, and preparedness, as well as local social dynamics and gender norms. Gender dynamics shape exposure, vulnerability, and coping capacity, ultimately influencing how communities prepare for, respond to, and recover from disasters. For example, women disproportionately rely on natural resources for livelihoods, lack access to affordable housing in safer areas, and experience economic disadvantages that hinder their ability to cope, adapt, and recover (OECD 2022b). Additionally, in the aftermath of an event, women are more likely to stay behind to assume primary caregiving responsibilities for children, the injured, and the elderly (UN Women 2022). They also face heightened risks, including GBV and exploitation after disasters, especially when displaced. In 2018, women accounted for 75 percent of all displaced persons globally because of natural hazards such as droughts and floods (Asian Development Bank 2023).

Acknowledging these specific vulnerabilities is essential to building inclusive resilience. This concept focuses on empowering communities and systems to recover from disasters in a way that includes and supports all individuals, particularly the vulnerable. This holistic approach to DRM considers the needs of different social groups and acknowledges that gender inequality not only exacerbates disaster impacts but often worsens societal disparities (UNDRR 2023). By understanding the unique challenges faced by women, DRM programs can better respond to the differentiated gender needs within their communities, ensuring that resilience-building efforts are truly inclusive and effective.

Integrating gender perspectives into resilient infrastructure is crucial to ensuring that disaster management efforts effectively address the distinct roles and responsibilities of men and women. For example, during the 2017 monsoon season in Bangladesh, women and girls were more affected by flooding because of cultural barriers that prevented them from swimming or leaving their homes (Care International 2017). Women's insights therefore help design resilient infrastructure that enhances safety, privacy, and accessibility, and infrastructure planning that considers the needs of women, men, girls, and boys leads to more effective and sustainable solutions. Incorporating gender perspectives also promotes gender equality and women's empowerment by addressing structural barriers to participation in mobility, services, and employment. Research shows that a gender-inclusive approach in pre- and post-disaster environments can reduce instances of GBV while expanding economic opportunities and avenues for skill development (Erman et al. 2021). Furthermore, increasing women's representation in leadership, decision-making, and risk governance promotes more inclusive, sustainable, and resilient strategies (UNDRR 2023).

The DRM cycle encompasses four phases—risk identification, risk reduction, emergency preparedness, and post-disaster response and recovery—each offering multiple entry points for enhancing inclusion. For purposes of this note, we have categorized the entry points and interventions into two groups (1) risk reduction and emergency preparedness and (2) post-disaster response and recovery. These phases

Introduction

In the aftermath of an event, women are more likely to stay behind to assume primary caregiving responsibilities for children, the injured, and the elderly...

collectively offer opportunities for diverse and inclusive participation in planning, constructing, and maintaining resilient infrastructure (GFDRR 2021a). For example, early warning systems must account for different needs and vulnerabilities to deliver timely support to everyone during emergencies, and recovery requires equitable resource allocation to address the unique needs of vulnerable groups. Adopting inclusive efforts at every phase of the DRM cycle promotes socially equitable disaster management practices that are safer and more resilient. This note provides specific entry points for integrating gender considerations throughout the cycle.

Methodology

Despite progress in integrating gender-sensitive approaches into sectors pertaining to resilient infrastructure, a gap remains in understanding how gender intersects with resilience, especially during disaster shocks. Women's increased susceptibility is rooted in preexisting social and economic inequalities, such as limited access to resources, lower socioeconomic status, and restricted mobility, which leave them disproportionately affected by shocks such as natural disasters (UN 2020). Infrastructure planning that overlooks women's specific priorities and challenges cannot adequately address these needs, particularly following disasters.

This note aims to guide the integration of a gender perspective into resilient infrastructure development by emphasizing the disproportionate impact of disasters on women. In addition to providing valuable insights and identifying the intersection of climate and disaster resilience, infrastructure, and gender, this note offers a perspective that complements existing sector-specific resources to enhance women's resilience and ensure that their needs are met by infrastructure projects during crises. Incorporating gender considerations into resilient infrastructure development is crucial for ensuring long-term sustainability and effectiveness, as it can reduce the vulnerability of women and better support their recovery from disaster-related shocks (UNOPS 2022).

To identify and address resilient infrastructure gender gaps, this note draws from the available literature, desk research, and a review of the resilient-infrastructure grant portfolio of the GFDRR. The approach for identifying entry points in gender gaps is grounded in the World Bank's results-oriented Gender Tag methodology, which relies on gender analysis to inform interventions and results indicators aimed at narrowing gender gaps (World Bank 2023b). It follows a three-step logical framework:

- 1. Gender gap analysis:** A project begins with an analysis to identify existing gender gaps relevant to its scope. This involves assessing disparities in access, resources, and opportunities between genders (World Bank 2022b).
- 2. Interventions:** Based on this analysis, a tailored set of interventions is developed to specifically target and address these identified gaps. These interventions are integrated into the overall project strategy to ensure effective implementation.
- 3. Indicators for monitoring and evaluation:** Clear, measurable indicators are established to assess the effectiveness of these actions and measure progress toward closing the gender gaps. These benchmarks provide the foundation for ongoing monitoring and evaluation throughout the project's life cycle.

Although this note emphasizes the need to incorporate gender perspectives into the development of resilient infrastructure to improve equity and effectiveness, it does not offer a comprehensive gender analysis or a detailed implementation guide. Similarly, it does not replace the necessity of customized and nuanced assessments tailored to local contexts. Instead, it provides an overview for integrating gender considerations and stresses the importance of adapting strategies to the unique needs and dynamics of different communities in the transportation, water, and energy sectors.

This note focuses on the transportation, water, and energy sectors because of their significant potential to address and reduce gender inequalities during disasters through consistent service delivery. These sectors that are crucial in everyday life become particularly vital during crises, as disasters can severely disrupt their functionality and cause widespread challenges for affected communities. In addition, traditional infrastructure planning in transportation, water, and energy frequently overlooks women's specific priorities and challenges, resulting in solutions that inadequately address their needs during disasters and leave them without continued service delivery during crises. Nearly half of GFDRR's resilient infrastructure grants are directed toward transportation, water, and energy activities, demonstrating the high demand for investments in these areas. As such, these sectors present an opportunity to enhance the inclusivity of interventions to ensure equitable access and benefits.

Transportation: Reliable transportation is essential for women's economic mobility and labor force participation. The World Bank identifies lack of transportation as a significant barrier to women's employment in developing countries, reducing their participation by an estimated 16.5 percent (World Bank 2023a). When disasters occur, disruptions in mobility disproportionately impact women because of their specific travel patterns and accessibility needs. Disasters can also hinder emergency response efforts, making it harder for women to access essential services or evacuate safely. According to McKinsey, achieving gender parity in labor markets could increase global GDP by up to US\$28 trillion by 2025 (Bose 2010).

Water: Access to a safe and adequate water supply is essential for women's roles in agriculture, caregiving, and community participation. Disasters can disrupt water supply and sanitation systems, directly impacting women who are often responsible for securing and managing household water. For example, inadequate sanitation in India alone results in US\$213 million in annual economic losses due to illness-related absenteeism, with women bearing much of the caregiving burden (Asian Development Bank 2023). These impacts are exacerbated during disasters, as water scarcity or contamination can lead to a surge in illness, particularly affecting women's roles.

Energy: Reliable and sustainable energy is crucial for maintaining livelihoods, health, and safety. A lack of progress in clean cooking solutions imposes significant economic costs, exceeding US\$2.4 trillion annually, while disproportionately affecting women's health and increasing their vulnerability to disasters (Clean Cooking Alliance 2020). When disasters disrupt energy supplies, women are more likely to experience adverse health effects because of increased reliance on unsafe cooking methods and limited access to electricity.

This note focuses on the transportation, water, and energy sectors because of their significant potential to address and reduce gender inequalities during disasters through consistent service delivery.



Photo: Passengers on a train at Rishikesh railway station. Credit: ozgurdonmaz

Resilient and Inclusive Transportation Infrastructure

Transportation infrastructure is highly vulnerable to natural hazards such as floods, earthquakes, and hurricanes (Daniels and MacArthur 2022). Systematically identifying and addressing these vulnerabilities is essential to minimize potential damage and disruptions to the movement of goods and people. Incorporating the distinct travel and mobility needs of men and women is crucial for this assessment, given their differing travel patterns and ways of accessing public spaces (Legovini et al. 2022). Research shows that women face notable disparities in safety, affordability, and accessibility in transportation, which are often exacerbated during disasters (GFDRR 2018). To promote inclusivity and resilience in transportation systems, it is crucial to incorporate gender considerations throughout the entire DRM cycle, including during emergency preparedness and throughout post-disaster recovery efforts. This approach fosters women's mobility and supports their economic activities in the face of disasters.

