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Gendered Vulnerabilities and Capacities in Disaster Response and Recovery: A Case Study of the 2015 Nepal Earthquake

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Abstract: Nothing except for disasters can be nearer to death, nothing except for disasters can reveal the vulnerabilities and capacities of people. In the 2015 Nepal earthquake, disaster acted as a mirror by reflecting how gender dynamics shaped women's experiences during the earthquake, and how gendered aftermath operations restructured Nepalese society. Based on case studies, this paper aims to propose a gendered perspective in disaster risk management, by clarifying women's sufferings and effectiveness in immediate disaster response and the longer-term recovery process. Situated at the encounter of socio-cultural norms, economic inequalities, and natural disasters effects, this article finds that, women emerged as key drivers in disaster response and recovery to foster resilience, instead of purely suffering and waiting for rescue as portrayed in previous disaster narratives. Women actively engaged in rescue operations, provided care and support to affected communities, and took leadership roles in rebuilding efforts. Their participation not only contributed to the swift recovery of their communities but also catalyzed a shift in traditional gender roles, challenging long-standing patriarchal norms. However, this article also finds that, without systematic institutional support, women's achievements will be marginalized in the long time. The findings suggest that a gender-sensitive approach to disaster management can enhance the effectiveness of recovery efforts, ensuring that women's roles as leaders and agents of change are fully acknowledged and supported in future disaster scenarios.

Keywords: Gendered Vulnerabilities; Nepal Earthquake; Disaster Response; Women's Resilience

1. Introduction

1.1 The 2015 Nepal Earthquake and Its Impact

On April 25, 2015, Nepal was struck by a catastrophic earthquake with a magnitude of 7.8 Mz. The epicenter was located 77 km northwest from the capital city, Kathmandu, Nepal's most densely populated area. The earthquake was caused by the collision of Indian and Eurasian plates (USGS, 2015).

The immediate aftermath saw the destruction of thousands of homes, historical monuments, and infrastructure, including the loss of approximately 9,000 lives and left nearly 22,000 injured (Aon Benfield, 2015). In this least developed Southeast Asian country with a population of around 28 million in, 8 million people were directly affected. Experts estimate direct damages and losses at approximately \$7 billion (Ovesen & Heiselberg, 2016). Tremors were felt across the region, including in neighboring countries such as Bangladesh, China, and India.

The earthquake and subsequent aftershocks, such as the one on May 12, caused widespread devastation to residential buildings, with over 800,000 buildings and monuments suffered destruction or damage, reflecting the vulnerability of the local architecture to seismic forces. Examples like masonry structures are the most effected (Aon Benfield, 2015). Moreover, rapidly urbanized cities like Kathmandu lacked adequate urban planning and regulation at that time, which led to unplanned urban sprawl that accentuated inequality in access to basic living resources (UN-Habitat, 2024). This was also a central contributing factor for the extensive damage during the earthquake (Thapa, 2107). Aside from related small-scale disasters caused extensive damage, the earthquake also set off a series of landslides, including an avalanche on Mount Everest claimed more than 19 people, and another huge avalanche in the Langtang Valley which caused roughly 350 fatalities, complicating an already serious situation (Thapa, 2108).

The local communities responded to the earthquake first, followed by the global response. The United Nations (UN) allocated \$15 million in emergency funds for disaster response, while neighboring countries like China and India deployed aid and rescue teams to assist (UN News, 2015; Anderson & Ayres, 2015). However, distribution of aid and execution of rescue operations were severely hindered by the rugged terrain, complex topography and the remoteness of affected villages.

1.2 Gender Norms and Roles in Nepal Pre-Earthquake

Traditionally, Nepalese society has been patriarchal, with distinct roles for men and women. Men typically dominate public and political spheres, while women had restricted access to resources and decision-making processes, with their roles predominantly confined to household chores and agricultural work. Gender-based discrimination was prevalent in Nepal, among the 188 countries, the 2015 Gender Inequality Index (GII) of Nepal was placed at 115th (with value 0.495) (UNDP, 2015). Women faced challenges in areas like education, employment, and health. Scholars like Maharjan pointed out that Nepal ranks second highest on the world index for son preference in 2013 (Maharjan, 2013). These deep-rooted cultural biases then impact girls' education. A UNICEF's Nepal Country Study in 2016 revealed that girls have far less possibility than boys to receive education (UNICEF, 2016). This educational gap has further and extensive repercussions, speeding the continued marginalization of women in the workforce. Based on a 2017–2018 survey carried out by Government of Nepal, only 22.9 percent of women were employed at working age, compared to 48.3 percent of men (Government of Nepal, 2020). Furthermore, shame and fear to be widow pervasively exist in Nepalese society because widow is more easily to be targeted. Research and accompanying statistics not only

