

Part I Current Disaster Risk Management Measures in Japan

Japan is prone to various natural disasters due to its natural conditions. In 2018, Japan was struck by various kinds of disasters, including the Heavy Rain Event of July 2018 (western Japan torrential rains). Part I looks at Japan's recent disaster risk management policies with a special focus on measures intensely promoted in FY2018.

Chapter 1 Current Disaster Risk Management Policies

Section 1: Reducing Disaster Risk in Advance through Self-help and Mutual Support and Promotion of Disaster Risk Reduction Activities in Cooperation with Various Stakeholders

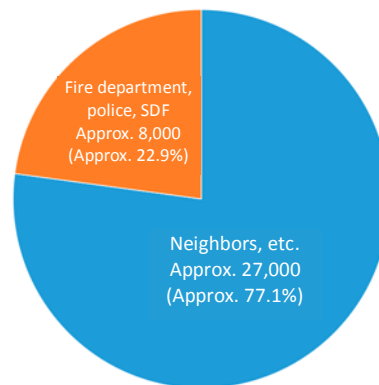
1-1 Raising Awareness of Disaster Risk Reduction among the Public

As Japan is a disaster prone country, the government has constantly promoted initiatives that constitute “public support,” including the development of embankments and other hard infrastructure, as well as non-structural measures such as preparation of hazard maps before disaster occurs. In the event of a disaster, public support extends to emergency rescue operations, support for human resources by dispatching supporting officials to affected areas, push-mode support (*i.e.* emergency delivery of necessities and relief supplies to evacuees at shelters, initiated without waiting for a request from affected communities), and financial support through the designation of a Disaster of Extreme Severity and pursuant to the Act on Support for Reconstructing Livelihoods of affected people.

However, there are concerns about the limits of public support in the event of a major disaster such as the Nankai Trough Earthquake, which is anticipated to occur in due course. A study showed that when an earthquake hit Southern Hyogo Prefecture in 1995 (hereinafter referred to as the “Great Hanshin-Awaji Earthquake”), about 80% of people were rescued through self-help (including help from their families) or mutual support (such as assistance of their neighbors), while only about 20% were rescued by public support such as public rescue squads (Fig. 1-1-1). Amid population decline, resulting in the depopulation of towns and villages and declining membership of voluntary disaster management organizations and volunteer fire corps, it is vital to foster communities with a strong disaster management awareness, which means that each community member takes specific disaster mitigation actions with a recognition that it is no one but themselves who can protect their life.

Fig. 1-1-1

Types of Rescuers and Number of People Rescued at the Time of the Great Hanshin-Awaji Earthquake



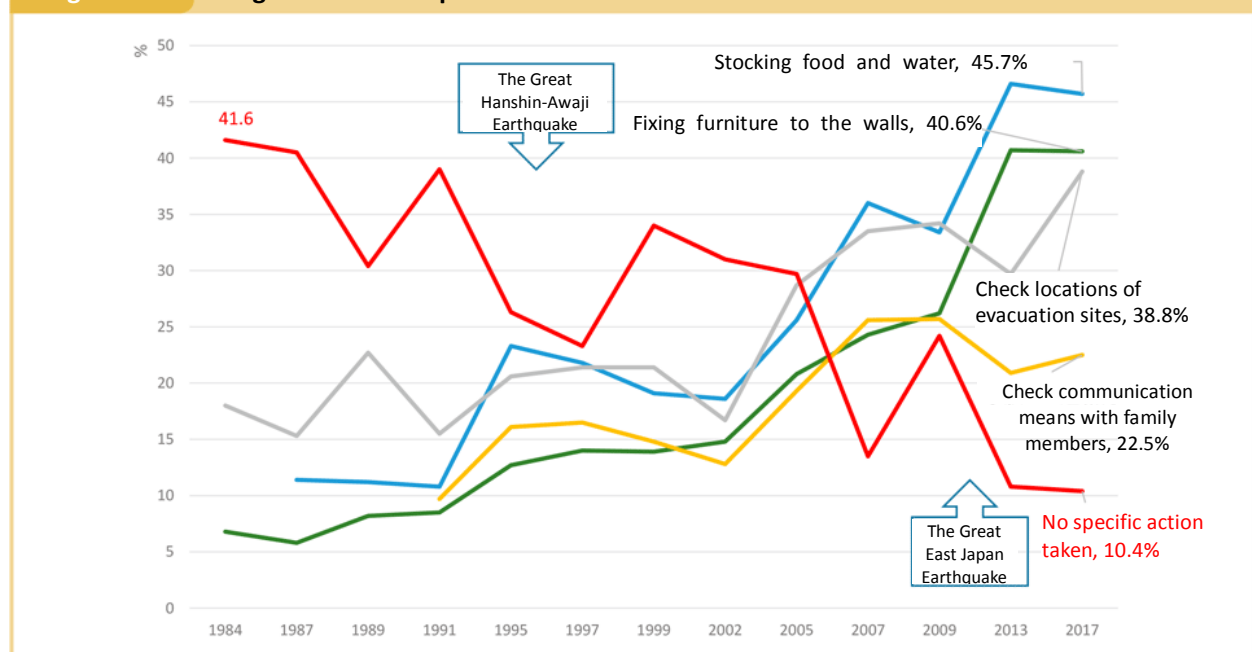
Source: Formulated by the Cabinet Office based on *Prediction of Loss of Human Lives Due to Catastrophic Earthquake Disaster* (Yoshiaki Kawada; 1997; Natural Disaster Sciences Vol. 16, No.1)

Specific activities to mitigate disaster may include preparedness against disasters by understanding the disaster risk in communities, fixing furniture to the walls, stockpiling food and participating in evacuation drills. Once disaster occurs, self-help and mutual support with neighbors are essential for mitigating disaster and damage.

People are becoming more aware of the importance of self-help efforts and are taking specific measures after having experienced major disasters, such as the Great Hanshin-Awaji Earthquake and the 2011 Tohoku Earthquake and Tsunami (hereinafter the “Great East Japan Earthquake”) (Fig. 1-1-2). The importance of mutual support has also been recognized in recent years. For example, during the Heavy Rain Event of July 2018, residents of Miyoshi District, Ozu City, Ehime Prefecture were able to evacuate effectively because they had been promoting mutual support initiatives before the disaster, such as preparing evacuation plans and conducting evacuation drills under the direction of local disaster risk management leaders.

Fig. 1-1-2

Progress of Self-Help Initiatives

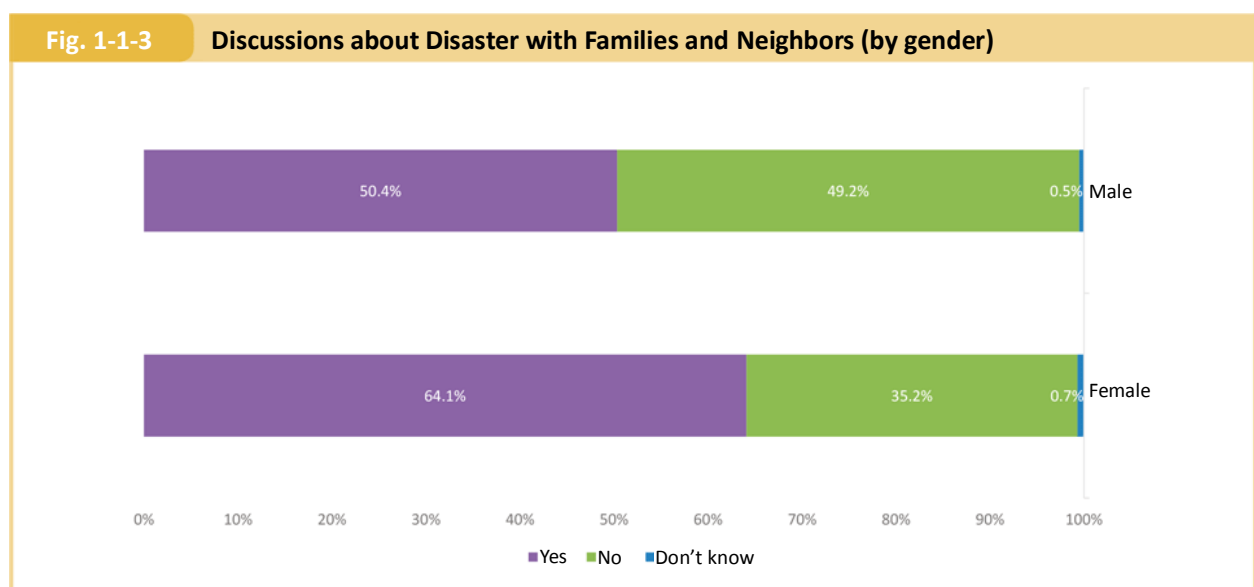


Source: Formulated by the Cabinet Office based on “Public Opinion Poll regarding Disaster Risk Reduction” conducted by the Cabinet Public Relations Office

Discussions with families and neighbors are important for self-help and mutual support approaches. In the 2017 survey, the proportion of people who had discussed with their families and surrounding people in the past couple of years over what to do in the event of a disaster was 50.4% for males and 64.1% for females (Fig. 1-1-3).

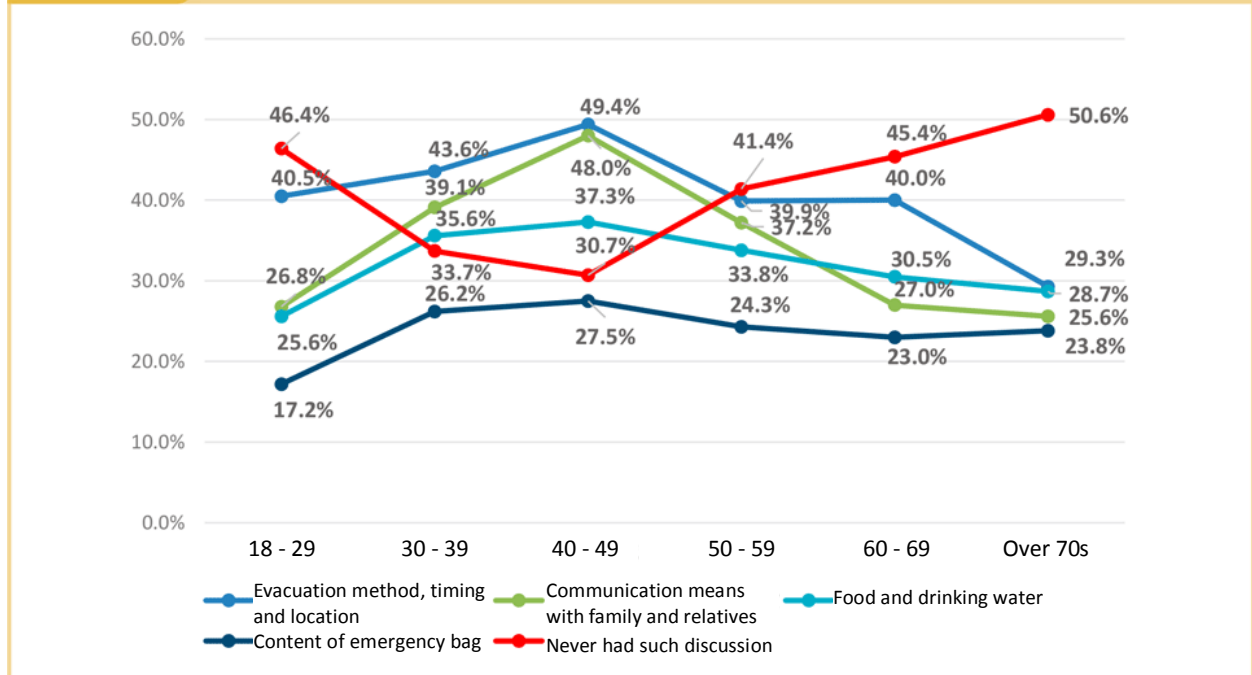
The most common topic of such discussion was “evacuation method, timing and location” (68.2%), followed by “communication means with family and relatives” (57.8%), “food and drinking water” (55.3%), and “contents of emergency bag” (41.7%).

Looking at responses by age, the proportion of respondents who had never had a discussion about disaster response was highest at 50.6% in the age bracket of 70 years old or older. Only about 30% of respondents of this age group answered that they had discussed the evacuation method, timing and location (Fig. 1-1-4).



