

Understanding the Elderly in Natural Disaster: Need for Comprehensive Disaster Planning

Pradeep Kumar Parida

Associate Professor, Department of Sociology,
Pondicherry University, Puducherry – 605 014

Email: pradeeparida2003@yahoo.com

Natural disasters pose mounting threat to different sections of people, mostly to the susceptible groups such as the elderly. The article reveals that there are different dimensions of vulnerability in the social, economic, political, psychological, and physiological contexts which affect the elderly in the wake of disasters. By undertaking the issue of vulnerability, it discusses several problems older people face before, during and after the disaster. The principal conclusion of the paper argues that disaster vulnerability of the elderly is social in origin that requires a comprehensive understanding of the specific needs and identification of the risk factors. Successful disaster policies and programs exclusively targeted to older people would resolve the problems to a significant level.

[Key Words: Elderly, natural disaster, vulnerability, differential vulnerability, disaster planning]

Introduction

Natural disasters are gradually creating threat and risk to human beings, predominantly to the susceptible groups such as the elderly.¹ Older people mainly those who are fragile, face gigantic physical and mental health challenges in the days and months that follow a disaster. As the body becomes old, the elderly increase vulnerability to the effects of environmental exposures. Therefore, concerns have emerged worldwide about the heightened vulnerability of older people to “natural and man-made disasters” (HelpAge International 2006).

There is no doubt that population across countries is increasing at a very faster rate, which is considered as an “unprecedented demographic phenomenon” (National Institute on Aging 2007: 14). In line with this it states:

We are aging - not just as individuals or communities but as a world. In 2006, almost 500 million people worldwide were 65 and older. By 2030, that total is projected to increase to 1 billion - 1 in every 8 of the earth's inhabitants. Significantly, the most rapid increases in the 65 and older population are occurring in developing countries, which will see a jump of 140 percent by 2030 (National Institute on Aging 2007:2).

Within this broader context, Peter G. Peterson (1999) says that global life expectancy has grown more in the last 50 years than over the previous five thousand years. At the same time, the pace of global fertility rate has come down, from approximately 5.0 (average lifetime births per woman) in the late 1960s to about 2.6 in the late 1990s. It is very clear that elderly are likely to surpass children by 2050 (United Nations 2006). As far as the elderly population of India is concerned, the 2001 census indicates that they comprised 77 million where as 2011 census projections show that they have crossed the 100 million mark. In fact, the life expectancy has also increased to over 70 years today (Agewell Foundation 2011). The following table 1 shows population aging from 2005 to 2050 in different regions of the world.

Table 1 Selected indicators of population aging from 2005 to 2050 in different regions of the world.

Region	Median age			Life expectancy at birth			% Ages 65+			Elderly dependency ratio		
	2005	2025	2050	2005	2025	2050	2005	2025	2050	2005	2025	2050
Africa	19.0	22.1	28.0	51.6	58.1	66.1	3.4	4.2	6.9	6	7	11
Asia	27.6	33.6	40.2	67.5	73.0	77.4	6.4	10.1	17.5	10	15	27
Europe	38.9	44.2	47.3	73.8	77.4	81.0	15.9	20.7	27.6	23	32	48
Latin America-Caribbean	26.0	32.5	40.1	72.0	76.3	79.6	6.3	10.3	18.5	10	16	29
North America	36.3	38.7	41.5	77.6	80.3	83.3	12.3	18.1	21.5	18	29	35
Oceania	32.3	36.2	40.0	74.4	77.7	81.0	10.3	15.1	19.4	16	24	31
World	28.0	32.7	38.1	66.0	70.9	75.4	7.3	10.5	16.2	11	16	25

Source: UN Population Division 2007.

Although older people are greatly affected by natural disasters, they are often not given proper attention. According to Help Age International (2003)² quoted in Powell et al (2009: 202):

At present, very little is done to meet the particular needs of older adults or to recognise their unique capacities and contributions. Humanitarian interventions often ignore older people's special needs, using systems that discriminate against them and, on occasion, undermine their capacity to support themselves.

