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Why Were More People, Especially Women and Children, Found More Vulnerable in the Earthquakes in Herat Province?

Abstract

This comprehensive report analyzes the vulnerabilities faced by children and women in Herat Province during earthquakes. It explores various factors contributing to their heightened vulnerability, including social, economic, health, informational, cultural, institutional, and physical vulnerabilities. The findings highlight the need for improved disaster preparedness, enhanced infrastructure resilience, and gender-inclusive approaches to mitigate the risks faced by these marginalized groups.

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Methodology

1. Literature Review: A comprehensive review of relevant literature was conducted to gather information on the vulnerabilities faced by children and women in Herat Province during earthquakes. reports, and publications from international organizations, government agencies, and NGOs were analyzed to identify the contributing factors and understand the extent of the issue.
2. Data Collection: Data on the vulnerabilities experienced by children and women in Herat Province were collected through various sources. This included official reports from government agencies, humanitarian organizations, and NGOs working in the region. News sources, interviews with experts, and field observations also provided valuable insights into the vulnerabilities and challenges faced by these marginalized groups.
3. Data Analysis: The collected data was analyzed to identify the social, economic, health, informational, cultural, institutional, and physical vulnerabilities faced by children and women in Herat Province during earthquakes. The analysis involved identifying patterns, trends, and common themes within the data to gain a comprehensive understanding of the issues.

Earthquake in Herat Province

Multiple earthquakes of varying magnitudes have occurred in Herat Province. Extensive research has revealed that children and women in this region were particularly susceptible to the adverse effects of earthquakes due to several contributing factors. Vulnerability, in this context, pertains to the heightened susceptibility and exposure to harm, risk, and negative impacts that individuals and communities may encounter during seismic events. A comprehensive report conducted by the Office for the Coordination of Humanitarian Affairs (OCHA) highlights the profound impact of a devastating earthquake measuring 6.3 magnitude that struck Herat. The aftermath resulted in a significant loss of life, with a large number of individuals, notably women and children, disproportionately affected. The disaster claimed the lives of approximately 2,400 people, while approximately 154,000 were injured in the consequences of this catastrophic event. The vulnerabilities experienced by children and women in this context can be attributed to several factors, which have been identified through a meticulous review of diverse resources. These vulnerabilities encompass various dimensions, requiring a comprehensive understanding and effective measures to address them adequately.

1. **Social vulnerability:** In Herat Province, high levels of poverty, limited access to basic necessities such as food, water, and shelter, and a lack of social support systems increased the vulnerability of children and women. The earthquake further exacerbated their vulnerability by causing a lack of resources and support in the aftermath of the disaster. The already strained social infrastructure struggled to provide adequate assistance, leaving these marginalized groups in a precarious state with limited means to recover and rebuild their lives.
2. **Economic vulnerability:** The limited job opportunities and income resources in Herat Province create a crucial problem for the people of Afghanistan, as it increases their vulnerability not only to earthquakes but also to other natural hazards. This economic vulnerability hampers their ability to construct safe and resilient housing structures, leaving them more susceptible to the impacts of various disasters.
3. **Health vulnerability:** During the earthquake in Herat Province, the absence of medical services resulted in a lack of immediate and proper treatment for severe injuries. This situation increased fatalities and posed a greater risk to the health of the victims especially children and women, especially those with chronic illnesses. The limited capacity of hospitals further exacerbated the challenge of accommodating and providing care for additional victims. Doctors from the Herat Provincial Hospital have highlighted these problems, and they also had a negative impact on individuals who were unable to receive proper hospitalization.
4. **Informational vulnerability:** In Herat Province, the lack of prior training and awareness among community members about earthquake preparedness and response significantly increased their vulnerability. Many individuals, including women, were unaware of the appropriate actions to take before, during, and after an earthquake, which hindered their ability to protect themselves and others. Cultural norms further exacerbated the situation, as women were mostly expected to stay at home, preventing them from evacuating or seeking safety during the earthquake. As a result, a disproportionately high number of women suffered injuries or lost their lives compared to men, who were more likely to be outside or able to evacuate from their houses.
5. **Cultural vulnerability:** Cultural norms and restrictions in Herat Province limited the participation of women and girls in disaster mitigation activities, increasing their vulnerability during earthquakes. Traditional gender roles confined women to domestic responsibilities, hindering their involvement in decision-making and limiting their access to vital information and support. Addressing this cultural vulnerability requires promoting gender equality, challenging

norms, and empowering women to actively contribute to disaster preparedness and response efforts. This cultural vulnerability extends beyond Herat Province and can be observed in other parts of the country as well. In various regions, traditional beliefs and norms restrict the involvement of women in disaster mitigation activities. This limited participation increases the vulnerability of women during earthquakes and other disasters. Therefore, it is essential to address this issue on a broader scale, challenging traditional gender roles and promoting inclusivity and empowerment of women throughout the country.

6. **Institutional vulnerability:** It was another significant factor contributing to the vulnerability of people, particularly women and children, in Herat Province during earthquakes. The inadequate of professional search and rescue teams equipped with the necessary tools and an effective incident management system severely hindered timely rescue and response efforts. This resulted in considerable delays in providing urgent relief and support to affected individuals, including those trapped under debris.

According to news reports, the lack of adequate equipment and tools necessary for efficient rescue operations meant that people were left trapped under the rubble for extended periods. The absence of specialized equipment, such as heavy-duty cranes, hydraulic tools, and cutting devices, impeded the efforts to extract individuals from collapsed structures. Instead, local residents and volunteers resorted to using their bare hands and rudimentary tools to remove debris, which proved to be a laborious and time-consuming process.