Transportation policy makers and planners therefore need to adopt gender-responsive approaches that consider the specific needs of both women and men. Enhancing transportation safety, accessibility, and reliability for women encourages sustainable mobility patterns and reduces carbon emissions (OECD 2022a). One way to promote gender awareness in transportation is by addressing the imbalance in employment rates and decision-making roles between genders. This involves ensuring that women have equal opportunities for jobs and leadership positions in the transportation sector. Legovini et al. estimate that more than 20 million additional women would work in the transportation industry if gender parity in employment was achieved (2022). Box 1 provides an example of a project that involved women in decision-making and planning to enhance women's resilience considerations in DRM.

BOX 1. Gender Interventions or Urban Transportation in Cabo Verde

Project overview: The Improving Connectivity and Urban Infrastructure in Cabo Verde project (World Bank Project ID [P178644](#)) is working to enhance climate-resilient transportation and urban infrastructure. By integrating gender considerations into DRM strategies, the project aims to establish a more resilient and inclusive transportation network that better supports women's needs during disasters.

Key interventions:

1. Community engagement and leadership

- » *Formation of women-led committees:* Establishing women-led community committees ensures women's perspectives are integral to DRM planning and implementation. Women leaders accurately represent their community's needs, especially those related to mobility and safety, which helps shape a more inclusive and effective disaster preparedness framework. Their involvement ensures the transportation system is responsive to their unique travel patterns, evacuation challenges, and caregiving responsibilities.
- » *Capacity building:* Leadership and negotiation training empower women to advocate for their community's needs in DRM, and equipping them with these skills strengthens their ability to negotiate resources and lead local disaster response initiatives. Women's participation makes the transportation and DRM strategies more resilient and equitable.

2. Mobility enhancements

- » *Consultative process:* Engaging in consultations and using gender-sensitive analytics offers valuable insights into women's mobility challenges, particularly during disasters. Analyzing these data helps to develop targeted interventions that enhance women's travel safety and ensure that vulnerable groups can access essential services securely and efficiently during disaster shocks.
- » *Infrastructure improvements:* Prioritizing walking infrastructure and route planning based on women's travel patterns helps them safely access emergency services and evacuation routes. Urban design features like well-lit playgrounds and public spaces can reduce harassment and assault risks during evacuations, contributing to more secure transit.

3. Disaster response coordination

- » *Facilitating communication:* Establishing communication channels between women in communities and emergency assistance providers ensures an efficient information flow. This proactive coordination helps identify needs promptly and provides critical aid to affected groups without delays.

Impact: These interventions aim to strengthen the resilience of women by prioritizing their safety and mobility in disaster response and urban planning efforts. By integrating their perspectives into DRM strategies, these measures tackle existing disparities and promote long-term sustainability in the transportation sector. This comprehensive approach builds a resilient transportation network and effective disaster response system while advancing gender equality across Cabo Verde.

Source: World Bank 2023c.

Establishing gender-informed transportation policies is also crucial for achieving several Sustainable Development Goals (SDGs). Women typically adopt more sustainable mobility habits, such as using public transport, cycling, or walking, which directly supports SDG 11 (Sustainable Cities and Communities) by promoting sustainable urban transport systems. These behaviors also contribute to SDG 5 (Gender Equality) by addressing gender imbalances in transportation access and use. Improvements in transportation infrastructure and services are pivotal in optimizing the use of women's time and resources (Agénor and Agénor 2023). For instance, research shows that 46 percent of women in Serbia rely on multiple buses for daily travel, while this figure is significantly lower, 17 percent, for men (Vukanovic, Kurshitashvili, and Carvajal 2021), illustrating the need for gender-responsive transport planning to enhance accessibility and inclusivity.

Gender Entry Points, Gaps, Interventions, and Indicators for Public Transportation

The integration of gender considerations into urban mobility and public transportation investments is needed throughout the DRM cycle to build resilient solutions. The resilient infrastructure entry points for mobility and transportation systems shed light on the key gaps and opportunities for improvement, and they provide a focus for strategies that promote equitable access and inclusive transportation policies. [Table 1](#) discusses these gaps as well as suggested interventions and monitoring and evaluation indicators for the following transportation subsectors:

Urban mobility encompasses the movement of people and goods within cities using various modes such as walking, cycling, public transit, and private vehicles, as well as emerging options like shared mobility and micromobility (OECD 2020). It addresses accessibility, affordability, and convenience, encompassing infrastructure, services, technology, and policies to ensure seamless and sustainable movement in urban environments.

Public transportation, a key component of urban mobility, includes mass transit systems such as buses, trams, and subways that are designed to efficiently transport large numbers of people. The development of accessible infrastructure such as stations and terminals is necessary to address the diverse needs of passengers, including those with disabilities, the elderly, and families with children (Mead 2021; UN 2016). Women frequently rely on public transportation for multi-stop, non-work-related journeys (Dominguez Gonzalez et al. 2018). However, these transportation systems often prioritize commuter routes between home and work, potentially neglecting the diverse mobility patterns of women (Legovini et al. 2022; World Bank 2020).

TABLE 1. Targeted Gender Entry Points and Interventions for DRM of Urban Mobility and Public Transportation¹

Entry Point		DRM Phase	
<p>1. Limited mobility options: Enhancing gender equity in urban transportation systems requires addressing the specific mobility challenges women face because of their limited access to both private and public transportation. Developing resilient and inclusive public transportation systems that cater to the diverse needs of all community members before, during, and after disasters involves promoting everyone's safe and reliable mobility under varying conditions.</p>		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
<p>› Emergencies often exacerbate existing gender disparities in mobility, with women facing particular barriers to reliable and affordable transportation. These challenges are compounded by financial barriers and limited access to private transportation services, which also disproportionately affects women, especially those with caregiving or household responsibilities.</p> <p>› Lack of information about available transportation options and emergency services further limits women's ability to make informed decisions during crises, impacting their safety.</p> <p>› Because of inadequate access to transportation, women may face significant barriers to reaching essential services such as shelters or health facilities. This lack of mobility exacerbates existing inequalities.</p>	<p>Introduce vouchers or subsidies: Provide financial support through vouchers or subsidies for women to access private transportation services during emergencies that cause major disruption to public transportation systems. This action aims to mitigate the financial barriers that prevent women from accessing safer transportation alternatives when public transportation is not available or safe.</p>	<p>Women benefiting from transportation vouchers or subsidies:</p> <p>› Number of women who use financial assistance for transportation during emergencies</p> <p>› Number of women use transportation vouchers or subsidies during an emergency [Good Practice]</p>	
	<p>Establish community-based transportation networks: Implement safe and reliable community-based transportation initiatives that are specifically designed to cater to women's needs during emergencies. These networks can include volunteer-driven services or partnerships with local transportation providers to ensure that transportation options are available and accessible to women.</p>	<p>Community-based transportation services:</p> <p>› Percentage increase in the uptake of community-based transportation services by women during emergencies</p> <p>› Increased representation of women in technical and managerial positions within community organizations and bodies that make transportation decisions. [Good Practice]</p>	
Entry Point		DRM Phase	
<p>2. Safety concerns: Addressing safety concerns in public spaces is crucial for encouraging women to use transportation services confidently, which is particularly important during disasters. Safer transportation environments can also mitigate the impact of GBV and harassment, enhancing women's ability to move freely before, during, and after emergencies.</p>		Risk reduction and preparedness	✓
		Response and recovery	

¹ Note: This table was created following the application of the World Bank's [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 1. Cont.

Gender Gaps	Interventions	Indicators
<p>› In emergency transportation scenarios, women often face increased risks of GBV and harassment, which are exacerbated by inadequate emergency communication systems, poor visibility at transportation stops, and a lack of surveillance measures. These factors contribute to a sense of insecurity among women and can deter them from using emergency transportation services when needed.</p> <p>› Furthermore, the absence of a formal mechanism to report and document incidents of GBV and harassment leaves these issues unaddressed and allows perpetrators to remain unaccountable, perpetuating a cycle of violence and harassment against women in emergency transportation settings.</p>	<p>Establish reliable emergency communication systems: Implement advanced, user-friendly communication systems within all emergency transportation services that allow passengers, especially women, to report safety concerns or incidents instantly. This could include panic buttons in vehicles, emergency call lines, and mobile app features designed to alert authorities or transportation service operators in real-time.</p> <p>Establish a reporting mechanism for GBV and harassment: Develop a comprehensive reporting mechanism that documents and tracks all reported incidents of GBV and harassment during emergencies. This mechanism should ensure confidentiality and privacy for the victims while facilitating the collection of data essential for improving safety measures and holding perpetrators accountable.</p>	<p>Reduction in reported incidents of GBV and harassment:</p> <ul style="list-style-type: none"> › Percentage decrease in reported incidents of GBV and harassment against women during emergency transportation situations as a direct indicator of improved safety and effectiveness of the implemented communication systems and surveillance measures. › Percentage increase in women's usage of formal reporting mechanisms (e.g., panic buttons, apps, emergency call lines) within emergency transportation services, reflecting greater trust in the system and improved response mechanisms. [Good Practice] <p>Response time to safety concerns or incidents:</p> <ul style="list-style-type: none"> › Percentage of reported incidents or safety concerns that receive a response from authorities or service operators within an established target time (e.g., under 5 minutes) as a measure of the efficiency of emergency communication systems. › Percentage increase in the resolution rate of incidents of GBV and harassment after being reported through formal communication systems, ensuring accountability and timely action. [Good Practice] <p>Utilization of the emergency reporting system:</p> <ul style="list-style-type: none"> › Percentage increase of women passengers using newly implemented emergency communication systems and reporting mechanisms to report safety concerns › Percentage increase of reported safety concerns by women passengers that receive timely and effective responses [Good Practice]

TABLE 1. Cont.

