

SOCIAL VULNERABILITY TO DISASTERS -A REVIEW

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Received: February 04, 2019

Accepted: March 12, 2019

ABSTRACT: Vulnerability gives the extent to which a community is affected by a disaster. It involves measures of resilience and coping capacity of a community in the face of disasters. Social vulnerability refers to a state of weakness, which creates a predisposition to harm. Social and Economic vulnerability are found to go together in that weak and marginalized do not have access to power centres wherein means of production is concentrated. Statistically poor and marginalized have been seen to suffer more in the event of disaster than relatively better off, on account of inequitous access to power and resources. Social vulnerability is determined by various factors such as physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards. Poverty, occupation, caste, ethnicity, exclusion, marginalization, gender and inequities in material consumption of a society or community also enhance social vulnerability.

Key Words: Social vulnerability, poverty, marginalization, gender, disasters

Introduction:

Vulnerability generally denotes a susceptibility to harm. The notion of social vulnerability as opposed to the vulnerability of built structures refers to the potential harm to people. It refers to the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a disaster. It involves a combination of factors that determine the degree to which someone's life and livelihood are put at risk by a discrete and identifiable event in nature or in society. Poverty increases vulnerability to disasters and contributes in enabling poverty. In order to facilitate sustainable development, it is essential to eliminate this vicious circle. Sustainable development with emphasis on long term and intergenerational aspects enable us to face challenges. Compatibility between economic growth and sustainable development demands a method to measure the kind of growth that encompasses all important aspects pertaining to quality of life such as human exposure to risks situations and lifestyles. Gender ideologies often reduce women access to resources, opportunities and power. This increases their vulnerability and consequently intensifies adverse impact of disasters on women.

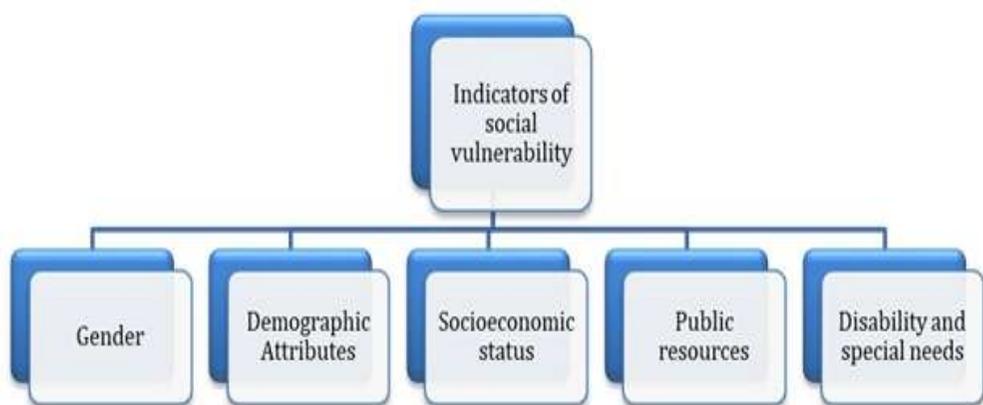


Fig 1: Indicators of social vulnerability

Research methods

This research paper is based on the reviews of various studies of social vulnerability due to disasters based on empirical, theoretical and conceptual studies. Based on the secondary data piled up from the various journal articles, books, documents and seminar/ conference proceedings, the concept of social vulnerability is tried to discuss in this research paper.

Social Causes of vulnerability: A review Analysis

The growing divergence in the distribution of wealth, i.e. inequalities in allocation of assets and welfare, is an essential factor of differing degrees of socio-economic vulnerability within society (McEntire 2001, p. 192; Wisner et al. 2004, p. 5). It is increased by dynamic pressures, such as sparse governmental investments in disasters prevention and response, as well as education or other human capital, which lead to a lack of skills and knowledge about hazards. Social causes further include levels of literacy and education, initial well-being, access to health care, access to basic human rights as well as cultural and religious factors including traditional values, customs and ideological beliefs (IATF/DR 2006, p. 11; McEntire 2001, p. 191; Wisner et al. 2004, p. 5). A key variable that determines who is most at risk from natural hazards is the exclusion or marginalization of specific groups and individuals due to class, caste, race, health and immigration status, age, disability, ethnicity and gender (Swain 2007, p. 3; Wisner et al. 2004, p. 11). In the Kobe earthquake in Japan in 1995 and the Gujarat earthquake in India in 2001, the exclusion of people along caste and ethnicity leads to their greater vulnerability in disasters as discriminatory factors determine unequal access to resources and opportunities. Poor people, i.e. those whose income fails to meet basic needs, and especially the very young and old, single-headed households with many dependants and people from ethnic minorities who live in poverty suffer proportionally larger economic losses in disasters due to their limited access to resources, political power and their limited capacity to recover and sustain future disasters (IATF/DR 2006, p. 11). For example, warnings of Hurricane Katrina were not sufficient to ensure a response because people lacked access to public or private transport (Bradshaw 2013, p. 62).

