

Roles of Volunteers in Disaster Prevention: Implications of questionnaire and interview surveys

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1 Introduction

In Japan, a country prone to natural disasters, community organizations such as volunteer fire corps and flood-fighting organizations have assumed a role in preventing disasters. To enable rapid early relief activities in the event of a disaster, local disaster prevention efforts must be made in normal times. Local residents as well as government authorities also need to participate and cooperate in devising ways to protect communities so that residents' efforts can be reflected in administrative planning. It has been pointed out (Cabinet Office, 2002), however, that the ability of communities to prevent disasters has declined as nuclear families have become predominant, traditional communities have declined, and the number of solitary elderly people has increased. Despite such decline of communities' preparedness to disasters, the number of people volunteering to participate in relief activities has increased in the event of disasters in recent years.

More than ten years have passed since the Hanshin-Awaji Earthquake of 1995, which was said to be the first year of volunteer activities in Japan, and volunteer activities in times of disaster are no longer matters worthy of special mention. Today, there are several nationwide networks established by disaster volunteer groups, and their relief activities performed through nationwide networking are proving successful. It is therefore important to study the activities that are actually performed by these disaster volunteers, the problems being encountered by them, and the role that they now play in disaster management in terms of facilitating communities' preparedness to disasters through all cycle of them.

To study these subjects, questionnaire surveys and interview surveys have been conducted. The questionnaire surveys were done in the areas affected by the Niigata Heavy Rain, the Fukui Heavy Rain, and Typhoon No. 23 and Heavy Rain in 2004. The interview surveys were done in the areas affected by the Niigata Heavy Rain and the Niigata-ken Chuetsu Earthquake in 2004.

In this chapter, first we summarize the history and state of disaster volunteers in Japan (Section 2). Second, on the basis of the results of the questionnaire surveys and interview surveys, we discuss current disaster volunteer activities and the challenges being encountered (Section 3). We then discuss what disaster prevention efforts should be like in the coming years on the basis of the study results obtained thus far (Section 4).

2 Past and Present of Disaster Volunteer Activities in Japan

Numerous volunteer workers have been involved in disaster relief since the Great Hanshin-Awaji earthquake of 1995 and the oil spill off the coast of the Japan Sea of 1997. Today, volunteers are essential to disaster relief. Nationwide networks of disaster volunteer groups have been established. The “National Earthquake Disaster Network” was founded in November 1997 composed of a dozen member groups nationwide. “Japan Disaster Relief Network (J-net)” was organized in January 2000 with twenty-odd members all over Japan (Fig. 1).

Disaster relief activities by national networks, although still at a trial-and-error stage, have been steadily producing effective results. For example, volunteers began exchanging information and helped establish volunteer centers in affected areas immediately after the Tokai Heavy Rain of 2000, the eruption of Mt. Usu in Hokkaido in 2000 and the earthquake centered in the northern part of Miyagi Prefecture in 2003. When floods occurred in many parts of the country in 2004, disaster volunteer centers were established in affected areas and volunteers participated in relief activities. According to published figures (FDMA, 2004; Ibaraki Social Welfare Council, 2004), the number of volunteers who participated in relief activities was about 45,000 in Niigata Prefecture at the time of the Niigata Heavy Rain, about 58,000 in the Fukui Prefecture at the time of the Fukui Heavy Rain, and about 22,000 in the Hyogo Prefecture at the time of Typhoon No. 23, respectively. From a practical viewpoint, it is of great significance that various groups have been seeking relief activities more focused on victims and making efforts to participate in timely activities via networks.

