Natural disaster as a social issue : Comparative review of the 1995 Great Hanshin Earthquake of Kobe-Osaka, Japan, the 1995 Heat Wave of Chicago, USA, and other disasters with reference to Tsunami and Hurricane

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Natural disaster as a social issue: Comparative review of the 1995 Great Hanshin Earthquake of Kobe-Osaka, Japan, the 1995 Heat Wave of Chicago, USA, and other disasters with reference to Tsunami and Hurricane

Junko Otani*

Abstract

The year 2005 was said the year of large-scale natural disasters: the 2005 March and April west coast Fukuoka Earthquakes, summer Hurricanes Katrina and Rita in America following to the 2004 Christmas Boxing Day Indian Ocean Tsunami, and the 2004 Niigata Chuetsu Earthquake. This article is a literature review of the short term and longer term impact of the 1995 Great Hanshin Earthquake of Kobe- Osaka, Japan, and comparative review of the longer term impact of natural disasters in other countries such as the 1995 Chicago Heat Wave and the 1992 Hurricane Andrew. Published reports are mainly medical case reports and epidemiological studies at the time of disasters but there are not many reports of the long-term study other than some mid term study of mental health and psycho-social impacts such as Post-traumatic Stress Disorder (PTSD). The challenge would be how the victims can rebuild their life after the emergency response period. This article attempts a comparative literature review of disasters and community work; the role of the media in social policy making; disaster as a social issue; and community development post disaster reconstruction. Further research on the longer term response to the natural disaster is necessary with the multi-disciplinary approaches; medicine, public health, social work, environment, human rights, and various areas of sociology.

Key words: natural disaster, earthquake, vulnerability, health, social, policy, media, community, housing, isolation, loneliness, mental, gender, reconstruction

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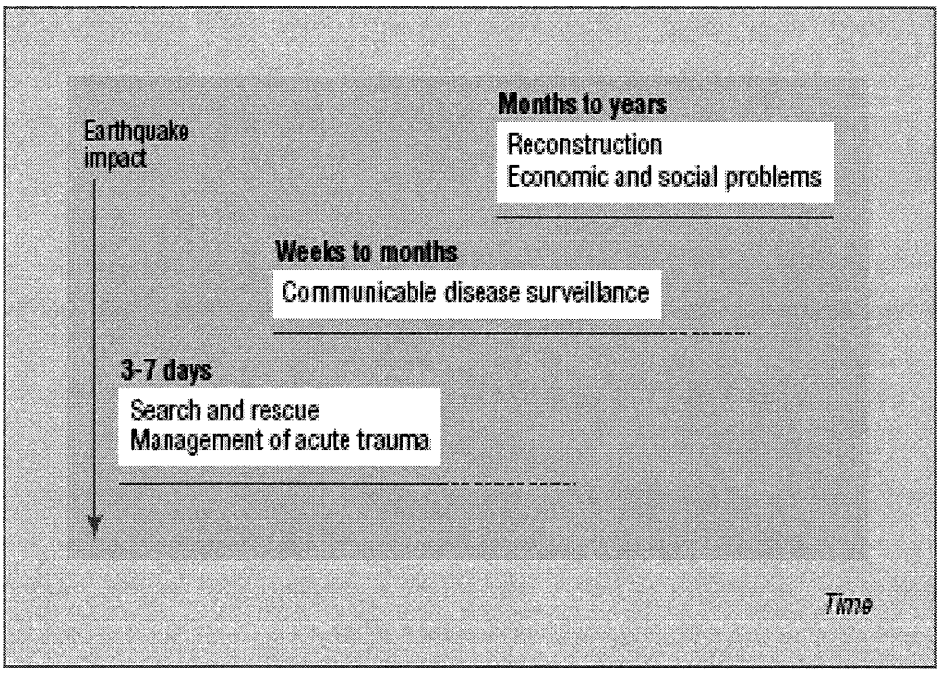
Introduction

Starting with the 26 December 2004 India Ocean Tsunami in the southeast Asia, the year 2005 was said the year for natural disaster, followed by the 20 March and 20 April 2005 Fukuoka earthquakes, Hurricanes Katrina and Rita, August to September, 2005, Hurricane Stan in the Central America on 4 October 2005, India-Pakistan earthquake on 8 October 2005, to name a few. However, the large-scale natural disaster is not a new phenomenon but expected and the international attention has been raised for better preparedness, and as a social development issue (UNDP, 2004). There have been earthquakes, floods, hurricanes, typhoons, cyclones and droughts. There have been heat waves such as the 1995 Chicago, the 1998 Shanghai, and the 2003 France and other European countries. For each natural disaster, the most vulnerable population groups and communities, often under poverty, were brought to the surface (Otani, 2004). The invisible were made visible. Often the case, they were children, orphans, older people, the disabled, and the poor. They could be those who may not show up in the official registration such as migrant workers (Wilson, 2005. Fletcher et al. 2005). They received international aid and media attention but it usually does not sustain for the long time after the emergency period for immediate disaster relief while the victims still remains in the great need to rebuild their livelihood. Figure A illustrates the timing of health needs after earthquake over the time of period. This applies to other types of natural disasters such as Tsunami.

Figure A: Timing of health needs after earthquake



Source: Redmond, AD. 2005

There are massive reports of the medical case reports and epidemiological studies at the time of disasters but there are not many reports of the long-term study. The challenge would be how the victims can rebuild their life after the international aid may left or burnt out. More studies need to be done for the long-term psycho-social needs and responses, long-term development of community infrastructures and community well-being, and rebuilding the livelihood. The author conducted the field work in Kobe at the post-1995 Great Hanshin earthquake communities. This article attempts a comparative literature review with other disasters, having the key literature of the 1995 Chicago Heat wave by Klinenberg, and the 1992 Hurricane Andrew by Morrow, and community study by Taylor, on the topics of: health impact of the 1995 Great Hanshin Earthquake and other natural disasters; the role of the media in social policy making; disaster as a social issue; and community development post disaster reconstruction.

Health Impact of the 1995 Great Hanshin Earthquake and other Natural Disasters

This section reviews published papers, both journal articles and newspaper articles, on the health effects of the Great Hanshin Earthquake, with some comparison with relevant studies from other natural disasters in other countries.

Apart from the Hyogo prefecture health surveys, most authors were concerned with case reports. The aim of post disaster research has been defined by Noji (1997) as assessing the needs of disaster-affected populations, efficiently matching resources to needs, preventing further adverse health effects, evaluating programme effectiveness, and carrying out contingency planning (Noji, 1997). However this rational scientific approach is difficult in emergency situations and has rarely included older people as a specific group, see Armenian and Noji, et al., 1992, 1997; Goenjian, 1997; McDonnel, 1995; Melkonian, 1997 for research on American and Armenian disasters. A non-epidemiological approach has been taken by researchers working on a wide range of disaster areas including Italy, Turkey, Iran, India, the Philippines, Australia, Korea, China, Mexico, Guatemala, Nicaragua, and Egypt as well as USA and Armenia (Carr 1995, 1997; Karanci, 1995; Lima, 1992; Noji 1997; Vanholder et al., 2001). Many of these studies were done in collaboration with a US university or the US Centers for Disease Control and Prevention (CDC) (Noji et al., 1993). Among these papers, the largest number of publications is reported from: the 1995 Great Hanshin Earthquake in Japan; the 1994 Northridge earthquake in California; the 1988 Earthquake in Armenia; and the 1992 Hurricane Andrew in the US.

The populations researched in studies of the Great Hanshin Earthquake are elderly people while the populations researched in most studies of the Armenian Earthquake and from Hurricane Andrew are children and adolescents. There is a concentration on Post-Traumatic Stress Disorder in the Armenian case (Armenian et al., 2000), especially among children (Goenjian, 1993, 1997; Pynoos et al., 1993, 1998; Najarian et al. 1995, 1996), and such epidemiological research was conducted in the eighteen months after the earthquake (Goenjian, 1995). Goenjian (1994) looked at both children and the elderly (Goenjian, 1994), but the bias towards children as a study population may be related to the fact that two-thirds

of the victims of the Armenia Earthquake were under 12 years old (Azarian, 1996. Miller, 1993).

The Great Hanshin Earthquake caused a far greater number of deaths and injuries compared to others of similar magnitude in developed countries and resulted in more than 10,000 deaths. Major earthquakes that have occurred on the west coast of the USA and in Australia are not listed in public health articles because they usually result in less than ten or at most a few dozen deaths only. This difference is not caused by the difference in industrialisation or in economic status per se, but rather by differences in population density and housing conditions.