showcase the prevalent gender inequalities in Nepalese society but also highlight the systemic barriers that women face. The combination of these variables accelerates women's socioeconomic disadvantage and exposes them to the effects of numerous disasters.

1.3 Why Need a Gender Perspective in Disaster Response

Historically, disaster studies have often overlooked the gender perspective, as more scholarly work with gender elements come out, scholars namely Enarson identified this phenomenon as 'calculated blindness', he clarified that it's due to generalizations of individuals behaviors (Enarson, 2012). Enarson and Alvina Erman et al. (2021) further highlighted the significance of adding gender issues into disaster response and planning to address these overlooked disparities (Alvina Ermanet al., 2021).

When disasters happen, people often get injured or influenced physically or mentally. Traditionally, those people are treated as a homogeneous group of victims, making it challenging to tell apart the levels of need and urgency in disaster risk management. Then, researchers including Fordham clarify that, referring to the nature of disasters as well as sociocultural context, some people are more affected and vulnerable than others, with inequality being common in disasters (Fordham, 1999). According to scholars like Samir Dasgupta et al. (2010), disasters consequences are different for men and women, with women experiencing even more impacts (Dasgupta et al., 2010). Men and women often have different vulnerabilities during and after disasters due to societal roles, responsibilities, and expectations, which means women might be more vulnerable due to responsibilities like caregiving, or cultural norms that restrict their mobility. Furthermore, disaster studies have shown that women mortality rates in disasters are higher compared to males in states where women have lower socioeconomic status (Oxfam, 2005; The World Bank, 2021). Those women often experience greater poverty, have fewer educational opportunities, and get marginalized from political, community and household decision-making processes relating to their lives (WEDO, 2007).

Disaster impacts often mirror and enlarge existing gender inequalities because disasters are associated with gender dynamics within societies and further complicate pre-existing problems (Erman et al., 2021). These gendered differences highlight an urgency in integrating a gender perspective into disaster response. Incorporating this new approach can improve the response process by prioritizing the requirements of the most vulnerable groups, minding the gap in disaster responses that female groups' needs are always overlooked, and fostering the development of women's skills and capacities (Byrne & Baden, 1995). Introducing a gender perspective into the disaster response also highlights how gender can be either mitigated or aggravated by factors such as class, ethnicity, and disability.

In all, this paper aims to analyze the intersection between gender and disaster, stating that gender is a valuable source of both vulnerability and resilience in 2015 Nepal earthquake disaster context, by influencing access to resources, decision-making processes, and exposure to risks. It hopes to provide useful suggestions for gender-sensitive disaster response and crisis management strategies.

2. The Intersection of Gender and Disaster

2.1 Examine Gendered Vulnerabilities in Disasters

The definitions of disasters have evolved from mainly focusing on natural phenomena that cause disasters, to consequences in human society that arise from disasters. Then comes a combination of the two sides, notable scholars namely Terry Cannon and Ben Wisner (1994) conceptualize disasters as a compound of natural hazards and human actions (Cannon, 1994; Perry, 2018). Contemporary disaster studies recognize that disasters are caused by an intricate combination of both natural hazards and sociopolitical and economic processes in human society. Vulnerability is proposed as an approach to study disaster since it refers to a range of physical, social, economic, and environmental elements within a society that determine how much a hazard affects an individual or a community (Blaikie et al., 2014). Applying a vulnerability approach can help figure out how much risks different groups of people might take in disasters, and the inequalities they might face when seeking for resources, capabilities, and opportunities (Neumayer & Plümper, 2007).