Source: Formulated by the Cabinet Office based on “Public Opinion Poll regarding Disaster Risk Reduction” conducted by the Cabinet Public Relations Office in (November 2017; valid responses: 1,839)

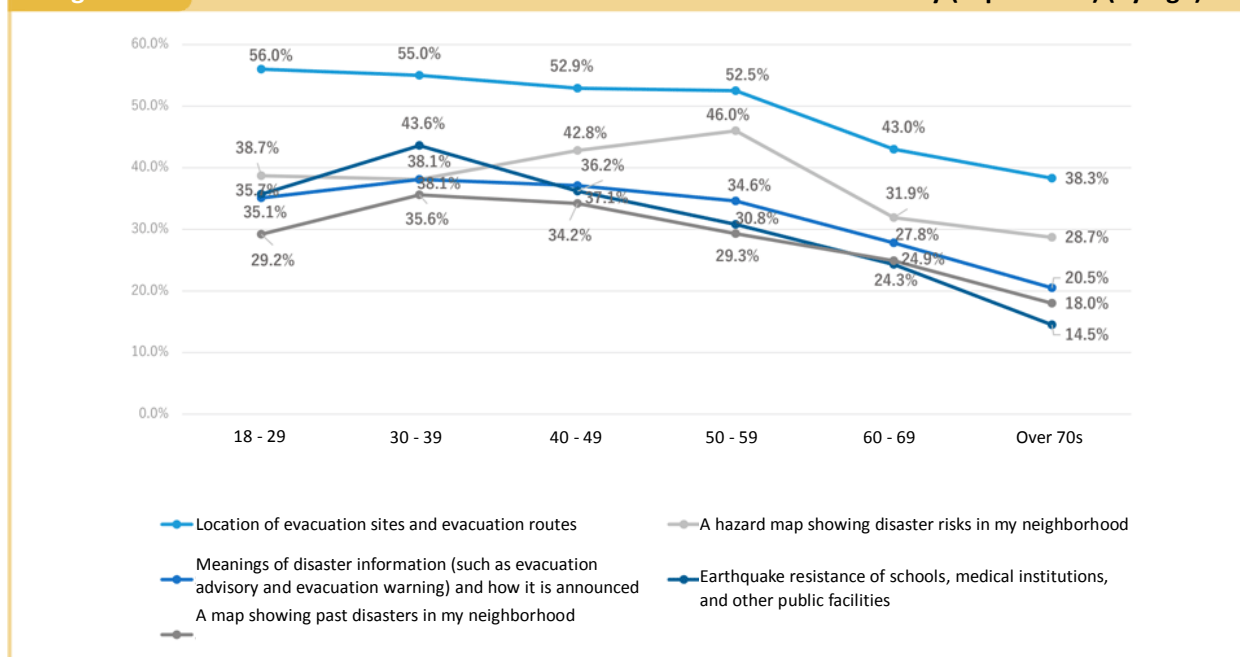
Fig. 1-1-4 Top 5 Topics of Discussion about Disaster with Families and Neighbors (by Age)



Source: Formulated by the Cabinet Office based on “Public Opinion Poll regarding Disaster Risk Reduction” conducted by the Cabinet Public Relations Office in (November 2017; valid responses: 1,839)

In order to ensure that each individual can take disaster risk management actions through self-help and mutual support, it is important that they have access to necessary information for taking such actions. In a survey conducted in 2017 that asked respondents what type of disaster risk management information they would like to have more, the most common answer was “location of evacuation sites and evacuation routes” (47.5%), followed by “a hazard map showing disaster risks in my neighborhood” (36.4%), “meanings of disaster information (such as evacuation advisory and evacuation warning) and how it is announced” (30.4%), “earthquake resistance of schools, medical institutions, and other public facilities” (28.1%), and “a map showing past disasters in my neighborhood” (27.0%). Looking at responses by age, the percentage of people seeking more disaster information (such as those who responded “location of evacuation sites and evacuation routes” and “meanings of disaster information (such as evacuation advisory and evacuation warning) and how it is announced”) was lower in older age brackets (Fig. 1-1-5).

Fig. 1-1-5 Disaster Information That Should Be Provided More Extensively (Top 5 Items) (by Age)



Source: Formulated by the Cabinet Office based on “Public Opinion Poll regarding Disaster Risk Reduction” conducted by the Cabinet Public Relations Office in (November 2017; valid responses: 1,839)

Although the government intends to spare no effort in enhancing public support, it is becoming more and more difficult to contain sudden severe disasters solely with existing disaster risk management facilities, other hard infrastructure or government-led non-structural means, for various reasons including the intensifying climate conditions accompanying global warming, the increasing number of older people who need support, and the increasing number of foreign nationals living in Japan due to globalization. It is important for Japanese people to shift away from solely depending on government-led disaster risk management and start to focus more on self-help and mutual support with a shared understanding. Today, there is a significant gap in disaster resilience among regions. It is vital to disseminate good practices from communities with strong disaster risk management awareness to other communities all across the country in order to build a society that can effectively manage disasters.

The Cabinet Office and relevant ministries and agencies need to enhance awareness raising campaigns and measures which may connect “awareness” to “preparedness” (specific actions) in the future based on the survey results. This section introduces various measures carried out in collaboration with different stakeholders, with a special focus on “disaster precautions” as self-help and mutual support efforts.

Column:

Disaster Management Coordinators: Fostering Female Leadership

The Tokyo Metropolitan Government (TMG) is working on the fostering of female disaster management leaders in communities and companies, aiming at bringing the number of such talents to about 3,000 by 2020.

To this effect, the TMG has held the Women's Seminar for Disaster Management from FY2017, which covers basic knowledge on disaster management. In addition, the TMG started the Disaster Management Coordinator Seminar in FY2018. Through these efforts, the government aims at fostering a total of 300 female disaster management leaders in three years in order to ensure that diverse perspectives (including women's) are to be reflected in preparedness measures for major disasters including a Tokyo inland earthquake, which is predicted to occur in the future. The Coordinator Seminar is intended for women living, working or going to college in Tokyo to have the basic knowledge equivalent to the content of Textbook for Female Disaster Management Leaders prepared by the TMG. Participants choose one from two courses; Community Life Course or Workplace Course. The Community Life Course mainly covers how to deal with various situations that may occur during evacuation and in the course of rebuilding life, and how to effectively communicate in order to solve various problems that may occur after a disaster. The Workplace Course focuses on how to deal with situations that may arise when a disaster occurs while working, how to respond to various needs that may arise at workplace, and how to effectively communicate in order to solve various problems that may occur after a disaster. In FY2018, both courses were held over two days for one time, respectively.



1-2 National Council for Promoting Disaster Risk Reduction and the National Conference on Promoting Disaster Risk Reduction

The Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR), adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai in March 2015, prescribed that all stakeholders (including companies, academia, volunteers, community groups and media) should be encouraged to take disaster risk reduction (DRR) initiatives. In response, the National Council for Promoting Disaster Risk Reduction (NCPDRR),

comprising leaders of 39 groups working on disaster risk management, was set up in September 2015 under the leadership of Prime Minister ABE, who chairs the National Disaster Management Council. The mission of NCPDRR is to work in cooperation with the National Disaster Management Council and promote information sharing, opinion exchange and coordination across a wide range of sectors, in order to promote disaster risk reduction awareness among the public.

The NCPDRR and other organizations have promoted activities to enhance community preparedness for large-scale disasters, built on a combination of public support by the government, self-help by each member of the public, and mutual support among communities, companies, schools, and volunteers.

(1) The 3rd National Conference on Promoting Disaster Risk Reduction (2018 National Conference on Promoting Disaster Risk Reduction)

With the NCPDRR and the Council for Promoting Disaster Risk Reduction, which is mainly comprised of disaster risk management-related industrial groups, the Cabinet Office held the 2018 National Conference on Promoting Disaster Risk Reduction in Tokyo Big Sight and the Tokyo Rinkai Disaster Prevention Park (Sona Area) on October 13 and 14, 2018. Under the event theme, “Preparing for Large-scale Disasters: Enhancing Collaboration in Communities,” the event was held with an aim to promote self-help and mutual support efforts, voluntary collaboration among people, and disaster risk management awareness.

H.E. Mr. YAMAMOTO, Minister of State for Disaster Management, delivered the opening declaration, in which he stressed the importance of self-help and mutual support, the need for collaboration among all stakeholders and the importance of sharing these ideas in and out of Japan. Then, Governor of Tokyo Ms. Koike gave a welcome speech as a representative of the host city, stating the TMG’s intention to make Tokyo a safe and secure city. In the organizer’s speech, Vice-chairman of the NCPDRR Mr. Akimoto mentioned the importance of coordination among self-help, mutual support and public support and his expectation for enhanced disaster risk management awareness as a nation as a whole. At the subsequent High-Level Panel Discussion, opinions were exchanged on the importance of support for vulnerable people, fostering of disaster risk management leaders in companies, and collaboration with regional disaster risk management organizations to prepare for large-scale disasters.

During the event, a total of 35 sessions were held over two days in Tokyo Big Sight and Sona Area. In these sessions, hosted by the Cabinet Office and various other groups working on disaster risk management, panelists discussed specific self-help and mutual support efforts that need to be promoted in the fields such as disaster risk management activities, community disaster management planning, collaboration between academia and the public, disaster risk management industry, international cooperation. In particular, there were many sessions that focused on Tokyo inland earthquakes and large-scale floods, which are predicted to occur in Tokyo. Also, taking the opportunity of the International Day for Natural Disaster Reduction (October 13), international sessions were held to promote the Sendai Framework for Disaster Risk Reduction and the Sustainable Development Goals (SDGs). There were various other programs held by different groups, such as a booth for experiencing a disaster, 63 presentation booths, poster sessions and exhibition of large vehicles (e.g. fire engine).

In the closing session, Ms. Mikiko Ikegami, Executive at *Shimin Bosai Kenkyujo*, mentioned in her presentation that (1) the importance of taking specific actions that involve all members of society has been confirmed, (2) non-structural measures are the key driver of preparedness for Tokyo inland earthquakes and large-scale floods; and (3) young generations are promoting disaster risk management for the future.

Joined by 12,000 visitors and covered by TV programs and newspapers, the event successfully communicated to many people the importance of self-help, mutual support and collaboration among diverse stakeholders. According to the results of the questionnaire with visitors, 98% responded that the conference helped them

improve their disaster risk management awareness. The Conference highlighted the importance of accurately understanding disaster risks and taking specific actions with participation of all members of society from the perspective of self-help (*i.e.* protecting one's own life) and mutual support among residents, communities, and companies.



H.E. Mr. YAMAMOTO, Minister of State for Disaster Management, giving opening remarks



Mr. Akimoto, Vice-chairman of the National Council for Promoting Disaster Risk Reduction (President of the Japan Firefighters Association), giving organizer's speech



"Enhancing Regional Disaster Resilience," a program by the Fire and Disaster Management Agency



"Rescue Workshop," a program by the Japanese Red Cross Society



Panel discussion in the closing session

(2) The 4th National Council for Promoting Disaster Risk Reduction

The 4th National Council for Promoting Disaster Risk Reduction was held at the Large Hall of the Prime Minister's Office on December 25, 2018. In his opening remarks, Prime Minister ABE thanked the participating groups as the host of this convention and expressed his hope for this Council, mentioning the importance of "coordinating public support, self-help, and mutual support efforts, enhancing disaster risk management awareness in communities, and building a 'disaster conscious society' to prepare for all kinds of natural disasters."

Next, the Cabinet Office reported on activities centering on the previously mentioned 2018 National Conference on Promoting Disaster Risk Reduction. Lastly, the Japan Medical Association and the Japan Disability Forum reported measures taken to enhance disaster risk management awareness from the viewpoint of self-help and mutual support.



The 4th National Council for Promoting Disaster Risk Reduction
(Prime Minister ABE)

1-3 Initiatives for Disaster Drills

In the event of a natural disaster, national government institutions, local governments, designated public corporations, and other institutions involved in disaster risk management must work as a unity in cooperation with local residents to respond appropriately to that disaster. Accordingly, it is vital to implement disaster risk reduction initiatives before disaster occurs, such as drills involving collaboration between relevant organizations. For this reason, institutions involved in disaster risk management implement disaster risk management drills

based on the Basic Act on Disaster Management, Basic Plan for Disaster Risk Reduction, and other regulations to check and confirm the emergency measures to be taken when a natural disaster occurs and to enhance residents' awareness of disasters.