Gender Gaps	Interventions	Indicators
	<p>Enable rapid deployment of safety features in response to emergencies: Establish a protocol for the quick deployment of additional safety measures, such as increased security personnel, temporary shelters, and emergency communication devices at transportation hubs, ensuring that these measures are responsive to the unique challenges presented by emergencies.</p>	<p>Improvement in women’s perceptions of safety:</p> <ul style="list-style-type: none"> › Changes in women’s perceptions of safety during emergency transportation through implementation and post-implementation surveys, aiming for a significant improvement in feelings of security and trust in the transportation services’ safety measures
Entry Point	DRM Phase	
<p>3. Infrastructure accessibility: Existing transportation infrastructure and emergency evacuation plans in cities often do not adequately accommodate the needs of women, especially women with disabilities who have varied movement abilities and accessibility requirements or who are caring for dependents with similar needs. This leads to increased vulnerability for all affected parties during disasters.</p>	Risk reduction and preparedness	✓
	Response and recovery	✓
Gender Gaps	Interventions	Indicators
<ul style="list-style-type: none"> › There is a lack of systematic evaluation and adaptation of public transportation infrastructure to meet the diverse mobility needs of women. This is particularly true for women with disabilities or those caring for persons with disabilities, which can hinder their ability to evacuate or access services during emergencies. › The lack of infrastructure for mobility needs is exacerbated during disasters, impeding evacuation efforts. There is a lack of systematic evaluation and adaptation of public transportation infrastructure to meet the diverse mobility needs of women, particularly those with disabilities or those caring for persons with disabilities, which can hinder their ability to evacuate or access services during emergencies. 	<p>Develop and implement inclusive evacuation plans: To ensure that transportation services accommodate individuals, caregivers, families with children, pregnant women, elderly people, and those with diverse mobility capabilities and accessibility needs.</p>	<p>Family-friendly transportation options:</p> <ul style="list-style-type: none"> › Percentage increase in the use of family-friendly transportation services during and after disasters, with a focus on women with disabilities and/or caregiving responsibilities
	<p>Conduct accessibility assessments and gather feedback: Perform thorough accessibility assessments of public transportation infrastructure to identify and address physical barriers that impede women with diverse mobility needs, particularly those with disabilities or caring for persons with disabilities. Ensure the inclusivity of infrastructure design by implementing feedback mechanisms, such as surveys and consultations, with women who have specific mobility requirements.</p>	<p>Inclusivity and accessibility:</p> <ul style="list-style-type: none"> › Percentage improvement in accessible emergency transportation infrastructure, including roads, evacuation centers, and public transportation, for women with disabilities or those caring for children, family members with disabilities, and elderly family members › Number of physical barriers identified and percentage reduction in barriers after implementation of improvements [Good Practice] › Percentage of public transportation infrastructure with implemented modifications for improved accessibility

TABLE 1. Cont.

Entry Point		DRM Phase	
<p>4. Lack of information: Providing comprehensive and accessible information about transportation options and emergency services is essential to empowering women. Improved information dissemination supports women’s autonomy and decision-making, enabling them to navigate public transportation systems more effectively during disaster scenarios.</p>		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
<p>› There is a crucial need for communication strategies that are not only comprehensive and widespread but also specifically designed to reach women with varied needs and circumstances. Information must be accessible in multiple formats (visual, auditory, textual, and tactile) and languages to ensure that all women, regardless of their literacy levels or sensory capabilities, can understand and act upon the information provided.</p> <p>› By improving the dissemination of information and ensuring it is tailored to the needs of women, emergency response efforts can significantly enhance women’s ability to make informed decisions during crises. This change not only aids in their safety and mobility but also empowers them to play a more active role in their communities’ emergency preparedness and response activities.</p>	<p>Develop communication strategies: Implement comprehensive communication strategies to disseminate information about available public transportation options, emergency services, and evacuation routes. Ensure that the communication is accessible and understandable and specifically targets women to empower them with the information needed to make informed decisions during emergencies.</p>	<p>Awareness and understanding of transportation options:</p> <ul style="list-style-type: none"> › Percentage increase in women’s awareness and understanding of transportation options during emergencies › Percentage increase in engagement metrics for transportation options during emergencies (for example, social media interactions, website traffic, community meeting attendance) 	
	<p>Conduct effectiveness assessment through surveys and feedback: Conduct pre- and post-disaster surveys to assess women’s knowledge and understanding of key information related to evacuation, public transportation options, and available emergency resources. Track the effectiveness of information dissemination channels through feedback mechanisms, including focus groups, interviews, or community forums.</p>	<p>Knowledge and preparedness enhancement:</p> <ul style="list-style-type: none"> › Number of women equipped with knowledge of or critical information related to evacuation routes, transportation services, and emergency resources during and after disasters › Percentage of women reached through each information dissemination channel and the reported effectiveness of each channel in conveying critical information related to evacuation routes, transportation services, and emergency resources during and after disasters [Good Practice] 	
Entry Point		DRM Phase	
<p>5. Societal norms: Societal norms and gender roles often restrict women’s independence and mobility. This limitation is exacerbated during emergencies, where traditional roles may hinder women’s ability to evacuate or promptly access help.</p>		Risk reduction and preparedness	✓
		Response and recovery	

TABLE 1. Cont.

Gender Gaps	Interventions	Indicators
<ul style="list-style-type: none"> › The underrepresentation of women in decision-making bodies related to DRM and transportation planning results in planning processes that may not fully consider or meet women’s specific needs and preferences. › Engaging men as allies in promoting gender equality is essential to challenging and changing traditional gender norms, supporting women’s decision-making autonomy, and contributing to a more equitable community response during disasters. 	<p>Advocate for increased representation: Push for greater inclusion of women in decision-making bodies related to DRM and transportation planning to ensure that women’s needs and perspectives are adequately represented.</p>	<p>Women’s autonomy and empowerment:</p> <ul style="list-style-type: none"> › Percentage increase in women’s reported autonomy and empowerment in making transportation-related decisions during disasters <p>Increased gender equality efforts:</p> <ul style="list-style-type: none"> › Percentage increase in male engagement in gender equality efforts within the transportation sector, as measured by surveys and interviews [Good Practice]
Entry Point		DRM Phase
<p>6. Economic barriers: Economic constraints can significantly impact women’s access to transportation, affecting their ability to evacuate or seek help during emergencies.</p>		Risk reduction and preparedness ✓
		Response and recovery ✓
Gender Gap	Interventions	Indicators
<ul style="list-style-type: none"> › The economic barriers that restrict women’s ability to access safe, reliable transportation during emergencies can delay evacuation and access to medical care. This issue is particularly acute for women from low-income households or those facing sudden financial hardships because of a disaster. 	<p>Provide emergency transportation vouchers: Introduce vouchers that women can use to access transportation services during disasters without financial strain. Distribute these vouchers through channels such as community centers, local authorities, and women’s organizations to ensure wide and equitable distribution.</p>	<p>Increased access to transportation:</p> <ul style="list-style-type: none"> › Percentage increase in women’s ability to access transportation options during and after disasters [Good Practice]
Entry Point		DRM Phase
<p>7. Health and hygiene concerns: Incorporating considerations for women’s health and hygiene needs into public transportation planning is crucial for creating inclusive systems. This need becomes even more important in a post-disaster setting, where access to sanitary facilities and health care services must be maintained to support women’s well-being and disaster and climate change resilience.</p>		Risk reduction and preparedness
		Response and recovery ✓
Gender Gap	Interventions	Indicators
<ul style="list-style-type: none"> › Emergency response and transportation plans frequently fail to consider the specific health and hygiene needs of women, including those of different ages and with varied health conditions. This oversight can lead to inadequate support for women during critical times, hindering their ability to move safely and access necessary services. 	<p>Provide accessible menstrual hygiene and incontinence products: Ensure that transportation hubs and evacuation centers offer a variety of menstrual hygiene and incontinence products that cater to the diverse needs of women of all ages and health conditions. This action addresses a fundamental aspect of women’s health and dignity during emergencies.</p>	<p>Improved facilities and services:</p> <ul style="list-style-type: none"> › Percentage increase in gender-responsive health and hygiene facilities at transportation hubs and evacuation centers

Key Takeaways

- › **Enhance safety and accessibility:** Develop public transportation that prioritizes safety and accessibility, with features such as emergency communication tools. This approach focuses on promoting women's safety and independence during disasters and daily life, which fosters greater participation in economic activities and resilience in recovery efforts.
- › **Redesign public transportation systems:** Design public transportation systems with features catering to the caregiving roles women often assume, as well as persons with disabilities. Include safety measures, priority seating, and space for strollers, walkers, wheelchairs, and mobility scooters to enhance usability during daily commutes and provide practical support in evacuation scenarios.
- › **Implement inclusive policies:** Advocate for inclusive participation in the development and implementation of urban mobility and public transportation policies through inclusive consultation processes with women, persons with disabilities, and those of varying age and educational attainment. Policies shaped by diverse user experiences promote resilient, adaptable, and effective urban transportation systems for daily user needs and emergency scenarios.
- › **Engage with stakeholders and build capacity:** Expand stakeholder engagement by integrating more women into urban mobility and public transportation planning and leadership roles. Foster innovative solutions led by women to improve the effectiveness and resilience of disaster response and public transportation systems.