Behind the active formation of networks of disaster volunteer groups was the difficulty in maintaining volunteer activities under normal conditions. Boy scouts, YMCA and other numerous existing volunteer organizations were involved in relief activities different from those under normal conditions during the Great Hanshin-Awaji Earthquake (Nishinomiya Volunteer Network, 1995). In business circles, the labor union of Matsushita Electric Industrial Co., Ltd., COOP Kobe, and other groups delivered goods, prepared hot meals



Fig. 1. Locations of groups constituting J-net.

or were engaged in cleaning (Kaneya, 1996). Emergent organizations were created as networks of these groups. Typical examples include local NGO support coordination councils and “Nishinomiya volunteer network”. Several other emergent organizations were created. Not many emergent organizations have, however, been continuing activities after the earthquake. Volunteer workers also participated in relief on such occasions as the Great Kanto Earthquake of 1923, Fukui Earthquake of 1948, Typhoon Ise Bay of 1959 (Noda, 1995; Urban Disaster Research Institute, Disaster Prevention Bureau, National Land Agency, 1987), and the pyroclastic flow disaster due to the eruption of Mt. Fugen, Nagasaki Prefecture in 1991 (Kanegae, 1993; Yamashita, 1994). Not many of such activities have been continued at normal

times. As Dynes and Quarantelli (1968) pointed out some time ago, volunteers who work in emergent organizations return to their normal life once the urgent relief period is over. Extending organizations resume their daily activities. Then, these types of organizations have difficulty in continuing relief activities. To compensate for such drawbacks of volunteer work, disaster volunteer groups develop a national network to continue activities under normal conditions through coordination with other groups.

Excessively organized emergent groups through networking to continue activities is likely to reduce flexibility. In emergency conditions, including disasters, uncertainty increases (Noda, 1997) and one event occurs after another that is unexpected based on pre-prepared manuals or scenarios. What is most important in the field in disaster relief is therefore relief measures taken according to circumstances. For example, when distributing relief goods at a specific shelter or when providing relief services to specific elderly or physically impaired people, quick measures should be taken focused on immediate needs while no explicit specifications are available in manuals. Actions are required to modify available principles described in manuals when they are found to be inappropriate under actual conditions, or to work out response to events not assumed in manuals (Tachiki, 1999). Excessive organization of volunteers is likely to hamper such actions. Volunteer workers are expected to prove their potential in situations not assumed in disaster manuals or scenarios if they are not excessively organized but are allowed to work freely (Atsumi, 1998).

National networks of disaster volunteer groups therefore need to continue daily activities under normal conditions while keeping themselves prepared to take impromptu measures during a disaster under a situation not defined in predetermined relief programs. It is necessary to organize volunteers to enable them to take actions according to the circumstance during a disaster and continue activities under normal conditions.

Subsequent sections will focus on the above issue and discuss activities of volunteers during a disaster.

3 Disaster Volunteer Activities and Problems of Disaster Prevention

3.1 Purpose and method

A questionnaire survey and interview surveys were conducted to collect information on volunteer activities in times of floods or earthquakes. The questionnaire survey covered the cities of Sanjo (Niigata Prefecture), Fukui (Fukui Prefecture), and Toyooka (Hyogo Prefecture) which respectively suffered flood damage caused by the Niigata Heavy Rain, the Fukui Heavy Rain,

and Typhoon No. 23 in 2004. From the Basic Resident Register, 1,000 households were chosen from each city by random sampling. Replies were obtained from 1,259 households (the response ratio was 42%).

An interview survey was conducted in September, 2004, in flood-affected areas in the Niigata Prefecture. The interviewees were members of the Sanjo City Hall, Sanjo City Social Welfare Council, Mitsuke City Hall, Mitsuke City Social Welfare Council, and the Nakanoshima Social Welfare Council. In February, 2005, an interview survey concerning the Niigata-ken Chuetsu Earthquake was conducted. The interviewees were members of the Nagaoka City Social Welfare Council, the former Yamakoshi Village Volunteer Center, and KOBE-kara Ouen-suru Kai (Supporters from KOBE; a disaster-relief NPO).