➤ Factors affecting Social vulnerability:

Cutter et al. (2003) provided generally accepted factors affecting social vulnerability which include:

- Lack of access to resources such as information, knowledge, and technology.
- Limited access to political power and representation.
- Social capital including social networks and connections, Beliefs and customs.
- Building stock and age.
- Frail and physically limited individuals.
- Type and density of infrastructure and lifelines.

Gender as a factor of vulnerability is most often co-determined by the intersection with social class, income, age, sexuality, disability, violence or ethnic status that additionally shapes liabilities and capabilities (Bradshaw and Fordham 2013, p. 9; Enarson 2012, p. 49; Padhi 2007, p. 28). Poor women and men or single-headed households with many dependents or those from ethnic minorities, such as Dalits in many Asian countries, increasingly lack access to basic resources, including secure housing, employment and transportation. Regarding gender in correlation with age, women in different life stages (puberty, pregnancy and lactating periods) need specific care that is usually provided by family and social networks, but these structure are often disrupted in natural disasters (Ariyabandu 2009, p. 9). Gender norms and relations paired with inequalities inherent in social life creates hazardous social conditions placing women and men differently at risk when natural disasters strike human society and thus create different gendered impacts and experiences of these events.

The social world, within with natural disasters occur, is shaped by gender (Enarson 2000a, p. 4). Gender ideologies often reduce women's access to resources, opportunities and power (Yumarni et al. 2014, p. 765). This increases their vulnerability and consequently intensifies adverse impacts of natural disasters on women.

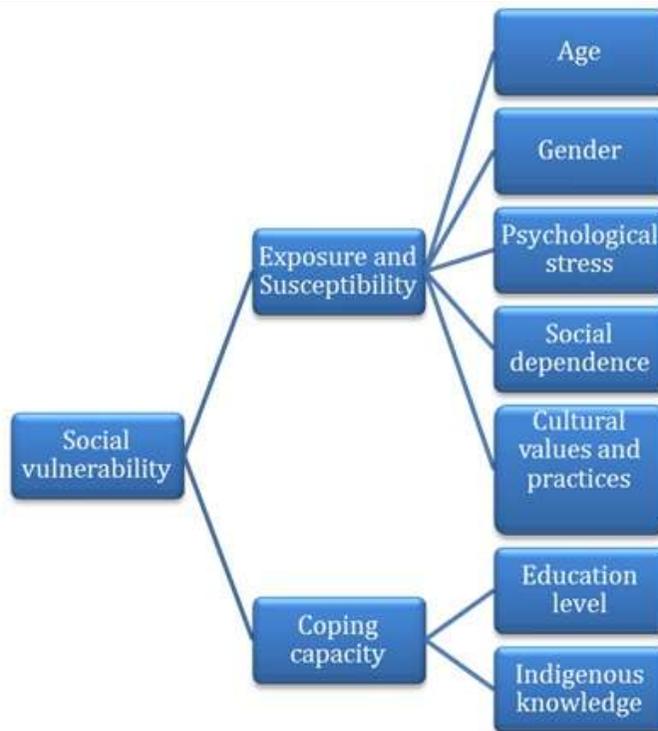


Fig 2: Framework of social vulnerability

Approaches and Assessments to assessing social vulnerability:

➤ **Group-based approach**

The group-based approach identifies a number of typically vulnerable groups and defines them as target groups for vulnerability reduction policies. There is a large body of research on the vulnerability of specific groups, e.g., women, children, the elderly, members of low castes, and many more. The value of such an approach is that it unveils the plight of those suffering most, and that it permits an easy targeting of prevention and mitigation measures. However, there are several problems with an approach that relies on generalizations about entire groups. A group-based approach is one-dimensional. It cannot capture the extreme vulnerability of individuals who carry so-called “vulnerability bundles” because they belong to several disadvantaged groups at the same time.

➤ **Multidimensional vulnerability assessment:**

In order to overcome the problems associated with the one-dimensional group approach, a number of multi-dimensional vulnerability assessments were developed. These assessments differ widely with regard to data collection (primary versus secondary data, quantitative versus qualitative assessments), level of analysis (region, community, household, or individual vulnerability), the indicators used, and the presentation of results (e.g., indices, maps). There are some difficulties that pertain to all vulnerability assessments relying on quantitative data. All these points apply to GIS practice as well, which relies on quantitative and often secondary data. To be sure, the use of GIS technology for the mapping of hazards and vulnerabilities holds a lot of potential. Hence, a two-pronged approach to vulnerability reduction is needed:

- One concentrating on high-risk areas.
- The other on particular needs of populations in various areas.