Looking at health consequences by population groups of different socio-economic background and living arrangements helps us to understand the health effects of the earthquake, because each population group tends to have specific health effects. There is little evidence of this approach in the literature. In Japan the short-term health effects were described by looking at the health of those who were living in the evacuation centres. Many Japanese articles and books report on the stressful living condition at these centres (*Kobe Daigaku Shinsai Kenkyu Kai* (Kobe University Earthquake Study Committee), 1997; Iwasaki, et al. 1999). For example, many survivors were located in a large, crowded school gym with no privacy. It was very cold as the earthquake occurred in January. Emergency toilets were built in the school yards. Many of the elderly restricted their eating and drinking because they did not want to wake up in the middle of night, which would wake up people nearby, to walk to the uncomfortable toilet outside in the cold. This caused many to suffer from dehydration and malnutrition (Tanida, 1996).

Further, reports of the effects of natural disasters have generally been limited to investigations in the period immediately following the disaster. Long term mental health effects are the most obvious exception. However, even in this area, the long-term sequelae have been studied less extensively than short term, even though many suggest the importance of conducting follow-up research on the long-term consequences because there may be a latency period or delayed onset of some symptoms, or symptoms may wax and wane (Bland et al. 1996). Bland introduces a finding from a study by Gleser (1981) of Buffalo Creek

disaster survivors in New York that the relocation impacts of disaster on psychiatric symptomatology may remain for as long as 14 years (Bland et al. 1996). Outside the area of psychology, some suggest that there may be a longer term increase in mortality and morbidity from diseases such as coronary heart disease (Melkonian, Armenian et al. 1997).

Studies of long-term effects may be more difficult to carry out firstly because the focus on the disaster fades as time goes by, and secondly because it becomes difficult to identify and reach the affected population. Many move on in their lives, leaving temporary shelters and resettlement communities and changing their addresses in the course of restarting and reconstructing their lives. In Japan the new living conditions of the displaced people in the temporary shelter housing (TSH) had short-term and longer-term health effects. We also need to keep in mind that short-term effects will often trigger some conditions which are asymptomatic or may have implications for the long-term, but which have not yet surfaced.

Long term problems may be economic as well as health related. The Kobe News survey reports that the average socio-economic status of those who lost their business at the time of Hanshin Earthquake improved in the following one or two years when they reopened their business. However, in the third year, many went into decline and not a few closed down as the whole community was suffering from the destructive effects of the Earthquake and the population decreased.

As to the physical health consequences of the earthquake, there is no epidemiological study available but the clinical features of patients have been reported as: (1) injury such as crush syndrome[1], spinal fractures[2], renal replacement[3], acute renal failure[4] (Iran), and burns; (2)

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[1] Crush syndrome is defined as "*Trauma* and *ischemia* of *soft tissues*, principally *skeletal muscle*, due to prolonged severe crushing of the *tissues*, leading to increased *permeability* of the *cell membrane* and to the *release* of *potassium*, *enzymes*, and *myoglobin* from *within cells*. *Ischemic renal dysfunction secondary* to *hypotension* and diminished renal *perfusion results* in *acute tubular necrosis* and *uraemia*." (Published at the Dept. of Medical Oncology. University of Newcastle upon Tyne © Copyright 1997-2002 - The CancerWEB Project. All Rights Reserved. http://cancerweb.ncl.ac.uk/omd/)

[2] Spinal fractures are defined as "Broken bones in the vertebral column." (ibid.)

circulating system such as hypertension, high blood pressure, and coronary heart disease; (3) digestive system such as haemorrhagic gastric ulcers and peptic ulcer[5]; (4) respiratory system such as pneumonia, and bronchial asthma; (5) metabolic system such as diabetes mellitus; and (6) others including mental stress-triggered recurrent endogenous uveitis. All have shown a disproportionately large number or cases reported from older people. The Kobe University Hospital reported the worsening conditions of all the above kinds of disease suggesting the probable association with the earthquake (Yamamoto and Mizuno 1996).

A report from the Kobe University Hospital showed that among different types of injuries, "crush syndrome"[6] was particularly common in this earthquake in elderly people, in addition to the expected injuries to arms, legs, spine and head (Yamamoto and Mizuno 1996). A group from Osaka University Medical School reviewed the medical records of patients admitted to 95 hospitals within or surrounding the affected area during the first 14 days after the quake (Kuwagata, Oda et al. 1997). Figure 1 shows the age and sex distribution of those 230 patients who agreed to be interviewed, with 140 spinal fractures and 100 with rib or pelvis fractures. The average age was 62.9 years old. As to the sex distribution, 70% (162) of them were aged females.

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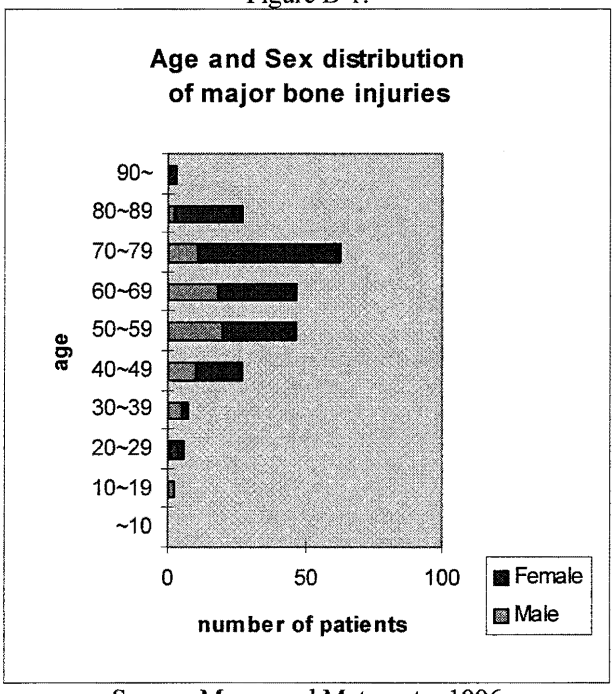
[3] Renal replacement therapy is defined as "Procedures which temporarily or permanently remedy insufficient cleansing of body fluids by the kidneys." (ibid.)

[4] Acute renal failure (ARF) is defined as "<nephrology> A sudden decline in renal function may be triggered by a number of acute disease processes. Examples include sepsis (infection), shock, trauma, kidney stones, kidney infection, drug toxicity (aspirin or lithium), poisons or toxins (drug abuse) or after injection with an iodinated contrast dye (adverse effect).
Chronic renal failure represents a slow decline in kidney function over time. Chronic renal failure may be caused by a number of disorders which include long-standing hypertension, diabetes, congestive heart failure, lupus or sickle cell anaemia. Both forms of renal failure result in a life-threatening metabolic derangement. (ibid). The 1990 Iran Earthquake reported high incidence of ARF (Atef et al.,1994: 35-40; Nadjafi, 1997: 655-64; Eknoyan, 1992: 241-4). So did the 1999 Turkey Marmana Earthquake and the 1988 Armenia Spitak Earthquake (Vanholder et al. 2001: 783-91).

[5] Peptic ulcer is defined as "<gastroenterology> An ulcer in the wall of the stomach or duodenum resulting from the digestive action of the gastric juice on the mucous membrane when the latter is rendered susceptible to its action." (ibid.)

[6] The reason why the high proportion of old people reported crush syndrome was said to be more than a medical reason. In a Japanese household, old people often sleep on the ground floor whereas other family members may sleep on the upper floor. If old people were sleeping on a futon on a tatami mat on the floor, they would have been more likely to be underneath the fallen furniture at the time of the Earthquake.

Figure B-1:



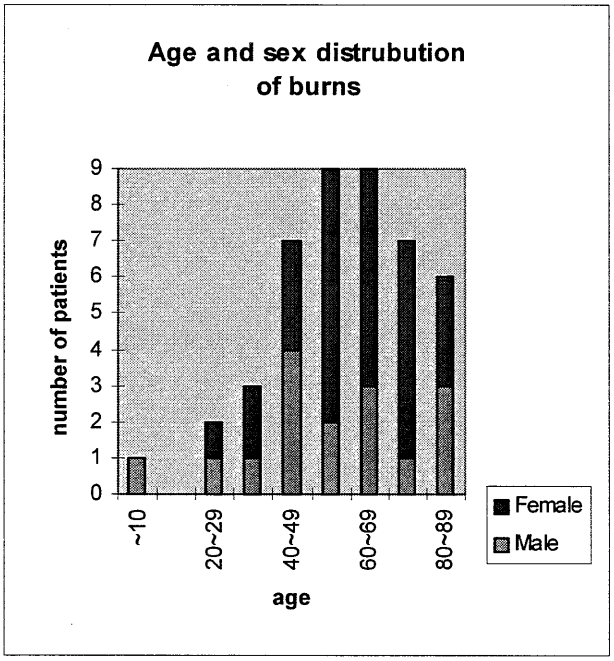
Source: Maruo and Matumoto, 1996

This study is compared with the report from the 1976 China earthquake which resulted in 242,769 deaths and 164,851 injuries. The three major injuries here were crush syndrome, fracture of the pelvis and of the spine. Among the spinal fracture cases, 70% sustained injuries of the thoraco-lumbar spine, and 34% were paraplegic. This high incidence, it is thought, may be due to the collapse of Chinese stone houses, while in Japan houses are wooden. In comparison, the 1988 Armenian Earthquake resulted in 25,000 deaths and 30,000 injuries and reported few spinal or other trunk fractures. In Japan, 995 (59%) of 1675 reported bone injuries were fractures of the spine or other trunk bones, although only 21 (2.1%) had a spinal cord injury. It is suggested that this is due to the Japanese traditional custom of sleeping on futon mattresses on the floor because most were injured when they were getting up from the floor (Shimazu, Yoshioka et al. 1997).

