

## Chapter 2

# Kobe Earthquake: Turning Point of Community-Based Risk Reduction in Japan

Rajib Shaw

**Abstract** The Great Hanshin Awaji Earthquake [popularly known as Kobe Earthquake] is considered as the turning point of community based approach in Japan. Data shows that communities played the most vital role in immediate rescue operation. Communities also facilitated the temporary housing lives, and short- and long-term recovery. New dimensions of civil society emerged through the recovery program, where a stronger bond of local government and resident association was observed. Kobe city government started new innovation of school-centered community building, linking the social welfare and disaster risk reduction. “Bokomi” [disaster prevention and social welfare community] is considered a unique sustainable approach to engage communities to risk reduction activities and to enhance collaboration with the local governments.

**Keywords** Bokomi • Kobe earthquake • Local government collaboration • New civil society • School community linkage

## 2.1 Introduction

The Kobe earthquake with a magnitude of 7.2 on the Richter scale, and with a depth of 16 km hit the city of Kobe and its surrounding areas in Hyogo Prefecture on 17 January 1995 at 5:46 AM. The total number of casualties exceeded 6,400, with numerous injuries and victims of other collateral damages. Buildings and infrastructure were severely damaged, and more than 200,000 people had to find temporary shelter in different parts of the city. Within Kobe city administrative area alone,

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R. Shaw (✉)

Graduate School of Global Environmental Studies, Kyoto University,  
Sakyo-ku, Yoshida-Honmachi, 606-8501 Kyoto, Japan  
e-mail: shaw.rajib.5u@kyoto-u.ac.jp

70,000 buildings completely collapsed, and 55,000 were seriously damaged. Public facilities like city offices, schools and hospitals were also damaged extensively, which rendered the city services paralyzed for several days. Utility services were also interrupted: electricity services were out of order in the entire metropolitan area, 25 % of the telephone services did not work, water and gas services were disrupted throughout the entire city. At several locations, severe fires broke out, and 7,000 buildings were completely burned, resulting in more than 800,000 m<sup>2</sup> of burnt areas. The damage to social and industrial capital stock was estimated at seven trillion JPY within Kobe city. Secondary and tertiary losses in the city and other parts of the prefecture were much higher (Nakagawa and Shaw 2004).

Damage caused by the Kobe earthquake was concentrated on low-income old people living in the inner city, making this the first disaster that an ageing “modernistic megalopolis” in Japan has faced (Miyamoto 1996). Urban area reconstruction faces intricate problems because of its complex nature, and the social, economic and cultural context. After the event, both financial and human resources arrived in the affected areas, however, the challenge was to their sustainability. The rationale for community involvement or community-based activities is now well rehearsed (Twigg 1999). Because community-based activities (and community-based organizations) are deeply rooted in the society and culture of an area, they enable people to express their real needs and priorities, allowing problems to be defined correctly and responsive measures to be designed and implemented. Twigg (1999) also argued that the existence of community-based organizations allows people to respond to emergencies rapidly, efficiently and fairly, and therefore the resources will be used economically. Maskrey (1989) pointed out that “top-down” programs in which communities are not involved tend not to reach those worst affected by disaster, and may even make them more vulnerable. Both in developed and developing countries, at the time of emergency, largely ad hoc responses by loosely knit groups from within communities are observed, before formal organizations are able to mobilize. These groups play important roles in disaster response and reconstruction process (Raphael 1986).

The rehabilitation of Kobe started on 17 March 1995 with the announcement from the Hyogo Governor on “Designation of Land Readjustment and Redevelopment Areas” (*Toshi Keikaku Kettei* in Japanese). The designation was open to public inspection for 2 weeks and residents and concerned persons could object to the plan via written documents. The City of Kobe designated six readjustment and two re-development areas but soon after the announcement many heated arguments arose among the residents from those designated areas in the plan. The designation was in many ways controversial. The decision was made without any consultation with the residents. Although it was open to public inspection, little flexibility was seen on the city/prefecture administration side regarding any changes to the plan. Naturally, the negotiation between residents and the administration became bogged down in some areas and the rehabilitation was delayed (Nakagawa and Shaw 2004).