Three multi-dimensional vulnerability assessments and indices:

- Vulnerability and Capacity Assessment (VCA)
- Vulnerability and Capacities Index (VCI)
- Social Vulnerability Index (SOVI)

Vulnerability and Capacity Assessment (VCA)

VCA of the International Federation of Red Cross and Red Crescent Societies (IFRC) is a qualitative, participatory process. It is conducted by the national IFRC societies or their local branches and is a rather open process that can be adapted to the community in which it takes place. The community doing a VCA assesses not only vulnerabilities, but also the capacities it already has, and defines actions that have to be taken to strengthen these capacities.

Vulnerability and Capacities Index (VCI)

Vulnerability and Capacities Index (VCI) is a multi-dimensional, purely quantitative index developed by the Prevention Consortium and the Institute for Social and Environmental Transition (ISET, ISET-Nepal). It is field-tested and can be used by NGO teams and community activists. Vulnerabilities are assessed at the community and/or household level.

Social Vulnerability Index (SOVI)

The Social Vulnerability Index (SOVI) measures the social vulnerability of US countries to environmental hazards. It is meant as a tool for policy-makers and practitioners, and using GIS technology, it graphically illustrates the geographic variation in social vulnerability. The SOVI map illustrates the spatial patterns of vulnerability, with the most vulnerable counties clustered in metropolitan counties in the east, south Texas, and the Mississippi Deltaregion.

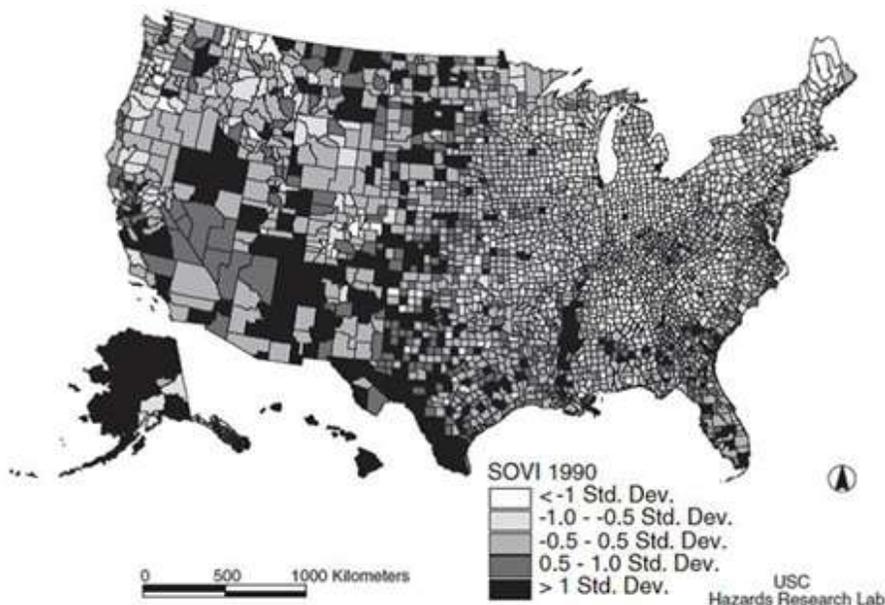


Fig 3: Comparative vulnerability of U.S based on social vulnerability index

Conclusions:

From the various review studies it is found that social vulnerability due to disaster results from “poverty, exclusion, marginalization and inequities in material consumption. It is also determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards and is conceptually located at the interaction of nature and culture” that also links “social and economic structures, cultural norms and values and environmental hazards”. Most of the authors are of the opinion that some people within the social systems like ethnic minorities, disempowered castes or classes, religious groups, or occupations may live or work in physical areas that are relatively disaster-prone. Due to the result, these groups of people are more vulnerable to natural disaster. Lack of access to resources such as information, knowledge, technology and limited access to political power and representation are also the factors that affect social vulnerability.

Suggestions:

- To develop robust, credible and appropriate assessment measures.
- To incorporate such methods that includes perception of risk and vulnerability.

- To incorporate governance research on the mechanisms that mediate vulnerability and Promote adaptive action and resilience, including the inclusion of communities in assessing their own vulnerability and in determining solutions to building future resilience.
- For tackling disasters adequately, we have to evolve a holistic perspective. The poor and other marginalized sections of the society that includes women, the handicapped, the infant and the old and aged are the first to lose their basic right to food, shelter and health
- The poor and other marginalized sections of the society need and deserve help from the empowered sections of the society. So, studies should be conducted to empower and ensure the development of this weaker section of the society.

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