In FY2018, the following drills were conducted in accordance with the 2018 Comprehensive Disaster Risk Management Drill Framework, which prescribed the basic policy on conducting disaster risk management drills and details of the government's comprehensive disaster risk management drills.

(1) Comprehensive disaster risk management drills on “Disaster Preparedness Day”

On September 1, 2018, which is Disaster Preparedness Day in Japan, a drill was conducted based on the scenario of operating government disaster headquarters. First, Prime Minister ABE and the rest of the Cabinet Office gathered at the Prime Minister's Office and conducted an operational drill of an Extreme Disaster Management Headquarters (a Disaster Response Headquarters set up in the event of an especially unusual and catastrophic major disaster, such as the Great East Japan Earthquake). This included video-conferences with Governor KONO of Miyazaki Prefecture to ascertain the extent of the damage and the support requested, as well as reports by members of the Cabinet Office about the damage and the response to the disaster. Participants worked with local governments and other bodies to confirm response guidelines that assigned the highest priority to saving human lives, dispatch a governmental investigation team, and establish an On-site Disaster Management Headquarters. Throughout this process, they sought to ensure that the systems required for implementing emergency measures in the immediate aftermath of an earthquake were in place, along with checking the procedures. In addition, part of the meeting was opened up to the media. Afterwards, Prime Minister ABE held a press conference and made a televised appeal to the public via NHK to request their cooperation, self-help and mutual support in the event of a disaster and informed them of the government's initial response measures.

The same day, a joint emergency drill involving nine prefectures and cities was held in a number of locations (primarily Kawasaki City of Kanagawa Prefecture). Prime Minister ABE moved by helicopter from the Prime Minister's Office to the drill venue, where he saw a water-discharge exercise using fireboats and large water cannons based on a scenario of a fire at a refinery. Then, he joined local elementary and junior high school students for a drill in which participants hung yellow towels on house doors to let rescue units know that the residents have evacuated from the house safely, and a drill to make a makeshift stretcher using a blanket and laundry poles. Lastly, he joined rescue and relief drills participated by convoys dispatched from fire stations, police stations, SDF, and neighboring prefectures and cities.



Video conference to determine damage in drills to operate the government headquarters



Prime Minister ABE joining in an exercise to make a makeshift stretcher
(Prime Minister's Official Residence website)

(2) Government Tabletop Exercises

The government conducted a tabletop exercise for a Nankai Trough Earthquake in November 2018 and another exercise for a Tokyo Inland Earthquake in February 2019 to improve the knowledge and proficiency of officials from relevant ministries and agencies and enhance collaboration with relevant organizations. Using simulations that replicated near real life disaster situations, participants tackled practical exercises without having been informed of the drill scenarios in advance. The drills were followed by a review of the effectiveness of emergency measures prescribed in plans and manuals.



Section leader meeting at the secretariat of the extreme disaster management headquarters
(Drill based on a Nankai Trough Earthquake scenario)



Work instruction from section leaders
(Drill based on a Tokyo Inland Earthquake scenario)

The government held regional drills for running on-site extreme disaster management headquarters in the event of the Nankai Trough Earthquake in collaboration with prefectures anticipated to be exposed to hazard, specifically in the Kyushu region (Kumamoto Prefecture) in July 2018, Chubu region (Aichi Prefecture) in November 2018 and Shikoku region (Kagawa Prefecture) in January 2019. It also held a drill for the operation of the on-site extreme disaster management headquarters in Tokyo in February 2019 based on a Tokyo Inland Earthquake scenario.



Drills of the operations of an on-site extreme disaster management headquarters
(Aichi Prefecture)



State Minister of the Cabinet Office H.E. Mr. Nakane takes command as Chief of the Tokyo Extreme Disaster Management Headquarters

1-4 Tsunami Preparedness Initiatives

Loss of life in the event of a tsunami can be reduced to some extent if people take swift, appropriate actions. On November 5, which is the Tsunami Preparedness Day in Japan and the World Tsunami Awareness Day, the

Cabinet Office, relevant ministries and agencies, local governments and private companies, among others, conducted nationwide initiatives to raise awareness of tsunami preparedness.

(1) Tsunami Evacuation Drills

Around the Tsunami Preparedness Day (November 5) in FY2018, the national government (12 ministries and agencies), local governments (180 government bodies) and private companies (74 organizations) held earthquake and tsunami preparedness drills nationwide, in which approximately 900,000 people took part.

These included drills for residents held by the Cabinet Office in partnership with local governments in 10 locations nationwide (Wakkanai City in Hokkaido, Takahama Town in Fukui Prefecture, Izu City in Shizuoka Prefecture, Yuasa Town in Wakayama Prefecture, Yanai City in Yamaguchi Prefecture, Matsumae Town in Ehime Prefecture, Shimanto City in Kochi Prefecture, Amakusa City in Kumamoto Prefecture, Nobeoka City in Miyazaki Prefecture and Naha City in Okinawa Prefecture). Approximately 13,000 citizens participated; learning how to protect themselves if an earthquake were to hit the area (ShakeOut drill) and evacuate to the nearest evacuation site once tremors subsided (evacuation drill). Various other drills were also held according to regional disaster management plans in order to practice skills such as setting up a shelter, installing disaster management headquarters, preparing and serving food to evacuees and first aid.



ShakeOut drill
(Takahama Town, Fukui Prefecture)



Tsunami evacuation drill for primary schoolchildren
(Shimanto City, Kochi Prefecture)



Evacuation drill for persons requiring special care
(Amakusa City, Kumamoto Prefecture)



Opening of shelter
(Wakkanai City, Hokkaido Prefecture)

(2) Public Awareness Campaigns Conducted by the Cabinet Office

(i) Public Awareness Campaign for Tsunami Preparedness

The campaign was deployed nationwide to boost public awareness of appropriate emergency evacuation in the event of a tsunami. The FY2018 campaign included displaying public awareness posters at various locations, including company and local government buildings and customer-facing cash registers at major convenience stores and supermarkets nationwide.



FY2018 public awareness poster

(ii) FY2018 public awareness event on Tsunami Preparedness Day

Every year on November 5, the Tsunami Preparedness Day, the Cabinet Office, National Council for Promoting Disaster Risk Reduction and Council for Promoting Disaster Risk Reduction jointly hold an event to promote awareness of tsunami preparedness. In FY2018, the Special Tsunami Preparedness Day Event “Latest Science × Tsunami × Regional Disaster Risk Management” was held at the Kawasaki Chamber of Commerce and Industry KCCI Hall in Kawasaki City, Kanagawa Prefecture, in which companies, administrative bodies, and voluntary disaster risk management organizations participated.

The event programs included a special seminar presenting the latest scientific discoveries on tsunami and activities carried out according to community disaster management plans from across Japan, as well as a small workshop on tsunami disaster management education tools, which can be used in schools and by communities. At the opening ceremony, Mr. MAITACHI, Parliamentary Secretary of Cabinet Office and Mr. FUKUDA, Mayor of Kawasaki City gave speeches. Mr. MAITACHI said Japan should strive to develop effective tsunami preparedness measures by combining the latest scientific knowledge and community disaster management plans, pointing out that community disaster management plans and efforts made under such plans, which support self-help and mutual support, are highly effective in improving Japan’s total disaster resilience in his speech.

In the special seminar, Mr. IMAMURA Fumihiko, Director of the International Research Institute of Disaster Science (IRIDeS), led the on-site investigation on the damage of the earthquake and tsunami that hit Sulawesi, Indonesia on September 28, 2018, reported in his presentation that it took only six minutes after the earthquake for the tsunami to reach Palu, a city that suffered great damage from the disaster, while landslides, ground subsidence, and liquefaction also occurred concurrently. He pointed out that Japan needed to provide reconstruction support that also encompasses regional development.

Moreover, communities working on community disaster risk management plans made presentations to give an interim report on specific activities carried out in FY2018. The Mori District, Tabe City, Wakayama Prefecture revised evacuation rules, including those for people who need special support in evacuation, while the Nakajima District, Matsuyama City, Ehime Prefecture examined evacuation sites and routes for tsunami using an evacuation simulator. In the panel discussion, panelists shared various opinions based on their experience. One of the panelists pointed out that it is important to deepen collaboration among various community members by securing opportunities for them to share honest opinions, as different people often have different opinions on tsunami preparedness. On the closing note, the panelists pointed out the importance of translating insights gained through this event into specific actions in communities and companies.



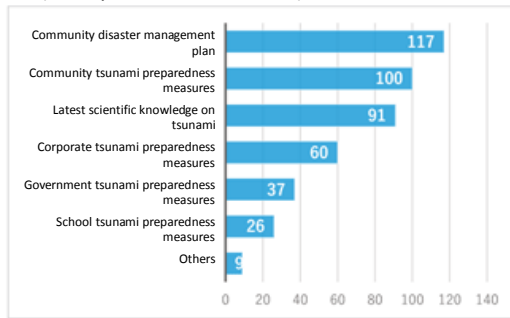
H.E. Mr. MAITACHI, Parliamentary Secretary of Cabinet Office, delivering opening remarks



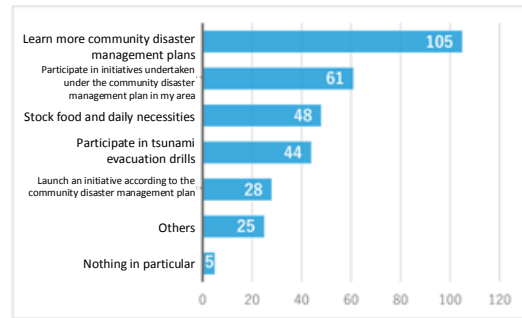
Special Tsunami Preparedness Day Event: Latest Science x Tsunami x Regional Disaster Risk Management

The survey conducted with the event participants (203 valid responses) showed their great interest in community disaster risk management plans. According to the survey results, the most common topic people hoped to learn about in the event (multiple answers allowed) was “community disaster risk management plan” (117), followed by “community tsunami preparedness measures” (100). Also, the most common action that participants hoped to take based on what they learned through the event was “to learn more about community disaster risk management plans” (105), followed by “to participate in initiatives undertaken under the community disaster risk management plan in my neighborhood” (61).

Q. What did you want to learn in this event?
(Multiple answers allowed)



Q. What action would you like to take based on what you learned through this event? (Multiple answers allowed)



Source: Cabinet Office

Column:

Major Tsunami That Hit Indonesia

The overseas natural disaster that caused the most extensive damage in 2018 was the tsunami that hit Indonesia. The magnitude 7.5 earthquake that struck Sulawesi, Indonesia on September 28 caused more than 2,000 fatalities (as of October 2018). The bay of Palu, situated in the middle part of the island, suffered especially severe damage, including the liquefaction and ground failure at nine locations along the coast, which caused tsunamis. The landslides that occurred in these nine spots were caused by a phenomenon called “liquefied gravity flow.” This phenomenon caused a tsunami that reaches the shore in an extremely short time.

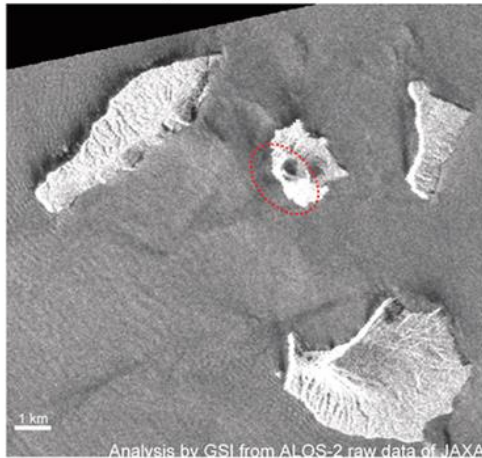
As a result of an on-site investigation by an expert team, the Japan International Cooperation Agency (JICA) found that the tsunami was caused by liquefaction in the coastal areas where the ground foundation was loose, such as the area near the river mouth. It assumes that the tsunami occurred when the sea level temporarily lowered due to landslides in the seabed. Liquefaction also occurred on the island as well, which caused mud flows that killed many people.