In the earthquake-affected areas, those designated for land readjustment and redevelopment were termed as “black zones” and other areas were called “white zones” by the stakeholders (Nakagawa 2003). The division depended on the level of

commitment and involvement of public agencies toward the rehabilitation. Thus, there were many differences in official support for the rehabilitation in these two zones. In “black zones”, property owners needed to make sacrifices for land adjustment or redevelopment to proceed, however, the government provided the physical rehabilitation such as building wider roads and parks; and normally the environment was improved incorporating disaster management aspects. But in “white zones”, narrow roads remained narrow and some illegal construction during the confused period made the environment even worse than before. Also, the government provided practically no financial support. In addition, some special preferences were given to “black zones”, for instance in the sale of land up to 50,000,000 yen (US\$1 = 100 yen in 1995) and the exchange of land were tax-exempted (Kinmokusei International Project 1999).

However, the most important difference was that in every “black zone”, “Machizukuri” (Town Development) organizations were formed. A machizukuri organization is an organization consisting of residents, private agencies and others with an interest in the area’s restoration. In Kobe, most of the machizukuri organizations were formed based on the existing community organizations such as neighbors’ associations. Machizukuri organizations provide very important “opportunities” for community members to discuss future city planning and this was the first step to community participatory rehabilitation. Machizukuri organizations also acted as the interface with city officials and city planning consultants. Consultants and advisors also played a big role in the rehabilitation process. Consultants were dispatched to each machizukuri organization and provided technical and professional knowledge on city planning. In contrast, in the “white zones”, the forming of machizukuri organizations was not mandatory since the areas were not designated as the official project locations. In spite of many difficulties, several machizukuri organizations were formed in the “white zones”, but many were not officially recognized under the ordinance. There were areas called “gray zones” where these machizukuri organizations had existed before the earthquake for different development projects in the urban areas. However, as in the “white zones”, “gray zones” were not entitled to the special preference mentioned earlier for “black zones”, this resulted in similar situations as those in the “white zones” (Kinmokusei International Project 1999). Every machizukuri organization faced various difficulties in the reconstruction process, and there were obvious differences in the speed and the degree of people’s involvement among the communities. In some areas, negotiation between residents and government was prolonged on issues such as the amount of land that owners in land-readjustment districts should contribute for public improvement, which resulted in an even split of machizukuri organization into several residents groups.

In this chapter, some of the key community based issues and approaches in post Kobe have been discussed. Kobe is often considered as the year zero of volunteer activities in Japan, which is discussed first. The emergence of a new civil society model is discussed from a neighborhood-based approach. Finally, the welfare based model is discussed as a sustainable community involvement model which emerged from Kobe.

## 2.2 1995: Year Zero of Volunteer Activities in Japan

Japan's non-profit sector has a long history, starting from the Meiji era in 1898 with the enactment of the civil law code, which established regulations for public interest corporations (Matsubara and Todoroki 2003). The main aspect of the public interest corporation system was that government would regulate these organizations. After the establishment of the code, during the last 100 years, the concept of NGOs and civil society has changed, although most of the time it was under the control of the government. Deguchi (1999) pointed out three different conceptions of civil society in Japan. Termed *shimin sakai* in Japanese, one meaning assigned to it is the modern society that emerged in the wake of the French Revolution as defined by Western liberal political thinkers. Thus, many Japanese associate this term with the French Revolution. The second usage was a by-product of Japanese political ideology after the Second World War. During this era, Japan's leftist intellectuals believed that Japan was moving towards a socialist society in which the leading role will be played by the *shimin* or citizens. From the end of the Second World War until the 1980s, the term *shimin sakai* was most commonly used in this sense. The third usage of civil society corresponds to a society in which voluntary organizations or non-profit organizations (NPOs) play an important role. This meaning came into existence in Japan only after the 1995 Kobe earthquake (Shaw and Goda 2004).