Women collecting water in buckets in Xai Xai, Mozambique. Credit: Carla Edwards

The water sector plays a crucial role in community resilience, particularly in supporting sustainable development. Water, sanitation, and hygiene (WASH) services ensure safe drinking water, appropriate sanitation facilities, and proper hygiene practices. Related initiatives include providing clean water sources, constructing toilets and sewage systems, and educating communities about hygiene habits such as handwashing (World Bank 2020). Wastewater management involves the collection, treatment, and safe disposal of wastewater to prevent environmental pollution and safeguard public health (High Tide Technologies 2023), such as the construction of wastewater treatment plants, implementation of reuse strategies, and enforcement of regulations to protect water quality and ecosystems. Women often lead community practices in WASH and water management; they maintain public health and environmental sustainability through effective household sanitation practices and proper waste disposal, as well as active participation in initiatives such as community-led sanitation projects and water conservation efforts (Silva 2023). Their leadership also enhances awareness and promotes responsible wastewater disposal, which significantly contributes to the community's well-being (UN Women 2016).

Women are also pivotal in agricultural activities related to water management. Women ensure efficient water distribution through their roles in planting, growing crops, and maintaining irrigation systems in several ways. First, their active involvement in agriculture means they understand local water needs and can manage irrigation schedules effectively, ensuring crops receive adequate water at crucial growth stages. Second, women often use techniques like rainwater harvesting and small-scale irrigation to optimize water use, minimizing wastage and enhancing agricultural productivity. By integrating gender-responsive approaches in water

Resilient and Inclusive Water Infrastructure

management, including equitable access and decision-making, women contribute significantly to sustainable water distribution practices, essential for agricultural resilience and food security in their communities (Njie and Ndiaye 2013). The recognition and support of women's roles in water management can lead to more resilient communities that are better equipped to maintain water security amid climate change and disasters (Water for Women 2021). For instance, communities can further improve their water use, efficiency, and sustainability by building women's capacity and empowering them as key stakeholders in irrigation, WASH, and wastewater management.

Adopting gender-inclusive strategies in the water sector is therefore necessary for supporting sustainable development and particularly for mitigating disaster impacts. In disaster settings, the water sector's vital role in ensuring water availability for sanitation and health is often compromised (EPA 2022). Women often shoulder the burden of caring for affected family members post-disaster, so the resulting lack of clean water leads to significant health risks and increased unpaid domestic labor that disproportionately affects women (Marquez 2022). For example, after Hurricane Maria, Puerto Rican women demonstrated remarkable resilience and adaptability by managing their families' water needs and sustained household functions despite the absence of water and power (OECD 2021b). Furthermore, women with disabilities experience compounded challenges following disasters because existing emergency sanitation facilities often lack the necessary accommodations (UNDRR 2015b).

Following a disaster, integrating gender perspectives into WASH, wastewater management, and agricultural water management can effectively target the disproportionate impacts on women while promoting their empowerment and well-being. As outlined in box 2, the Zimbabwe Idai Recovery Project exemplified how to address women's urgent water security needs after a cyclone hit in 2019.

Strategic investments in water security that cater to the needs of vulnerable groups, including women, can also bolster resilience to climate change and reap benefits such as income generation, poverty reduction, and women's empowerment. Enhancing WASH services for women can simultaneously reduce greenhouse gas emissions from untreated wastewater and improve health by mitigating disease transmission and protecting women from GBV and the hardships of open defecation, which leads to an ongoing and sustained impact, not just post-disaster but continuously (OECD 2021a).

BOX 2. Gender Interventions from the Zimbabwe Idai Recovery Project

Project overview: The Zimbabwe Idai Recovery Project (World Bank Project ID [P171114](#)) was designed to effectively address the urgent and mid-term recovery needs of individuals and communities affected by Cyclone Idai in 2019. Through a multifaceted approach, including immediate support for cyclone recovery, medium-term recovery, and resilience-building, the project catalyzed sustainable recovery efforts and fostered the long-term well-being and resilience of affected communities in Zimbabwe.

Key interventions:

1. GBV considerations

- » *Safer latrines and water points:* Constructing safer latrines and strategically locating water points not only reduced the distances women and girls had to travel daily but also minimized their exposure to potential violence, which is especially critical during post-disaster periods when disrupted social and physical environments can raise travel and GBV risks.
- » *Enhanced lighting at night:* Implementing adequate nighttime lighting in community areas significantly enhanced safety, enabling women to move more freely and securely at night.

2. Empowerment of women

- » *Access to new roles:* By providing women access to roles previously unavailable to them, such as village pump minders and latrine builders, the project not only empowered women but also ensured their direct involvement in the rebuilding and resilience efforts post-disaster, promoting quicker community recovery and sustainable gender equality.
- » *Skill development through training:* Training 40 women as village pump minders and 24 as latrine builders equipped those women with vital skills for maintaining critical infrastructure that is necessary for effective disaster response and recovery. This empowerment also translates into enhanced community resilience.
- » *Improved latrine design:* Enhancing latrine designs with features such as locks, privacy screens, and hygiene kits increased the safety and dignity of women in the aftermath of the disaster—when women’s privacy and security are often compromised.
- » *Gender-friendly sanitation facilities:* Ensuring that staffing for sanitation facilities had a minimum 50 percent female recruitment rate promoted gender equality in service access and management, which is necessary for balanced recovery efforts.

3. Supportive environment for caregivers

- » *Menstruation-related sick leave:* The provision of sick leave for menstruation-related issues ensured that women received full salaries during such absences. This important support mechanism maintains the economic stability of female caregivers during disaster recovery.

Impact: These interventions collectively contributed to promoting positive gender outcomes and fostering empowerment, equality, and safety for women in cyclone-affected communities. By prioritizing women’s unique needs and reducing risks such as GBV, these measures ensured safer access to essential services. The interventions also empowered women through new skill development and employment opportunities, enhancing their confidence and roles within the community. Furthermore, improved sanitation designs and supportive policies created a safer and more dignified environment. These efforts helped to build a more inclusive, resilient recovery to benefit all community members.

Gender Entry Points, Gaps, Interventions, and Indicators for Water

This section explores the connections between WASH, wastewater management, irrigation, agricultural water management, DRM, and gender considerations. It highlights the critical need for targeted interventions to promote gender-inclusive practices in water resource management, and tables 2 and 3 identify gaps as well as suggested interventions and monitoring and evaluation indicators for the following water subsectors:

The WASH and wastewater management (table 2) subsectors contribute to the balanced and sustainable utilization of water resources across agricultural and environmental domains (FAO 2017). In disaster-prone areas, women and girls face heightened risks of waterborne diseases and sanitation-related health issues. For example, ensuring separate and secure sanitation facilities for women in disaster shelters can safeguard their health, mitigate GBV, and enhance resilience against disease outbreaks. Moreover, gender disparities in decision-making and resource distribution can undermine disaster resilience, so ensuring the participation of women—who are often responsible for water and sanitation practices—is needed to develop sustainable initiatives. By involving women in community-led projects like wastewater treatment and recycling, resilience in sanitation systems is enhanced, environmental pollution is reduced, and disaster impacts on water quality are mitigated.

Irrigation and agricultural water management (table 3) are fundamental components for efficiently utilizing water resources in agriculture. This subsector encompasses various elements, including the implementation of irrigation systems and the adoption of water-efficient farming practices to optimize water use. Women, who are predominantly responsible for agricultural activities such as crop cultivation and livestock rearing, especially in rural regions, face increased workloads and stress during water scarcity or droughts, necessitating additional efforts for water collection and management to sustain agricultural production. Limited access to water resources can impede women's capacity to grow food for their families and generate income, exacerbating food insecurity and economic vulnerabilities. Moreover, women's constrained decision-making authority and limited control over land and water resources heighten their susceptibility to climate-related risks. In the aftermath of disasters, women often face the most severe social and economic repercussions, grappling with disruptions to agricultural production and water access that impact their livelihoods, food security, and well-being. In addition, the increased caregiving responsibilities, loss of income opportunities, and barriers to accessing essential services further compound the challenges that women face during disaster recovery.