3.2 Results and discussion

According to questionnaire results, “mud removal” and “disaster debris removal” were the most common activities carried out by volunteers in the aftermath of floods, and both of these activities accounted for about 30% of all volunteer activities, followed by “assistance to evacuees” (13%). With respect to the questions concerning the respondents’ opinions about volunteers, 72% of the respondents chose “Strongly agree” concerning the statement “Assistance provided by volunteers contributed to the recovery of the affected areas.” Concerning the statement “I am grateful to the volunteers”, 74% of the respondents chose “Strongly agree.” These results indicate that the people in the affected areas have positive opinions of volunteers. The high percentages of respondents who felt grateful to the volunteers and who thought the volunteers contributed to the recovery of the affected areas indicate that the volunteers were not regarded as mere “feel-gooders”, but as people who really helped the affected areas.

Disaster volunteer activities in Japan gathered momentum at the time of the Hanshin-Awaji Earthquake. During the 10 years that followed, a number of disasters occurred, and today volunteers participating in disaster relief activities are no longer a rare sight. In times of disaster, disaster-relief NPOs, government agencies, and local organizations in the affected areas, often jointly establish disaster volunteer centers. At the time of the recent Niigata Heavy Rain, five volunteer centers were established during the period from July 14 to 16 under the leadership of the social welfare council.

At the time of the Niigata flood, however, cooperation between volunteers and the administrative authorities posed a number of problems. The interview survey revealed that in areas which had not previously experienced disasters, cooperation between the government, disaster-relief NPOs, and local organi-

zations such as social welfare councils was essential to carry out relief activities. Some confusion arose, therefore, when the disaster volunteer centers were established.

A major factor was the lack of know-how regarding cooperation between volunteers and local government. Because the use of volunteers in times of disaster was a novel step, each action was a new experience and took time to implement. Another factor that contributed to confusion was that the government and the social welfare council accepted volunteers separately.

In contrast, at the time of the Niigata-ken Chuetsu Earthquake, disaster volunteer centers were quickly established. During the period from October 24 to 30, 11 disaster volunteer centers were established in Niigata Prefecture under the leadership of the social welfare council. Websites were also opened, and information concerning volunteers and supplies was disseminated through the Internet. The ability to establish quickly the volunteer centers was related to the experience gained from the past flood disaster. First, a system to facilitate cooperation between disaster-relief NPOs from other areas, the government, and the social welfare council (which played an important role in establishing and operating the volunteer centers) was already established. Second, having learned from the past flood disaster, the government clearly identified the contact organization responsible for accepting volunteers.

The interview survey, however, revealed some remaining challenges related to volunteer activities. First, it was difficult to take appropriate and prompt action in a situation where no operational manual was available and unexpected events occurred one after another. To overcome this problem, appropriate coordination of personnel, goods and equipment, money, and information is needed. A second challenge is to find ways to make effective use of the knowledge accumulated in connection with the recent earthquake in future disasters within the same areas and elsewhere. For example, from experience acquired through this flood and earthquake, NPOs and social welfare councils in other prefectures have gained the know-how needed to smoothly accept volunteers. Thus, the challenge is to enable effective dissemination of such know-how so that it can be applied in future disasters regardless of where they occur. A third challenge concerns the need to train volunteer leaders who can work over an extended period of time. Volunteers arrive at an affected area determined to work hard to help, but there are not always suitable activities for them to participate in so they often remain idle for a long time. Volunteer leaders need to be trained so that they can cope with such situations. A fourth challenge concerns the need to turn over volunteer activities to local organizations or local NPOs. Sooner or later, volunteers have to leave the affected area

during the emergency period. To provide long-term assistance and ensure recovery of the affected area, local organizations must be prepared to take over the volunteer activities.

3.3 Implications to the activities of disaster volunteers

Based on the above survey results, this section summarizes the main challenges regarding disaster volunteer activities and proposes measures to meet those challenges.

