

Understanding social factors influencing emergency response to housing loss

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Abstract— In recent decades, there has been an increase in large-scale natural and human-made disasters and academic literature has begun focusing on the functioning of emergency responses. In this paper, we pay attention to the social factors affecting the emergency response to the loss of housing due to these events. By analyzing community resilience, vulnerability assessments and cultural understanding we seek to identify critical elements that facilitate effective intervention for displaced populations in disaster contexts.

Keywords— *housing loss, emergency response, community resilience, vulnerability assessment, cultural understanding.*

I. INTRODUCTION

Natural and human-made disasters such as tsunamis, earthquakes, hurricanes, wars, pandemics, etc. severely impact large populations on a large scale. For example, the 2004 Thailand tsunami left thousands homeless, highlighting the need for effective emergency response mechanisms, whether through government agencies or humanitarian aid agencies. Immediate emergency response is decisive to providing appropriate shelter and resources to displaced populations, especially given the increasing frequency and magnitude of these disasters.

This research analyses the influence of three important social factors that impact the effectiveness of housing loss management in disaster scenarios: community resilience, vulnerability assessment and cultural elements. By studying these three components, we aim to learn from past experiences and detect good (and bad) emergency response practices to mitigate the impact of such events in the future.

II. THEORETICAL FRAMEWORK

According to the United Nations Office for Disaster Risk Reduction [1], fourteen million people worldwide are displaced annually due to sudden-onset disasters. Countries in South and Southeast Asia are particularly susceptible to housing loss because of these events, but they are not the only ones as more and more populated areas around the world are affected by major disasters. These statistics show the importance of managing emergency responses addressing displaced populations.

Usually, emergency response initiatives must consider various factors such as logistics, economics, environmental, technological, etc. For example, a study by Chukwuka, Ren, and Paraskevadakis [2] points out the need to increase studies related to relief procurement response support activity. However, while logistics and economic factors often receive a lot of attention in managing the immediate response to emergency situations, this paper focuses on the importance of

social aspects, which are often less studied but are essential for effective crisis management.

The three main social factors that influence the effectiveness of the emergency response in disaster situations and that we will analyze in this work are:

1. **Community resilience:** This concept includes social cohesion, volunteerism, and organizational capacity of affected communities. The capacity of a community to come together and support one another during a crisis improves significantly the effective distribution of resources and the recovery process. Resilient communities can better cope with displacement, offering a foundation for recovery and long-term resilience.

2. **Vulnerability assessment:** In every disaster situation, some groups are more vulnerable than others. Identifying and addressing the needs of vulnerable populations, such as the elderly, children, individuals with disabilities, and those with mental and physical health conditions, is an important aspect of disaster response. A vulnerability assessment ensures equitable access to resources, preventing the exclusion of these groups.

3. **Cultural understanding:** Cultural norms, values and beliefs are essential in shaping how communities respond to disaster relief efforts. Understanding the cultural elements can improve the acceptance of aid and ensure that resources are distributed in a manner that respects the community's beliefs, habits and practices.

The three factors (community resilience, vulnerability assessment, and cultural understanding) can relate to housing loss caused by natural and human-made disasters, so we will investigate the effectiveness of the emergency response and the strategies for integrating them into disaster management contexts.

III. METHODOLOGY

A literature review has been conducted to explore the three social factors that impact the management of housing loss within the context of an emergency response. The literature selection focused on peer-reviewed academic articles, reports from international organizations, and case studies published between 2000 and 2024. Sources were identified through databases such as Scopus, Web of Science, and Google Scholar using keywords like 'emergency response', 'housing loss', 'community resilience', and 'vulnerability assessment'. A qualitative analysis was conducted to extract common themes and contrasting practices across different disaster contexts.

We also analyzed successful and unsuccessful emergency responses to housing loss in disaster situations. This analysis aims to highlight the importance of addressing social factors and expose how their incorporation can improve the overall effectiveness of emergency response in shelter management.

IV. THE THREE PRIMARY SOCIAL FACTORS

A. Community resilience in emergency response

Community resilience is a fundamental aspect of emergency response and disaster recovery, particularly when addressing housing loss resulting from large-scale crises. According to Cutter, Ash and Emrich [3], “disaster resilience enhances the ability of a community to prepare and plan for, absorb, recover from, and more successfully adapt to actual or potential adverse events in a timely and efficient manner including the restoration and improvement of basic functions and structures [p.65]”. The strength of local networks and the presence of strong social ties within a community hold a pivotal position in ensuring that emergency resources reach those most in need, particularly displaced individuals who have lost their homes.