TABLE 2. Gender Gaps, Suggested Interventions, and Indicators in WASH and Wastewater Management²

Entry Point		DRM Phase	
<p>1. Access to sanitation facilities: Gender disparities affect access to sanitation facilities, particularly in disaster-prone areas. After disasters occur, women and girls may experience limited access to safe and private sanitation facilities, which can compromise their dignity, safety, and health. This gap is further exacerbated for marginalized groups, including female-headed households, elderly women, women with disabilities, and pregnant women, with specific sanitation needs.</p>		Risk reduction and preparedness	
		Response and recovery	✓
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › Women and girls, particularly in disaster-prone areas, face significant challenges in accessing safe and private sanitation facilities, which can compromise their dignity, safety, and health, particularly during emergencies. Marginalized groups, including female-headed households, elderly women, women with disabilities, and pregnant women, are particularly vulnerable due to their specific sanitation requirements. › Disasters exacerbate existing gender disparities in sanitation access, as infrastructure damage and displacement can further limit women's access to adequate facilities. In emergencies, the lack of safe and private sanitation facilities increases the risk of GBV and negatively affects women's overall well-being. 	<p>Establish safe and private sanitation facilities: Develop and implement initiatives to establish safe and private sanitation facilities in disaster-prone areas, prioritizing the needs of women and girls. These facilities should be accessible for individuals with disabilities, gender-sensitive, and equipped with adequate hygiene amenities to ensure the dignity and safety of users.</p> <p>Ensure availability of menstrual hygiene products: Incorporate menstrual hygiene products into emergency response kits to ensure that women and girls have access to essential supplies during disasters. Establish distribution channels to provide menstrual hygiene products to vulnerable populations, including marginalized groups and those living in remote areas.</p>	<p>Access to safe and private sanitation facilities:</p> <ul style="list-style-type: none"> › Proportion of disaster-affected populations, particularly women and girls, with access to safe and private sanitation facilities 	
		<p>Increase in availability of menstrual hygiene products:</p> <ul style="list-style-type: none"> › Percentage increase in the availability of menstrual hygiene products in disaster response kits and distribution channels, comparing pre-disaster and post-disaster levels to assess the effectiveness of supply chain interventions [Good Practice] 	
Entry Point		DRM Phase	
<p>2. Participation in decision-making: Women's participation in decision-making processes related to sanitation and wastewater management is often limited, leading to the neglect of their perspectives and needs. In particular, women's voices are frequently underrepresented in disaster preparedness and response efforts, resulting in sanitation interventions that may not fully address women's concerns or prioritize their safety. This lack of gender-inclusive decision-making processes hinders the effectiveness and sustainability of resulting sanitation initiatives.</p>		Risk reduction and preparedness	✓
		Response and recovery	

² Note: This table was created following the application of the World Bank's [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 2. Cont.

Gender gap	Interventions	Indicators
<p>› Social, cultural, and institutional barriers often constrain women’s participation in decision-making processes related to sanitation and wastewater management. For example, traditional gender roles and stereotypes may exclude women from leadership positions and decision-making forums in sanitation initiatives.</p> <p>› Gender-inclusive decision-making processes are essential for ensuring the effectiveness and sustainability of sanitation initiatives, particularly in disaster-affected communities. When women’s voices are not adequately represented, sanitation interventions may overlook key challenges and fail to gain community buy-in, leading to limited impact and long-term viability.</p>	<p>Promote gender-inclusive decision-making forums: Advocate for the establishment of gender-inclusive decision-making forums and platforms at the community, local government, and organizational levels. Ensure that women are actively engaged in sanitation planning, implementation, and monitoring processes to reflect their perspectives and priorities before, during, and after disasters.</p>	<p>Representation of women in decision-making forums:</p> <p>› Proportion of women participating in decision-making forums and committees related to sanitation and wastewater management before, during, and after disasters, compared with overall population demographics to assess the level of gender inclusivity [Good Practice]</p>
	<p>Offer capacity building and leadership training: Provide capacity building and leadership training programs for women and girls in disaster-affected communities, equipping them with the skills and confidence to participate effectively in decision-making processes related to sanitation and wastewater management. Empower women to take on leadership roles and advocate for their inclusion in decision-making bodies.</p>	<p>Integration of women’s perspectives in sanitation plans:</p> <p>› Percentage of sanitation plans and policies integrating women’s perspectives and priorities [Good Practice]</p> <p>Community perception of gender inclusivity:</p> <p>› Percentage of community members recognizing gender inclusivity in sanitation decision-making processes</p> <p>› Proportion of community members aware of women’s participation and influence in local sanitation initiatives, assessed through surveys and qualitative research, to identify areas for improvement and ensure accountability.</p>
Entry Point	DRM Phase	
<p>3. Economic empowerment and employment opportunities: Gendered employment disparities persist in the sanitation and wastewater management sectors, both during normal circumstances and following disasters. During disaster response and recovery, women may have even fewer sanitation and wastewater management employment opportunities, impeding their economic empowerment and hindering communities’ overall resilience to future disasters.</p>	Risk reduction and preparedness	
	Response and recovery	

TABLE 2. Cont.

Gender Gaps	Interventions	Indicators
<p>› Women's access to livelihood opportunities in sanitation and wastewater management may be particularly constrained after a disaster, due to infrastructure damage, loss of assets, and economic disruptions. These challenges can exacerbate existing gender disparities, impeding women's ability to secure employment, participate in reconstruction efforts, and access training and resources, ultimately hindering their economic empowerment and reducing their contributions to community resilience.</p> <p>› Gender-related employment disparities within the sanitation and wastewater management sectors are related to women's limited access to vocational training and educational opportunities as well as discriminatory hiring practices.</p>	<p>Promote gender-responsive training programs: Develop and implement gender-responsive vocational training programs in sanitation and wastewater management, aimed at increasing women's participation in relevant professions. Provide targeted support and mentorship to women seeking employment in these sectors to address skill gaps and enhance job readiness.</p> <p>› Address discriminatory practices: Advocate for policies and initiatives that address discriminatory practices and promote gender equality within the sanitation workforce. Encourage employers to adopt gender-sensitive recruitment, hiring, and promotion practices to create gender-inclusive and -equitable work environments.</p>	<p>Women employed in sanitation sectors:</p> <p>› Percentage of women employed in sanitation and wastewater management professions, tracking changes over time to assess progress in workforce gender parity [Good Practice]</p> <p>Gender pay gap in sanitation professions:</p> <p>› Percentage decrease in the gender pay gap within sanitation-related professions, comparing the average earnings of male and female workers in similar roles to identify disparities and inform efforts to promote equal pay [Good Practice]</p> <p>Women engaged in disaster recovery projects:</p> <p>› Number of women engaged in disaster recovery and reconstruction projects related to sanitation and wastewater management, evaluating the extent to which women are participating in post-disaster livelihood opportunities and economic recovery efforts [Good Practice]</p>

Note: This table was created following the application of the World Bank's [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 3. Gender Gaps, Suggested Interventions, and Indicators in Irrigation and Agricultural Water Management³

Entry Point		DRM Phase	
<p>1. Limited participation: DRM strategies in irrigation and agricultural water management often lack gender awareness and gender sensitivity. This deficiency hinders the development of effective water management practices that can mitigate the impact of droughts or water scarcity and reduce vulnerability to climate-related disasters.</p>		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › Women often face disproportionate risks and vulnerabilities in agriculture-related disasters because of unequal access to resources, decision-making power, and information. Incorporating gender-sensitive approaches in DRM for agriculture is essential to addressing these disparities and enhancing the resilience of farming communities. › By actively involving women in disaster risk reduction strategies, agricultural water management initiatives can better respond to the diverse needs and priorities of both men and women farmers, ultimately strengthening overall resilience to disasters. 	<p>Develop gender-sensitive disaster risk reduction strategies: Create and implement gender-sensitive disaster risk reduction strategies specifically tailored to irrigation and agricultural water management. These strategies should consider the unique vulnerabilities and capacities of women farmers, incorporating their perspectives and experiences into all stages of planning, implementation, and monitoring.</p> <p>Establish women-led groups or committees: Facilitate the formation of women-led groups or committees that actively participate in DRM efforts within agricultural communities. These groups should provide a platform for women to voice their concerns, contribute to decision-making processes, and collaborate with other stakeholders in resilience-building activities.</p>	<p>Representation of women in solar energy decision-making:</p> <ul style="list-style-type: none"> › Percentage increase in the number of women in DRM planning activities, such as participation in workshops, meetings, and decision-making forums (assessing the extent to which women are actively involved in shaping DRM strategies and initiatives) [Good Practice] <p>Integration of gender perspectives in solar energy policies:</p> <ul style="list-style-type: none"> › Percentage increase in women’s participation and leadership roles within women-led groups or committees involved in DRM activities (demonstrating progress toward gender equity in decision-making and empowerment within agricultural communities) [Good Practice] 	
Entry Point		DRM Phase	
<p>2. Unequal access to economic opportunities: Post-disaster aid and recovery initiatives often exhibit gender disparities, leading to unequal access to economic opportunities. Farmers, particularly women farmers, face significant challenges in accessing resources and support to rebuild irrigation systems after disasters. This gender gap in accessing economic recovery opportunities exacerbates existing inequalities, hindering women’s ability to restore vital infrastructure and impeding overall economic recovery efforts.</p>		Risk reduction and preparedness	
		Response and recovery	✓

³ Note: This table was created following the application of the World Bank’s [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 3. Cont.