As to burns in the Great Hanshin Earthquake, 504 deaths were listed as fire related, although many of the victims may have been crushed or suffocated before they were burned (Nakamori, Tanaka et al. 1997). Among the 2718 patients of the above medical record

review, 44 patients (1.9 per cent) were hospitalized with burns. Figure B-2 shows the age and sex of the 44 patients. Morbidity increased with age and was higher in patients over 40 years old when calculations were based on the population in the affected area.

Figure B-2:



Source: Nakamori, Tanaka et al. 1997

The Kobe University Hospital observed an increased morbidity from diseases of the circulatory system such as hypertension, high blood pressure, and coronary heart disease, suggesting that this was associated with the excessive stress and the hard work of the emergency (Yamamoto and Mizuno 1996; Kario and Matsuo 1995). Yoshikawa (1995) reported on cases of cardiac emergencies after the Hanshin Earthquake. Congestive heart failure occurred mainly in aged patients who suffered from upper respiratory infection or bronchitis, which triggered the heart failure. Another problem was that they were not able to take their regular medicines under emergency conditions. The average age was 70. The high morbidity from angina could have resulted from the cold and the stress from the evacuation (Yoshikawa, 1995).

A link between emotional stress and sudden cardiac death was also reported from the data at the 1994 Northridge Earthquake in California. On the day of the earthquake, there was a sharp increase in the number of sudden deaths from cardiac causes that were related to atherosclerotic cardiovascular disease. During the six days after the earthquake, the number of sudden deaths declined to below the base-line value, to an average. Leor et al. (1996) concluded that the earthquake was a significant trigger of sudden death due to cardiac causes, independent of physical exertion.

The Kobe University Hospital report and others discuss the association of the rising morbidity of diseases of the digestive system, such as haemorrhagic gastric ulcers and peptic ulcer, with the increase in mental stress and the worsening of living arrangements and eating habits (Yamamoto and Mizuno 1996; Takakura et al. 1997). The Hospital also reported an increase in diseases of the respiratory system such as pneumonia and bronchial asthma, a few weeks after the Earthquake. This could be explained by the fact that the earthquake occurred at the coldest time of winter and the dramatic changes of environment (Yamamoto and Mizuno 1996). Takakura et al. (1997) report the diverse influences of the Hanshin earthquake on pneumonia and bronchial asthma. Following the initial rush of victims with surgical and orthopaedic problems, patients with respiratory diseases increased, particularly among the elderly, within one month of the disaster (Takakura et al. 1997).

Mental health effects could be divided into three categories: short-term mental disorders due to the earthquake shock, the development of latent diseases triggered by the shock and stress of the earthquake, and those symptoms caused purely by the earthquake, including post-traumatic stress disorder (PTSD). In the second category, most frequently reported are dementia triggered by mental stress and environmental change, and alcohol-dependent syndrome. Eczema and allergy are reported both as a result of mental stress and the related decreased immune system.

Although Japan is often subject to natural disasters, the psychological effects on disaster victims have not been widely studied. Only a few have investigated the effects of a volcanic eruption (Kato, et al. 1996). However, for the Great Hanshin Earthquake, many studies have been conducted on post-traumatic symptoms and post-traumatic stress disorder (PTSD), and

this western term became widely used in Japan following the earthquake. Many books on psychological counselling have been published since the Hanshin earthquake. In Japanese society, people have been reluctant to seek psychological help, unlike in the US. It is seen as acceptable to seek other medical treatment but there is still a relatively high barrier against going to a psychiatrist.

Most studies of the psychological consequences of disaster tend to be on the long-term effects rather than the short-term, while most reports on other physical health effects tend to be on the short-term rather than long-term. Studies of the psychological effects have been reported from earthquakes in Ecuador (Lima et al. 1992; Lima et al. 1992), Armenia (Goenjian et al. 1994; Goenjian et al. 1994), San Francisco (Cardena and Spiegel 1993), Italy (Bland, et al. 1996; Bland, et al. 1997) Turkey (Karanci and Rustemli 1995), Australia (Carr, Lewin et al. 1995; Carr, Lewin et al. 1997; Carr, Lewin et al. 1997), India (Sharan, Chaudhary et al. 1996) as well as many from other natural disasters such as hurricanes in the USA (McDonnell, Troiano et al. 1995b).

Research on the impact of disaster on mental health in old age has given conflicting results. The elderly may be best prepared for disaster because of their previous life experiences, or they may be more vulnerable than younger age groups because of their frail health, strong emotional attachments to long cherished property and mementoes lost, lower adaptability than in their younger days, and/or because they tend not to proclaim their problems spontaneously unless they are questioned specifically (Tanida 1996; Gerrity and Flynn 1997). Different studies have reached opposite conclusions. Robertson (1976) concluded that the old and poor were reluctant to use available resources and the shock of a natural disaster seemed to last longer among elderly individuals. The findings of research on post-traumatic symptoms by Kato et al. after the Hanshin Earthquake concluded that the elderly were better protected from the stresses of disaster as compared with the young, contrary to their expectation. At the first assessment in the third week, both subjects younger than 60 years old and subjects older than 60 years old experienced sleep disturbances, depression, hypersensitivity and irritability. During the second assessment in the eighth week, the percentage of younger subjects experiencing symptoms did not decrease, while elderly subjects showed a significant decrease in 8 out of 10 symptoms (Kato et al. 1996).

Kato et al. discussed three explanations for their findings. Firstly, the younger evacuees may have experienced greater psychological stress in reconstructing their lives, the lives of their families and finding new jobs, than the elderly who were retired and receiving a pension. From my personal conversations with the older people in the shelters, they had been living basically on their pensions and some personal savings, or as recipients of welfare (livelihood protection) so job search was not a problem for them either before or after the earthquake. Secondly, the elderly might have established better social networks in the shelters than the younger survivors because they had lived in the pre-earthquake local community for longer. The third explanation relates to previous disaster experiences. Those older than 60 years old at the time of the earthquake were born before 1935, so had lived through the adversities of the Second World War, including severe destruction of cities by heavy bombing, and then through the post-war rapid reconstruction and economic development. The destruction of the area by the earthquake was often compared with the situation at the end of the World War II. The younger subjects were experiencing a large-scale disaster for the first time, so recovery from the psychological impact may have been delayed, compared to that in more experienced elderly subjects. The older people in my research also mentioned that this was their third experience of large-scale disaster, as there was also the Kobe flood in 1917. Kato et al. also discussed other limitations of their study such as the interpretation of the data and the absence of controls. Symptoms such as sleep disturbances and irritability do not necessarily predict the degree of psychological impairment.

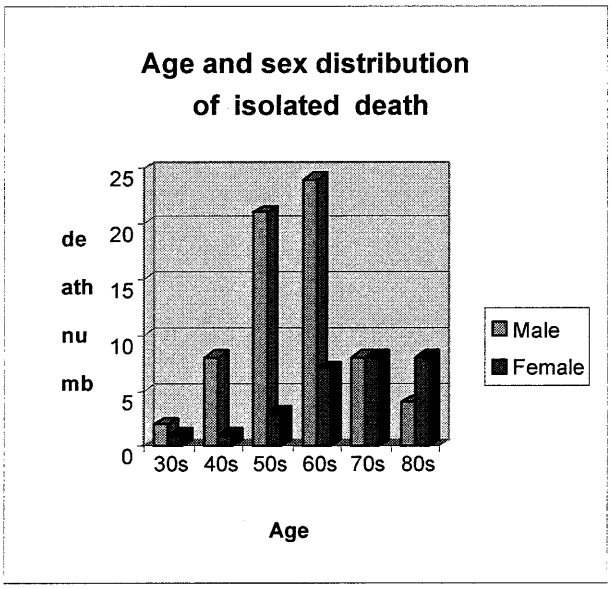
Finally Knight (2000) has pointed out that mental ill health following a disaster cannot be solely attributed to the disaster. For example, in a study of the mental health of older people after the 1994 Northridge Earthquake, prior earthquake experience was related to lower post-earthquake depression scores, and the strongest influence on post-disaster mental health was pre-disaster mental health (Knight, 2000). In Kobe it is possible that older earthquake survivors in temporary shelters, who were a predominantly low income population who had lived alone before the earthquake, were already suffering from depression related to loneliness and isolation, even before the earthquake.