Social capital, in the sociological sense of the word by which individuals connect through weak or strong ties, has been recognized as a critical factor in resilience [4]. During emergencies, high levels of social capital can facilitate quicker and more efficient disaster response efforts. For instance, informal support networks, such as neighbors helping each other, often contribute significantly providing shelter, food, and emotional support to displaced individuals before official aid organizations arrive [5].

Aldrich [6] points out that communities with high levels of social capital recovered more quickly following the 2011 Great East Japan earthquake and tsunami, while it was more difficult for communities with weaker social ties to repair infrastructure, relocate displaced inhabitants, and obtain relief. This illustrates how social cohesion before disasters can significantly improve emergency response results, especially for populations that are unexpectedly left homeless because of a disaster.

Volunteerism is another essential element of community resilience. In catastrophe situations, local volunteers frequently are the first responders, helping with search and rescue operations, delivering aid, such as food, medical supplies, etc., and offering temporary accommodation to those who have been displaced. They also stay even after official services have concluded [7]. Their quick response and thorough understanding of the community's specific needs make them very valuable in emergency situations.

Additionally, local non-governmental organizations (NGOs), religious institutions, and community groups effectively support government response initiatives, becoming an additional resource. For example, after Hurricane Katrina in 2005, religious organizations, local charities and grassroots community groups provided shelter and food, while the official aid arrived that was delayed [8], [5]. The affected population feels these organizations closely and trustworthy, while larger governmental agencies lack this familiarity. For this reason, more informal organizations are

essential in addressing housing loss after disasters, because they have key information: they know the terrain, the populations and they know where the most urgent resources can be found.

While immediate relief measures are the most pressing, medium- and long-term recovery depends on a community's adaptive capacity to the new situation. That's to say its ability to learn from past disasters and implement strategies that increase future resilience [9]. Understanding how to respond effectively to emergencies is vital for rapid recovery [10], but adaptive capacity goes much further and encompasses factors such as better urban planning, disaster preparedness training, and policies that strengthen social safety nets for displaced populations.

Also, communities that apply a participatory approach and involved local leaders in decision-making processes were able to rebuild more effectively. According to Barrios [11] communities are not static, and they define themselves depending on the relationships they have with government and aid agencies. Involving community initiatives and decisions to rebuild housing is one of the key ideas in the “Building Back Better”¹ and allows better recovery of populations [12]. Therefore, emergency response strategies should involve community members to the extent possible, as their knowledge and experiences contribute to more sustainable recovery efforts.

Given the role of community resilience, policymakers and humanitarian organizations should focus on strengthening local networks, supporting volunteer initiatives, and fostering inclusive decision-making to improve that resilience in responses to housing emergencies. As Twigg [13] highlights, governments should fund community-driven programs to empower local people in disaster management.

B. Vulnerability assessment and targeting aid.

Vulnerability assessment is the process that determines how emergency aid is assigned and distributed to affected populations in the context of disaster response. Social vulnerability is now understood to be a multidimensional concept involving sociodemographic, economic and environmental factors that affect people's ability to withstand and recover from disasters [14], [15]. Thus, emergency responses are based on identifying and prioritizing at-risk groups to distribute aid in the most equitable and fair way possible. This is also related to how intersectionality can make some individuals and/or groups are more vulnerable than others, but to detect this, an assessment is necessary. Intersectionality means that there are specific individual characteristics that, when superimposed, contribute to increased vulnerability. Taking this concept into account is more and more relevant in social studies in general and in disaster studies in particular [16], [17]. For example, women in disaster-stricken areas may face increased risks of gender-based violence, or people with physical disabilities may struggle to access evacuation routes and emergency shelters. This idea considers all the accumulated disadvantages that can affect a single individual, especially because disasters tend to amplify existing inequalities, making certain populations more vulnerable to adversity. Thus, recognizing these

¹ “Building Back Better” is a concept that has been used to guide the reconstruction phase after a disaster. It extends beyond merely improving physical infrastructure, considering social, economic and cultural resilience as well.

intersecting vulnerabilities is important for designing inclusive disaster response actions.