After the Second World War, Japan experienced extremely rapid economic growth. Some people argued that this was because of the so-called "Iron Triangle"; the three angles of which are politicians, business leaders and government officials. The triangle worked very well until the 1970s. It is called 'the 1940 System' by some scholars (Noguchi 1995), which turned Japan into a highly centralized, bureaucrat controlled society. However, the system began losing power when the government could no longer offer enough of the requisite social services and proposed their privatization. Major grant-making foundations established in 1970s, such as the Toyota Foundation (1974), Suntory Foundation (1979) and the Nippon Life Insurance Foundation (1979) began to support volunteer activities. The Plaza Accord of 1985 brought a rapid appreciation of the yen, which obliged Japanese business corporations to establish production bases abroad, especially in the US. Through contact with community leaders in America, Japanese business leaders became acquainted with the concept of corporate citizenship (Imada 1999). The period from the late 1980s was one of material abundance in Japan after long economic growth. As a result, Japanese people began to want more spiritual and human satisfaction rather than only material satisfaction. A combination of a gradual awareness among Japanese of community participation and exposure of Japanese business leaders to corporate citizenship, urged the Keidanren (Federation of Economic Organizations) to send a study team to the US in 1988. As a result, the "1 Per Cent Club" was established within Keidanren in April 1990. The 1 Per Cent Club was a voluntary association composed of corporations willing to donate 1 % of their earnings. By September 1997, individual membership in the 1 Per Cent Club reached 1,225, while corporate membership was 281. In 1990, the Osaka Chamber of Commerce and Industry published a report on community foundations. A year later, the Osaka Community Foundation was established by an initiative

from the Chamber of Commerce and Industry. In 1993, the Philanthropy Link-Up Forum was established in Osaka. The forum began training partnerships between business corporations and NPOs. Thus, 1990 is often called the year of philanthropy renaissance (Imada 1999).

At this juncture, the earthquake hit Kobe city and adjoining towns in the Hyogo prefecture, which accelerated the process of civil society and voluntary activity in the affected area and gradually on to other parts of Japan. The extensive nature of voluntary efforts in this particular earthquake is attributed to: severity of the disaster; tremendous need among the victim population; intensive media reporting; and finally, the fact that the earthquake occurred during the local schools' winter break (Tierney and Goltz 1998). More than one million volunteers from different parts of Japan and abroad came to Kobe to serve the victims. Local governments were not prepared for this disaster, nor for the huge influx of volunteers. They had different types of relationships with these organizations: some city governments cooperated with these organizations effectively, some recognized them, but officially involved them in only limited capacities, and some even did not recognize them officially. Whether officially recognized or not by the local governments, the high spirits of volunteers were reported by the mass media extensively.

One year after the earthquake, Hanshin/Awaji Community Fund (HACF) was established in May 1996. The initial amount of the fund was 800 million yen (approximately US\$8 million), which was supposed to be spent in 3 years by three different categories of grant: community redevelopment programs, philanthropic programs and NPO activities. In the same year (1996), the Japanese NPO Centre was established to support NPOs all over Japan. Nowadays, many similar organizations have been established to support the activities of smaller NPOs. After the earthquake, a new law was enacted in 1998: 'law to promote specified non-profit activities'. While victims and citizens in Kobe after the quake did not have time to join in lobbying for this law, they were very interested in lobbying for the financial assistance, which in turn led to the enactment of another law: 'law to support disaster victims' in 1998. The spirit of civil-society activities, which gained high momentum in the immediate aftermath of the Kobe earthquake, continued to be strong in the environmental disasters, which followed, like the oil spill in the Sea of Japan and Tokyo Bay of 1997, where thousands of voluntary groups helped each other to mitigate the environmental degradation of the sea. Thus, there were two consequences of the Kobe earthquake: an emerging sense of self-governance, and stronger sense of community solidarity (Tatsuki and Hayashi 1999). These two elements brought new dimensions to civil society in Japan.