On December 22, 2018, there was another tsunami in the Sunda Strait in western Indonesia, which caused more than 400 fatalities. According to the analysis by the Earthquake Research Institute, the University of Tokyo, this major tsunami was not caused by an earthquake, but rather by a massive amount of mountain sediment (200 times the capacity of Tokyo Dome), which collapsed into the sea following a volcanic eruption in Anak Krakatoa. According to a satellite image analysis by the Geospatial Information Authority of Japan, nearly half of the island was lost in this disaster.

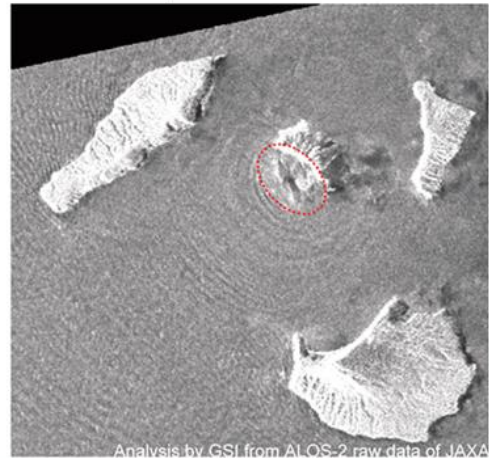
A similar catastrophic event happened in Japan, too. In 1972, a tremendous amount of sediment fell into the Ariake Sea as a result of the collapse of the Mayuyama Dome in front of Mt. Unzen in Shimabara City, Nagasaki Prefecture, which caused a massive tsunami toward Amakusa, Kumamoto Prefecture located on the opposite side of the sea. This major disaster, which is said to have killed about 15,000 people, is called “*Shimabara Taihen Higo Meiwaku*” in Japanese (meaning Shimabara suffers, Higo annoyed”). It is worthy of note that tsunamis caused by a factor other than earthquake, such as a collapse of a mountain, can happen not only overseas, but also in Japan.

Topographic Change Due to an Eruption of Krakatoa, Indonesia

(Before Eruption Aug. 20, 2018)



(After Eruption Dec. 24, 2018)



Source: Geospatial Information Authority of Japan website
(Reference: <https://www.gsi.go.jp/cais/topic181225-index-e.html>)

1-5 Citizen-led Initiatives (Promoting Community Disaster Risk Management Plans)

The community disaster risk management planning system was established following the amendment of the Basic Act on Disaster Management in 2014 with an aim to enhance regional disaster resilience through the promotion of self-help and mutual support initiatives based on cooperation among residents (including companies operating in the area). This system allows community residents (including business operators with offices there) to draft a community disaster risk management plan and present it in the municipal council for disaster management to be reflected in the municipal disaster risk management plan.

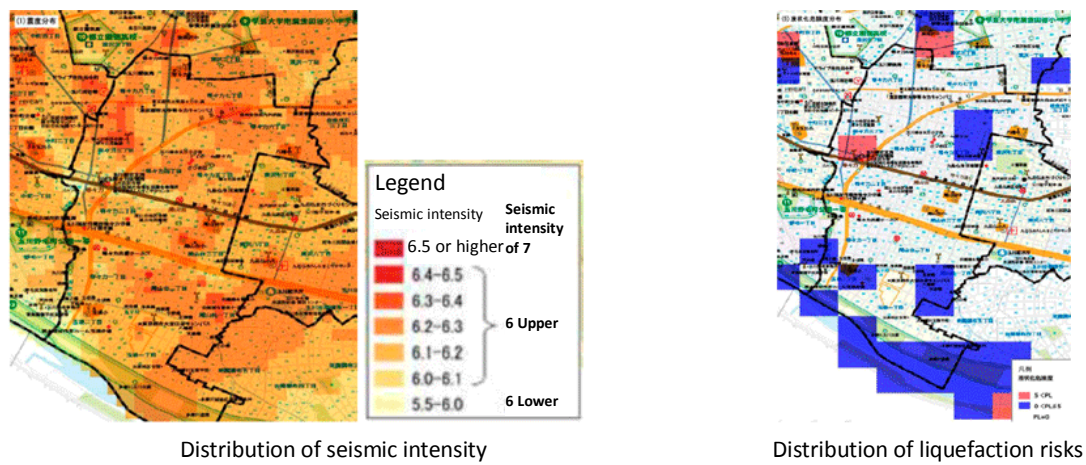
According to a survey by the Cabinet Office, 3,206 communities have worked on developing community disaster risk management plans, of which those from 248 communities have been reflected in municipal disaster risk management plans as of April 1, 2018. Five years after the establishment of the system, formulating a community disaster management plan is becoming more and more common.

(1) Trends Concerning Community Disaster Risk Management Plans

The Cabinet Office analyzed 166 community disaster risk management plans that have been reflected in municipal disaster risk management plans. It was found that they have the following common characteristics.

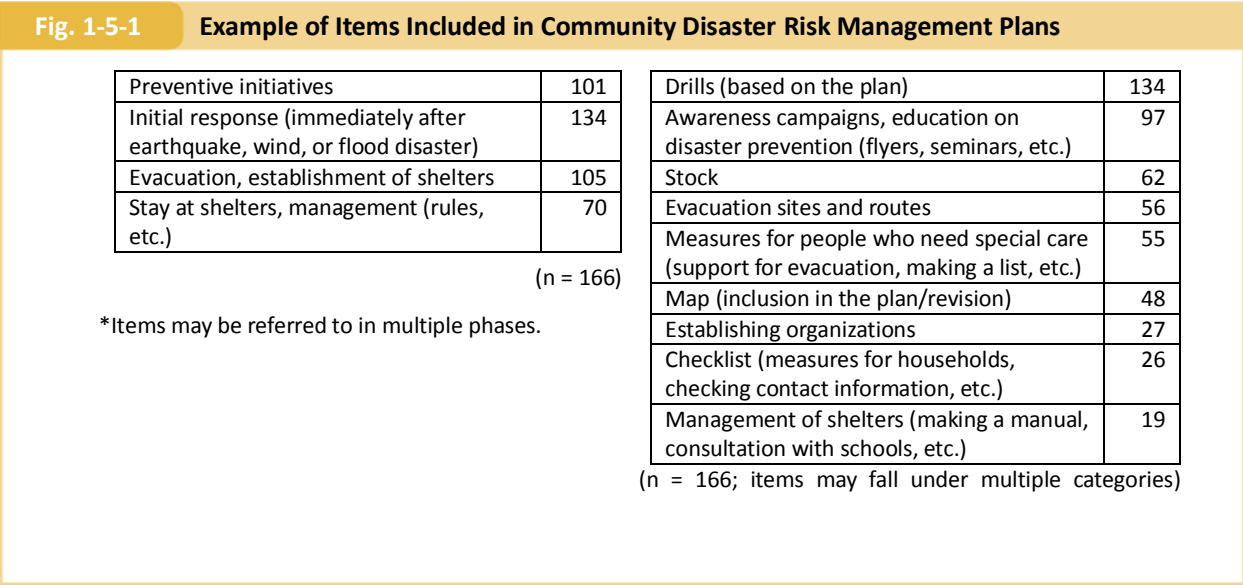
- ① Activities for preparing a community disaster risk management plan were started at the initiative of the local (municipal) government in 69% of the communities. It is important to ensure the appropriateness of government-initiated activities for developing community disaster risk management plans, in order to encourage residents to engage in such activities, keeping in mind that a community disaster risk management plan should be prepared at the initiative of the residents in principle.
- ② In some communities, residents investigated disaster risks, hazard areas, and social characteristics of the area (such as the ratio of older people and day-time and night-time populations). For example, residents examined past disasters in the area (e.g. Ando District, Ozuchi Town, Iwate Prefecture; Taira Shiroyama District, Iwaki City, Fukushima Prefecture), checked hazard areas by laying a disaster map provided by the government over a detailed map of the area (e.g. Todoroki District, Setagaya-ku, Tokyo), mapped hazard spots and issues identified in field studies (e.g. Senju Motomachi District, Adachi-ku, Tokyo), and analyzed

the constitution, history, natural and social environment of the community (e.g. Shuzenji New Town, Izu City, Shizuoka Prefecture).



Source: Todoroki District Community Disaster Risk Management Plan (Earthquake) (prepared in 2017)

③Most plans cover items the community considers necessary in each phase of a disaster, from pre-disaster to initial response immediately after the disaster, evacuation (actions to take and establishment of shelters), and a stay at an evacuation shelter (Fig. 1-5-1).



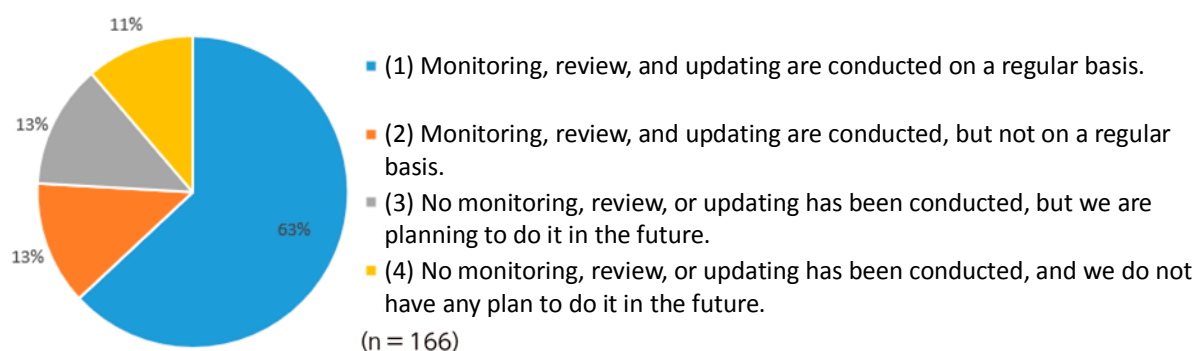
Source: Survey by the Cabinet Office (analysis of community disaster risk management plans that have been reflected in municipal disaster management plans; as of April 2018)

④Many community disaster risk management plans define neighborhood and community associations, voluntary disaster management organizations, and the like as implementing bodies of the plan. Some plans involved collaboration among neighborhood and community associations and volunteer organizations for elderly support (e.g. Uchigo Takasaka District, Iwaki City, Fukushima Prefecture), while others involved collaboration among PTAs, children’s associations, social workers and children’s social workers, and regional security organizations from the viewpoint that a disaster should be tackled by the entire community rather than by a voluntary disaster management organization alone (e.g. Fuji-eki Minami District, Fuji City, Shizuoka

Prefecture). There were also plans that included corporations located in the area. In some communities, residents started activities for developing a community disaster risk management plan for each apartment and housing complex (e.g. UR Oyamada Housing Complex (Kamio City, Saitama Prefecture); Yonemoto Housing Complex (Yachiyo City, Chiba Prefecture)).

⑤ Some communities conducted workshops by residents, disaster prevention drills, seminars, and surveys in the planning process in order to identify local challenges. From the viewpoint of enhancing the effectiveness of the plan, it is important to involve various local organizations (e.g. schools, welfare facilities, community development NPOs) in the planning process and share among various entities residing or operating in the area issues that may arise in the event of a disaster as well as what kind of support each member can offer to the community. It is vital to follow a careful preparation process and take as much time as it requires, rather than rushing to complete the plan.

⑥ Community disaster risk management plans should be regularly revised and updated as necessary. According to the survey results, 63% of the communities revises the plan on a regular basis, and 13% on a non-regular basis.



Also, some communities held meetings, panel exhibitions, and disaster management programs at local events in order to raise residents' awareness on the community disaster risk management plan (e.g. Miyoshi District, Ozu City, Ehime Prefecture).

(2) Initiatives by the Cabinet Office

① Community Disaster Risk Management Plan Forum

In order to share examples and experience related to community disaster risk management plans and promote their formulation, the Cabinet Office held “the 2019 Community Disaster Risk Management Plan Forum: Various Approaches to Community Disaster Risk Management Planning” in Osaka City on March 16, 2019. In this forum, with the attendance of H.E. Mr. YAMAMOTO, Minister of State for Disaster Management, various participants shared case studies from their areas. Osaka City shared the example of the community disaster risk management plan of Miyoshi District, Ozu City, which proved to be remarkably effective during a disaster in 2018. Kurashiki City, Okayama Prefecture shared its intention to develop a community disaster risk management plan based on the lessons learned from disasters in 2018. The Urban Renaissance Agency, office buildings, and fire fighters also shared community disaster risk management plans they had been working on.



