

# Everyday Efforts to Reduce Disaster-Related Damage

Awareness is growing in Japan that reducing damage from disasters requires routinely maintaining a high level of preparedness. Japan Echo presents a look at some innovative efforts being made by local residents, volunteer groups, corporations, and local governments to enhance disaster readiness.

**K**akogawa GreenCity, a 40-minute drive west of Kobe, is a housing complex where some 2,000 people live. Damage to nearby workplaces and schools during the 1995 Great Hanshin Earthquake served to heighten awareness of the importance of disaster preparedness among residents, a number of whom in 1998 formed a community disaster-prevention group.

## Making It Fun

“It’s important for everyone to get involved in disaster-prevention activities and work to keep them go-

ing,” says Shosuke Onishi, the group’s leader. “That means that these activities have to be fun.” One idea the group came up with was to run a booth serving *ika-yaki* (pancake-like food containing squid)—an Osaka specialty.

“The *ika-yaki* griddle can make a serving for two in just a minute and a half,” Onishi says. “So we can feed a large number of people in a short span of time, which is important when cooking food for evacuees in the wake of a disaster. To learn how the equipment should be used to cook *ika-yaki*, residents have set up stalls to actually make and sell *ika-yaki*.”

In April 2009 the group teamed up with a local FM radio station to

broadcast a weekly talk show. The idea was to find an entertaining way of getting people to think about disaster preparedness, which many regard as being a rather dry subject.

“The program simulates a conversation in a bar, with me playing the role of ‘barkeeper.’ I welcome guests from many different fields, such as community residents, journalists, and members of the city council. The drinks served are from breweries in Hyogo, Niigata, and other areas that have suffered from earthquakes, since one of our aims is to help the reconstruction of the afflicted areas by promoting these products on the air.”

## A-Mazing Lessons

September 1 has been designated Disaster Prevention Day in Japan, as this was the day that the Great Kanto Earthquake struck the greater Tokyo area in 1923. August 30 to September 5, moreover, is Disaster Prevention Week, during which many schools conduct disaster drills. When inside a building during a major earthquake, it can be more dangerous to rush outside, since there is the danger of furnishings collapsing and windows breaking. So in the drills conducted by schools, children first take cover underneath their desks, holding the legs of the desks



Kakogawa GreenCity’s Shosuke Onishi, second from left, helps raise awareness of the need for disaster preparedness on a radio talk show. © Shosuke Onishi



School kids can learn about being prepared for disasters while playing in the “fun maze.”



Isao Arai

and protecting their heads and bodies. After confirming that the tremor has stopped, they evacuate to the schoolyard or other safe place. It is hoped that by undergoing such drills from an early age, people will be able to act calmly and take appropriate action if and when an emergency does occur.

Drills are also actively conducted outside of schools by volunteers and people in the community. Since 1992 Isao Arai has been working with schoolchildren to grow fields of sunflowers and making pathways through the stalks in the summer so the children can frolic in the maze-like fields. After the Great Hanshin Earthquake, Arai established a nonprofit organization called the Sunflower Dream Plan and developed a “disaster-preparedness fun maze” to teach kids about disaster prevention.

“The object isn’t to see who can go through it the fastest,” says Arai. “The plywood-frame maze is seen as a home that has been damaged by an earthquake, and kids have to navigate their way through it to safety. Along the way they collect a series of cards posted at dead-end passages, upon which are written the names of items needed during a disaster, such as ‘drinking

water’ and ‘flashlight,’ as well as things they need to do, like turning off the gas and saving their pets.”

Children enjoy the romp through the maze because it is like a game, and they can learn about preparing for a disaster at the same time.

“For middle and high school students, the maze becomes a city. Along the way they encounter an elderly person who needs assistance and a wooden house that is on fire. Some paths are blocked by a collapsed block wall. At each stage they must decide what to do. These are things that I personally experienced during the Great Hanshin Earthquake, when there was no running water, no toilets, and no baths; when I talk about these experiences after the game, I have every student’s attention.”

### Walking Out of the Chaos

A major earthquake in Tokyo will bring trains and buses to a halt, resulting in large numbers of commuters without a means of getting home. According to the Cabinet Office’s Central Disaster Prevention Council, in the event of a 7.3-magnitude earthquake occurring directly under the capital, this could produce as many as 6.5 mil-

lion “refugees.” To prevent disorder and give people an idea of how they can get home safely following an earthquake, the Tokyo Volunteer Network for Disaster Relief conducts an annual drill in which thousands of citizens walk home from several places around Tokyo.

