Disaster Planning by Residents Based on Awareness of their Own Situation: Disaster Drills in the Shakemachi Neighborhood of Harunasan-machi (Takasaki, Gunma)

Japan I

Description

The Harunasan Disaster Preparedness Committee is a volunteer group organized mainly by the residents of the Shakemachi district of Harunasan-machi, a part of the municipality of Takasaki in Gunma Prefecture. Shakemachi is closely tied to the Haruna Shrine, whose priests live in the community, and inns and other services for pilgrims have been the mainstay of the community for several centuries.

Shakemachi, Harunasan-machi

Shakemachi currently has 70 residents in 31 households. The priests of the shrine live there, and about half the households operate shops selling local food and gift specialties. Shakemachi is a venerated historic site with many designated cultural properties, including three pilgrims' inns that are Tangible National Cultural Properties and the shrine itself which is an Important National Cultural Property. The community has worked together for centuries to protect these resources, and a proactive attitude toward disaster preparedness is a local tradition.

A disaster drill is held each June, just before the rainy season, mainly on the grounds of the Haruna Museum where an avalanche warning system is installed. A cliff-collapse warning is issued and the residents start preparations for evacuation, then an avalanche warning is issued and the residents begin moving to the evacuation site (the Museum), and finally the warnings are lifted.The drill begins with an announcement over an avalanche warning public-address system by the locally selected disaster prevention captain. A special feature of the drill is that it begins with each household using a simple rain gauge to check the rainfall level, accustoming the residents to monitoring the area around their own homes for heavy rainfall which can be a precursor of a landslide. Each household records and checks the data, and maintains a Household Evacuation Plan and Chart for its site, as a guide and check sheet for evacuation procedures.

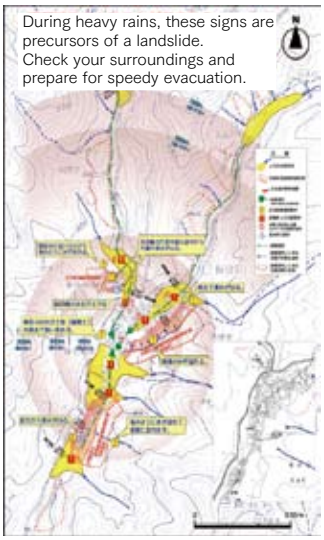


Fig. 1 Disaster Prevention Map

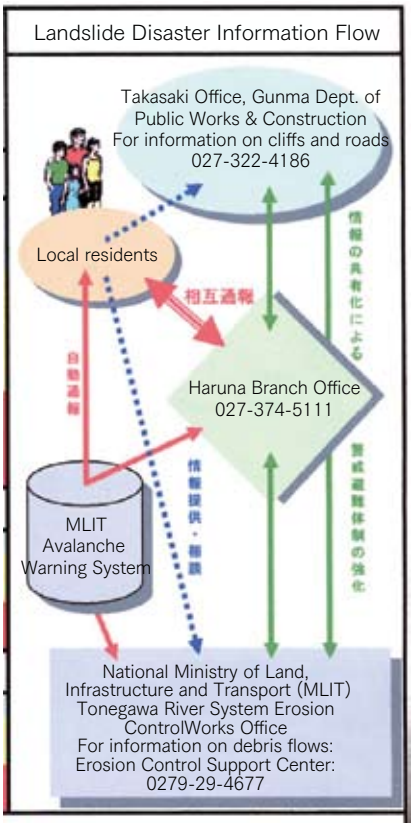
The Evacuation Plan and Chart (Fig. 1) is a kind of disaster preparedness map. It shows the precursor event monitoring stations in Shakemachi and their records in an easy-to-grasp format. It also lists landslide and mudslide danger zones identified by the prefectural government, as well as hazardous streams and slopes along evacuation routes. It is designed specifically to avoid harm during the initial stages of the evacuation procedure, with detailed information on the hazard points along the evacuation route.