(1) Need for rear-echelon support

In times of disaster, information must be shared concerning personnel, goods and equipment, and funding, and emergency relief supplies and volunteers must be efficiently coordinated. At disaster volunteer centers established in an affected area, it is difficult to take the entire affected area into consideration because of the need to cope with changing conditions in the immediate vicinity. There is a need for rear-echelon organizations or groups that can liaise between disaster volunteer centers in different areas and coordinate the traffic of personnel, goods and equipment, and money to enable efficient relief activities.

(2) Need for long-term support

Evacuees may need to live in temporary housing for two or more years. At the time of the Hanshin-Awaji Earthquake, the deaths of elderly people living alone in temporary housing was reported later by mass media. To prevent similar incidents, long-term support must be provided to the residents of such temporary housing. Fortunately, there are many areas, such as in Nagaoka City and Yamakoshi Village, where disaster volunteer centers have been established within temporary housing sites. Such disaster volunteer centers need to provide long-term livelihood support to evacuees living in temporary housing in cooperation with the government, social welfare councils, social welfare organizations, local NPOs, and other organizations.

(3) Importance of the role of volunteers or NPOs in reconnecting the affected area with the rest of the world

In the interview survey, volunteers and NPOs were often likened to “adhesives” or “catalysts”. That is, volunteers and NPOs were described as adhesives for connecting people together or connecting various activities together and as catalysts for reconnecting the affected area with the rest of the world. As various people and activities became connected, new relationships came into being. Relationships thus formed while dealing with a disaster together may have commercial and cultural significance and might help the affected area recover.

(4) Need for regional cooperation in sharing and accumulating disaster experience

The know-how gained from the experience of the Niigata-ken Chuetsu Earthquake is invaluable, and the knowledge thus gained must be used effectively to cope with future disasters. The acquired disaster experience and knowledge should be shared with the world, rather than simply retained in the affected area. To enable such sharing, it will be necessary to create regional cooperative relationships with outside organizations and groups.

(5) Need for cooperation in normal times

Disaster prevention is synonymous with community building. It is not a task that can be fulfilled by disaster-related organizations or groups working alone in times of disaster. For example, providing assistance to elderly people and people with disabilities requires cooperation between the various people who are engaged in welfare activities in normal times. Likewise, the rapid and smooth dissemination of information through the Internet in times of disaster requires the prior cooperation in normal times of people who are well versed in information technology and who have the knowledge needed to transmit relevant information. By building cooperative relationships among various local resources in normal times, activities in times of disaster can be carried out more smoothly and long-term assistance can be provided to affected areas.

4 Concluding Remarks: Ways to Enhance the Ability of Communities to Prevent Disasters

The surveys have led to the following major findings. Concerning problems and challenges related to volunteers in times of disaster, there is a need for rear-echelon support in times of disaster and long-term assistance in affected areas. Volunteers and NPOs play an important role of “catalysts”. In addition, regional cooperation in sharing and accumulating knowledge gained from disaster experiences and prior cooperation in normal times are beneficial.

These findings make it possible to define an alternative approach to disaster prevention for the coming years. As mentioned, it is generally acknowledged that the ability of communities in Japan to prevent disasters has declined, as the decreasing number of volunteer fire corps indicates. However, local communities have to continue to play an important role in relief activities in times of disaster and in the subsequent recovery efforts. Thus, it is necessary to enhance the ability of communities to prevent disasters through approaches that differ from the conventional ones.

Important factors that help enhance the ability of communities to prevent disaster are acquired knowledge, information, and mutual trust. In a tradi-

tional territorial society, where almost all people are mutual acquaintances, the history of local disasters and the experiences of those disasters are handed down as wisdom, and information regarding dangerous sites and persons who need help in times of disaster is shared. In modern society, though, people's lives are isolated by their lifestyles. Newcomers to an area do not know the history of local disasters and, not knowing who lives where, they are unable to build relationships of trust. If alternative ties are to be created under such circumstances, there is a need for a new type of cooperation that enables people who are engaged in different types of activities to build ties with one another.