There were 4,774 participants in the September 2009 drill, over 10 times the number who took part in the first walk in 1999. Several courses were set up, and people walked close to 20 kilometers. Along the way they stopped at gas stations, post offices, and convenience stores standing in as roadside aid stations to receive water and food and also to collect disaster information and use the restroom. It took most people more than five hours to complete the journey.

“Walking home made me aware of the potential dangers presented by places that I normally don’t even think about—the space below overpasses, narrow sidewalks, and glass-fronted skyscrapers, for example,” said one participant. “Next time I plan to walk on my own and create a personalized map for getting back home safely.”

“In the event of an actual earthquake, there are sure to be people killed or injured on the street and roads blocked by debris,

so the journey home would take much longer than normal,” said another participant. “Unless you have children or elderly relatives at home or have some other reason to rush back, I think it would be better to stay at work or move to an emergency evacuation area and wait for the situation to calm down.”

If everyone tries to return home at once, there is the risk of masses of individuals spilling out onto the street and blocking the passage of ambulances, which would result in even greater numbers of casualties. The Central Disaster Prevention Council has found that road con-

gestion can be reduced by around 75% if half the people in the center of the city would wait a day before attempting to return home. For this reason the council advocates not rushing to flee.

Mori Building Co. owns over a hundred buildings in Tokyo. Under the concept of creating communities that people can flee to, rather than run away from, the company assigns roles that employees are expected to fulfill in the event of a disaster in keeping with their daily routines, and it also conducts regular disaster drills. To enable a prompt initial response in

case of an emergency, moreover, the company obliges all employees to take a lifesaving course.

“Roppongi Hills has its own gas- and kerosene-powered generators to provide electricity in the event of a blackout,” explains Shuichi Sano, senior general manager of Mori Building’s Earthquake/Disaster Emergency Office. “Our storehouses contain enough food for 100,000 meals and other emergency supplies like blankets. We also have paper diapers for infants and portable toilets for adults. We’ll continue to strengthen the disaster readiness of our buildings.”

## RETROFITTING TO SAVE LIVES AND PROPERTY

In the Great Hanshin Earthquake, wooden homes built before the May 1981 revision of the Building Standards Law suffered the greatest damage.

“Our home is quite old, having been built in 1966, and the land upon which it’s built isn’t very strong either,” relates a couple living in the city of Shizuoka—a quake-prone area midway between Tokyo and Osaka. “That’s why we signed up for the free earthquake safety inspection offered by Shizuoka Prefecture and had an architect come to inspect our home.

“He told us that the chances were quite high that it would be heavily damaged in the event of a major quake. We wondered what we should do for several years but finally decided to reinforce our home so it would be able to withstand powerful quakes. The retrofitting work was completed in June 2008, and it’s really taken a load off our minds.”

While the best way of protecting oneself and one’s family from earth-

quakes is to enhance the earthquake resistance of residences, many homeowners hesitate to do so because of the high costs involved. The national and local governments thus offer subsidies to encourage more people to take action. In Shizuoka, where a major “Tokai Earthquake” is thought imminent, for example, the prefectural government established the Toukai-0 Project in 2002 to provide subsidies for retrofitting wooden homes built under the old building standards.

“The project covers all three stages of seismic retrofitting,” explains a spokesperson for Shizuoka Prefecture’s Office of Architecture. “First, an inspector is sent to examine the residence free of charge to the homeowner. Second, the prefecture subsidizes two-thirds of the cost of drawing up a detailed retrofitting plan. Lastly, a fixed-sum subsidy of between 300,000 yen and 800,000 yen is provided by Shizuoka Prefecture and local municipalities to cover the costs of the actual reinforcement

work. The amount depends on which city people live in and how old they are.”

In addition to getting the word out about Toukai-0 through its public relations magazine, Shizuoka Prefecture works to increase awareness via television and radio broadcasts. It also sends government employees to speak directly with people living in older, wooden homes to explain the importance of reinforcements. As a result, 10,923 homes have been retrofitted as of February 2010—the highest total of any prefecture in Japan.

“Progress has not always been smooth because of the economic slowdown, but I think we’ve been reasonably successful in boosting the earthquake resistance of homes in the prefecture. There are some 40,000 homes that were inspected but have yet to be retrofitted, so we hope to follow up on them by providing detailed explanations about construction procedures and subsidies.”