The fact of the matter is that in most cases, elevated death rates among the elderly in catastrophes are widespread because of their day to day vulnerability and pre-existing social conditions (Hutton 2008). Thus, the primary objective of this paper is to present an outline of the critical problems that older people face at the time of disasters and emergencies. The aim here is to prescribe various plans and policies which can effectively help the older people to face any emergency situation.

The paper is divided into four sections. The second section explains the general understanding of elderly and their vulnerability to natural disasters. The third section describes diverse factors of their vulnerability with reference to natural disasters. The fourth section specifically focuses on elderly women's vulnerability to natural disasters. The fifth section sums up the important findings and recommends for policy consideration.

Are Elderly Vulnerable to Natural Disaster?

We all know that how both disaster events and post-disaster relief distribution reproduces social inequalities (Parida 2015a, 2015b). Even though numerous research shows that elderly are vulnerable to several natural hazards, yet, it is difficult to identify the vulnerability of these diverse groups (Wisner et al. 2004). While the aging related changes are unique to every individual, the elderly are in general at higher risk and more liable to be hurt right through all stages of a disaster (Morrow 1999). Study demonstrated that the elderly were disproportionately affected in the Katrina that struck the US Gulf Coast on August 29, 2005 as a category-3 hurricane (Brunkard et al. 2008). Correspondingly, Friedsam (1960) advocated that elderly faced a unique situation at the face of catastrophe because they got less warning, more hesitant to evacuate, and more upset with the changing patterns of life. In similar way, Eric Klinenberg (2002), the most important intellectual on Chicago's heat wave explored how the older people got minimum health and social services, police protection and a healthy living environment in their daily life. In his book, he specifically pointed out the common harmful existing environment and a "general policy of neglect" to be influential in enhancing the troubles of older people during and after a disaster. What is palpable is that before any disaster strikes, the elderly are often ignored by those related with the management of disasters. This is proved in several developed and developing countries. According the HelpAge International (2005) the brunt of the Indian Ocean tsunami 2005 on elderly could be understood keeping in mind the exasperation of pre-existing sickness and disabilities of the elderly. The report says that elderly were frequently disregarded in usual conditions as a result were more susceptible in disasters. Notwithstanding global procedure including the Madrid International Plan of Action on Aging³, various studies confirmed that following the tsunami elderly were not exclusively targeted and, in some cases, the emergency plans and policies discriminated against them. Accordingly, research from both developing and developed countries has confirmed that the elderly are often among the most vulnerable to natural hazards. It is found that vulnerability of these groups is neither inherent nor inevitable; rather it is rooted in social, economic and cultural processes. Older persons face uneven share of individual losses because of their dependence on others for support, information and access to health care (Parida 2008, 2009). Thus, understanding vulnerability of these groups requires a constant obligation from families, communities, emergency management agencies, disaster relief organisations, and all levels of

government. It is in this context understanding the factors of vulnerability are noteworthy to examine here.

Why are Elderly more Vulnerable to Natural Disaster?

By and large, natural disasters hit uniformly without taking the familiar features by which people are divided, including age, culture, nationality, health and economic status. Nonetheless, literature advocates that they have an inexplicably harmful outcome on the deprived and the elderly. It is established that among all the affected vulnerable groups, older people are most likely to die (Bolin and Klenow 1982). These groups face several risks as they receive disproportionate benefits which influenced victimization as well as recuperation at different scales (Phifer et al. 1988). Furthermore, elderly are also disadvantaged before and after disaster hits (Torgusen & Kosberg 2006). They are the people who find tremendous difficult to manage their daily life, for that reason, disaster of any kind and magnitude exacerbates differential susceptibilities on an unparalleled scale.