H.E. Mr. YAMAMOTO, Minister of State for Disaster Management, delivering opening remarks



Community Disaster Risk Management Plan Forum

② Establishment of Chikubo'z, a Network of Local Government Officials Working on Community Disaster Risk Management Plans

During the closing ceremony of the above forum, a network of local government officials working on community disaster risk management plans, named Chikubo'z, was officially established. Chikubo'z is intended to help local government officials share with each other information, opinion, and experience concerning community disaster risk management plans more easily on a daily basis. As of the end of March 2019, 253 officials have joined the network. Full-fledged opinion exchange will be promoted from FY2019 onward.



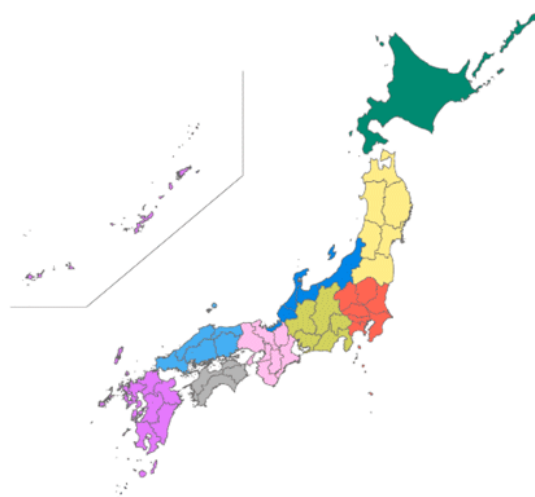
Local government officials that participated in the forum (members of Chikubo'z)

③ Establishment of the Community Disaster Risk Management Plan Library

In April 2019, the Cabinet Office opened an online library of community disaster risk management plans that have been reflected in municipal disaster risk management plans. The uploaded plans can be browsed on the Cabinet Office website and can be searched by index attached according to the content of the plan (e.g. issues covered, countermeasures, implementing body, etc.). This library is intended to help planners clearly understand what they should aim for in a community disaster risk management plan by providing an easy way to search plans across Japan.

Learn

As a first step, please click a region on the map that you are interested in.

**Search by topics**

Start by choosing a category (issues, countermeasures, or implementing bodies) to search by topics

- [Issues](#)
- [Countermeasures](#)
- [Implementing bodies](#)

Search by prefecture

You can choose from nine prefectures.

- [Hokkaido](#)
- [Tohoku](#)
- [Kanto](#)
- [Hokuriku](#)
- [Chubu](#)
- [Kinki](#)
- [Chugoku](#)
- [Shikoku](#)
- [Kyushu/Okinawa](#)

Source: Cabinet Office website

(Reference: <http://www.bousai.go.jp/kyoiku/chikubousai/chikubo/chikubo/index.html>)

1-6 Development of an Enabling Environment for Volunteer Activities

The year 1995, in which the Great Hanshin-Awaji Earthquake occurred, is known as the beginning year of volunteerism, since which time volunteer activities in affected areas have played an increasingly vital role. Individual volunteers, NPOs, and other organizations that gathered in the affected areas have provided support for affected people in the fields that are difficult for public support to reach. The Cabinet Office has strived to make an environment that facilitates volunteers' support for the affected people. As a result, it has become more common to address disasters under tripartite collaboration among the government, volunteers, and NPOs, as seen in the 2016 Kumamoto Earthquake, July 2017 Northern Kyushu Heavy Rain, and Heavy Rain Event of July 2018.

For the Heavy Rain Event of July 2018, the government, volunteers, and NPOs held regular information sharing meetings to coordinate operation areas and support activities for the affected people in the affected areas, including Okayama, Hiroshima, and Ehime Prefectures. Moreover, national information sharing meetings were held to share with other prefectures issues that a prefecture cannot solve on its own and to seek effective solutions through inter-regional collaboration. With the attendance of the Cabinet Office and organizations which support the affected people, various active discussions were held on such topics as the recruitment of volunteers and procurement of necessary materials and equipment according to the situation of the affected area. In order to prepare for major disasters, which are predicted to occur in the future, it is important for each region to have established a collaborative network among the government, volunteers, and NPOs before a disaster occurs.

Recent Trends Concerning DRR Volunteer Activities

<Major disasters and volunteer activities>			<Trends concerning volunteerism>	<Measures taken by the government>
(Year)	(Disaster)	(Total number of volunteers)		
1995	The Great Hanshin-Awaji Earthquake	Approx. 1,377,000	☆ Volunteerism for affected people support became more active (beginning year of volunteerism). ★ The situation became chaotic as many volunteers rushed to disaster affected areas.	■ Amendment of the Basic Act on Disaster Management (1995) Stipulated that the government would strive to establish an environment for disaster volunteerism
1997	The marine accident involving the M.V. Nakhodka	Approx. 270,000		
2004	Typhoon Tokage (0423)	Approx. 56,000	☆ It became common that Councils of Social Welfare establish and manage disaster volunteer centers (VCs).	■ Investigative Committee on Volunteer Activities Launched by the Cabinet Office in 2004
2004	The Mid Niigata Prefecture Earthquake	Approx. 95,000		
2007	Noto Hanto Earthquake	Approx. 15,000		
2007	The Niigataken Chuetsu-oki Earthquake	Approx. 15,000		
2009	Typhoon Etau (0909)	Approx. 22,000		
2011	The Great East Japan Earthquake	Approx. 1,500,000	☆ Volunteer activities by NPOs, NGOs, companies, etc. (approx. 4 million volunteers worked outside the management of disaster VCs) ☆ Various needs were fulfilled by expert volunteers. ★ Building a network became a challenge.	■ Amendment of the Basic Act on Disaster Management (2013) Stipulated that the government would strive for effective collaboration with volunteers The Basic Plan for Disaster Risk Reduction was also revised.
2014	Hiroshima Torrential Rain	Approx. 43,000		
2015	Torrential Rain in the Kanto and Tohoku Regions	Approx. 47,000	★ The need for intermediaries to coordinate NPO volunteer activities was noted.	
2016	The Kumamoto Earthquake	Approx. 118,000	☆ Information sharing meetings were held under tripartite collaboration among the government, NPOs, and volunteers (Hinokuni Meeting) ☆ The JVOAD was established as an intermediary.	■ Guidebook for tripartite collaboration (April 2018) ■ Revision of the Basic Plan for Disaster Risk Reduction (2018) Stipulated that the government would strive to establish a collaborative network incorporating intermediaries
2017	Northern Kyushu Heavy Rain	Approx. 60,000		
2018	Heavy Rain Event of July 2018	Approx. 263,000	☆ Information meetings were held in the affected areas. ☆ Information meetings were held on prefectural and national levels.	
2018	Hokkaido Eastern Iburi Earthquake	Approx. 11,000		

Source: Formulated by the Cabinet Office based on materials provided by the Ministry of Health, Labour and Welfare, and documents and reports by the Japan National Council of Social Welfare

(1) Coordination and Collaboration of DRR Volunteer Activities

The Cabinet Office held a Study Group on Promoting Volunteer Activities Contributing Generally to Disaster Risk Reduction from FY2015 to FY2016, and summarized the issues in promoting volunteer activities and proposals on these issues, upon which the Study Group on Developing an Environment for DRR Volunteer Activities was held in 2017. The study group issued in April 2018 the Guidebook for the Government in Collaboration and Coordination with NPOs and Volunteers, which mainly covered tasks assigned to administrative officers before and after a disaster, with a view to promoting collaboration and coordination with NPOs and volunteers. It deals with basic government policies to collaborate with NPOs and volunteers and specific initiatives for promoting collaboration, under both normal times and disasters accordingly (Reference: http://www.bousai.go.jp/kaigirep/kentokai/bousai_volunteer_kankyoseibi/index.html).

With a view to further promoting collaboration and coordination among the government, NPOs, and volunteers, a meeting of the Study Group on Collaboration and Coordination of DRR Volunteer Activities was held in FY2018. Based on what was discussed in this meeting, the government held Seminars for Collaboration and Coordination among the Government, NPOs, and Volunteers in the Event of a Disaster in six locations. Each seminar had approximately 100 participants from the government, Councils of Social Welfare, and NPOs. The seminars revealed the importance of building a face-to-face relationship among the government, volunteers, and NPOs from before a disaster in order to ensure that they can smoothly work in coordination to support affected people in the event of a disaster. There was also a workshop aimed at building a collaborative network with various support entities, which helped participants gain clearer understanding on such collaboration.

<Seminar Venues>

- Gifu Prefecture (November 30, 2018): 103 participants (34 from the government, 27 from Councils of Social Welfare, and 42 from NPOs)

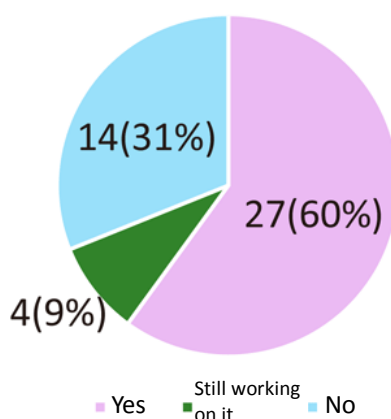
- Miyazaki Prefecture (December 17, 2018): 114 participants (41 from the government, 31 from Councils of Social Welfare, and 42 from NPOs)
- Yamaguchi Prefecture (December 21, 2018): 68 participants (24 from the government, 17 from Councils of Social Welfare, and 27 from NPOs)
- Oita Prefecture (February 4, 2019): 126 participants (26 from the government, 30 from Councils of Social Welfare, and 70 from NPOs)
- Chiba Prefecture (February 11, 2019): 75 participants (20 from the government, 24 from Councils of Social Welfare, and 31 from NPOs)
- Hokkaido Prefecture (March 9, 2019): 46 participants (17 from the government, 16 from Councils of Social Welfare, and 13 from NPOs)



Seminars for Collaboration and Coordination among the Government, NPOs, and Volunteers in the Event of a Disaster

The government also conducted a survey with prefectures on the establishment of a council or network incorporating NPOs, Social Welfare Council and various other entities. 60% of the prefectures responded that they had such a network, while 31% did not. It is important to further promote the establishment of such DRR network, while clarifying the functions and roles of existing networks and expanding the circle of collaboration.

Has a prefectural DRR network with various entities been established? (As of April 1, 2018)



Source: Cabinet Office (2 prefectures did not respond)

(2) Drills in collaboration with government and volunteers

In order to ensure smooth collaboration and coordination among the government, NPOs, and volunteers in the event of a disaster, it is important to promote mutual interaction and understanding before the disaster through drills and workshops. The Cabinet Office holds such events in order to provide opportunities for the government, NPOs, and volunteers to meet face-to-face and gain deeper mutual understanding on various

challenges concerning collaboration and coordination.

For FY2018, a drill was conducted in Fukuoka Prefecture in March 2019. During the July 2017 Northern Kyushu Heavy Rain, information sharing meetings were launched in the affected areas, including Asakura City, Fukuoka Prefecture, under tripartite collaboration among the government, volunteers, and NPOs. In the drill, a practical exercise simulating the establishment of an information sharing meeting was conducted with the attendance of the member of the information sharing meeting for the July 2017 Northern Kyushu Heavy Rain, with a view to reviewing the disaster and ensuring the swift setup of a meeting for future disasters.

The drill effectively promoted participants' understanding of tripartite collaboration. One of the participants said, "I would like to start with what I can do to solve various issues identified in the drill. I think it is important to build a network with local companies and various other entities before a disaster."

<Drill Venue>

- Fukuoka Prefecture (March 5, 2019): 52 participants (16 from the government, 11 from Councils of Social Welfare, and 25 from NPOs)



Drill on collaboration among the government, NPOs and volunteers
(Fukuoka Prefecture)

1-7 Development of Business Continuity Systems

(1) Development of Business Continuity Systems by National Government's Ministries and Agencies

The national government's ministries and agencies have reviewed their business continuity plans (BCPs) as required according to the Business Continuity Plan of the National Government (Measures for the Tokyo Inland Earthquake) formulated by the Cabinet in March 2014. Based on the Plan, the Cabinet Office conducts annual assessment on its BCP with experts. It also held a training session to prepare for and install disaster management headquarters of the national government's ministries and agencies in the vicinity of the Tachikawa Regional Disaster Management Base in December 2018. The government service continuity system will be implemented in the event of a potential Metropolitan Inland Earthquake through these initiatives to smoothly continue administrative operations.