Despite the fact there are more articles discussing the mental health consequences of disaster than other health consequences, there still remain critical gaps in knowledge. In particular we might ask whether loneliness and isolation are long run mental health problems (Gerrity and Flynn, 1997). In a study of the 1997 earthquake in Umbria, Italy, people living in prefabricated huts showed a higher score on the Geriatric Depression Scale and the Hamilton scale for anxiety, and complained more often about their health status when compared with those living in permanent buildings. While all of the participants suffered from the discomforts caused by the earthquake, the precariousness of living in temporary houses could justify the higher distress experienced by those housed in the huts (Mecocci, 2000). This would be consistent with what was observed among people living at TSH in Kobe.

Isolated Death (*Kodokushi*) (lonely death, dying alone)

The word *Kokokushi* was used by the media as an eye-catching and attention-grabbing word for their headlines. *Kodokushi*, or "Isolated death", has been a key word in describing the post-earthquake problem. Doshisha University Life Issue Study group studied the background of the isolated death cases occurring in temporary shelter housing schemes (Doshisha Univ., 1997). As of 24 April 1998, 207 isolated deaths have been reported from the temporary shelters, excluding suicides (Asahi Shinbun Newspaper, 17 July 1998). The causes of isolated deaths varied. In addition to the common cause of death among Japanese such as heart disease, starvation and malnutrition were reported as causes of the isolated deaths. These are not related only to poverty but also to alcohol abuse problems and the mental health problems such as the loss of hope for their future. The number of isolated deaths was 72 for the first year and 70 for the second year, despite the fact that more and more people were moving out from the temporary shelter communities; therefore, the rate was rising. The number of isolated deaths for males is double that for females. The average age of the isolated deaths for males is 55 and 70 for females (Figure B-3); life expectancy for Japanese males is 77 and for females is 83. The isolated deaths of males in their 50s and 60s account for nearly half of the total isolated deaths. This gender and age group is consistent with the most vulnerable group in Eastern Europe and former Soviet Union countries from the health impacts of political and economic transitions in the early 1990s (Goldstein et al, 1996: 9). There is no baseline figure to compare with before the Earthquake because temporary shelter housing schemes were built after the Earthquake.

Figure B-3:



Source: Ueno, Y. *Kobe University, 1997 p.146

The immediate causes of the *Kodokushi* cases included alcohol dependency-triggered liver diseases (43.8% of male *Kodokushi* cases aged between 40 and 60) and malnutrition (Ueno, 1997: 150). The average age of women's *Kodokushi* cases is much higher than that of men's cases. The main cause of the *Kodokushi* cases for those aged over 65 is heart disease. More cases of *Kodokushi* with heart diseases are reported among women (Ueno, 1997: 151).

Media input to policy formation and delivery

It was clear from an early stage that the influence of the media would be important in any study of the aftermath of the earthquake. The Japanese media provide ongoing commentary on population ageing and their output was greatly increased after the earthquake. No Japanese major newspaper has a single day without one good article on an ageing-related topic. Usually there is more than one. The provincial press and TV were able to maintain interest in survivors many years after the disaster partly because of the age of victims and survivors. Public attention to population ageing-related issues is significantly high. Articles about health also appear in the media daily in Japan (Lock, 1996: 208). However little has

been written on the role of the media in social policy. Campbell had shown in 1992 that the media was one of the main actors in health policy change in ageing Japan (Campbell, 1992 and 1996) but this was a pioneering work and more needed to be done.

General social policy books did not discuss the media, nor did the fourth edition of 'Older people in modern society' in the Longman Social Policy in Modern Britain series (Tinker, 1997). The following books were checked:

- Social Policy in Britain: Themes & Issues, Pete Alcock, Macmillan Press, 1996.
- Social Policy towards 2000: Squaring the Welfare circle, Edited by Vic George and Steward Miller, London and New York, Routledge, 1994.
- Understanding Social Policy, Michael Hill, 6th Edition, Blackwell, 2000.
- Comparative social policy: concepts, theories and methods, Edited by Jochen Clasen, Blackwell, 1999.
- The student's companion to social policy, Edited by Pete Alcock, Angus Erskine, and Margaret May, Blackwell, 2001.
- Social Policy An Introduction, Ken Blakemore, Open University Press, Buckingham, 1998
- Global Social Policy: International Organization and the future of welfare, Bob Deacon, Sage 1997
- Introducing Social Policy, Cliff Alcock, Prentice Hall, Pearson Education Limited, Essex, 2000. www.pearsoneduc.com

The textbook, Social Policy, edited by John Baldock et al. (1999) did not have a media chapter, but had a section on the media[7] (pp. 498-508) in Chapter 19: Arts and Cultural Policy by Mark Liddiard. The points relevant to this research project appear on pp 498-499). They are set out below:

- "The mass media are crucial to social policy for a variety of reasons, not least because they often perform an influential role in framing many social policy debates. With the advent of television we are exposed to the mass media more than ever before. In this way, the mass media have become crucial to how we understand the world, and it is perhaps not surprising that some mass media content has attracted concern and condemnation for being offensive and inflammatory. (page 498)"
- "There is often something of an implicit assumption on the part of involved agencies and commentators that media coverage is important for changing public perceptions and helping to change and modify policy. But is this really the case? What kind of impact does the mass media have upon

[7] Subheadings are: The impact of the mass media upon public attitudes; the impact of the media on policy-making; regulation of the press?; Satellite, Cable, and Digital Television; The internet.

public attitudes towards different social problems? The first point, of course, is to recognize that the media are far from homogeneous. (page 499)"

- "It is important too to recognize that the media operate with their own agendas... (page 499)"
- The ability to reach and sensitize so many people to social policy concerns is not to be minimized. Yet the assumption that media coverage of a social issue will have a direct impact upon both public opinion and policy-makers is a questionable one. (page 499)"

Following on from Liddiard's last point, Klinenberg (2002) noted that journalists themselves disagree about the kinds of roles they should play in reporting public events and what policies to follow when deciding what is news.

Although the role of the media was not addressed in general social policy books, there are some books written with a particular focus on the media and social policy (Pharr, 1996; Franklin, 1999; Rubinstein, 1985). Franklin (1999) describes twenty cases of media influence. One case shows that the unrelenting press criticism and misrepresentation of social work has had important consequences. It has demoralised social workers, influenced their professional practice and, by helping to shape public opinion, impacted ultimately on social policy concerning social workers and their clients (Franklin, 1999:3). While the media appear to have had a negative effect on the profession of social work in UK, it is possible that they had a more positive effect of the development of the profession of Life Support Worker in Japan.

In Japan, as noted by Campbell (1992) the media have an important influence on opinion formation. Officials interviewed for this research project, mentioned the media as influential in forming people's views. It may be particularly important to older people. Anne Cooper-Chen found that Japanese older women watch television for 6.5 hours a day and men in their 60s and in their 70s watch four and five hours, respectively (Cooper-Chen, 1997: 106). She concluded that television in Japan provided social welfare services in the absence of other activities for the elderly (Cooper-Chen, 1997: 127). Interviews with older people also showed that the media shaped images and ways that older people see themselves, and ways that others see them (Biggs, 1993). Klinenberg stresses that these images and stories have to be selective. The nature of news requires fast thinking: on breaking news stories, and journalists face intense time pressure (Klinenberg, 2002: 210). Another important feature of

news lies in the selection of headlines and visual images. Headlines are important because they present news in ways that allow for selective reading, and because they suggest which events and issues matter most. Few people have time to read an entire newspaper, but many scan its headlines and photographs as part of their daily routine and read in more detail only those items which catch their interest (Klinenberg, 2002: 213).

Klinenberg also makes the point that representation in media coverage does not necessarily reflect the real world. Editors and producers are always looking for dramatic images for the front-page or lead story (Klinenberg, 2002: 217). For example in post earthquake coverage the word, '*Kodokushi*' (isolated death) was a popular headline.