Disaster volunteer organizations can serve an important purpose in this situation. The history of disaster volunteering in Japan is relatively short, and disaster volunteer organizations are still sometimes "outsiders" in the eyes of traditional local organizations. Outsiders and mavericks, however, can cause major changes in existing communities (e.g., Sugiman, 2000). This is one way volunteers can serve as catalysts. It is possible, therefore, that disaster volunteer organizations will change existing ties in a local community so as to improve local disaster prevention activities. Local organizations (such as neighborhood community associations, volunteer fire corps, and volunteer disaster-prevention organizations), various NPOs (such as disaster-relief NPOs and social welfare NPOs), and local government authorities need to build a network through interorganizational cooperation (Fig. 2).

To enhance the ability of communities to prevent disasters, these organizations and individuals should share knowledge and information while also building mutual trust on the basis of the concept of risk communication. To do so, it is necessary to deal with various types of risk (e.g., risk of crimes, environment, welfare, and so on) instead of focusing only on disaster prevention. It is also worth keeping in mind that unilaterally conveying knowledge about flood prediction, etc., is not enough; local residents must also discover various local risks by themselves. To do this, it may be helpful for a disaster volunteer organization to hold, for example, a "town walking workshop" to learn more about the local community (e.g., Watanabe, 2000). A town walking workshop is an activity to identify dangerous sites and problems that may be encountered in the event of a disaster while walking in the local community. Activities like this make it possible to discover that there are various interrelated risks, including disaster risks, in the local community and to learn that these various risks must be addressed through various types of knowledge and activities.

As a result of exchanges between people working in different fields, people who have never met should be able to work together outside of the frame-

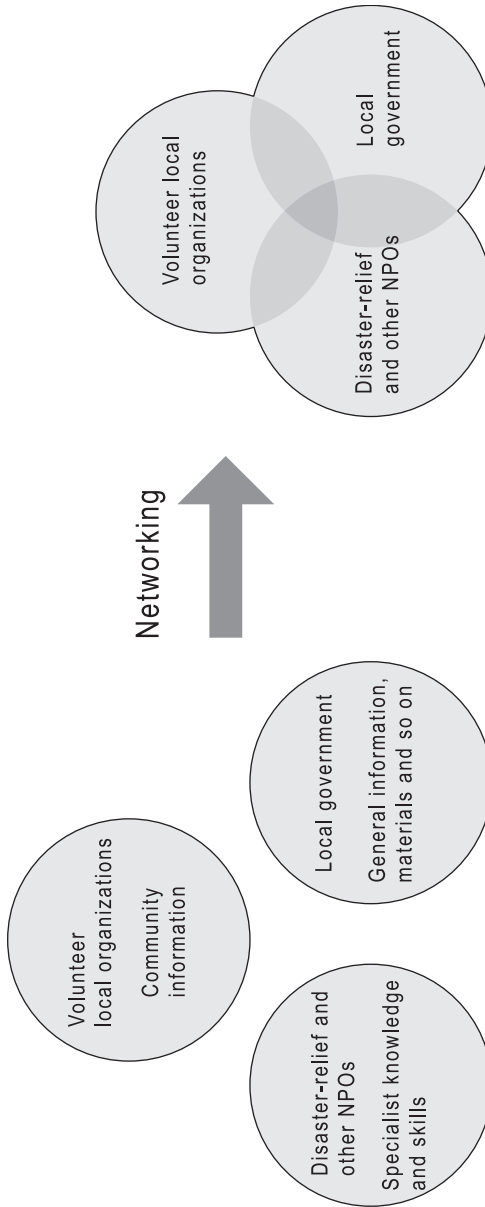


Fig. 2. Conceptual view of local network.

work of organizations and activities and develop ties that will help re-energize communities. Revitalization of communities will strengthen their ability to prevent disasters. The consequence will be to enable prompt and flexible responses to disasters and long-term assistance to victims through local disaster prevention efforts to protect communities from river flooding.

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