(2) Development of Business Continuity Systems by Local Governments

Local governments need to maintain their administrative function and continue to work even when a disaster occurs. Therefore, it is extremely important for them to have their own BCP in place and establish its implementation system before a disaster occurs. The BCP preparation rate of local governments had reached

100% by the end of FY2016. In terms of municipalities (including special zones), this ratio increased from the previous survey by 17 points to 81% in June 2018 (Fig. 1-7-1).

The Cabinet Office published the Business Continuity Plan Formulation Guidelines for Municipalities in FY2015, aiming to make BCP planning easier for all municipalities, including small municipalities and special zones. In addition, the Cabinet Office amended the Business Continuity Manual for Local Governments During Earthquake Disasters to take account of past disasters, published the revised version in February 2016 under the title Business Continuity Manual for Local Governments During Major Disasters, and distributed it to local governments.

Should a major disaster occur, it will be difficult for the affected municipalities to carry out an extensive range of disaster response operations singlehandedly. Accordingly, the Cabinet Office published the Guidelines on Local Government Aid Acceptance Systems in Case of Disaster in FY2016, based on an understanding that local governments should have a BCP in place and establish a system to smoothly and effectively receive assistance from the national government, other local governments, private companies, volunteer organizations and others.

Moreover, since FY2015, the Cabinet Office has held workshops (co-organized by the Cabinet Office and the Fire and Disaster Management Agency) to train relevant municipal employees in order to support the establishment of a system for business continuity in local governments.

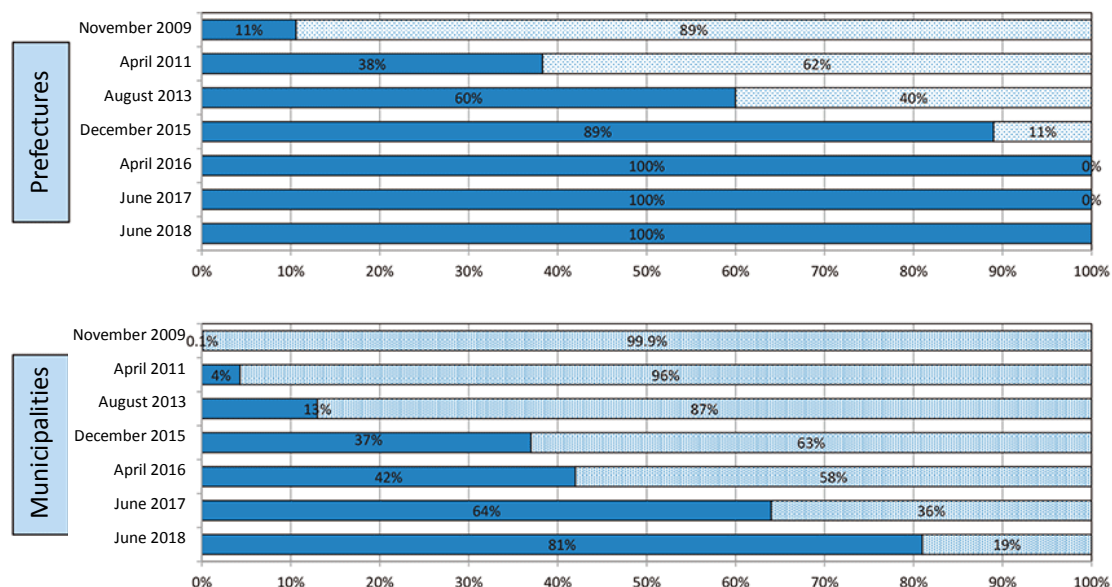
Together with the Ministry of Internal Affairs and Communications (MIC) and the Fire and Disaster Management Agency, the Cabinet Office will continue to promote through the above initiatives the establishment of business continuity systems in local governments, which involves the formulation of BCPs, enhancement of the Six Critical Factors* in formulated BCPs, and the establishment of a structure to receive support.

Note) Six Critical Factors: (1) clearly defined leadership structure in the case of absence of the mayor, and a system to gather employees; (2) specification of an alternative building to use when the local government's main building has become unavailable; (3) procurement of electricity, water, food, etc. (which are necessary for employees to perform their duties); (4) various communication means that tend to be available even in the event of a disaster; (5) backup of important administrative data; and (6) priority duties in the event of a disaster.

Reference: Guidelines for Business Continuity of Local Governments in the Event of a Major Disaster; Cabinet Office; <http://www.bousai.go.jp/taisaku/chihogyomukeizoku/index.html>

Fig. 1-7-1 BCP Preparation Rate in Local Governments

The BCP preparation rate reached **100% in prefectures and 81% in municipalities** as of June 1, 2018.



Source: November 2009 Survey of Business Continuity Plans Based on an Earthquake Disaster (Cabinet Office and Fire and Disaster Management Agency Survey)
 April 2011 Local Government Information Management Report (March 2012) Ministry of Internal Affairs and Communications
 August 2013 Local Administration Bureau Regional Information Policy Office Survey
 August 2013 BCP Preparation Rate for Large-Scale Earthquakes and Other Natural Disasters (preliminary figures) (Fire and Disaster Management Agency Survey)
 December 2015 Survey of the Preparation of Business Continuity Plans and the Formulation of Specific Criteria for the Issuance of Evacuation Advisories by Local Governments (Fire and Disaster Management Agency Survey)
 April 2016 Survey of the Current Status of the Preparation of Business Continuity Plans by Local Governments (Fire and Disaster Management Agency Survey)
 June 2017 Survey of the Current Status of the Preparation of Business Continuity Plans by Local Governments (Fire and Disaster Management Agency Survey)
 June 2018 Survey of the Current Status of the Preparation of Business Continuity Plans by Local Governments (Fire and Disaster Management Agency Survey)

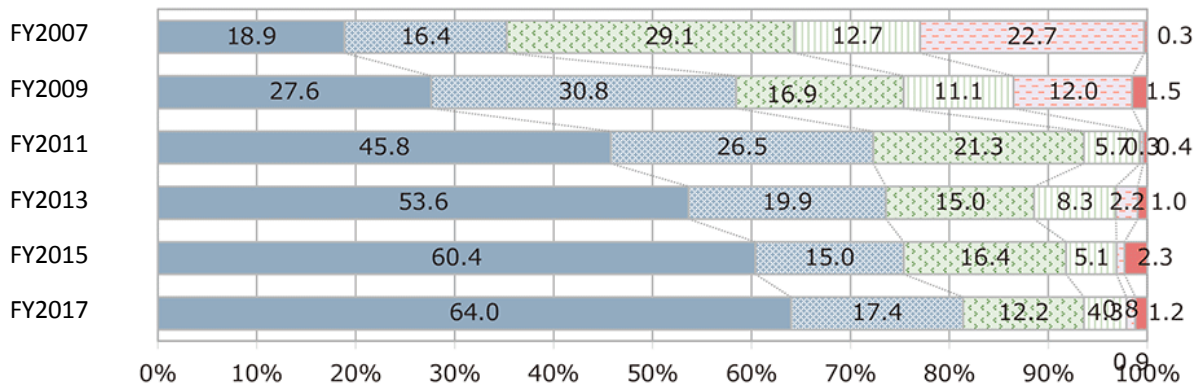
(3) Development of Business Continuity Systems by private sector companies

The Great East Japan Earthquake in 2011 clearly highlighted the importance of incorporating business continuity management (BCM) into the routine management strategy of companies. As such, in 2013, the Cabinet Office revised the guidelines to incorporate the concept of BCM and published them under the title “Business Continuity Guidelines (Third Edition) - Strategies and Responses for Surviving Critical Incidents –”. Companies are encouraged to build a business continuity system in accordance with these Guidelines.

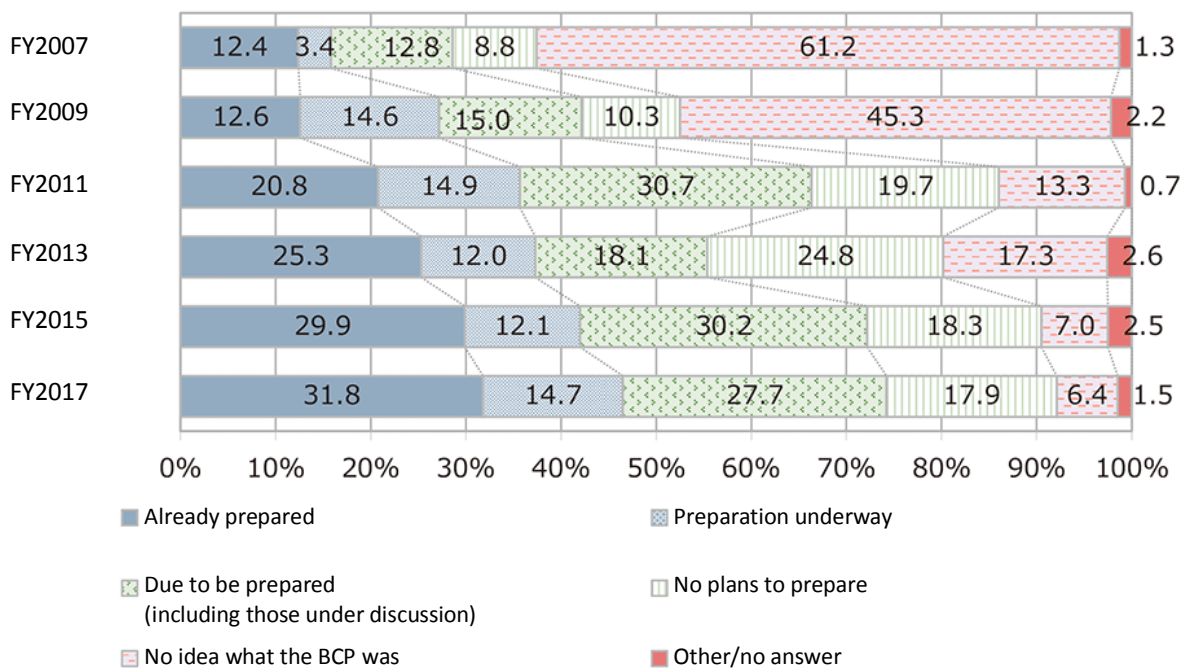
In terms of specific government targets, the Action Plan for National Resilience 2018 sets a goal of ensuring that 100% (nationwide) of large companies and 50% (nationwide) of medium-sized companies have prepared BCPs by 2020. The Cabinet Office conducts a survey every second fiscal year, to ascertain what proportion of private sector companies have prepared a BCP and investigate their disaster preparedness initiatives. The results of the FY2017 Survey on Company Business Continuity and Disaster Preparedness Initiatives, which was conducted in March 2018, showed that formulation of BCPs was on the rise, with 64.0% of large companies (60.4% in the previous survey) and 31.8% of medium-sized companies (29.9% in the previous survey). When companies currently in the process of formulating a BCP are also included, these figures rise to approximately 80% and just under 50%, respectively (Fig. 1-7-2).

Fig. 1-7-2 Preparation of BCPs by Large and Medium-sized Companies (No. of companies: 1,985)

[Large companies]



[Medium-sized companies]



Source: Cabinet Office website (Release of the Results of the Fact-Finding Survey on Company Business Continuity and Disaster Preparedness Initiatives; June 2018)
 (Reference: <http://www.bousai.go.jp/kyoiku/kigyou/topics/index.html>)

The Cabinet Office conducted “the Survey on Corporate Response Measures to Prepare for Natural Disasters” targeting companies located in the areas that suffered significant damage from major disasters in FY2018 in order to grasp their status of BCP formulation and the implementation or development of preparedness measures and post-disaster response measures (Fig. 1-7-3).