Therefore, in emergency situations, the vulnerability of certain groups is greater than others. Certain demographic groups are disproportionately affected by disasters because of social and economic disadvantages. The elderly, children, individuals with disabilities, ethnic minorities, residents who do not speak well the local language and the homeless often are more vulnerable and therefore face greater risks during emergency situations [14], [15]. For example, after Hurricane Katrina in 2005 several research was conducted, and found that low-income communities, female-head, and racial minorities were more likely to be displaced from their home longer than high-income groups [18], [19]. Likewise, after the 2010 Haiti earthquake, informal settlements with poor infrastructure suffered the most severe consequences [20]. This indicates that there are groups that are more vulnerable than others and this factor must be considered in the emergency response.

Recognizing these intersecting vulnerabilities is important for designing inclusive disaster response policies, but even if in the last decades new instruments have emerged to help identify the most vulnerable groups, such as the Social Vulnerability Index (SVI) [14], ensuring an equitable distribution of aid remains a major challenge. Firstly, because not all disaster situations are subject to a meticulous assessment of the most vulnerable groups, and secondly, because sometimes, despite having detected them, there are bureaucratic problems or logistical limitations that prevent the most vulnerable groups from being attended according to their most specific needs. Furthermore, many responses continue to be designed from a top-down approach, when research has shown that centralized approaches often overlook the specific needs of vulnerable communities, while decentralized, community-based initiatives tend to be more effective in reaching people at risk [21], [22], [23].

Incorporating participatory approaches into vulnerability assessments will help improve the aid response, as people themselves are best aware of their needs. As Mercer, Kelman, Taranis and Suchet-Pearson [24] argues, participatory vulnerability assessments (PVAs) have been successfully implemented in various post-disaster contexts, enabling a better understanding of risk factors and response priorities.

Finally, and related to the vulnerability assessment, fast technological development opens new strategies to target aid more effectively to those who need it most and faster. For example, Initiatives by the Humanitarian OpenStreetMap Team (HOT) have demonstrated that digital mapping initiatives (driving by volunteers) can provide real-time data for emergency response operations [25]. Also, Blockchain technology is being explored as a tool to improve transparency in aid distribution, ensuring that resources reach intended populations avoiding corruption or mismanagement as much as possible [26], [27].

C. Cultural understanding in resource distribution

The third component discussed in this paper related to a successful emergency response is cultural understanding, as the positive reception and acceptance of aid by displaced communities is often influenced by certain cultural norms and beliefs.

Culture influences everything from communication styles to social networking, religious practices, dietary restrictions, etc., so we must consider the cultural factor to provide an effective response to disasters. Neglecting these aspects in emergency resource distribution can result in aid being rejected, misallocated, or inefficiently utilized, ultimately weakening recovery efforts [28], [29], [30].

One of the most immediate needs following a disaster-induced housing crisis is temporary shelter. However, not all displaced populations view standardized shelter solutions - such as communal tents or government-provided housing units as suitable. Cultural preferences regarding living arrangements, privacy, and gender dynamics influence whether people feel safe and comfortable accepting shelter assistance. For instance, in conservative societies where gender segregation is the norm, mixed-gender shelters may be rejected by affected populations. After 2005 Kashmir earthquake in Pakistan, the emergency response provided of mixed shelters where many women with babies stopped breastfeeding because they felt uncomfortable feeding their children in front of men [31]. Similarly, certain policies when responding to emergency situations can increase the vulnerability of indigenous groups by failing to respect their rights and traditional knowledge to recover [32]. Understanding these preferences and rights is important to designing housing solutions that are both culturally appropriate and effective in reducing vulnerability.

Eating habits are also closely related to culture. What, how, when we eat, etc. is an essential part of our lives. In many post-disaster situations, mass-distributed food rations fail to consider religious and cultural dietary restrictions. According to Koçak, Karakuş, Çalışkan, Dağ, Kınık, and Güzel [33], “the selection of local and traditional foods is a key cultural factor influencing the efficacy of nutrition interventions and food assistance programs [p.1]” following disasters, so adapting food assistance to the cultural and religious practices of affected communities is important to avoid refusal of aid and ensure its proper use. In Vanuatu after the 2015 Cyclone Pam, international organizations were criticized for distributing food that local populations had learned that they were unhealthy products through decades of nutrition education campaigns, and they were confused about how to cook it or even to eat it [34].