Chart 1 is a list of the procedures. There are three phases: (1) collection of meteorological data, (2) preparations for evacuation, and (3) the start of evacuation, and they are presented together with a check sheet of the corresponding rainfall levels and precursor events, all on a single page. Each household uses the chart to keep track of its own site data and figure out when it is time to start evacuating.

Background

The Harunasan Disaster Preparedness Committee was established in response to Typhoon No. 10 of August 2, 1982. Sweeping across Japan from the Atsumi peninsula on the southern coast to the Japan

Sea in the north, Typhoon 10 caused severe rain and windstorms across central and northern Honshu, leaving a total of 95 persons dead or missing. Shakemachi suffered major damage, including an avalanche that struck the approach path and the Kaguraden building of the Haruna Shrine and felled a "thousand-year-old" cedar tree. In June 1983, an avalanche warning system was installed in Shakemachi by the Tonegawa River System Erosion Control Works Office of the Ministry of Construction (now the Ministry of Land, Infrastructure and Transport). That Office then advised local government entities (including the Harunasan District Authority, the former municipality of Harunamachi, and Gunma Prefecture) as they developed evacuation procedures based on the avalanche warning system.
The Disaster Preparedness Committee, chaired by the chairman of the Harunasan District Authority, was then formed as a voluntary association of Shakemachi residents, and has continued to support the implementation of the evacuation procedures for some 25 years.



Flow of Disaster Information

Purpose

To enable local residents to accurately monitor the constantly changing natural conditions and judge when to prepare for and carry out evacuations.

Period of Operation

1983 until the present, continuously

Primary Activities

- Installation of the avalanche warning system
- Establishment of the Disaster Preparedness Committee as a volunteer organization of Shakemachi residents
- Development of evacuation procedures based on the warning **system**
- Preparation of a Disaster Preparedness Map of Shakemachi, showing the landslide and mudslide danger zones identified by the prefectural government, hazardous streams and slopes along evacuation routes, and the precursor event monitoring stations in Shakemachi with their records in an easy-to-grasp format.
- The Disaster Preparedness Committee developed the Household Evacuation Plan and Chart (disaster preparedness map, rainfall and hazard checksheet, and evacuation procedures) and distributed it to residents.
- Each household uses the Household Evacuation Plan and Chart to record and evaluate rainfall levels and precursor events.

Main Achievements

- Having participated in the drills each year for many years, the local residents have gained confidence in their own abilities to assess disaster risks and avoid them.
- By working closely with the local fire department during the drills, the residents have brought their communication to a new level and strengthened their system of community cooperation.
- The cooperation system and communication skills that were strengthened through the disaster drills have been an important stimulus to the Shakemachi community, and as part of the community

vitalization program started in 2003, monzen soba, a noodle dish that was part of the area's cuisine in centuries past was revived as a local specialty product.

- Received the 2006 Chairman's Grand Prize for Community Disaster Preparedness, from the Institute for Fire Safety and Disaster Preparedness

Disaster drill

For More Information

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Household Evacuation Plan Checksheet