An individual's gender significantly shapes their role and experiences during a disaster. Evidence shows that women are at greater risk than men in disasters, as pre-existed inequalities and risks systematically place women in a disadvantaged position, increasing their vulnerability (Ciampiet al., 2011; Mian & Namasivayam, 2017; United Nations, 2011). This phenomenon was coined as a “gendered disaster vulnerability” by Enarson and Morrow in 1998; and since the 1990s, the gendered aspects of disasters received growing attention from academic (Enarson & Morrow, 1998; Fordham, 2013). Gendered vulnerabilities cause women undertaking a disproportionate burden of the costs of disasters, manifesting in various ways when a disaster happens: from survival, death, trauma to recovery, which appeals for recognition of gender-specific disaster response (Mehta, 2007; Enarson & Chakrabarti, 2009).

From the physical perspective, disasters have a profound impact on women's health, leading to increased mortality and morbidity due to factors such as physical trauma, malnutrition, infectious diseases, abortion, psychological stress, exhaustion, and gender-based violence (Arrow, 2017; UNDP, 2013; CARE International, 2021; UNDP, 2020). For example, women were disproportionately infected during the COVID-19 pandemic, because they shoulder responsibilities of both taking care of the families and doing healthcare jobs on the frontlines (Fatouros & Capetola, 2021). Also, women-specific health services, including contraception and abortion, tend to be deprioritized in disaster scenarios (Carballo et al., 2005; Campbell, 2005; Laplante et al., 2008). Scholarly work consistently shows that women suffer from higher rates of post-disaster psychological distress than men (Norris et al., 2002), with pregnant and postpartum women being especially at risk for mental health issues (Vesga-Lopez et al., 2008).

From the social and culture perspective, gender-based discrimination, gender norms and roles place women as weak, poorer, and less educated. They are portrayed as in need of rescue in disasters. In contrast, men are viewed as strong and capable who require least assistance (Cannon, 2002). Such

stereotypes cost opportunities and resources distribution for women, resulting that fewer women are offered or encouraged to take part in training for disaster preparedness and response. In this way, women not only have less trainings, and their wills and power are also neglected in decision making and risk management when faced with disasters. Examples show that in the 2004 Indian Ocean earthquake and tsunami, the survival rate for men was significantly higher than for women, with mortality rate for women was 14 times higher than men (Arrow, 2011; UNDP, 2011). These disproportionate sufferings were mostly due to the gendered stereotypes, roles, expectations and behaviors of female citizens (Oxfam International, 2005). In Sri Lanka, gender norms discouraged women from acquiring skills like swimming or tree climbing, which were traditionally considered male activities. This consequently increased women's vulnerability during the 2004 Indian Ocean earthquake and tsunami (Oxfam International, 2005). Additionally, women frequently act as the primary caregivers, which confines them to household responsibilities. These duties restrict their mobility as they are tasked with ensuring the safety of infants and elderly family members.

In all, gendered vulnerability in disasters is not due to a single reason such as physical difference or poverty suffered. Rather, it is an intersection of physical, historical and cultural patterns of gender relations, resulting in inequality. Then, the situation is further complicated by hazardous conditions, which disproportionately endanger women in disasters.

2.2 Analyze Gendered Capacities and Resilience in Disasters

The concept of resilience in disaster risk reduction (DRR) has gained growing attention in scholarly work, emphasizing communities' capacity to anticipate, prepare, react, and restore post-disasters. However, resilience must consider the subtle roles of gender in disaster contexts since women's experiences and capacities play an important role in communities' resilience, often shaping and influencing disaster preparedness and response in profound ways (Ashraf & Azad, 2015). Gendered resilience in disasters depends on structural factors, individual social relations, and 'capitals' including human and social capital that women can mobilize in the aftermath (Putnam, 2000).

Women's local knowledge and social networks are invaluable assets in disaster preparedness and response despite a lack of formal recognition (ILO, 2002). This is evident in the aftermath of various disasters: many men were killed or disabled, leaving the whole society in shortage of labor force. In these situations, women stepped forward to take over the duties, rescue actions, and provided healthcare. Their involvement in multiple roles during post-earthquake settings not only facilitated immediate recovery but also brought up opportunities to challenge and change gender norms. For example, in the 2004 tsunami, Sri Lankan women seized the occasion to establish their own businesses, thereby breaking traditional gender roles and norms (Perera-Mubarak, 2013). Furthermore, in Sri Lanka, women also got involved in disaster planning process to develop more inclusive disaster management strategies following the tsunami.