In 2002, too late for the research design of this thesis, Klinenberg published *Heat wave: a social autopsy of disaster in Chicago*. In this work he stresses the importance of the media. In the first place disasters are a journalistic staple. They rank among the most popular forms of news content. In his social autopsy of a disaster, the media were important for two reasons. One was that the media had created a fear of crime among older people which stopped them from going out. This fear of crime, which older people heard about daily on the radio and television, therefore contributed to their confinement (Klinenberg, 2002: 51). Since Japanese society has an exceptionally low crime rate by international standards this was not an issue for the older earthquake survivors. However fear of unscrupulous sales people was reported as preventing older people from opening the door to strangers in the new PRH schemes, even when the visitor was a potential helper.

The second concern around the media arose from conflict with the government's public relations. According to Klinenberg, the Chicago city administration accomplished a textbook public relations campaign to deny the severity of the crisis, deflect responsibility for the public health breakdown, and defend the city's response to the disaster (Klinenberg, 2002: 168). This campaign to manage the disaster had an impact on the journalistic coverage of the heat wave (Klinenberg, 2002: 184). Again this did not appear to be a problem in Japan. While there were tensions between local government and local communities that were not highlighted in the media coverage of the earthquake, no systematic defensive response by

government was discovered in my research. The message, 'government alone cannot do it all', was not just an excuse from government, it was a reality.

Earlier sections of this chapter showed how the influence of the media is largely ignored in social policy studies, but highlighted the importance of media in social policy in Japan. The contribution of the post earthquake media coverage was to highlight the increasingly important group of impoverished older people living alone in an urban environment. A careful examination of the media images that we usually take for granted can help us to check that the accuracy of our understandings (Cirillo, 1994:173). Discourse analysis of data from the media can show how the real world and the media interact, and how the content of media reporting and analysis change over time and how the degree of influence on social policy varied (Liddiard, 1999). Despite the obvious importance of the media in Japan, Takayose (1999) wrote in the preface of his book "The Great Hanshin Earthquake and Life Reconstruction" that when social problems occur, media and academics concentrate on emotional critiques and rather than aiming to improve policy implementation.

Disaster as a social issue

As noted above, most literature on natural disasters has taken an epidemiological approach, even if the full rigour of epidemiological studies has rarely been achieved. Such studies also rarely focus on older people. One exception is Klinenberg's 2002 study of heat wave deaths in Chicago in 1995. As he says, US epidemiological reports on disaster establish the relationship between morbidity and mortality and socio-demographic variables in the disaster, but they offer little explanation for the deeper questions of why and how issues are related (Klinenberg, 2002). Epidemiological studies showed that in the 1995 Chicago heat wave social contact was a key factor in determining heat wave vulnerability. Klinenberg then examined the questions of which social conditions facilitated strong and effective support networks, and which conditions rendered frail residents even more susceptible to deprivation and isolation (Klinenberg, 2002: 33). Such social contact, called *tsunagari* in Japanese, is what *Minsei Iin* and volunteers in Kobe were trying to achieve for earthquake survivors, especially older people. TV coverage of the post-Earthquake communities routinely headlined the word.

One approach to the social aspects of disaster has been put forward by Morrow (1999) who sees the vulnerability of victims of disasters as socially constructed i.e. it arises out of the social and economic circumstances of everyday living. In her study of the Hurricane Andrew disaster, she identified certain categories of people: the poor, the elderly, women-headed households and recent residents, as the groups at greatest risk throughout the disaster response process. These are socially vulnerable groups even in normal times. Taking an area based approach she found that knowledge of where these groups were concentrated within communities, and the general nature of their circumstances, was an important step towards effective emergency management. Morrow theorised the household as a unit possessing different human or personal resources, such as health and physical ability, relevant experience, education, time and skills with which to combat vulnerability (Morrow, 1999). As a group, it is safe to assume that older residents are more likely to lack the physical and economic resources necessary for effective response to disaster, are more likely to suffer health-related consequences and be slower to recover, even though elderly households vary with age, health, family and economic circumstances.

Another side of vulnerability analysis in the exceptional case of disasters is that it can make visible what is invisible in the everyday world (Varley, 1994). However society, mainly via the media, will choose what aspects to take up. In Kobe the media, as explained above, concentrated on family, community and loneliness, but chose largely to ignore poverty. In Chicago the media were first managed by the city authorities but even so, reporting and subsequent action drew attention to an increasingly important group of impoverished older people who lived alone, and who died alone in an urban environment of affluent North America.

Family change and vulnerability

Family change is one area where the vulnerability of the old may not be fully recognised until there is a disaster. In Japan research has still tended to assume strong family ties (Shanas, 1979). Hashimoto (1996) investigated aspects of happiness among older women and her work included attitudes to independence and family relations but did not cover

community links in any depth. Yamamoto (1998) focused on family relations between mothers and care-giving daughters in law as one aspect of family life. Research on the family with a gendered perspective will be an expanding area of research in the future as traditional attitudes weaken. For example, Morrow (1999) found that although relatives were not likely to be the primary source of assistance in developed nations, they were an important base of disaster-related help for many (Kendig et al., 1991; Haines et al., 1996). In Japan family and relatives can be said to still take more active roles in daily assistance than in other developed countries, but the earthquake showed that many survivors were lacking family support and this was a more serious problem than it might have been in societies where assumptions about family support are weaker and formal sources of support are better developed.

Few academic studies of community care, or community relations as they affect older people, have been undertaken in Japan (Ninomiya,1989), but media attention has been increasing rapidly in recent years. Yazawa and Kunihiro (1999) have pioneered survey research in the area. Ethnographers and qualitative researchers have concentrated on the personal and the family rather than the community (see above). Japanese work on retirement communities and group homes is also limited (see Hatoyama and Yamai, 1999) In addition, English language work is only slowly being translated. For example Ungerson's *Policy is Personal* (1987) was only translated into Japanese in 1999.

Morrow (1999) argued that there are gender differences in responses among disaster-affected people. Gender differences in response to the Hurricane Andrew disaster appeared in assessment and response, household preparation and evacuation, and the use of social and family networks. The research area was southern state of Texas, which would be more conservative than an average large American city, and this would be likely to be accentuated in times of crisis. Morrow noted that it was important to consider women's heavy care-giving responsibilities, both within households and in responding organizations (Morrow, 1999). Sexual stereotypes and expectations which profoundly influence the daily lives of women and men are even stronger in Japanese society. Informal care is largely provided by housewives. Volunteer group members have been largely middle-aged full-time housewives, or those who work part-time only. These roles meant that women survivors tended to have larger networks to fall back on. This gender difference has been observed in many societies

(Alpass, 2003; Perren et al., 2003). Japanese society is not an exception (Otani, 2000; and Yazawa, 1999).

In Kobe, as in Chicago (Klinenberg 2002), the media drew attention to the plight of older men who appeared more vulnerable than older women. Klinenberg argued that men were at greater risk. The elderly, especially isolated men and those who outlive their social networks or become homebound and ill, often suffer from social deprivation and role displacement in their later years. Older women are more likely than men to be poor, sick, and living alone in old age, but they also tend to be less isolated. This does not mean that they do not have problems associated with aging alone (Klinenberg, 2002: 230). Further, as noted above, the media presented those living alone as weak, and drew public attention to old people living alone. There is a strong cultural bias against older people living alone in Japan so this was not surprising. These older people were considered to be one of the most vulnerable groups and they received attention from the local department of health and welfare (Hyogo Prefecture post-Earthquake Health Surveys, 1996-1998. Reports on TSH and PRH by Hyogo Prefecture Nursing College, August 1996, and by Department of Health of the West ward of Kobe City, March 1998).

State and community involvement

Although the destruction of housing and infrastructure were among the most visible results of the disaster, there is more to housing loss than the architectural fabric. Communities with their ties and networks were devastated by the destruction of their homes. For older people in better off parts of the city the house was probably their major financial asset and barrier against poverty (Moser, 1997). However the proportion of the population who received public assistance was above average in the Nagata-ward of Kobe-city before the Earthquake. This was the ward that was most affected by the earthquake, with a very high concentration of disadvantaged people. Many survivors from this area were among the most deprived and they were increasingly concentrated in TSH. Ten percent of those in temporary shelters who were receiving public assistance started to do so after they moved into temporary shelters.

However, a high proportion[8] of those who moved from TSH to PRH had been recipients of welfare since before the Earthquake (Doshisha Report, 1997: 12). This can be contrasted with the fact that in 1994, only 0.7% of the Japanese population was in receipt of some form of public assistance (MOHW, 1996).

Within the existing welfare system, some heads of expenditure rose due to increased demand after the crisis. Temporary shelters and public reconstruction housing played a role in mitigating the poverty of disaster-affected people, but the numbers of recipients of unemployment insurance and of public assistance increased in the year following the earthquake. Central government pays for public assistance although it is managed by the welfare offices of local government.