### 2.3 Post Kobe New Civil Society Model

Past disaster experiences show that immediately after the disaster, there are a "utopia of voluntary activities", which get settled as time passes. The next disaster strikes after the memory of past disaster events has faded. Cooperation with other sectors, especially to establish links between community organizations and professionals is an essential feature. Buchanan (1996) pointed out the difference between

the roles of NGOs as outside agencies, and those from the perspective of community associations or membership associations. He also commented that although NGOs may see themselves as genuine partners of the local community and its organizations, in many cases the same view is not shared by the people. Community participation requires shared understanding between community members and the specialists from outside (including the NGOs and the disaster professionals) who aim to assist them (Twigg 1999). Inui (1996) provides examples from the Mano district in the affected areas of Kobe which exemplify the above factor in the form of a support network with the following activities: surveys of building safety, advice on buildings, building repair and cooperation in a professional joint reconstruction plan. The key issues for success are cooperation with the local community and an increase in the capability of the recipient community. As explained by Shaw and Goda (2004) with a case study in a small neighborhood of western Kobe, the formation of community organization [Danran] is an example of how to institutionalize the efforts at community level. The case study exemplifies how the community organization can generate its own resources through proactive participation in new community business. The problem of an ageing society may be unique in Japan, but the issues and processes of community involvement are universal, and can be applied elsewhere.

Based on the recovery experiences of Kobe, Shaw and Goda (2004) listed a few key lessons as follow: to incorporate the community into the decision-making process; to re-examine the values and traditions rooted in community and culture; third, to find the source of business opportunities in the community and thereby enable community-based organizations to sustain their efforts; and fourth, to promote community leaders to take action. A study of school children from different parts of Japan (including the affected areas of Kobe) suggest that while 70–80 % of them participate in disaster education and 60–70 % of them have high perceptions of earthquake risk, only 10–15 % of them actually take any action to reduce risk (Shaw et al. 2004). In the model of knowing, realizing and acting, there is always a gap between acquiring knowledge, perception and taking action. The results of the study also suggest that it is not the earthquake experience, but the community and family education, which are more effective in motivating a person to take risk-reducing action. Thus, future community participation should be aimed at teaching people effective risk-reduction measures.

The sustainability of civil-society action is another major factor, which needs careful attention. Figure 2.1 schematically shows the observed scheme of sustainable civil society, as evident from the experience of the Kobe earthquake (Shaw and Goda 2004). The residents' association supplies an important interface between community and administration with the help of professional and non-professional organizations like NGOs, NPOs and CBOs. Since this scheme generates its own resources within itself, the process is found to be sustainable. The association is also found to be effective in collective decision-making, and to represent the voice of the community. During the disaster events, this scheme is found to be useful, as exemplified by experience from other areas with different disasters in Japan, including flood and typhoon.