According to former discussions, education is also important in gendered disaster preparedness. Higher levels of education among women are associated with greater benefits for communities (Ermanet

al., 2013). In the earthquake preparedness on Thailand's Andaman Coast, scholars namely Muttarak and Pothisiri (2013) found out that higher individual education levels of women correlate with better preparedness (Muttarak & Pothisiri, 2013). This aligns with existing literature on disaster governance, which highlights the necessity to speed the inclusive stakeholder involvement and the empowerment of marginalized groups, including women, in building community resilience (Djalante et al., 2011).

2.3 Examples can Illustrate Gender Dynamics in Disasters

Although women are viewed as vulnerable, initial scholarly work clearly demonstrates that gender influences not only can be found in disaster risk management, capacities, decision-making processes, but also in disasters lifecycle (Enarson, 2018). Examples show that after the 2015 Nepal earthquake, many men were killed or became disabled, then women who survived took over their roles in society. Those women were active in rescuing trapped people, sourcing basic living necessities, and providing healthcare to children and the elderly. Back then, migration for foreign employment had become a major source of income for many Nepali households, most of the men either leaved Nepal after the earthquake or they were not at present (Shakya et al., 2022). As a result, women received training and had increased opportunities to find employment. In Nepal's efforts to recover from the 2015 earthquake, there was a shortage of trained builders to reconstruct to the more than half a million destroyed houses. To deal with this lack, the Swiss development agency Helvetas, financed by the UK's Department for International Development (DfID), trained 6,500 masons, a third of whom were women (Pattisson, 2018). This aid programme not only helped Nepal reconstruction but also unburdened women from potential poverty. During that period, women took on multiple roles in assisting post-earthquake settings, underlining how such post-disaster settings also foster opportunities for women (Hallegatte & Henriet, 2009).

While Nepalese women have made great achievements in disaster recovery, there're still prevailing gender-blind practice in other disasters contexts continuing to cause avoidable loss (Saito, 2012). In the cyclone Freddy in Malawi, health sector's service delivery broke down due to the outbreak of cholera, which further complicated an already failing system. Notwithstanding the fact that both men and women were seriously harmed in disasters, pregnant women still experienced more onerous issues due to their distinctive situations. Moreover, gender-based violence towards women and girls, namely rape and sexual abuse, happened in the camps caused potential spread of HIV/Aids, unwanted pregnancies, and trauma (Kondowe, 2023). Examples demonstrate the urgency of gender-specific interventions in post-disaster recovery. Customized approaches that take into account the unique needs of women and girls not only mitigate disaster's immediate effects, but also boost the community's long-term resilience and well-being.

3. Gendered Vulnerabilities in 2015 Nepal Earthquake

3.1 Women's Experiences and Challenges

The 2015 Nepal earthquake had a disproportionate impact on women, as the pre-existing socio-cultural norms and economic disparities intersected with the earthquake, exacerbating their vulnerabilities (K.C. & Hilhorst, 2022). In Nepal, women constitute a slight majority of the population at 51%, despite the country's historically strong preference for sons (National Planning Commission, 2015). Among the districts most influenced by the earthquake, approximately 327,000 households were led by women, which accounted for 26.5% of the total households in these areas. Additionally, there were around 40,000 women and girls living with disabilities and over 163,000 elderly women above the age of 65 (UN Women, 2016). Notably, the mortality rate for women was higher than that of men, largely due to Nepalese societal gender norms that constrained women to indoor tasks, as well as the fact that the significant number of men had migrated abroad for employment.

Many women faced challenges like gender-based violence, limited access to emergency relief services, and exclusion from decision-making processes related to relief and recovery efforts, especially those who were pregnant, elderly, indigenous or had disabilities (Bajracharya et al., 2022). Their limited mobility and lack of access to information made them more susceptible to risks both during and after the earthquake. The United Nations reported that only 11% of the 82 displacement camps had designated safe/social spaces for women, and 73% of displacement camps lacked gender-sensitive or separate toilets and washing facilities (UN Women, 2019).