Gender Gaps	Interventions	Indicators
<ul style="list-style-type: none"> › Post-disaster aid and recovery initiatives often fail to adequately address gender-specific needs. Women farmers, who constitute a significant portion of agricultural laborers, encounter barriers to accessing resources and support because of systemic gender inequalities. › The unequal distribution of economic recovery opportunities exacerbates preexisting gender disparities in agriculture. Women’s limited access to resources and support hampers their ability to restore vital irrigation infrastructure, perpetuating a cycle of economic marginalization and hindering overall economic recovery efforts in disaster-affected areas. 	<p>Develop gender-responsive aid and recovery programs: Develop and implement gender-responsive aid and recovery programs that prioritize the needs of women farmers, ensuring equitable access to resources and support for rebuilding irrigation and other agricultural infrastructure and systems.</p> <p>Provide financial inclusion initiatives: Introduce financial inclusion initiatives tailored to women farmers, such as microfinance programs and women-focused agricultural credit schemes, to enhance their access to financial resources for rebuilding irrigation infrastructure.</p>	<p>Percentage of women farmers benefiting from aid:</p> <ul style="list-style-type: none"> › Percentage increase of women farmers who receive assistance and support through post-disaster aid and recovery programs aimed at rebuilding irrigation systems [Good Practice] <p>Access to financial resources:</p> <ul style="list-style-type: none"> › Percentage increase in the participation of women farmers in financial inclusion initiatives specifically designed for them, such as microfinance programs and women-focused agricultural credit schemes [Good Practice]

Key Takeaways

- › **Redesign WASH facilities:** Construct disaster-resilient sanitation facilities that are accessible and safe for women and girls, thereby reducing health risks and protecting against GBV in both daily life and post-disaster settings.
- › **Conduct community engagement in water safety and conservation:** Foster community engagement programs led by women to promote water conservation and safety planning. These initiatives empower women while ensuring the sustainability and resilience of local water resources.
- › **Enhance gender-sensitive water resource management:** Implement water management practices that actively include women in decision-making, which ensures that water resource management is resilient to disasters and reflective of the entire community’s needs. This strategy enhances sustainable resource use and disaster preparedness.
- › **Improve economic opportunities through water-related employment:** Enhance economic security and disaster resilience by creating inclusive employment programs in the water sector, specifically those designed to improve women’s job opportunities and involvement in water management.



Women cooking together in an outdoor kitchen in Colombia. Credit: Sirlenys Paut

Resilient and Inclusive Energy Infrastructure

The energy sector is fundamental to DRM and community resilience—and climate resilience in particular—because it offers dependable, sustainable energy sources and is foundational in mitigation and adaptation strategies. Renewable energy sources such as wind, solar, and hydropower produce minimal to no greenhouse gas emissions during electricity generation, thus significantly contributing to climate change mitigation and reducing the sector’s carbon footprint. Moreover, renewable energy plays a crucial role in safeguarding environmental resources, expediting economic growth, and enhancing public health. Its continued development and adoption are paramount for building a more sustainable and resilient energy future that contributes to environmental conservation, economic growth, and public health (EERE 2023).

Recognizing the benefits of renewable energy for climate resilience, the sector still remains vulnerable to extreme weather events and climate change, leading to frequent and severe power crises. Approximately two-thirds of power crises are climate-related, and adverse incidents are projected to worsen with future climate change, potentially resulting in significant asset and economic losses (IPCC 2023; UNDRR 2023).

Integrating gender considerations into energy infrastructure planning and management enhances community resilience. Reliable energy sources are especially crucial for women in disaster scenarios due to their increased responsibilities in post-disaster care. These energy sources provide women with the means to stay connected with family and authorities, obtain important updates, and utilize and obtain critical services, including health care. Targeted interventions to promote gender equality and resilience in the energy sector require an understanding of

energy access disparities across socioeconomic levels, which requires using gender-disaggregated data from household surveys (ESMAP 2020).

Notably, renewable energy, particularly solar panel use, also assumes a pivotal role in empowering women during disasters. Despite their significant role in households, women are often excluded from discussions about energy plans, yet capturing women's knowledge is necessary for identifying community needs and leveraging renewable energy solutions for disaster resilience. Accordingly, gender-responsive interventions are needed to ensure continuous access to power during disasters, which is critical for the functioning of emergency, lighting, and communications services (Ungari, Schomer, and Rysankova 2022). The prioritization of gender-inclusive policies and programs, such as support for women in solar energy entrepreneurship, directly enhances community resilience.

To enhance energy systems' resilience during disasters, it is imperative to integrate gender-responsive and disability-inclusive approaches into energy infrastructure planning and development. Some examples include prioritizing clean cooking solutions and solar photovoltaic technologies, including improved cookstoves and solar cookers, to empower and safeguard women during and after disasters. Additionally, integrating solar photovoltaic (PV) technologies for powering mobility aids and medical equipment is crucial for enhancing energy resilience during disasters. By leveraging PV systems, especially in contexts where reliable electricity supply is disrupted, individuals with disabilities who rely on mobility devices or medical equipment can maintain independence and health safety. This approach addresses immediate needs during crises and contributes to long-term resilience by ensuring continuous access to essential services. Recognizing the diverse energy needs within disability communities underscores the importance of inclusive energy planning that supports both immediate and sustained access to vital resources. Understanding the intersectionality of gender, energy access, and disaster resilience is vital for fostering more sustainable communities (OECD 2019).

As a reflection of these principles, box 3 showcases impactful interventions to improve the lives of women in disaster-prone regions in Rwanda. Positive results of the Rwanda Energy Access and Quality Improvement Project include subsidies for improved cookstoves and training programs that have not only reduced health risks associated with traditional cooking methods but also empowered women to actively participate in disaster preparedness activities.

BOX 3. Gender Interventions of the Rwanda Energy Access and Quality Improvement Project

Project overview: The Rwanda Energy Access and Quality Improvement Project (World Bank Project ID [P172594](#)) is working to enhance access to clean energy solutions, particularly improved cookstoves, as a means to address health disparities, improve energy efficiency, and strengthen community resilience.

Key interventions:

1. Subsidies for improved cookstoves

- » *Gender-targeted subsidies:* Provide subsidies tailored to women and vulnerable households to increase access to improved cookstoves. These subsidies are designed to reduce cooking-related health risks, improve energy efficiency, and enhance community resilience by mitigating disaster impacts such as fires.

2. Awareness raising and training

- » *Community training:* Conduct training programs to educate communities, especially women, on the benefits and proper use of improved cookstoves.
- » *Women's empowerment:* Implement capacity-building initiatives that empower women to advocate for clean cooking solutions.

3. Community engagement and participation

- » *Women's involvement:* Ensure women's active involvement in project planning and implementation through community engagement initiatives.

Impact: The Rwanda Energy Access and Quality Improvement Project is a good example of how targeted interventions can greatly enhance women's resilience during disasters. Improved cookstoves that rely on sustainable and efficient fuel sources reduce dependence on traditional fuels, which may become scarce during emergencies, and ensure that families have a reliable cooking method even in times of crisis. The cookstoves also reduce indoor air pollution, leading to better health outcomes and fewer respiratory issues for women, which is particularly important during disasters because of limited health care access. In addition, the improved cookstoves' energy efficiency conserves critical fuel supplies, allowing households and more specifically women to maintain cooking practices even when supply chains are disrupted. This initiative bolsters disaster preparedness for households and communities and strengthens their resilience by ensuring continuous access to cooking methods.

Source: World Bank 2022c.