## Future Civil Society

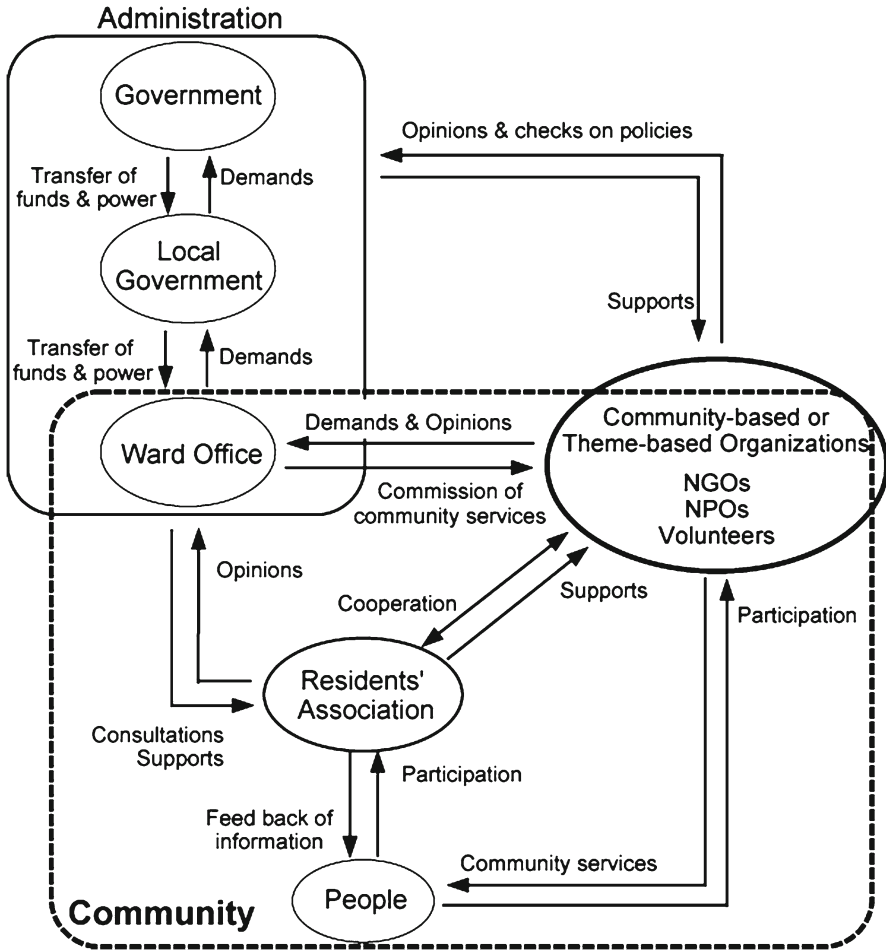


Fig. 2.1 Schematic diagram of future civil society as evolved from the recovery of Kobe earthquake

### 2.4 BOKOMI: New Sustainable Approach of Community Involvement

From the Hanshin Awaji-Earthquake, it is obvious that the age group of over 65 year-old is one of the most vulnerable groups in particular living in the density area with old houses. Learning from these findings, the Kobe City Government has been conducting an important initiative for developing “BOKOMI” with the aim to building resilience of its communities against disasters. BOKOMI is the short term of “Bousai Fukushi Community” [Disaster preparedness and welfare community],



where the disaster preparedness is linked to daily welfare of the people. It was understood that the needs of the aged community is daily welfare. Therefore, to continue to the disaster preparedness activities, it is required to link this to welfare activities.

After the pilot phase in 11 districts, the BOKOMI concept was formalized in 1997 according to the Mayor's decision, and mainstreamed in all the school districts of Kobe City. BOKOMIs are established based on municipal elementary schools districts in Kobe City (Matsuoka et al. 2012). The total number of municipal elementary schools is 191. The number of BOKOMI steadily increased and reached 100 % coverage in 2008. The reason why BOKOMIs are based in elementary school districts is because 'welfare-community' groups were already established in each elementary school district and thus, disaster prevention activities could be integrated into these existing groups. In addition, elementary schools are designated as evacuation sites for communities in emergencies in Japan. These are the key reasons why BOKOMIs are established in each elementary school district.

The process of establishing BOKOMI in a district is based on multi-stakeholder consultation in the district. Firstly, the establishment of a BOKOMI is discussed and agreed by local government organizations, including the local city office (ward office) and fire station, together with leaders of local residents and other local multi-stakeholders. BOKOMI is a community-based organization comprised of local residents' associations, women's associations, elderly associations, child committee member, youth associations, PTA, local fire station, and local business entities. In order to support activities of BOKOMIs, the Kobe City Government provides various support measures like small funding, materials for community activities, rescue tools, training by fire professionals etc.