3.2 Socio-Economic Factors Influencing Vulnerabilities

Economic disparities and food security. Many women in Nepal were already living in poverty prior to the earthquake, which compounded their difficulties in recovery and rebuilding. Given that the limited resources and job opportunities for women, 73% of Nepalese women are employed in agriculture. Agricultural sector was a main resource of Nepalese economy. According to what United Nations reported, the earthquake caused serious repercussions to agriculture, leading to loss of livelihoods because it's a combination of bad timing, an unfavorable monsoon season, and 15% damage of irrigation systems. These factors led to a shortened or cutoff planting periods. The repercussions were particularly serious to those women in disadvantaged financial conditions, with women's agricultural losses estimated at around 15 billion Nepalese Rupees, compared to men's losses were around 10 billion (National Planning Commission, 2015). Women not only lost their financial resource but also faced growing concerns over food security and malnutrition. The earthquake also had a destructive impact on Nepal's tourism industry, with extensive damage to hospitality infrastructures leading to a drastic 90% drop in tourist arrivals. While men bore the brunt of the industry's collapse, losing 14.3 billion Nepalese Rupees, women still suffered a loss of around 3.6 billion Nepalese Rupees (UN Women, 2019).

Lack of human safety. Survival from the actual natural hazard doesn't mean real survival for women. Apart from killing disaster risks, women's well-being was further threatened by human-made risk of violence and abuse. Especially in regard to the destruction of homes and shelters left many women exposed to the elements and potential violence (Tearne et al., 2021). Reports show that there were increased incidents of gender-based violence, including sexual assault, exploitation and trafficking

in aftermath of an earthquake (UN Women, 2015). Girls were particularly at risk of early forced marriages and trafficking, and so did widows in receiving unwanted sexual harassment and violence. Due to Nepal's patriarchal property ownership norms, many women did not have rights to their homes or land, complicating their ability to claim assistance or rebuild.

Limited access to resources. In Nepal, women's involvement in decision-making and governance has historically been underrepresented, with only 16.8% of positions in public service. As a result, the unique needs of these groups were then often neglected in the planning for reconstruction due to insufficient understanding and data. Let alone women had limited access to financial resources, education, and healthcare, which further enlarged their vulnerabilities during the disaster (UN Women, 2019). One of the most vivid examples of this situation in the patriarchal Nepalese society, is that property ownership is predominantly in the hands of men, leaving many women, especially those who are single, without legal claim to their homes or land (Chandran, 2016). This lack of property rights became a significant hurdle in aftermath of this disaster, as women struggled to obtain assistance or engage in rebuilding efforts. According to a survey by Oxfam, a high proportion of the damaged or destroyed homes belonged to female-headed households and these women encountered considerable obstacles in navigating the relief processes due to missing personal documentation and little engagement (Oxfam, 2016). More focused support systems that address the particular vulnerabilities of widows and single women in catastrophe situations are still required, notwithstanding Nepal's significant accomplishments in changing policies to protect women's land rights and gender equality.

4. Gendered Capacities and Resilience in 2015 Nepal Earthquake

4.1 Women Served as Active Agents in Disaster Response

In the aftermath of 2015 earthquake, Nepalese women emerged not only as victims but also as active agents of change and resilience. Walking in the ruins, they transcended traditional gendered roles: rebuilding communities, organizing resources actively, and always working in the frontlines. Women's groups, especially in Kathmandu's Chandragiri Municipality, launched non-structural mitigation efforts, largely contributing to disaster risk reduction. Their efforts ranged from clearing ruins to participating in the rebuilding of communities, which were mainly undertaken by men in the past. This shift in roles was not just a response to the crisis management but also a step towards future, challenging long-lasting gender norms in Nepalese society, and demonstrating the potential for long-term transformation in gender dynamics.

At the same time, Nepal's only women's fund, Tewa, partnered with women's group Nagarik Aawaz to support earthquake relief and rehabilitation. These organizations inquired women directly to understand their needs and those of their communities, providing temporary shelter, toiletries, and other goods (Global Fund for Women, 2016). Similar women's groups like Women's Awareness Center Nepal (WACN), Loom Nepal and so on, also effectively addressed the unique requirements of women, from providing sanitary napkins, maternal and newborn healthcare, medicine, to dignity kits containing soap,

mosquito nets, gowns, undergarments, and nutritious food (Global Fund for Women, 2016). Moreover, women's groups made progress in raise awareness about the risks of sexual violence and trafficking targeted at women and girls, which usually occur after the earthquake, distributing suggestions and resources teaching women to protect themselves.