Fig. 1-7-3

Collection Rate of Questionnaires in FY2018 Company Survey (No. of companies: 1,613)

Industry	Number of respondents	Industry	Number of respondents	Industry	Number of respondents
Fisheries, agriculture, and forestry	11	Non-ferrous metals	8	Information and communications	82
Mining	1	Metals	35	Wholesale trade	157
Construction	174	Machine manufacturing	80	Retail trade	149
Food manufacturing	50	Electrical equipment manufacturing	66	Real estate	50
Textile	23	Transportation equipment manufacturing	51	Service	202
Pulp and paper	15	Precision equipment manufacturing	19	Banking	45
Chemicals	70	Other manufacturing industry	44	Securities, commodity futures trading	7
Pharmaceuticals	20	Electricity and gas	24	Insurance	8
Oil and coal	11	Land transportation	86	Other financial business	8
Rubber product manufacturing	10	Marine transportation	8	Others	39
Glass, soil and stone	23	Air transportation	2		
Iron and steel	14	Warehouse/transportation-related business	21	Total	1,613

Item	Number of employees of the respondent company	Total	301 or more	51-300	50 or less	No response
Number of respondents		1,613	678	557	329	49
Number of respondents that have formulated a BCP		699	489	177	33	-
Proportion of companies that have formulated a BCP*		43.3%	30.3%	11.0%	2.0%	

*The divisor is 1,613, which also includes non-respondents.

Note) The number of respondents by area struck by natural disasters in FY2018 is as follows:

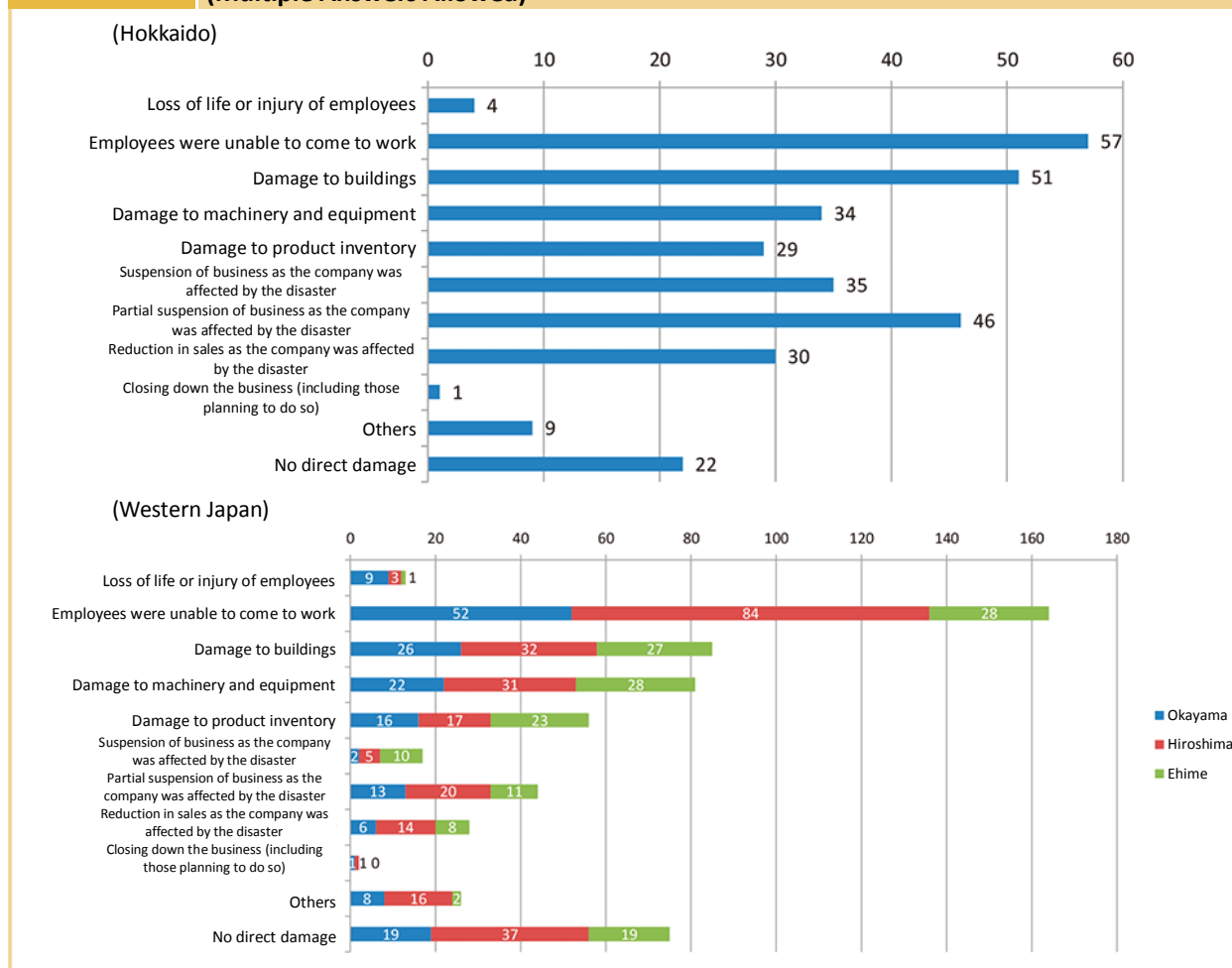
- Area affected by the Hokkaido Eastern Iburi Earthquake: 198 (Hokkaido Prefecture)
- Area affected by the Northern Osaka Earthquake: 216 (Osaka Prefecture)
- Areas affected by the Heavy Rain Event of July 2018 (western Japan torrential rains), Typhoons Jebi (1821) and Trami (1824): 173 (Okayama Prefecture), 199 (Hiroshima Prefecture), 153 (Ehime Prefecture)
- Business clusters (area that was free of disasters): 383 (Tokyo)
- Other prefectures: 291

Source: Formulated by the Cabinet Office based on the Survey on Corporate Response Measures to Prepare for Natural Disasters

The survey results showed that the proportion of companies that had formulated a BCP was higher among larger companies, which was also observed in the FY2017 Survey on Company Business Continuity and Disaster Preparedness Initiatives. For the question of what kind of direct damage respondents suffered from the disaster, the most common answer was that “employees were unable to come to work” in both affected areas, namely Hokkaido and western Japan (Ehime, Okayama, and Shimane Prefectures). Therefore, existing BCPs should be revised to see if they include a scenario where not all of the employees can come to work (Fig. 1-7-4).

Fig. 1-7-4

Direct Damage Companies Suffered from Natural Disasters That Occurred in FY2018 (Multiple Answers Allowed)



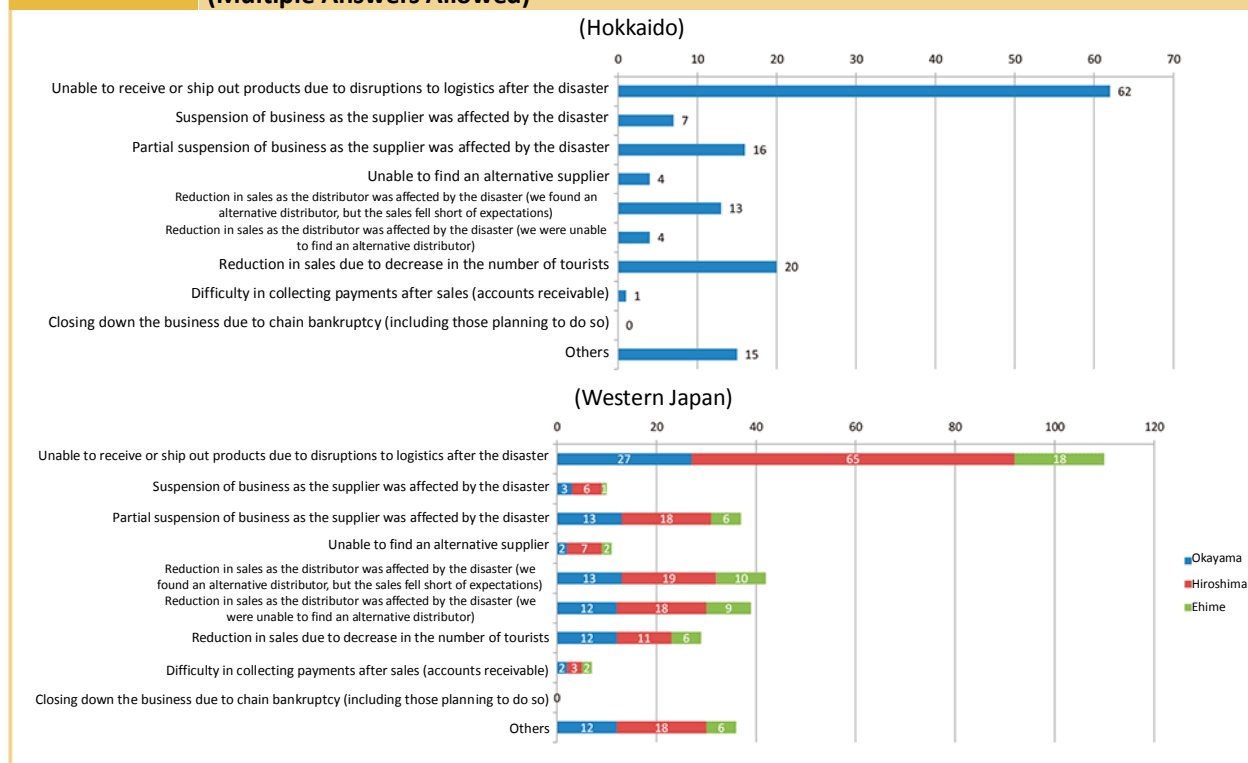
Note) The number of respondents by prefecture is as follows: Hokkaido Prefecture - 318 in total; Okayama Prefecture - 174 in total; Hiroshima Prefecture - 260 in total; Ehime Prefecture - 157 in total.

Source: Formulated by the Cabinet Office based on the Survey on Corporate Response Measures to Prepare for Natural Disasters

When asked about indirect damage from disasters, the most common answer was that they were “unable to receive or ship out products due to disruptions to logistics after the disaster,” followed by the second most common response that they were “affected by suppliers and distributors that were affected by the disaster” (Fig. 1-7-5). Therefore, companies should be prepared for the case in which they themselves are not directly affected by a disaster, and incorporate such a scenario in the BCP (such as including measures to prevent indirect damage).

Fig. 1-7-5

Indirect Damage Companies Suffered from Natural Disasters That Occurred in FY2018 (Multiple Answers Allowed)



Note) The number of respondents by prefecture is as follows: Hokkaido Prefecture - 142 in total; Okayama Prefecture - 96 in total; Hiroshima Prefecture - 165 in total; Ehime Prefecture - 60 in total.

Source: Formulated by the Cabinet Office based on the Survey on Corporate Response Measures to Prepare for Natural Disasters

As seen above, a BCP solely focused on the company itself would not be able to mitigate direct and indirect damage sufficiently in the event of a disaster. When asked about inter-company collaboration (meaning that different companies share the BCP in part or in whole or that the BCP includes measures to be carried out under collaboration of different companies), 309 respondents answered that they were working on a BCP involving group companies and partners. Among these respondents, 290 companies were developing a BCP encompassing the entire company group. The number of companies involved in a BCP was mostly a few, while some BCPs included more than a few companies.

The Cabinet Office will continue to undertake initiatives to popularize and raise awareness of BCP preparation based on the outcomes of surveys, with the aim of encouraging companies to formulate a BCP and engage in BCM.