Gender Entry Points, Gaps, Interventions, and Indicators for Energy

With the global increases in climate-related disasters and calls for gender equality, it is necessary to integrate solar energy, DRM, and gender considerations. Doing so is essential for creating effective interventions. This section emphasizes the energy sector's need to adopt gender-inclusive practices to enhance the resilience of the sector and affected communities against disaster shocks, with a particular focus on solar energy. Solar panel use assumes a pivotal role in empowering women during disasters due to its widespread accessibility and direct impact on community resilience. Tables 4 and 5 discuss gaps as well as suggested interventions and monitoring and evaluation indicators for the following energy subsectors:

- › **Solar energy and DRM (table 4):** Because solar energy plays a vital role in increasing disaster resilience, integrating gender considerations into solar energy initiatives can ensure that women's specific needs and vulnerabilities are addressed throughout the DRM cycle. For instance, promoting women's participation in solar energy projects and training programs enhances women's capacity to contribute to disaster preparedness and response efforts. Additionally, gender-sensitive approaches to solar energy infrastructure planning and management can empower and mitigate the disproportionate impact of disasters on women.
- › **Safety, Clean cooking solutions, and disaster resilience (table 5):** Clean cooking interventions, including electric stoves, induction cooktops, and clean-burning cookstoves, are essential for promoting sustainable development, improving health outcomes, and addressing gender disparities. Yet economic disparities and cultural norms often hinder access to these technologies, and in disaster-prone areas, infrastructure vulnerabilities, fuel supply disruptions, cost barriers, and a lack of emergency preparedness pose significant obstacles to their accessibility and reliability during disasters. To address these challenges, targeted interventions are needed to promote the adoption of clean cooking solutions and enhance disaster resilience among vulnerable population groups, particularly women. For example, relevant initiatives could include subsidy provision for clean cooking technologies, awareness raising about clean cooking technologies' benefits, and strengthened emergency preparedness and response mechanisms.

TABLE 4. Gender Gaps, Suggested Interventions, and Indicators in the Solar Industry⁴

Entry Point		DRM Phase	
1. Training and skill development: For the solar industry, addressing gender imbalances in training and skill development is not just about equity—it is necessary to ensure a more robust response to immediate energy needs following disasters and enhance the energy infrastructure's long-term sustainability and resilience in the face of climate change.		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
› The dominance of men in technical and installation roles within the solar industry restricts training and job opportunities for women, especially in disaster-affected areas. This limitation hinders the broader inclusion of women in deploying solar panels during emergencies.	Develop training programs: Develop and implement training programs specifically designed to encourage and support women's participation in technical and installation roles within the solar industry.	Women's participation rate: <ul style="list-style-type: none"> › Percentage of women in technical and installation roles within the solar industry in disaster-affected areas compared with men [Good Practice] 	
	Build local capacity: Establish mentorship opportunities for women to work alongside experienced professionals in the solar industry.	Mentorship opportunities: <ul style="list-style-type: none"> › Number of mentorship partnerships established between women and experienced professionals in the solar industry, specifically in regions prone to or recovering from disasters [Good Practice] 	

⁴ Note: This table was created following the application of the World Bank's [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 4. Cont.

Entry Point		DRM Phase	
<p>2. Decision-making: In numerous communities, the decision-making landscape within the solar energy sector remains significantly skewed, with women occupying marginalized positions. By integrating women into decision-making roles, solar energy initiatives are more responsive to local needs, contributing to more democratic, equitable, and resilient energy landscapes.</p>		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › The underrepresentation of women in decision-making roles for solar energy projects can lead to inefficiencies and delays in addressing solar panel issues, especially during disasters. › There is a lack of inclusive decision-making processes in solar energy projects, which fails to take into account the diverse perspectives and needs of the entire community and leads to less effective solutions. 	<p>Create inclusive decision-making processes: Ensure that community dialogues and decision-making forums involve women in discussions related to solar panel installation, maintenance, and disaster preparedness.</p>	<p>Representation of women in solar energy decision-making:</p> <ul style="list-style-type: none"> › Percentage of disaster-related community dialogues and decision-making forums on solar energy that include women participants 	
	<p>Advocate for gender-responsive policies: Advocate for the implementation of gender-responsive policies within solar projects and community initiatives.</p>	<p>Involvement of women in solar energy policy making:</p> <ul style="list-style-type: none"> › Percentage of women actively involved in decision-making processes through community dialogues [Good Practice] › Percentage of women actively involved in the development of solar energy policies specifically aimed at disaster management [Good Practice] 	
Entry Point		DRM Phase	
<p>3. Economic opportunities: Addressing the gender pay gap within the solar panel sector is essential for enhancing women’s economic resilience, particularly in the aftermath of disasters. These disparities not only diminish women’s financial stability but also their capacity to lead and contribute to recovery and resilience-building efforts in their communities.</p>		Risk reduction and preparedness	
		Response and recovery	✓
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › The gender pay gap in the solar panel industry means that women earn less than men for comparable roles. This disparity undermines women’s economic resilience, affecting their ability to recover from disasters, sustain livelihoods, and participate actively in the workforce. 	<p>Implement and enforce equal pay policies: Ensure that women receive fair compensation for their work, particularly in roles comparable to those of their male counterparts. Equal pay not only promotes gender equality but also enhances women’s economic resilience during crises.</p>	<p>Economic resilience of women in the solar sector:</p> <ul style="list-style-type: none"> › Percentage increase in the economic resilience of women in the solar energy sector during and after disasters 	
	<p>Create inclusive support programs: Ensure these programs are inclusive of the unique challenges women face by providing financial support, training, and essential resources to bolster their economic resilience. By being inclusive, these programs recognize and address the diverse needs and circumstances of women, fostering their empowerment and participation in economic activities.</p>	<p>Women’s workforce participation during and after disasters:</p> <ul style="list-style-type: none"> › Percentage increase in the economic resilience of women in the solar energy sector during and after disasters 	

Note: This table was created following the application of the World Bank’s [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

TABLE 5. Gender Gaps, Suggested Interventions, and Indicators in Clean Cooking Technologies

Entry Point		DRM Phase	
<p>1. Access to clean cooking technologies: Enhanced access to clean cooking technologies is crucial during disaster situations, particularly for women's safety and health. In many disaster scenarios, disruptions in conventional cooking methods can exacerbate health risks and increase vulnerabilities, especially for women who often bear the responsibility for household cooking. Providing reliable access to clean and efficient cooking technologies not only mitigates these health risks but also reduces the burden of fuel collection and improves overall resilience. By ensuring that women have access to safe cooking methods, communities can better withstand the challenges posed by disasters and promote sustainable recovery efforts.</p>		Risk reduction and preparedness	
		Response and recovery	✓
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › Women have limited access to clean cooking technologies because of economic disparities or cultural norms that prioritize men's control over resources. › Women displaced by disasters may lack access to clean cooking facilities, forcing them to resort to open fires or inefficient stoves in temporary shelters, which can contribute to indoor air pollution and health risks. 	<p>Offer capacity building for clean cooking technologies: Provide training and capacity-building programs for women to facilitate access to and use and maintenance of clean cooking technologies.</p>	<p>Improved capacity for clean cooking technology:</p> <ul style="list-style-type: none"> › Percentage of women who receive training in the use and maintenance of clean cooking technologies 	
	<p>Establish mobile clean cooking: Establish mobile clean cooking units for quick setup in emergency shelters.</p>	<p>Access to mobile clean cooking units:</p> <ul style="list-style-type: none"> › Number of mobile clean cooking units established in emergency shelters and utilized by women [Good Practice] 	
Entry Point		DRM Phase	
<p>2. Fuel collection and availability: In disasters, disrupted access to clean fuels exacerbates vulnerabilities and disproportionately affects women because of their traditional roles in cooking and fuel gathering. Ensuring safe and accessible clean fuels mitigates these risks, safeguarding women's health and security, and, by extension, enhancing community resilience.</p>		Risk reduction and preparedness	✓
		Response and recovery	
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › Access to clean fuels like LPG or biogas becomes scarcer during disasters, increasing the burden on women to find alternative—and frequently unsafe—cooking fuels. 	<p>Provide accessible and affordable clean fuels: Ensure that clean fuels remain accessible and affordable, even during crises. Subsidies, vouchers, or relief programs can increase clean fuel accessibility for vulnerable populations.</p>	<p>Access to financial resources for clean fuels:</p> <ul style="list-style-type: none"> › Percentage of displaced women with access to safe and affordable fuel sources, including grants, subsidies, or relief programs [Good Practice] 	
	<p>Build resilient distribution networks for clean cooking: Establish distribution networks for clean cooking technologies and fuels that are resilient to disaster disruptions.</p>	<p>Networks for clean cooking technologies:</p> <ul style="list-style-type: none"> › Percentage of clean cooking technology and fuel distribution networks that remain fully operational during and after disasters 	

TABLE 5. Cont.