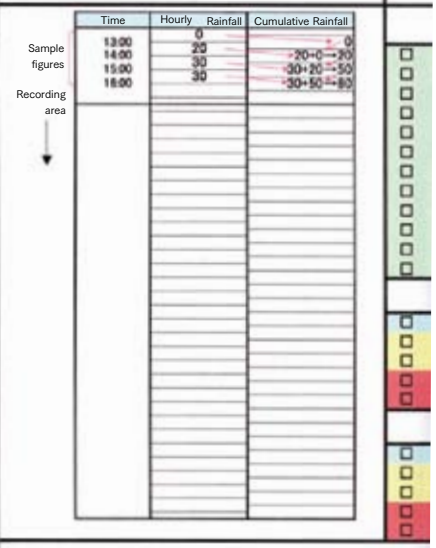
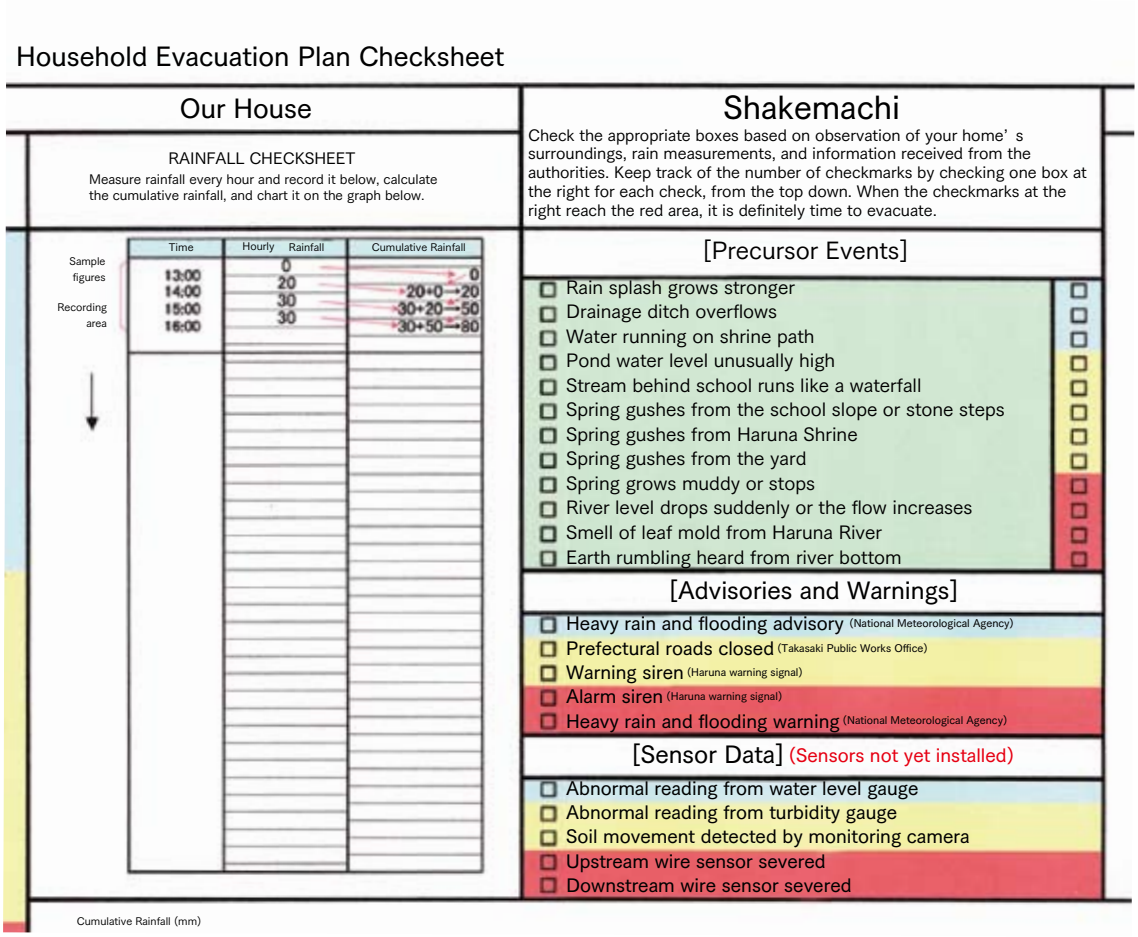
Activity	Advisory or Warning	Our House	
		PROCEDURE Follow these steps to determine and perform evacuation	RAINFALL CHECKSHEET Measure rainfall every hour and record it below, calculate the cumulative rainfall, and chart it on the graph below.
Collect Weather Data (Blue indicates the situation is still safe, before a landslide disaster is likely)	Heavy raid and flood advisory	Gather local rainfall data from TV, radio, etc. Observe and graph rain gauge measurements	
Prepare to Evacuate (Yellow indicates rainfall has become somewhat heavy, and if it keeps falling a landslide could occur)	Prefectural roads closed Warning siren	Double-check emergency supplies, before an electrical failure or other breakdown If a precursor event is observed, contact the local disaster coordinator (Tel: 374-0000) If precursor conditions reach the red level, start evacuation, even if the warning siren Is not heard.	
Start Evacuating (Red indicates that the risk of a landslide has become high, and evacuation is advised)	Alarm siren Heavy rain and flood warning	Start evacuation Potential hazard spots on evacuation routes: (1) Stream at Maruko Bridge (2) Stream flowing from cemetery (3) Stream running from shrine path along road (4) Overflowing water at Kannagara Bridge (5) Overflowing water at Inari Bridge (6) Inundation of road between Inari Bridge and Haruna Lake	