Medical care was provided free for the people affected by the disaster in the immediate aftermath. Emergency care was given until December 1995, but there were no financial subsidies for long-term medical relief. Elderly people living in the affected area were likely to have to make high co-payments for long-term medical relief as well as pay for the increase in transportation costs due to relocation. After their sudden relocation, mostly to remote and inconvenient areas, many older people had to find a new doctor, possibly one that knew little of their health history and with whom they had to establish new rapport. Fieldwork established that many people who could find their old doctors continued to see them even when they had to spend considerable amounts of time and money to visit them. The family doctors (mostly private small clinic practitioners) in the area were themselves affected by the earthquake. Clinics were destroyed and medical records were lost. Lack of continuity in health care was another example of the destruction of local community networks following the earthquake (see also Bowling, 1991 on the importance of community networks for health in old age.

Older men (and some women) who had not reached pension age received no long run media attention. Many had lost their jobs but their chances of finding new employment to tide them over until they reached pension age were poor. There was no assistance specifically for this

[8] A welfare commissioner in my ethnographic fieldwork mentioned that about 90% of the residents are in this category, but I was not able to obtain the official figure as it is a sensitive area and no official was willing to share the data with me.

group of people who were just below pension age. However, since they have now begun to receive more media attention, measures may yet be developed.

Housing

Class is not a major issue in Japan, but there are social cleavages that relate to income. By the time I started my research, nearly all those in the fieldwork sites were by definition, from the most disadvantaged groups of society. They were poor and poverty is isolating (Klinenberg, 2002: 71). Polarization of housing by income level had existed in Kobe before the Earthquake but it became even more visible in the post-Earthquake reconstruction process (Hirayama, 2000). Government was implicated in reconstruction at different levels. Responding to the special needs of funding for housing reconstruction, local governments made loans available to the disaster-affected people to help to rebuild their houses (Takayose, 1999: 48). The loans were available to those who already had some money to rebuild their homes. However, for those who had no basic money, this programme provided no help. To rebuild a house, age is a major issue because public loans did not cover the full cost and it was necessary to combine different loans. Some people who were too old to qualify for private loans were able to take out loans in the name of their children. This could only be arranged by those whose children were not themselves affected by the earthquake. This also showed another function of children as a safety net. While rebuilding was expensive for homeowners, tenants found the rent for newly constructed houses was more expensive than before the earthquake. Many people had to give up the idea of moving back to their old areas as prices rose.

Housing policy has implications for living arrangements. Temporary shelters and most public houses were designed for nuclear families. In the early stages, some families in the temporary shelters (TSH) explained that they had to separate, as the space was too small for the whole family. It is therefore reasonable to suggest that the post earthquake housing situation encouraged an increase in the number of nuclear families among the population and contributed further to the lack of support for older people. Older men and women who had no family, or no functioning family, and nowhere to go were housed in TSH. This concentration of deprived older people created unbalanced settlements which grew more

unbalanced as the years passed. Writing one year after the Earthquake (Tanida, 1996: 1133-5) said :

> The elderly people had to live isolated in ordinary temporary houses. Furthermore, because elderly and disabled people were initially given priority in the distribution of temporary houses, this well intended scheme produced a community of elderly and disabled people living alone.

Over the next four years the TSH were slowly emptied and those who could not find other housing were relocated to new public reconstruction housing (PRH) schemes elsewhere. The physical condition of public housing in the post-earthquake era was a great improvement technologically on the pre-earthquake housing. This was partly due to the technological advances in the newer buildings and partly because quality regulations for new buildings had become stricter and more thorough. It is also partly because attention was paid to seeking housing appropriate to older people. The concept of housing for older people is still relatively new in Japan.

The housing allocation process that moved survivors out of TSH created newly settled high rise housing schemes that were wholly or partly filled by older people who lived alone. Taylor (2003) has analysed the UK experience of rehousing communities in new towns and new housing estates outside the inner cities after the Second World War. This transfer of significant populations to new neighbourhoods with few facilities and away from their traditional social networks, led to isolation and created a new set of problems (Taylor, 2003: 19). In Kobe city similar problems arose and the local government realised the need to encourage community self-help and local support networks. The intention was that key community workers would encourage residents to help themselves by developing community ties and local activities. They would also build up the capacities of local residents to acquire individual and organizational skills to help them address their problems. The Natsu-Aki PRH research site was an example of rehousing old communities in new towns and new housing estates outside the inner cities. Such relocation to new neighbourhoods led to similar problems of apathy and isolation among the new tenants as Taylor had found in UK (Taylor, 2003). However, in the UK the whole age range was being rehoused, whereas in Kobe it was almost entirely people aged 50 to 90. The limited age range and the

concentration of older people made the process of community regeneration very much more difficult.

There appeared to be some confusion on the part of both the authorities and the media over whether the aim of staff and leaders in the new housing schemes was to provide support to the older residents of TSH and PRH or to enable them to build their own communities. Loneliness (see below) may be one of the most important housing issues for older people (Heywood et al. 58-59), but protective and supportive services to people with limited mobility and extreme needs is a difficult job, even for organizations that are explicitly designed to do this (Taylor, 2003: 105). In a Western Christian country, a neighbourhood church may take a role in reaching out to those who are most isolated and fearful, using networks they already know and trust. But local organizations such as the neighbourhood church may not be able to do this work effectively unless they have financial and material support (Taylor, 2003: 105). In Japanese society, it is *Minsei Iin* who have gained trust through tradition and who take on this role (Takahashi, 1997). The *Minsei Iin* are unpaid volunteers but they are appointed by a formal selection process. It is an honour to be appointed. The person has to be helpful, thoughtful, sensible, wise and respected. The role of *Minsei Iin* has influenced community regeneration and community work. The work of *Minsei Iin* involves contacting people and local government and knocking on doors. The presence or absence of *Minsei Iin* influenced the selection of my fieldwork sites.

Although the role of *Minsei Iin* was well developed, they were faced with new challenges in the resettlement schemes. Rebuilding community meant they needed to develop new skills. Taylor refers to capacity building as applied to both communities and individuals (Taylor, 2003: 198). She notes that it is often assumed that the two will work together in partnerships, but points out that much of the research on community participation suggests a wide ranging lack of the basic capacities for partnership. Her work has led her to conclude that little thought has gone into evaluating the skills that make partnership work. Morrow (1999) on the other hand found that it was important to recognize women as a seriously under-used resource in disaster management and response, particularly in decision-making roles. She documented women's contributions in a multitude of roles, from grassroots organizing to emergency management. Certainly the post disaster phase in Kobe had thrown up new or

extended roles for women working in the community. Life Support Advisors were mostly women and some of the most successful *Minsei Iin* were women, although the post was traditionally a male preserve. Since the fieldwork for this thesis took place five years after the disaster, the importance of women which it revealed can be seen as one aspect of the sustainability of the new strength of the voluntary sector that was associated with the post disaster era.

Sustainable development programmes require involvement and leadership at the local level. This important concept is inadequately applied in the disaster context (Morrow, 1999). The challenge comes with the need to sustain reconstruction programmes beyond the disaster stage. This was recognized as a problem in community generation at PRHs. The key is to have leadership from within the community, not by an outsider volunteer (Otani, 2000a). This bottom-up approach to community development should lead, according to Taylor (2003) to participation and the empowerment of community members and to the emergence of local leaders who are enabled to draw on adequate resources. Her theory involves a conflict approach where she assumes that poor and fragmented communities have to be developed in opposition to the authorities. The Japanese approach is one of consensus where it is assumed that public administration and public servants are doing the best for people. Taylor assumes there is opposition that has to be dealt with in different ways. However the main opposition to community development found that the new PRH communities came from apathy and dependence, not the attitudes of the community workers. In Japan the aim was to get people to participate in traditional activities such as tea drinking and clubs. Top down political membership of committees continued because the main structures of power were not expected to shift. The Japanese emphasis on community generation through social duty is in opposition to Taylor's theory of empowerment in conflict situations.

This does not mean that sustainability of community leadership could not become a problem. As noted by Taylor (2003) successful community leaders were feted, and adopted and promoted by public authority partners in ways that made it very difficult for others to follow them. A number of factors contributed to this. The first was that public sector partners and other power holders too often selected the community partners with whom they wanted to work. Inevitably these were likely to be those whom they found it easiest to work with or the

most easily approachable (the acceptable face of community involvement) (Taylor, 2003: 133).

Sustainability also requires coalitions across neighbourhoods that can provide the space for different groups to come to a common view and thus help to ensure that power holders do not 'divide and rule', playing one neighbourhood off against another (Taylor, 2003: 189). *Mimamori* (Watch-with-care Town development committee) meetings in Kobe illustrated the growth of coalitions between neighbourhoods and communities of interest. These meetings, that again were consensual rather than conflictual, provided an important space where knowledge could be maximised (Taylor, 2003: 200).