Another unavoidable reality is that the elderly have “impaired physical mobility, diminished sensory awareness, chronic health conditions, or social and economic limitations” that hinder their capability to plan for catastrophes and to counter and acclimatize during such events (Hutton 2008). Importantly, frail older people find it absolute difficult managing the disaster of any kind and magnitudes because of their chronic diseases or disabilities. It is in this context severe extreme environment with societal-induced vulnerability aggravates the chronic conditions of several older people.

Being elderly, these catastrophe-inclined individuals face vulnerabilities from variety of sources. Among many, importantly, their susceptibility originates from lack of access to resources or lack of independence of action. At a deeper level, in fact, age is not the only issue, equally significant is the community-level-assistance and the “community cohesiveness”. They often need exclusive support at the time of catastrophe as well as in the course of preparation for disasters. Importantly, those with deprived physical condition or “low socioeconomic status” are more susceptible to the physical outcomes of disasters, particularly “rapid onset disasters”, like hurricanes, tsunamis and earthquakes (Ngo 2001).

Number of factors are responsible for the older people facing increased risk of disaster related injuries, mortality and morbidity. Generally, it is found that hazard and susceptibility are originated in particular economic and age-related drawbacks. Deprived older people usually reside in insufficient housing, have inadequate assets, and undergo paramount risk than the common people in a particular region or culture (Morrow 1999). Most often, older people find multiple problems by the devastation of their family unit and neighbourhood. This creates the loss of the “support mechanisms” on which they had depended. In this way, loneliness develops into the significant aspect in producing vulnerability. Isolated elderly are often finding themselves in a difficult state to prepare for any emergency situations.

From the viewpoint of health, the elderly are susceptible in catastrophes due to the “impaired physical mobility, declines in sensory function”, pre-existing never-ending sickness, reliance on medicine, and call for usual special care (Alzaga et al. 2005). Older persons who suffer from chronic illness, the jolt of disaster further deteriorate poor health and leads to premature death (Medina-Ramon et al. 2006). Elderly are also more vulnerable because they have less ability to survive injury once it is occurred (Eldar 1992). During the need and emergency, older people are actually less capable than largely other grown-up to resist for foodstuff and other possessions. It is difficult for them to go long distances where resources may be easily obtainable. They also face complicated issues and put up with the emergency period without shelter and amenities (HelpAge International 2000).

As stated elsewhere, those who live in socially and economically marginalised positions prior to disaster face the maximum brunt of a disaster. It is understood that natural catastrophes have greater impact on the elderly due to their already diminished financial position. Researchers, in these circumstances, noted that low income seniors were most often unable to increase their preparedness for disaster in terms of storing food, first-aid and other essential materials, which put them risk at the time of disaster (Phillips et al. 2010). Basically, older people’s poverty leads to multiple problems including shelter, food, water, health, and transport (HelpAge International 2000). It is in this context, the financial dependence of elderly increases multifarious health effects. Lack of proper diet and nutrition has been connected to multiple later-life diseases including “heart disease, hypertension, diabetes, osteoporosis, stroke and different forms of cancer” (World Health Organization 1991). Poverty also reduces older people’s ability to achieve social protection and health care, including essential treatment and medications in case of unrelieved diseases. Particularly in rural areas, poor residents frequently cannot pay for either transportation costs or health fees for basic treatments (HelpAge International 2002). Even study points out that elderly face greater risk than the common people of sustaining debt and economic losses owing to the disaster (Kilijanek & Drabek 1979). It is found that older people consistently experience high levels of poverty in both developed and developing countries (Chronic Poverty Research Centre 2004). As a result, Hutton (2008: 9) says:

Exploitation of older people reflects their socioeconomic marginalization and diminished capacity to protect themselves from abuse. In emergencies, with the breakdown of normal mechanisms for support and protection, these risks are heightened. Particularly in developing countries that lack subsidized health care and social pension schemes, older people may experience both worsening health and destitution, increasing their risks in crises and individual misfortunes as they lose their self-sufficiency.