Scholars namely Luna K.C. and Dorothea Hilhorst (2022) have analyzed Nepalese women's actions during the earthquake evacuation period. By examining the stories of Nepalese women including Sunita Mali, Uma Thapa, and Sanu Mali, K.C. and Hilhorst found out that Nepalese women who were perceived as weak and dependent on men for rescue, turned out to play an important role in saving their family members and demonstrated remarkable bravery and composure in the face of disaster (K.C. & Hilhorst, 2022).

4.2 Shifts in Gender Roles and Norms Post-Earthquake

Following the earthquake, Nepalese society has been witnessing an enduring transformation of its traditional gender roles and norms. Previously, women hardly worked in construction field, let alone receiving training as masons, or learning evacuation techniques. As more and more women assumed leadership and decision-making positions during recovery process, stereotypes, gender-discriminations, conservative norms were seriously undermined. This shift not only provided women with employment opportunities but also challenged the deep-rooted patriarchal norms by positioning women in roles typically dominated by men. Organizations, especially grassroots ones, expressively devoted to speed the transformation, ensuring that women's contributions were recognized and given a voice in the recovery process. Empowering women through these measures has had a profound impact, cultivating a culture of resilience and equality. In many ways, the resilience demonstrated by Nepalese women after the earthquake signifies the expansion of their capacity during times of crisis. The efforts of women have changed the social and economic structure of this patriarchal country.

4.3 Analysis of Disaster Response and Recovery

The 2015 Nepal earthquake, intersected with socio-economic factors, revealed the vulnerabilities of different groups, particularly women. While it also displayed the resilience and capacity of women as they overcame the challenges of disaster response and recovery. Local women impressed the Nepalese society a lot by their remarkably devotion and bravery in disaster response: from evacuating family members to provide mental support to the communities. Local women helped clear the ruins and rebuild the destroyed houses. Also, they handled jobs like searching, organizing and distributing living essential resources. All of these contributions, proved women's talent and potential in disaster response and recovery.

In the immediate aftermath, women-led groups mobilized rapidly to provide assistance, even much more rapidly than international organizations such as the UN, showcasing a thorough understanding of the needs within local communities. These groups were active in aiding like offering basic living resources, with a specific focus on the unique needs of women and children. Women-led groups also

played a key role in challenging traditional gender norms by encouraging women to learn new skills, participate in the workforce, and take on leadership roles that were traditionally male-dominated. They facilitated economic empowerment through vocational training and entrepreneurship, which was crucial for women who had lost their homes and income means. This empowerment went beyond economic impact: it's also social, as women began to assert more control over their lives and communities.

The gender-sensitive approach adopted by these organizations was fundamental in ensuring that the disaster response and recovery efforts were inclusive and effective. However, gaps in the response still existed. It's necessary to reflect on whether these gender-sensitive efforts could remain sustainable in the long run. Although the initial response was rapid and efficient from both domestic and international levels, evidence shows that most of the women were gradually excluded from the labor market again. A study conducted by the Housing Recovery and Reconstruction Platform, which included all entities in earthquake reconstruction, found that only half of the trained Nepalese women as masons were still working in the trade three years after the earthquake (Pattisson, 2018). Recovery strategies that fail to safeguard, restore, and promote economic engagement of disadvantaged groups are weak. To bridge this gap, it is essential to develop strategies that not only provide initial training and employment opportunities, but also ensure the persistence of these opportunities.

5. Conclusion and Recommendations

5.1 Legal Support to Address Gender Inequality

Initially, the earthquake worsened already present gender inequalities in Nepal, where socio-cultural standards, economic inequalities, and restricted access to resources significantly contributed to increasing women's vulnerabilities. Women in Nepal, especially in rural settings, faced disadvantages because of patriarchal systems that limited their access to land, resources, and power in decision-making. The absence of property rights worsened their chances of obtaining assistance and participating in recovery initiatives, highlighting the overlap of economic and gender-related vulnerabilities. To address these challenges, policy interventions should prioritize strengthening women's legal rights and property ownership, ensuring legal recognition of their land rights to enable effective participation in relief and reconstruction efforts, thereby fostering long-term stability. Legal reforms empowering women have been witnessed as Constitution of Nepal (2015), National Civil Code (2017), and National Land Policy (2019). However, the practical implementation in rural areas remains slow due to both social norms and unawareness of national policy. Land titling programs and activism campaigns achieved much less than expected, since women's independent land ownership is still uncommon in practice compared to joint land ownership (Tiwari, 2024). As a result, fostering confidence and communication skills in women can enhance their leadership capabilities and empower them to advocate effectively, particularly when engaging with local government authorities like land administration and agricultural welfare offices (Karki and Listyarini, 2023). Nepalese women have not only lost their rights to land ownership for a long time, but their rights to housing ownership and personal safety have also been on the verge of