Isolation

Klinenberg (2002) raise the same issues of isolation and death as did the media in Japan after the Kobe earthquake. In his case the questions were first, why did so many hundreds of Chicagoans die alone during the heat wave, and second, moving on from the single issue of disaster to the wider question of why so many Chicagoans, particularly older residents, lived alone, with limited social contacts and weak support networks. At a practical level he explored four features of disaster-related urban governance: (1) the delegation of key health and support services to paramilitary organizations that were not designed to deliver them, (2) the lack of an effective system for organizing and coordinating the service programs of different agencies, (3) the lack of a public commitment to provide basic resources, such as health care and energy, necessary for social protection of the vulnerable, and (4) the expectation that frail and elderly citizens will be active and informed consumers of public goods.

None of these issues was wholly irrelevant in Kobe, but equally none was as salient as (1) the absence of family, (2) isolated death, (3) the development of community services and (4) public housing during reconstruction. This difference in the importance of issues raised by the disaster is partly because the scale of the Kobe earthquake was so much bigger, and government was inevitably mobilised from the start. There are also important social differences between Japan and the US in general, and Kobe and Chicago in particular.

Community safety, in terms of crime rates, is very different. Another important difference is 'race'. In Chicago there were big differences in deaths between the black and Hispanic communities even though minority ethnic groups were the hardest hit. Japan on the other hand sees itself as a homogenous society and traditional social caste differences, migration and other intra communal issues are very rarely discussed, even today. Although disasters may lead to a new visibility for previously invisible marginalised members of society, media reports of the earthquake highlighted the presence of poverty and reduction in family ties, rather than any lack of homogeneity in Japanese society. Pre-disaster levels of social cohesion were very different in the two cities. The rapidity of inner city social change and the rise of individualism and breakdown in family ties has not taken place in Japan to anything like the same degree as in the US. The area of highest earthquake damage was one of social stability where a traditionally impoverished community lived in old and relatively unchanged (wood built) houses. This population was also disproportionately aged as in Chicago, but community ties were stronger in Japan. In Kobe, as in Chicago, disproportionate numbers of older survivors were living isolated from their families. Poverty, isolation and loneliness were long run problems and the press took this up as a model for a future Japan when co residence of generations would no longer be the norm.

The issues of aging and dying alone had already started to receive attention in Japan in the early 1990s. The Department of Health and Welfare aired the topic in a report in the early 1990s before the Kobe Earthquake (Okamoto, 1994). Numbers of people living alone are rising almost everywhere in the world, making it one of the major demographic trends of the modern times. However there are differences between living alone, being isolated and feeling lonely. Klinenberg added an extra category, distinguishing between living alone, being isolated, being reclusive, and being lonely. He defined living alone as residing without other people in the household; being isolated as having limited social ties; being reclusive as largely confining oneself to the household; and being lonely as the subjective state of feeling alone (Klinenberg, 2002: 43). Yet these states are inter-related to each other. Klinenberg elaborated as follows: "Most people who live alone, seniors included, are neither lonely nor deprived of social contacts". This is significant, because seniors who are embedded in active social networks tend to have better health and greater longevity than those who are relatively isolated. Being isolated or reclusive, then, has more negative consequences than simply

living alone. But older people who live alone are more likely than seniors who live with others to be depressed, isolated, impoverished, fearful of crime, and removed from proximate sources of support, than the elderly who live with others.

Seniors who live alone are especially vulnerable to traumatic outcomes during episodes of acute crisis because "there is no one to help recognize emerging problems, provide immediate care, or activate support networks" (Klinenberg, 2002: 43). He regretted the lack of policy interest in the growing phenomenon of seniors living alone. On the other hand local authorities in Kobe had already categorised older people living alone as at risk of dying alone, and as a group needing special attention from social services even in normal times (Okamoto, 1994). Evidence from public documents such as health surveys shows how attention was focused on the Earthquake survivors. Kobe had to face an extreme case in terms of the large number of at-risk elderly people who suddenly became visible and the degree of attention demanded.

City residents in the 1995 Chicago heat wave were more vulnerable if they did not leave home daily, had a medical problem, were confined to bed, lived alone, or lacked air-conditioning, access to transportation, and social contacts nearby (Klinenberg, 2002: 80). Anything that facilitated social contact, even membership of a social club or owning a pet, was associated with a decreased risk of death; living alone was associated with a doubling in the risk of death and those who did not leave home each day were even more likely to die (Klinenberg, 2002: 46). Pets were however problematic after the earthquake. Community health workers were recorded as encouraging older men living alone who decided to keep a dog, as it gave them a chance to go out and to exchange words with their neighbours. A TV programme also introduced the healing power of pets for people with traumatic experiences. However pets were officially prohibited in public housing, and a pet could become a source of complaint and cause trouble with neighbours when it fouled the vicinity or barked too much, especially at night.

Gender and isolation

Some of the characteristics of the vulnerable groups identified by public administration can be said to be universal. They are poverty, old age and disability. In most societies vulnerable groups also include large numbers of women (Moser, 1997) and sometimes older women in particular. In Japan, more attention is given to the elderly and the disabled than to the poor (Somusho, 1997). Awareness of gender and gender issues is undeveloped and gender issues are not perceived in the same way as they are in the West. (See for example the Hyogo Health surveys where the emphasis was on 'old people' and very few of the published tables contain any breakdown by sex). More women tend to fall into the status of living alone and falling into poverty in old age than men, but women tend to be good at establishing support networks while men tend to be isolated (Jerrome, 1992; Orloff, 1993; Arber and Cooper, 1999; Otani, 2000a; Perren et al., 2003).

Klinenberg pointed out that the mortality records of the 1995 Chicago heat wave maintained by county and state offices provided useful information concerning the patterns of isolation, and the paradox that older women were far more likely than elderly men to live alone, but significantly less likely to be cut off from social ties (Klinenberg, 2002: 74). Men who live alone are at a greater risk of being isolated and lacking social support network (Orloff, 1993. chapter 3; Fischer 1982: 253; Hoch and Slayton, 1989: 128). Klinenberg analysed the reasons why men have more difficulty than women in sustaining intimate relationships with relatives and friends (Klinenberg, 2002: 75). The gendered division of labour has delegated most family responsibilities and friendship-making efforts to women, while men developed core relationships in the workplace (Jerrome, 1992). When they are no longer capable of working, men often not only lose their habitual identity as breadwinners, but also tend to fall out of their work-based networks and become dependent on their partners' social connections and sources of support (Connell, 1995: 21-27). This pattern is also found in Japan. Widowers and divorced men often suffer from failing physical and mental health after they become single, while divorced women and widows are more likely to gain support from their social networks and suffer fewer health consequences from their status change (Rubinstein, 1986: 20-21). Men also face particular emotional constraints to intimacy and friendship, in part because conventional models of masculinity encourage forms of toughness

and independence that undermine the cultivation of close ties. The literature on men who live alone consistently emphasizes the individuality and detachment that mark their experiences (Klinenberg, 2002: 75; Jerrome, 1999).

Klinenberg identified organizations in Chicago whose mission was to address the problems related to ageing alone and to assist isolated seniors in their efforts to make or remake connections to a world that had left them behind. Such a service was aimed at those who say they have problems of isolation and loneliness. Old friends may have passed on or moved away and social networks have become attenuated. Some identify themselves as lonely and they seek companionship and friendship. The role of the organizations is to become the family and friends the elderly have outlived, never had, or from whom they are estranged. (Klinenberg, 2002: 52). In Kobe, new small organisations started with the same mission as in Chicago, and were seen as part of the upsurge in volunteering that followed the disaster.

Despite this literature that concentrates on later life and the amount of help and support that targets older people, it may still be true that a gendered approach can show that other age groups are even more disadvantaged. In terms of surviving disasters there may be some groups that receive less media attention and are not old enough top be eligible for existing services, who may be even more vulnerable than the elderly. The epidemiology of *Kodokushi* for males was skewed to the 50s age group for men and the 70s age group for women (see Chapter Four, pages 105-106) indicating very great stress on the pre-retirement age group for men.

Klinenberg listed four trends that contribute to the vulnerability of the growing number of Americans who are old and poor: a demographic shift to an ageing population; a cultural condition related to crime and the coupling of it to a culture of fear; a spatial transformation involving the degradation, fortification, or elimination of public spaces and supported housing arrangements such as public housing clusters, especially in areas with concentrated poverty, violence, and illness; and a gendered condition, the tendency for older men, particularly single men without children and men with substance abuse problems, to lose crucial parts of their social networks and valuable sources of social support as they age

(Klinenberg, 2002: 48). All of these would apply to Japanese contexts except for the fear of violent crime.