Although older persons are at greater risk for death or physical injury, research also suggests that they are less likely to suffer adverse psychological

impacts in the aftermath of natural and human-made disaster than their younger counterparts (Ngo 2001). In their review of the disaster mental health literature, Norris et al. (2002) report that negative psychological responses to disaster decline with age. However, while older people reveal lower rates of post-disaster stress, they are still at risk for adverse psychological outcomes after exposure to natural disasters. A number of studies confirm that the elderly have suffered from anxiety, depressive symptoms and considerable physical and mental distress for months or several years in the aftermath of disasters (Krause 1987, Philfer 1990). In particular, pre-disaster background of the elderly (e.g., socio-economic status, caste, gender, marital status, family size, available support networks, prior-traumatic experiences) and disaster impacts (e.g., severity of exposure, financial and material loss, displacement) all influence mental health outcomes in the immediate and long-term aftermath of disaster (Ngo 2001, Norris et al. 2002). Research also reveals that the effects of age (very young and very old), gender, and disability have been the focal point in disaster situations (Parida 2010). In the next section, the issue of elderly women with regard to natural disasters is discussed for a comprehensive understanding of their specific needs.

Elderly Women and Natural Disasters

Women, particularly elderly women are at higher risk when any disaster strikes. Elderly women, particularly the frail elderly women frequently face high rates of death and morbidity. It is already discussed elsewhere that disasters are the amalgamation of “natural hazards and human vulnerability”. Within this broader context, the extent of threat is established by the degree of apparent exposure and societal vulnerability. Whereas the computation of hazards are decided on the projections of natural phenomena, for instance, wind speed, rainfall levels, etc., the evaluation of vulnerability can be calculated by a complex process, which contains a range of economic, social, political, psychological, cultural and other factors. Under these circumstances, several fundamental issues aggravate elderly women’s susceptibility to the brunt of disasters. For instance, their lack of access to resources, restricted livelihood choice, limited social capital, controlled access to education and essential services, and in several cases, socio-cultural norms that degrade these groups to face the extreme consequences of disaster. Thus, according to UNISDR (2009: 13):

Two elements in combination increase or decrease disaster risk: a potentially damaging event or phenomenon (hazard), and the degree of susceptibility of the elements exposed (vulnerability). A natural hazard like a hurricane or earthquake will pose a greater or lesser risk, depending on its own physical intensity, and the vulnerability and capacities of the people exposed to the hazard. Gender-based differences and inequalities have a strong negative or positive effect on the vulnerability and capacities of people exposed to hazards.

Elderly women, mainly living in rural and isolated areas face greater risk for being secluded in terms of support and information throughout and subsequent to an emergency situation. Many studies revealed that disasters disrupt or shutdown social relationships owing to dislocation of folks and demolition of shelter. As a result, they face complete social isolation and marginalisation (Powell *et al.* 2009). Thus, diverse needs and risks in combination with factors associated with age that makes the elderly women predominantly vulnerable to disaster exposure. It should also be recognised that these are the groups who face severe mental health issues including “sleep disturbances and changes in eating patterns as well as depression, discouragement, anxiety, loneliness and social withdrawal”.

Vulnerability Factors

To understand the vulnerability of elderly women, it is important to know the position of a woman as a whole in a specific society. Societal-induced vulnerabilities associated with limited ability of women to create viable life options are very common in almost every society (Parida 2015a). Socially constructed vulnerability does not mean only the economic position of women; it also covers the wider cultural, political, psychological and legal situation of women in a particular system. In many societies, women are bound to take the traditional role of caretakers in shielding children and elderly and protecting the family’s income. They are supposed to spend more time in their homes. In this fashion, from a tiny girl to an elderly woman she struggles and becomes the prisoner of her own destiny.

By and large, many single and isolated older women live in older houses, which have low structural quality, therefore, highly vulnerable to natural hazards. As a result, they are more prone to greater risk and damage. Moreover, deaths of family members and community assistance systems due to natural disasters also have differential impacts on men and women, more particularly the isolated elderly women who have limited incomes.