The insufficiency of professional search and rescue teams in Herat Province further exacerbated the institutional vulnerability. The limited number of trained personnel and the absence of a well-established incident management system hindered the coordination and organization of rescue operations. The lack of proper training and resources among the available teams affected their ability to swiftly respond to the disaster and effectively assess the needs of affected individuals, particularly women and children who were in urgent need of assistance.

7. **Physical vulnerability:** The physical vulnerability of individuals, particularly women and children, residing in poorly constructed or informal housing, such as earthen or mud-brick houses, in Herat Province during earthquakes, played a significant role in increasing their risk. During the assessment, it was observed that there was a notable absence of stone stem walls or foundations in both the compound and the house/room walls, which were constructed using raw earth materials (refer to Figure 2). Subsequent conversations with local community members revealed that they faced financial constraints and were unable to afford the necessary stones for constructing the stem/plinth walls and foundation. It was further noted that certain stone sources were located at an average distance of seven to ten kilometers from the area. The presence of foundations and stone stem walls at the base of the walls is crucial to prevent the upward movement of moisture through capillarity. Raw earth walls that are excessively damp not only experience a loss in mechanical strength but also become more vulnerable to seismic damage. The absence of reinforced foundations, appropriate structural design, and seismic-resistant construction methods significantly heightened the probability of structural failure in the event of an earthquake. Consequently, the collapse of these houses became a harsh reality, exacerbating the risks faced by women and children residing within them. Reports indicate that numerous earthen houses in Herat Province completely collapsed during earthquakes, trapping individuals and necessitating rescue efforts. The lack of sufficient confined spaces or structural elements capable of withstanding the impact of an earthquake further compounded the challenges encountered during rescue operations. Rescuers were confronted with the arduous task of extracting individuals from the debris, often hindered by limited access and precarious conditions. The collapse of these houses not only resulted in immediate physical harm but also had enduring consequences for the affected individuals. Injuries,

fatalities, and the psychological trauma endured by survivors, particularly women and children, were all heightened due to the vulnerability of these structures. Furthermore, the loss of shelter and displacement of families exacerbated the overall impact on the affected population, underscoring the need for immediate and sustained assistance. Addressing the physical vulnerability of housing structures in Herat Province necessitates concerted efforts to enhance construction practices and bolster seismic resilience. This entails the implementation of building codes and regulations that prioritize structural integrity and seismic resistance, particularly in areas prone to earthquakes. Additionally, raising awareness and providing resources for the construction of safer housing alternatives, such as reinforced masonry or earthquake-resistant designs, can help mitigate the risks faced by vulnerable communities.



Figure: The damaged house in Wardak Ha was taken from the Un website

Conclusion

In conclusion, the concerns raised in Herat Province affect various parts of Afghanistan and extend far beyond its boundaries. Because seismic activity is common, the government, national organizations, and international non-governmental organizations must work together to create a thorough and effective preparedness plan. Enhanced disaster preparedness, early warning systems, effective response mechanisms, and resilient infrastructure should be given top priority in this strategy. Future seismic events can be lessened, increasing community resilience, by proactively addressing these issues and dedicating resources to long-term solutions.

Immediate attention is required to address the vulnerabilities faced by children and women, including social, economic, health, informational, cultural, and institutional factors. Efforts should focus on promoting social support systems, economic opportunities, healthcare access, disaster preparedness awareness, addressing cultural norms, and strengthening institutions. By addressing these vulnerabilities, we can ensure the safety and well-being of affected communities, with a particular emphasis on the most vulnerable members, and facilitate their recovery and rebuilding process.

Recommendations

1- Social Vulnerability:

- a. Establish social support systems to provide assistance and resources to vulnerable individuals and families, particularly women and children.
- b. Improve access to basic necessities such as food, water, and shelter to mitigate poverty and enhance community resilience.
- c. Strengthen social infrastructure to ensure effective response and recovery in the aftermath of earthquakes.

2- Economic Vulnerability

Create job opportunities and income resources to reduce economic vulnerability and enable individuals to build safer and more resilient housing structures.

3- Health Vulnerability

Enhance medical services and capacity in Herat Province to provide immediate and proper treatment for injuries during earthquakes.

Develop emergency response plans that prioritize medical support, including the deployment of mobile medical units and the training of healthcare professionals in disaster response.

4- Informational Vulnerability:

- a. Conduct comprehensive awareness campaigns on earthquake preparedness and response, targeting all members of the community, with a special focus on women and girls.
- b. Implement educational programs in schools and community centers to teach individuals about earthquake safety measures and evacuation procedures.

5- Cultural Vulnerability:

- a. Challenge and transform cultural norms that restrict the participation of women in disaster mitigation activities, empowering them to actively contribute to preparedness and response efforts.
- b. Promote gender equality and women's empowerment through education, advocacy, and community engagement to ensure their full participation in decision-making processes.

6- Institutional Vulnerability:

- a. Strengthen the capacity of search and rescue teams by providing adequate training, resources, and specialized equipment for efficient rescue operations.
- b. Establish an effective incident management system to enhance coordination and organization of response efforts during and after earthquakes.

7- Physical Vulnerability:

- a. Implement and enforce building codes and regulations that prioritize seismic resilience, particularly in areas prone to earthquakes.
- b. Provide resources and technical assistance to support the construction of safer housing alternatives, incorporating seismic-resistant designs and materials.

8- International Support:

- a. Seek international assistance and collaboration to support the implementation of comprehensive earthquake resilience programs in Herat Province.
- b. Engage with international organizations and NGOs to mobilize resources, expertise, and funding for long-term sustainable solutions.

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