Klinenberg introduced a 1998 Commonwealth Fund's report, 'Aging Alone: Profile and Projections', highlighting the general aging of the US Society, which captured the US Government's attention as the findings of the report are as follows. A demographic fact is that most seniors who live alone are women, about two-thirds of whom are widows. Class status is a key determinant of isolation and living alone. Two out of every three seniors who are poor live by themselves, a situation that is dangerous because impoverished seniors are twice as likely as financially stable ones to report poor health, have health-related limitations in bathing, dressing, and other daily tasks, and experience depression at least once a week. The combination of isolation and depression often spins into a vicious circle that is difficult to break, since being alone leads to depression, which in turn reduces one's capacity to make contact with others, which then heightens the depression, and so on (Klinenberg, 2002: 49).

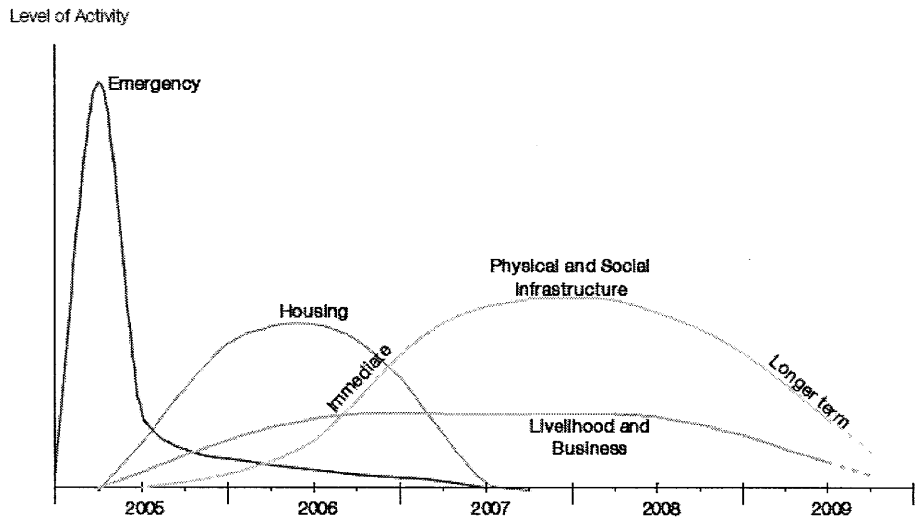
Tsunami and Hurricanes

Academic journal articles on emergency response and medical case reports started to be publicized within one year after each disaster (CDC, 2006. Nishikiori et al. 2006. Byleveld, et al. 2005), so does health policy dialogue (Rosenbaum, 2006, Mattox, 2006, Falk, H. & Baldwin, G. 2006. Fletcher et al. 2005). HelpAge International (2005b) published a research report of the impact of the Indian Ocean tsunami on older people. It discusses the findings in terms of discrimination, rights, livelihood security, social protection and participation and focuses on older people only but the framework could be applicable to other vulnerable population groups. The East-West Center in Hawaii published a sociological cross-country study of Tsunami from the human rights perspectives with policy recommendation (Fletcher et al. 2005). The long-term study of following the 2005 disasters would be available in the coming years. Other than bulk of journalistic reports (Bhalla, 2006. Stone, R.& Kerr, RA. 2005), mid-long term sociological research is not yet available for sharing. Academic journals are calling for attention to highlight the issues such as on mental health care (Cheng, 2006. Bender, 2005. Kostelny & Wessells, 2005. Chattergee, 2005. de Jong et al. 2005.) and on public health leadership (Quinn, 2006. Nates & Moyer, 2005.

Atkins & Moy, 2005). Lessons learnt from the disasters have to be documented so that we can be far better prepared for the next natural disaster and limit the avoidable secondary disasters to the natural disasters. Lessons for rebuilding a community learnt from the Hurricane Floyd in the USA in 1999 was published as an employer's manual as an immediate response to Hurricane Katrina (Weyerhaeuser, 2005). Further studies are required on how to help communities rebuild their life, livelihoods after the emergency period. It should include establishing self-help groups of disaster-affected people and communities, arranging home care for isolated vulnerable people, and supporting income-generation projects (HAIa, 2005).

Figure C: Sequencing of Emergency and Recovery Effort shows the prediction of types and areas of recovery effort changes over time after the Tsunami. Housing needs may remain unsolved longer than the prediction. The Kobe earthquake temporary shelters were meant to be for one year but it took three years to start closing down and it took five years before the last temporary shelters to close down. The better-off people found a next place to live in one year but the socially weak remained in temporary shelters until they were provided a public reconstruction housing if fortunate, or moved, often reluctantly, to somewhere else.

Figure C: Sequencing of Emergency and Recovery Effort (schematic)



Source: BRR and International Partners, Dec. 2005

It is a welcome trend that international aid organizations started to work as international partners (joint reports of international partners, 2005) than work individually, compete, and claim for the organizational credit, which would cause a duplication and waste of limited resources.

Conclusion

A survey of the literature on natural disasters showed that there was a major research gap in terms of analysing the *long term* effects of disasters. Such research as existed was mainly focussed on mental health after-effects, rather than looking at survivors in their social context. The Great Hanshin Earthquake was important because it was the biggest natural disaster that had occurred in a highly developed country. It was unique in terms of the number of people killed and homes destroyed, and so in the amount of rehousing that was necessary in a major urban area. Although, as in most natural disasters, it was disadvantaged groups in the population who suffered most, the Great Hanshin Earthquake was also unique in the very high numbers of older people, who were killed or made homeless. The great majority of survivors who were still in temporary shelters, or only recently rehoused, five years after the disaster were older women. Reanalysis of the Hyogo District surveys of survivors which ran in 1996, 1997 and 1998 showed that although the great majority of older survivors were women, the authorities had not considered gender as an important survey variable. The research project was already scheduled to be a long term follow up of survivors (beginning five years after the event). The review of the literature indicated that there was also a research gap to fill by focusing on older people and looking at their problems, and by including gender in the theoretical framework of the research. The other main research gap identified was the role of the media in social policy making. Campbell had analysed the role of the Japanese media in policy change in 1992, but very little had been written about the influence of the media on mainstream social policy making. However by the final stages of analysis, Klinenberg had published his work on the Chicago heat wave and it was possible to replicate some of his findings on the way the media responded to disaster, and to highlight the cultural differences between Chicago and Kobe.

Key texts by Morrow (1999), Taylor (2003) and Takahashi (1997) combined with Klinenberg (2002) set the framework for the analysis of the fieldwork observation data on community activities in Temporary Shelters and Public Reconstruction Housing. Whereas Morrow and other writers stress the importance of family for survivors of natural disasters, the key issue in this fieldwork was the absence of family. This linked with the theme of social isolation identified strongly by Klinenberg and the Japanese media. The limiting case of social isolation was *Kodukushi* or isolated death, which had to be interpreted in specifically Japanese terms of its importance, both to the media and to community development workers, was to be understood. The community development literature revealed a tension which was important in understanding post earthquake attempts at reconstruction. Western authors, taking Taylor (2003) as a key text, were in favour of bottom up approaches. In contrast the Japanese tradition of community involvement was both top down and male led, though the gendered distribution of power was seen as natural, rather than an aspect of analysis. However the disaster had thrown up new needs and new conditions that challenged the traditional Japanese model. The literature was mainly concerned with communities that were balanced in terms of age and sex, though not in income mix, while the post earthquake settlements five years on, whether TSH or PRH, were heavily skewed to represent survivors without families. These people were predominantly past pension age, women, and low income. The demographic challenge to community building was intensified by the choice of high rise flats as the only possible way to rehouse so many people in restricted land areas. As a result, neither the Japanese traditional model of community activity, nor models of community development fitted the research data, but both were useful in highlighting the characteristics of post earthquake attempts at community building among the survivors. Attention to gender was essential.

This article in reviewing concepts of disaster as a social issue, media influence, housing, isolation, loneliness, and community work in literature from USA and UK was helpful in understanding Japanese society. Many of the terms used in the West are the same as those used in Japan but their meanings are contextual, being closely related to culture, and so do not translate directly to the case of a Japanese disaster. The review also identified social differences in Japan as compared with other cultures. These differences include the low

prevalence of violent crime in Japanese society compared to the US, and the lack of visible race and class issues in the social structure in comparison with both the US and the UK.

This literature review was mainly based on published articles of immediate medical and health impacts of the 1995 Great Hanshin Earthquake and the mid and longer term effects of the natural disasters in 1990s. This makes a contribution to the knowledge when looking at the longer-term effects of the recent large scale natural disasters such as the 2004 Niigata Chuetsu Earthquake, the 2004 Indian Ocean Tsunami, the 2005 Hurricanes Katrina and Rita, and the 2005 Fukuoka Earthquake.

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