Language barriers and communication styles impact how effectively aid is distributed. When relief efforts fail to use locally understood languages or dialects, misinformation can spread, delaying or obstructing the response to disasters. Uekusa [35], retrieves Pierre Bourdieu's concept of symbolic violence and applies it to disaster situations where linguistic minorities struggle to understand what is happening. In the context of unforeseen disaster “for vulnerable linguistic minorities, not being able to ask for specific help can mean not receiving it; not being able to narrate their own experience in their own language can mean not being heard [p.369]”.

Another cultural aspect that must be considered in emergency responses is the perception that the affected population has of aid agencies. The report of Internal Displacement Monitoring Center (IDMC) in Switzerland [36] offers a view on how aid institutions, such as governments and NGOs, respond to housing needs in post-disaster contexts and the importance of cultural considerations. Housing responses often prioritize homeowners, ignoring informal tenants or settlers. This neglect enables vulnerabilities and increases the

likelihood of protracted displacement, as seen in the response to the 1999 Marmara earthquake in Turkey. This was the case when municipal authorities in Nicaragua, following Hurricane Mitch in 1998, implemented a community-driven, participatory relocation project. When displaced people themselves are involved in the planning process, they can more accurately identify vulnerable households and groups, and they are more likely to accept aid once it is coming. Reconstruction planning in Nicaragua also incorporated culturally appropriate construction techniques (adobe buildings), which improved disaster resilience and contributed to job creation within the community itself [36]. Thus, housing solutions must not only provide shelter but also respect cultural and community practices.

For these reasons, humanitarian organizations are increasingly adopting culturally sensitive frameworks for emergency response, as well as training their staff (volunteers and non-volunteers) on cultural awareness. The Sphere Handbook [37] is a book containing humanitarian standards, which highlights the importance of cultural appropriateness in all aspects of aid delivery, from the design of temporary shelters to the provision of food and psychosocial support. Implementing these principles ensures that relief activities are not only efficient but also socially acceptable.

V. CONCLUSION

This paper has focus on three social factors that impact emergency response to address housing loss during disasters. In doing so, it has highlighted the importance of integrating social considerations such as community resilience, vulnerability assessments and cultural understanding into disaster management frameworks. If these social dimensions are not considered, disaster responses can become inefficient, inequitable, and even counterproductive.

One of the key findings is the importance of community resilience in disaster recovery. Thus, the ability of local communities to mobilize, support each other and organize relief actions is key to recovery. Examples such as the response to the Great East Japan Earthquake in 2011 or the role of religious entities after Hurricane Katrina in 2005 show us that social capital and volunteer networks contribute to a rapid and effective recovery. Therefore, the integration of community-led initiatives into official disaster management plans should be a priority for organizations (public or private) that are going to provide assistance.

Vulnerability assessments are also very important to ensure that aid reaches those who need it most. As seen in the paper, disasters don't affect groups in the same way. Disadvantaged groups, such as the elderly, people with disabilities, people with physical and mental health problems and the poorest communities may suffer much more from the consequences of a disaster. Research also points out that when aid distribution is dictated by centralized, top-down approaches, affected populations often struggle to access resources. Incorporating participatory approaches to vulnerability assessment, such as local knowledge, can lead to more effective aid distribution.

Moreover, cultural understanding can determine the success or failure of emergency responses. In this work, we highlight cases where aid was rejected or misunderstood because it was not in line with the cultural values and expectations of affected communities. From inadequate food distributions after the 2010 Haiti earthquake to shelter

solutions that failed to consider gender and privacy considerations in Pakistan, these cases show that ignoring cultural aspects can challenge relief efforts. Emergency response frameworks should prioritize culturally appropriate strategies, including language accessibility, religious dietary considerations or respect for traditional land and housing practices.

Although community resilience, vulnerability assessment, and cultural understanding are addressed separately, they are interdependent in practice. Strong social cohesion improves the identification of vulnerable groups, while culturally sensitive approaches foster greater community participation and trust in aid distribution processes.

Addressing housing loss in disaster contexts requires an approach that integrates social, cultural and structural considerations. Governments, NGOs and humanitarian agencies must go beyond conventional logistics-focused responses and recognize that disaster recovery is also a social process. By building local resilience, improving vulnerability assessments and incorporating cultural sensitivity, emergency response systems can become more inclusive, equitable and effective.

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