collapse during the earthquake. The devastation of residences and infrastructure rendered numerous women susceptible to gender-based violence, such as trafficking, early marriages, and sexual exploitation. Those risks necessitate policies that ensure women's safety, including the establishment of women-friendly spaces, immediate support services for survivors, and community-based initiatives to raise awareness and provide legal protection.

5.2 Empowerment Strategies to Maintain Recovery Efforts

In spite of difficulties, the earthquake also highlighted the considerable strength and autonomy of Nepalese women. They assumed proactive roles in disaster response and recovery, breaking gender norms, and demonstrating leadership in reconstruction efforts. Measures namely expanding vocational training programs for women in disaster-affected areas, had largely raised women's competitiveness in non-traditional sectors, such as construction and infrastructure rebuilding. Measures not only aided in the swift recovery but also signified a significant change in gender roles, confronting longstanding patriarchal standards. Women's participation in disaster management showcased their ability to guide and redefine their positions in society. Further policy and practical measures should focus on maintaining the gender empowerment achievements already made and exploring ways to empower Nepalese women in more areas. Women's voices must be formalized in long-term decision-making, ensuring their active involvement in designing and implementing recovery strategies, making the process more inclusive and responsive to their needs, and fostering a resilient, equitable society. Relevant examples show that Nepalese women can go beyond, they also have great potential in politics, diplomacy, and art regarding disaster topics (Embassy of Nepal, 2024). As a result, Nepalese women's contributions to disaster response must be officially recognized and valued within national and international disaster management policies. Their shared experiences will serve as a valuable asset for emotional connection in future disaster aids, allowing Nepalese women to contribute a unique gender perspective into the construction of global south disaster response strategies.

5.3 Economic Inclusion for Gender Sustainability

Although the initial reaction to the catastrophe highlighted the possibility for gender-based change, the lasting effects on women's empowerment and participation in recovery activities are still unclear. While women were originally part of training programs and disaster response efforts, research indicates that many of these women faced exclusion from the job market afterward, especially in the construction industry, with merely half of the women trained as masons continuing in the field years post-earthquake. This indicates a necessity for more sustainable approaches that guarantee women's continued involvement in rebuilding and economic efforts after the crisis period, including long-term mentorship programs, official job placement services, reduce the tax rates, and career networking events, to help women persist in traditionally male-dominated fields with professional growth.

The earthquake's effect on agriculture caused profound economic damage, particularly for women farmers. Women experienced significantly greater losses than men, worsening their already unstable

financial conditions. National economic recovery plans must incorporate gender-sensitive approaches. Examples observed worldwide demonstrate that giving women farmers targeted and useful financial support, such as low-interest loans, grants for seeds and irrigation equipment, and reducing market access, can have a significant positive impact. Besides, voluntary projects aiming to empower women in agriculture should develop more practical initiatives, including developing professional harvesting skills, learning product management, and enhancing digital marketing technical. Furthermore, local government bodies should be responsible for exerting practice like transforming women farmers into entrepreneurs and producers, which can boost the industrialization of agriculture.

In an era when both natural and man-made disasters happen more frequently, the necessity for developing gender-sensitive, and sustainable recovery strategies is marked. The 2015 Nepal earthquake serves as a key example: while gendered disaster response can challenge and transform gender roles, without systemic changes that promote women's agency in governance, economics, and decision-making, these improvements risk slipping backwards. The observations from Nepal stress the requirement to include global south gender perspective into disaster management frameworks as a core rule of resilience. Women's leadership is not an exception but a crucial part of sustainable recovery, reinforcing that resilience should be understood not only as survival but also as empowerment and inclusion throughout all phases of disaster response and recovery.

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The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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Conflicts of Interest

The authors declare that they have no conflicts of interest to report regarding the present study.

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