Other than their traditional role, as discussed elsewhere, women are also expected to work in the farming or the informal economy, both of which are prone to natural disasters. An aged woman devoid of any means of wealth is frequently regarded as an economic burden. Since her role in family remains limited to the non-economic matters, she more often than not stays away from the financial assessments. To be precise, the high economic dependence among the elderly women arises because of the following issues:

- Elderly women's caring role in her entire life,
- Male supremacy in assets and family unit, and
- Customary social ethics and discriminations with the purpose of limiting their participation in remunerated labour.

It should be noted here that due to demographic factor – women’s higher longevity - they live as widows in most their time without any help. The fact of the matter is that widowhood influences the lack of financial position

of older women as widowed women lose the prospect to get assistance from their spouse's earnings, if their spouses are not employed in pensionable jobs. Moreover, older widows are less probable to remarry than widowers, making them unaccompanied and frequently dependent on the kindness of kith and kin or the assistance of neighbours. Further, due to their higher longevity, they are expected to undergo health troubles during old-age. Amid this backdrop, during disaster, they find Herculean task and are demoralised to face the fury of catastrophes. The unavoidable reality is that social and traditional restriction limits their physical movement that amplify their susceptibility to disaster.

Thus, women and more specifically the elderly women are mostly at risk since most of them live under the protection of males all through their lives – father, spouse, offspring or masculine kith and kin like nephew, brother, uncle. In this way, economic status, cultural practices and other social responsibilities at the time of catastrophe influence the speed of recuperation of the elderly women. Deprived families led by the elderly women find almost little assets to reconstruct their lives following natural disasters.

Elderly and their Needs in Disasters: Policy Considerations

With the increasing natural disasters as well as the escalation of the ageing population, governments and communities should find ways to provide support before, during and after emergencies. Hence, there is a vital need to link older people's everyday vulnerability with the disaster. In view of these responses, I recommend the following propositions for reducing the vulnerability of the aged in disasters.

The first step of diminishing the susceptibility of the elderly comprises of the fact that this group often has less assets and limited capability to get ready for disaster, may undergo uneven fatalities when disaster hits. Therefore, volunteer, the emergency manager and other professional who assist the disaster preparedness, response and recovery must be encouraged to identify the central factors of the increased exposure to hazards such as unequal access to resources which contribute to the vulnerability of the older person (Phillips et al. 2010).

Second, we know that disasters unfurl in stages. In each stage, the emergency manager has to distinctively divide the necessary requirement for the older people to face the crisis. For instance, specific attention must be given during every stage, such as preparing for the disaster, coping with the immediate crisis, reconstructing day-to-day life, and dealing with long-term mental disorders.

Third, successful policies must be started with the identification that the elderly are a diverse group, revealing both the individual characteristics and the changing circumstances in which they live. It must be understood that elderly frequently create important contributions to the wellbeing of their own families and communities. Policies should be developed to promote a culture of constructive intergenerational exchange. Moreover, disaster reduction policies should acquire an inclusive approach. There should be a propensity to find "pension programs, health care and other social services as separate domains",

and to see the safety needs of the elderly as “separate from those of other groups” (HelpAge International 2000).

Fourth, the key consideration for older persons in disasters is their physical frailty. If there are threats to the body, they require more support from others to prevent distress or death. Therefore, attention must be given to the physiologic capacity to preserve physical developments, including brain activities, diseases, injury, environmental stressors, or other causes of potential physiologic instability. Officials looking after elderly in disasters need to judge the above physical development while designing programs to improve the most vulnerable. Most significant problems of older persons are caused by diseases, not by normal aging.