Table 1 Evacuation Plan and Chart Evacuation Procedure



Household Evacuation Plan Checksheet

Our House

RAINFALL CHECKSHEET

Measure rainfall every hour and record it below, calculate the cumulative rainfall, and chart it on the graph below.

Sample figures

Recording area

Time	Hourly Rainfall	Cumulative Rainfall
13:00	0	0
14:00	20	20+0→20
15:00	30	30+20→50
16:00	30	30+50→80

Cumulative Rainfall (mm)

Shakemachi

Check the appropriate boxes based on observation of your home's surroundings, rain measurements, and information received from the authorities. Keep track of the number of checkmarks by checking one box at the right for each check, from the top down. When the checkmarks at the right reach the red area, it is definitely time to evacuate.

[Precursor Events]

- ☐ Rain splash grows stronger
- ☐ Drainage ditch overflows
- ☐ Water running on shrine path
- ☐ Pond water level unusually high
- ☐ Stream behind school runs like a waterfall
- ☐ Spring gushes from the school slope or stone steps
- ☐ Spring gushes from Haruna Shrine
- ☐ Spring gushes from the yard
- ☐ Spring grows muddy or stops
- ☐ River level drops suddenly or the flow increases
- ☐ Smell of leaf mold from Haruna River
- ☐ Earth rumbling heard from river bottom

[Advisories and Warnings]

- ☐ Heavy rain and flooding advisory (National Meteorological Agency)
- ☐ Prefectural roads closed (Takasaki Public Works Office)
- ☐ Warning siren (Haruna warning signal)
- ☐ Alarm siren (Haruna warning signal)
- ☐ Heavy rain and flooding warning (National Meteorological Agency)

[Sensor Data] (Sensors not yet installed)

- ☐ Abnormal reading from water level gauge
- ☐ Abnormal reading from turbidity gauge
- ☐ Soil movement detected by monitoring camera
- ☐ Upstream wire sensor severed
- ☐ Downstream wire sensor severed

Table 2 Evacuation Plan and Chart Check Sheet

Disaster & Women Information Network in Japan
- A Webpage Developed by a NPO in Kobe, Hyogo, Japan -

Japan II

The "Women's Net Kobe," founded in 1992, is a voluntary group established under a NPO "Supporting Center for Women and Children" helping women and children to ensure their rights and provide a forum for learning and networking. The actions taken after the Great Hanshin Awaji Earthquake in 1995 include distribution of relief supplies, counseling on the phone, and organizing public seminars for women in the stricken areas. These activities clearly brought out the difficult situations that many women were exposed after the devastating earthquake.

Since then, the "Women's Net Kobe" has been scaling up creative solutions to these problems faced by women in disasters, despite the lack of institutional resources and policy support. It encourages engaging women as leaders and innovators and proposes vital policy and program agendas for the empowerment of women.

The homepage "Disaster & Women Information Network in Japan" (http://homepage2.nifty.com/bousai/), developed by the "Women's Net Kobe," encourages women to be actively involved in disaster reduction and recovery planning. The homepage has 14 topics as lessons learnt from the experiences of the Great Hanshin Awaji Earthquake: " Elderly women living alone," "Single mothers," "Shelter/temporary housing," "Family," "Job," "Women's health," " Pregnant Women and Mothers with Newborn Infants," "Violence against Women," "Child abuse, " "PTSD and mental care," "Minorities," "Media," "Volunteers," and "Others." Each topic originates ideas to be proposed to policy makers and local governments.