Entry Point		DRM Phase	
<p>3. Safety concerns: Addressing safety concerns related to clean cooking technologies in post-disaster settings is crucial for building resilience and safeguarding communities, particularly vulnerable groups such as women and children. In disaster-affected areas, disruptions to energy infrastructure often lead to increased reliance on alternative cooking methods that can pose significant safety risks, such as indoor air pollution and fire hazards. These risks disproportionately affect women, who typically bear the responsibility for cooking and household management.</p>		Risk reduction and preparedness	
		Response and recovery	✓
Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › There is inadequate attention to safety concerns related to clean cooking technologies, which compromises the protection of vulnerable groups like women and children. › There is a lack of robust safety measures to safeguard equipment and resources from theft, damage, or misuse, which is vital for sustaining safe cooking practices essential to the community's health and resilience. 	<p>Offer clean cooking technology training: Conduct workshops that teach women how to safely use clean cooking technologies in temporary shelters or displacement camps. Also, provide hands-on training and demonstrations.</p>	<p>Capacity building:</p> <ul style="list-style-type: none"> › Number of women who receive hands-on training and demonstrations on the safe and efficient use of clean cooking technologies specifically tailored for disaster scenarios 	
	<p>Design safe cooking areas: Set up designated safe cooking areas or community kitchens equipped with secure and shared clean cooking technologies to reduce the risk of theft.</p>	<p>Safe cooking areas:</p> <ul style="list-style-type: none"> › Number of designated safe cooking areas or community kitchens established in displacement camps [Good Practice] 	
	<p>Provide access to safe and affordable fuel sources: Ensure that displaced women have access to safe and affordable fuel sources to reduce the need for risky and unsafe cooking practices.</p>	<p>Access to safe and affordable fuel:</p> <ul style="list-style-type: none"> › Percentage of displaced women with access to safe and affordable fuel sources following disasters [Good Practice] 	
Entry Point		DRM Phase	
<p>4. Decision-making power and gender-responsive policies: Elevating women's roles in decision-making and crafting gender-responsive policies are crucial for the effective adoption of clean cooking technologies amid disasters. This approach not only ensures that clean cooking solutions are accessible and practical for women but also guarantees that women's unique needs and challenges are prioritized in both policy development and implementation processes.</p>		Risk reduction and preparedness	✓
		Response and recovery	

TABLE 5. Cont.

Gender Gaps	Interventions	Indicators	
<ul style="list-style-type: none"> › Women may have limited decision-making power within households or communities regarding clean cooking solutions, hindering their ability to adapt during disasters. › Gender-specific needs related to clean cooking may not be adequately addressed in policies, leaving women underserved. 	<p>Involve women in decision-making processes for clean cooking solutions that respond to disasters: Women often have unique insights into household dynamics, cooking practices, and safety concerns during disasters. By involving them in decision-making processes, initiatives can be tailored to address women's specific needs and challenges, leading to more resilient and equitable outcomes.</p>	<p>Representation of women in decision-making:</p> <ul style="list-style-type: none"> › Percentage increase in women's decision-making power within households or communities regarding clean cooking solutions [Good Practice] 	
	<p>Develop gender-sensitive communication materials and campaigns: Gender-sensitive communication is essential for effectively reaching and engaging women in disaster preparedness and response activities. Tailoring messages to resonate with women's experiences and concerns can increase women's awareness and empower them to adopt clean cooking practices, ultimately contributing to greater resilience.</p>	<p>Involvement of women in policy making:</p> <ul style="list-style-type: none"> › Increase in women's participation in disaster preparedness activities because of communication campaigns [Good Practice] › Percentage increase in the integration of gender-specific needs related to clean cooking in policies and regulations 	
	<p>Provide emergency kits with portable stoves for women's safety: Equipping women with portable stoves designed for their needs enhances their ability to cook safely and sustainably during disasters, reducing the reliance on hazardous alternatives such as open fires. This action promotes women's autonomy, resilience, and well-being in crises</p>	<p>Gender sensitivity in disaster policies:</p> <ul style="list-style-type: none"> › Percentage of women receiving gender-responsive emergency kits › Percentage of women who frequently use the portable stoves provided in emergency kits › Reduction in health and safety incidents related to cooking among women using the supplied portable stoves during emergencies [Good Practice] 	
Entry Point		DRM Phase	
<p>5. GBV: In displacement situations or crowded emergency shelters, women face amplified risks of GBV while performing essential daily activities such as cooking or collecting fuel. By fostering environments where displaced women can perform their daily tasks without fear, women can uphold their dignity, and gender equality is promoted even during crises.</p>		Risk reduction and preparedness	
		Response and recovery	

TABLE 5. Cont.

Gender Gaps	Interventions	Indicators
<p>› Women’s need to travel long distances to obtain fuel or use shared cooking spaces following disasters heightens their vulnerability to GBV.</p>	<p>Establish women-only fuel distribution points: In the event of a disaster, establish women-only fuel distribution points in central locations to reduce the need for women to travel long distances in search of fuel. Ensure these points are well-managed and secure to enhance their safety.</p>	<p>Increased women participation:</p> <ul style="list-style-type: none"> › Percentage of women using women-only fuel distribution points [Good Practice] › Percentage of women who report feeling safe when using women-only fuel distribution points and communal cooking areas during disaster events
	<p>Create community watch programs: Form community watch programs where women and community members take turns monitoring communal cooking and fuel collection areas to enhance safety.</p>	<p>Increased community participation:</p> <ul style="list-style-type: none"> › Number of reported incidents of GBV in shelters and other emergency settings where community watch and education programs are active, during or following disasters [Good Practice]
<p>› Women’s increased vulnerability to GBV in displacement situations because of fuel and cooking duties points to systemic causes of unsafe, inaccessible resource provision.</p>	<p>Support GBV prevention engagement: Engage the whole community, including men, in discussions about GBV prevention. Encourage men to actively participate in creating safer cooking and fuel collection environments.</p>	<p>Increased GBV prevention initiatives:</p> <ul style="list-style-type: none"> › Percentage of men actively participating in GBV prevention activities in areas affected by disasters
<p>Entry Point</p>	<p>DRM Phase</p>	
<p>6. Data and research gaps: Addressing the data and research gaps in gender-disaggregated information on clean cooking practices amid disasters is essential for formulating precise interventions and understanding gender-specific challenges. This focused approach not only aids in closing the gender gap in disaster resilience but also ensures that interventions are accurately aligned with the needs of those most affected.</p>	<p>Risk reduction and preparedness</p>	<p>✓</p>
	<p>Response and recovery</p>	
Gender Gaps	Interventions	Indicators
<p>› The lack of gender-disaggregated data on clean cooking practices during disasters hinders the development of targeted interventions and the ability to address gender disparities.</p>	<p>Encourage the active participation of women in data collection: Engage women from the affected communities as enumerators for data collection activities related to clean cooking practices during disasters. Provide comprehensive training to equip them with the necessary skills and knowledge to effectively conduct surveys, interviews, and assessments.</p>	<p>Percentage of women enumerators:</p> <ul style="list-style-type: none"> › Percentage of women from affected communities trained and engaged as enumerators for data collection activities related to clean cooking practices during disaster response efforts › Percentage of women from affected communities holding leadership positions in programs specifically designed for disaster response and recovery related to clean cooking practices [Good Practice]
	<p>Engage women in tool design: Involve women in the design of data collection tools to capture the unique clean cooking challenges they face.</p>	<p>Women’s involvement in tool design:</p> <ul style="list-style-type: none"> › Number of disaster intervention tools and programs designed with the involvement of women › Percentage of community members who rate the gender sensitivity of disaster interventions as effective

TABLE 5. Cont.

Gender Gaps	Interventions	Indicators
	<p>Use gender-disaggregated data for targeted interventions: Utilize the collected data to design interventions that specifically address women's clean cooking needs during disasters.</p>	<p>Percentage of gender-responsive clean cooking interventions implemented:</p> <ul style="list-style-type: none"> › Number of gender-responsive clean cooking solutions developed and implemented specifically for disaster-affected areas [Good Practice] › Percentage of women users who report satisfaction with the implemented clean cooking solutions in disaster contexts › Reduction in time spent by women on cooking and fuel collection activities following a disaster [Good Practice]

Note: This table was created following the application of the World Bank's [Gender Tag](#) methodology. It highlights previously identified gender gaps, interventions, and indicators derived from this approach. To assess the impact of selected interventions, good practice measures have also been determined; however, their applicability depends on the unique context of each project or initiative.

Key Takeaways

- › **Provide financial support for women to explore solar entrepreneurship:** Support for women starting solar businesses creates a larger supply of essential energy solutions during disasters, particularly when traditional energy sources are unavailable or disrupted. This continuity in a community's access to power improves community resilience.
- › **Advance gender equity in solar energy:** Enhance women's participation and leadership roles in renewable energy. Provide comprehensive training and support to empower women to effectively manage renewable energy resources in disaster-prone areas, which strengthens community resilience.
- › **Promote clean cooking technologies:** Advocate for clean cooking technologies that minimize women's health risks and improve their living conditions. Ensure that these technologies are sustainable and capable of withstanding disruptions typical in disaster scenarios so they maintain their effectiveness and benefits over time.
- › **Prioritize clean cooking technologies and fuel source accessibility:** Ensure that clean cooking technologies and fuel sources are readily accessible to women, particularly in areas prone to disasters, by leveraging local retailers, mobile outreach services, community networks, education programs, and public awareness campaigns. These approaches aim to empower women with direct access to essential resources, promoting resilience and health benefits within their communities.
- › **Support DRM policies and advocacy on clean cooking:** Advocate for policies that prioritize clean cooking solutions in disaster preparedness and response plans, ensuring that women's needs and preferences are considered in decision-making processes.

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