Fifth, with regard to the planning and programming, it is vital to make out the primary factors, which are escalating older people’s vulnerability in disasters. This paper illustrates that infirmity and poor health enhance risk in disasters, nevertheless, economic, political and social marginalization have larger outcome on older people’s capability to deal with and recuperate. There are few classic cases in developing countries like India, Bangladesh, and Pakistan where necessary social security or “subsidized health care programmes” are provided to protect elderly in crises. Therefore, it is imperative that the disaster reduction programmes are planned and executed taking into the consideration of older people in a particular society. In this context, Hutton (2008:26) states:

From a recovery and transition perspective, broader issues determine how older people cope and adjust during emergencies. This reflects the degree to which older people’s needs are integrated into emergency management; for example, ensuring that geriatric medications and disability aids are included in emergency medical stockpiles. However, older people’s health will also reflect their ability and means to re-establish self-sufficiency and maintain their autonomy and independence in daily life. This is likely to depend not only on support they receive from grown children or kinship networks, but also on their access to more formal infrastructural assistance, such as Subsidized health and medicine plans or social pension schemes that can be critical to their daily sustenance.

Sixth, older people must participate in all stages of the disaster reduction plan. Needs assessments should include older people. Planners and community groups should ensure that older people are invited to participate. Meticulous care and concentration need to be given to classify those who are self dependant. In this context, the older women need specific consideration. Thus, impact evaluation should incorporate older people’s views (Wells 2005).

Seventh, bearing in mind the weak and inadequate public health care system, the paper reveals that the elderly have limited access to health services. Their situation becomes worse when they face natural disaster. Therefore, some proposals to assist the elderly could comprise granting decent amounts of

worldwide retirement fund and universal insurance to assist them exist with dignity. The universal pension should enhance with age, particularly for women.

Eighth, older people have specific health risks and needs. According to UN General Assembly (2010) global ageing is recognised as a major driver of non-communicable disease in developing countries where older people are at especially high risk of cardiovascular disease, strokes, diabetes, and dementia. Nevertheless, non-communicable chronic disease is neglected in humanitarian responses, and there are virtually no guidelines for the management of chronic medical conditions after disasters. Therefore, the emergency manager should take special care of the above issues.

Ninth, older persons often have sensory shortfalls, such as impaired eyesight or hearing, and require complete information on emergency preparedness. As earlier noted, many older individuals do not have direct access to or facility with communication system, so information must be supplied in black and white and other forms that can be readily accessed and used.

Lastly, resources for disaster preparedness, crisis response and long-term recovery should be distributed in such ways that reach at the most vulnerable groups, for instance the elderly. However, identifying those most at risks before and after the disaster can be demanding (Philfer et al. 1988). Therefore, emergency management agencies and community organizations can work together for the classification of these groups. Older people are great source for the community, from childcare to leadership. Therefore, a comprehensive understanding of older people's needs and capacities will direct to innovative humanitarian programming.

Conclusion

Natural disasters have been taking place since the beginning of human civilizations; nevertheless, their impact on human beings has been on the rise at the present time. The older people are particularly facing the brunt because of their feeble body as well societal vulnerabilities which do not allow them to prepare for the natural disasters. The paper argues that classifying vulnerable older people and understanding the causes and consequences of their vulnerability is of human concern and a necessary duty of social policy. Therefore, it is high time the community members, government, non-governmental organisations and other international organisations take this issue seriously to save the life of the most vulnerable groups such as the elderly from natural disasters. In a country like India where natural disasters are occurring in almost every month, there is a need to have a think tank to study the problems of the elderly and age related financial economics vis-à-vis natural disasters.

Notes:

- 1 The concept “elderly”, “aged”, “older people” or “aging” are used interchangeably in this paper, which refer the average longevity of people in a particular society or the number of years that people can live in relatively good health (i.e., free of illness and disabilities). In India, we call elderly to the cutoff of age 60.
- 2 HelpAge International and Office of the United Nations High Commissioner for Refugees. *Older people in disasters and humanitarian crises: guidelines for best practice* (2003). Available on <http://www.helpage.org/Resources/Manuals#1118336526-0-10>.
- 3 The Madrid International Plan of Action on Ageing (MIPAA) was approved at the United Nations Second World Assembly on Ageing in Madrid (2002). It offered various proposals to develop the wellbeing and safety of the elderly. The MIPAA acknowledged that vigorous contribution is required for the development of the elderly in society.

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