Some examples are: "I wished there had been clinics for women, preferably with midwives." "At least a woman leader should have been appointed in each shelter. I now believe that in post-disaster situations women should participate in the operation of shelters and layout of living spaces within shelters. In preparing relief plans for disaster victims, gender-sensitive viewpoints should be incorporated in both shelter operation and designs as well the stockpiling of relief materials."

The Coordinator of "Women's Net Kobe" says, "After a major disaster, people are forced to lead a stressful life due to the deteriorated living environment and many women experienced various hardships after the Great Hanshin Awaji Earthquake. Drawing the lessons from these experiences, I would like to continue protecting the rights of women and children as well as promoting women's involvement in key activities of disaster reduction and recovery.

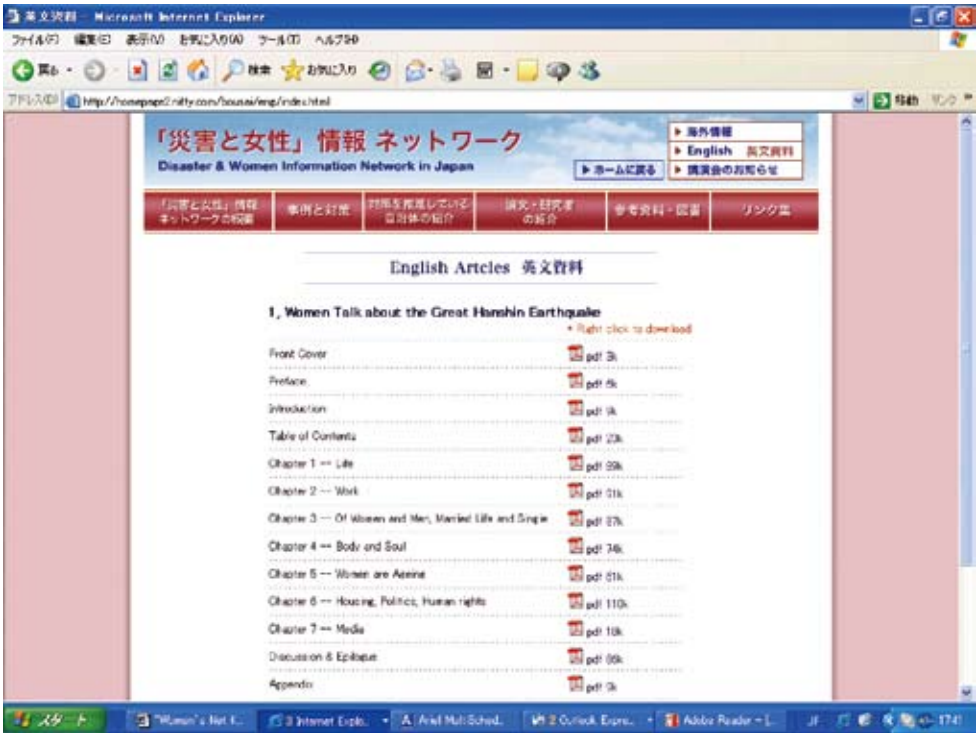
The publication "Women talk about the Great Hanshin Earthquake" was translated into English from Japanese and is posted on the website: http://homepage2.nifty.com/bousai/eng/index.html

- Background

The need to review and analyze the situation of women in disasters and to develop an Internet homepage dedicated to the issue was identified.

- Objectives

To disseminate and share the information on the topic "disaster and women"; to develop a network of people and organizations addressing the issue; and to encourage women to take part in disaster reduction and recovery planning.



- Term/Time Frame
April 2006 – March 2007

- Activities Undertaken
The project reviewed and analyzed the situation of women in disasters and developed an Internet homepage dedicated to the issue, based on the experiences of many women in the Hanshin-Awaji Earthquake.

- Major Achievements
Dissemination of information useful for disaster reduction and recovery through the Internet webpage.

- Total Budget
About JPY 3 million

- Contact details
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