Main activities by BOKOMIs have two perspectives: disaster prevention and risk reduction activities and welfare related activities. These activities are combined and carried out together. Disaster-prevention and risk reduction activities by BOKOMI are as follow:

- Disaster drills and training
- DRR education program with schools
- BOKOMI junior team (fostering children's teams to lead and work on DRR activities)
- Public awareness event
- First-aid seminar, checking emergency materials and equipment
- Town watching and preparation of community safety map, risk reduction activities with rescue workers and fire fighters (identification evacuation route, removal of object blocking these routes, fixing furniture etc.)

Combining with welfare activity are as follow:

- Regular communication within communities to form their unity, so that they can take action, when emergency/disaster happens, considering needs of vulnerable groups such as elderly and disabled people.
- Learning how to support the people with special needs during disasters (elderly people and handicapped people).



## 2.5 Discussion

Immediately after the earthquake, most affected people were helped or rescued by friends, families and neighbors. Almost 60 % of residents were evacuated by their own efforts, and more than 30 % were rescued by the neighbors. This data indicates the importance of communities and neighbors in the immediate rescue operation. The main reasons local people are so effective in rescue activities are: information and knowledge of the community leadership within informal and formal community-based organizations; availability of small tools for rescue operation such as saws and crowbars.

After the rescue operation, the relief-and-rehabilitation phase began. In this, thousands of volunteers gathered from different parts of Japan. Different voluntary groups had coordination centers focused on different parts of affected areas. Needless to say, the prefecture, city and local governments had their coordination centers as well. In some places, there was cooperation with the NGO networks, in some places they acted independently. It is observed that while the role of outside volunteers gradually decreased in the temporary shelters, the local volunteer activities continued into the permanent housing phase. Changes were also noted in the nature of the volunteers. While non technical activities continued until the move to permanent housing, technical and networking work emerged at later stages of the reconstruction process.

The relief phase was followed by the reconstruction phase, in which government took the leadership. Roles of voluntary organizations became minimized in certain areas, which was attributed to: lack of sustained resources; lack of motivation to continue the efforts; changes in the organizational mandates (some organizations focused on rescue and relief only); and lack of technical skills to contribute to the reconstruction process. Among different activities, the creation of temporary shelters, identifying special zoning areas, restoring lifelines and infrastructures were the priority issues. From the government perspective, the reconstruction phase lasted for 3–5 years, until the housing and infrastructures were fully reconstructed. However, according to the people's perspective, the reconstruction phase it continued for several years.

Kobe earthquake has changed the concept of disaster risk reduction in Japan. Earlier, the role of civil society or the NGOs in Japan was to be a watchdog in government activities. However, the recovery process has shown it is the government-NGO collaboration, which can make a successful and sustainable recovery. No government, either in developed or developing country, can do risk reduction by itself. It needs collaboration, cooperation from different sectors. In past Kobe, the emergence of new civil society is a very important movement, Japan has experienced. The civil society played a very important role to bridge the gap of government and community. As explained earlier, the CSOs also played important role with the local resident organizations to provide them different types of help and support from different professional expertise. The local governments started new schemes to provide financial supports to the CSOs and NGOs to conduct professional work along with the local communities. This is considered as a

new development in redefining the roles of CSOs and NGOs in Japan, where professionalism came quite strongly. A combination of “humanitarian heart” and “development brain” was the ideal future of CSOs and NGOs working in the disaster related field.

The volunteer coordination system also developed very strongly after the Kobe disaster. While, in post Kobe there were different levels of confusion and lack of information flow and lack of coordination, bringing these lessons further, nation wide volunteer coordination center was established. A volunteer roster and registration system was developed, where people can register themselves as potential volunteers before a disaster happens. The volunteer database is shared closely with the local governments, and a coordination mechanism was developed to dispatch the right volunteer to the right place based on the local needs. Thus, Kobe earthquake is considered to make different changes in community work, volunteer work, role of CSOs and NGOs etc. Much of these efforts showed positive response in different other post Kobe disaster events in Japan.

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