1-8 Partnerships with Private Sector

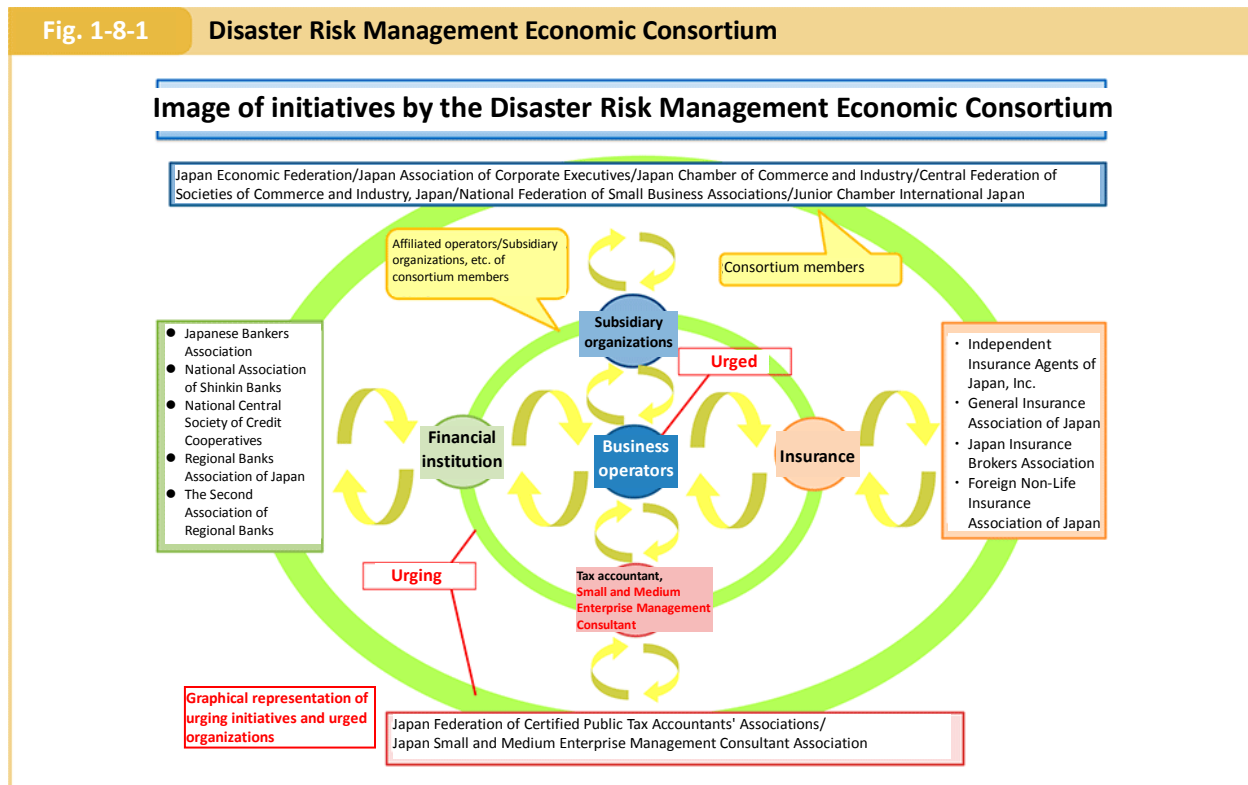
To improve the capability of disaster risk management in the entire society, private business operators must also improve their preparations for large scale natural disasters. In this context, the Disaster Risk Management Economic Consortium was launched by 13 economic groups on March 23, 2018 to provide a venue for exchanging opinions and communicating with each other (Fig. 1-8-1).

The Cabinet Office promotes such private initiatives by sharing information under the framework of public-private collaboration. In FY2018, the Cabinet Office published a simulation of earthquake damage (losses estimation tool) on its website for corporate use.

Reference: <http://www.bousai.go.jp/kyoiku/consortium/index.html>

Fig. 1-8-1

Disaster Risk Management Economic Consortium



Source: Cabinet Office

Soon after its launch, the Disaster Risk Management Economic Consortium issued the Principles of Disaster Risk Management Economic Action on March 23 as the common concept of business operators on preparations for disasters (Fig. 1-8-2).

In FY2018, the members of the 13 economic groups carried out awareness raising activities to ensure that the Principles are known and understood by their subordinate groups. Through activities to promote the Principles, various entities developed a structure to thoroughly and continuously promote corporate disaster risk management. Also, four secretariat meetings were held for information sharing and interaction among the consortium members. Each member shared its disaster preparedness and response measures, while government organizations shared information on disaster risk management. Four new organizations plan to join the Consortium in FY2019. The Cabinet Office intends to promote the total disaster resilience of society using an SME-based approach, working in collaboration with the Small and Medium Enterprise Agency on the SME Resilience Enhancement Measures (support measures concerning the formulation of business continuity capacity enhancement plans and support measures for companies whose plans were approved).

Principles of Disaster Risk Management Economic Action

March 23, 2018

Disaster Management Economic Consortium

[Preface]

Since Japan is prone to natural disasters, it is important for business operators to make decisions aware that disaster risk management is what underpins business management. For large scale disasters in particular, it is critical for business operators to make preparations as described in (1) to (4) below based on self-help and mutual support approaches because of the limitations of public support.

- (1) Business operators adequately recognize and determine disaster risks on their own.
- (2) Business operators take measures against disasters using effective disaster risk management by combining risk control (seismic retrofitting, BCP measures, etc.) and risk finance (purchase of insurance, loans, cash holding, etc.) depending on the recognized disaster risks.
- (3) Business operators raise awareness among their executives and employees on disaster management through disaster management education to make proactive activities possible.
- (4) Business operators ensure collaboration and communication with their business partners essential for their business management such as financial institutions, employers' associations and other related organizations, and take self-help and mutual support-based disaster management measures.

The Principles of Disaster Risk Management Economic Action must be respected in the activities of consortium members to boost disaster risk management capability across society by making self-help and mutual support-based preparations.

[Principles of Disaster Risk Management Economic Action]

1. The members of the Disaster Risk Management Economic Consortium must strive to achieve the preparations (1) to (4) as described in the Preface.
2. The members of the Disaster Risk Management Economic Consortium must strive to the improve disaster risk management capability across the entire society by sharing as much insight as possible and distributing information to business operators.
3. The members of the Disaster Risk Management Economic Consortium must strive to promote public awareness and education to improve the disaster risk management capability of business operators by employing ingenuity, according to the characteristics of the industries to which the members belong.

End.

Source: Cabinet Office website

(Reference: <http://www.bousai.go.jp/kyoiku/consortium/index.html>)

1-9 Initiatives by Academic Communities

A wide range of research is being conducted in Japan on the subject of disaster risk management, including hazards such as earthquakes, tsunamis, volcanoes, and meteorological phenomena; civil engineering; buildings; seismic proof structures; emergency medical care; environmental health and other medical care and hygiene issues; geography; history and other aspects of human life; information; and energy. The Great East Japan Earthquake led to an awareness that disaster risk management and mitigation research from a comprehensive perspective that integrated all these fields is essential, giving rise to a need for interdisciplinary

collaboration through information sharing and interaction with other fields across the boundaries of different specialisms. Accordingly, following discussions with the Science Council of Japan and various other relevant academic societies, the Japan Academic Network for Disaster Reduction (JANDR) was established to serve as a network of academic societies involved in disaster risk management, mitigation, and reconstruction. The network comprised 47 academic societies among its membership at the time of its launch in January 2016, but this figure had grown to 57 by the end of March 2019.

With an aim to strengthen pre-disaster and emergency collaboration between academia and the government, the JANDR held the first Liaison Conference on Disaster Risk Management among the Science Council of Japan, Academic Societies, and Government Ministries and Agencies on June 5, 2018, which was participated by 56 member academic societies, the JANDR, Science Council of Japan (SCJ), and the representatives of ministries and agencies engaged in DRR. In the Heavy Rain Event of July 2018 (western Japan torrential rains), the JANDR issued the Emergency Message to People in Japan Regarding the Western Japan Torrential Rains on July 22, 2018. It also co-hosted the Emergency Reporting Session on the Western Japan Torrential Rains with the SCJ on September 10, 2018. Lastly, on March 12, 2018, the JANDR held the Conference for Academic Studies on Consecutive Natural Disasters That Occurred in the Summer of 2018.



First Liaison Conference on Disaster Risk Management among the Science Council of Japan, Academic Societies, and Government Ministries and Agencies

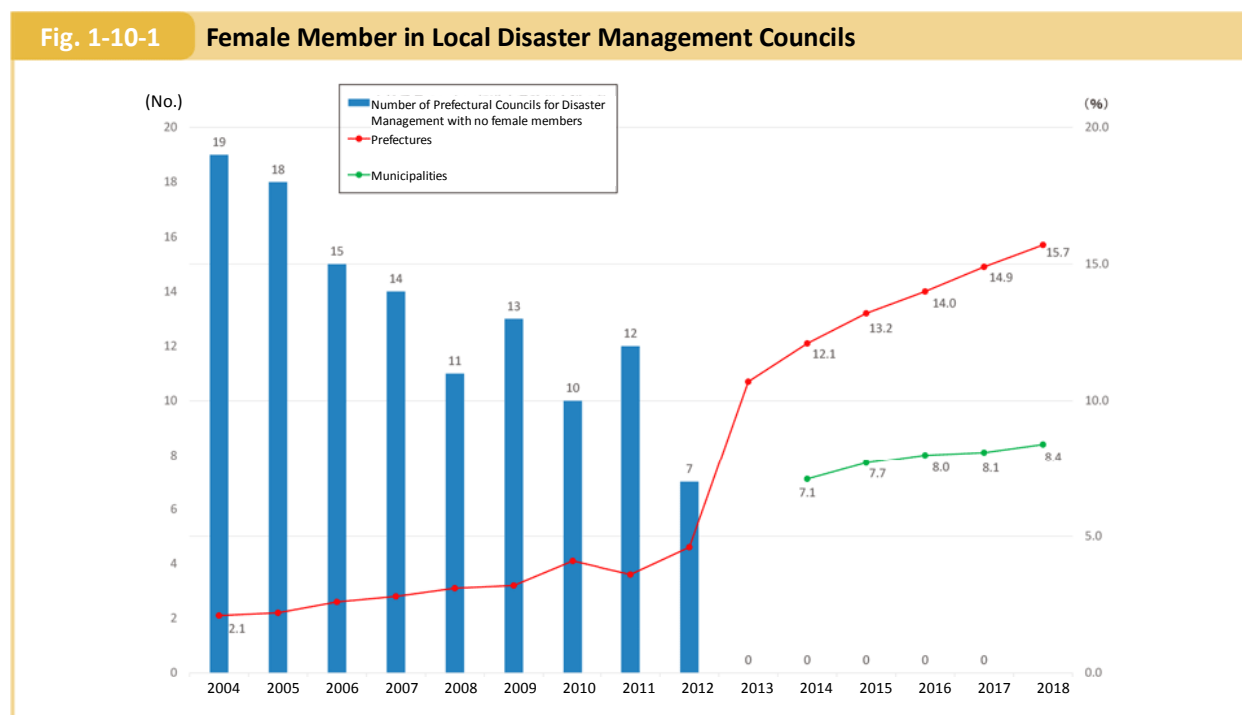
1-10 Initiatives from the Perspective of Gender Equality

In the Fourth Basic Plan for Gender Equality (approved by the Cabinet on December 25, 2015) and the Basic Plan for Disaster Risk Reduction (approved by the National Disaster Management Council on February 16, 2016), the Cabinet Office has specified that consideration must be given to the differing needs of men and women in all aspects of disaster risk management, including pre-disaster prevention, emergency response, and recovery and reconstruction. Moreover, these plans require efforts to be made to promote women's participation in decision-making forums relating to both disaster risk management and reconstruction (Figs. 1-10-1 to 1-10-3).

In addition, the Cabinet Office consolidated the Guidelines for Disaster Planning, Response, and Reconstruction from a Gender-Equality Perspective (2013), based on lessons from the Great East Japan Earthquake and responses to other past disasters. Serving as a basic set of guidelines for local governments from a gender equality perspective when implementing the necessary measures and responses, these have been shared with local governments, as well as relevant groups and organizations. Various problems emerged in the Great East Japan Earthquake due to failure to sufficiently consider the stockpiling and provision of supplies and the shelter operation. Among the issues raised were the lack of specific supplies for women and

a failure to provide breastfeeding or changing places.

Using these guidelines, the Cabinet Office has sought to encourage local governments to take action before disaster occurs, for example, by increasing the number of female representatives in the Local Disaster Management Council and undertaking initiatives aiming to reflect gender equality perspectives when preparing and revising the Local Plans for Disaster Risk Reduction. Following the 2016 Kumamoto Earthquake and the Heavy Rain Event of July 2018, the Cabinet Office made a request to affected local governments for adopting a gender equality perspective based on these guidelines, especially in the shelter operation.



Note: Following its revision in June 2012, the Basic Act on Disaster Management specified that members of voluntary disaster management organizations and/or individuals with a relevant academic background should be added to the membership of the Local Disaster Management Council in addition to the staff of disaster management organizations who are already ex officio members, to reflect the views of a more diverse range of bodies in preparing the Local Plans for Disaster Risk Reduction and similar.

Notes: 1. Figures for April 1 each year, in principle.

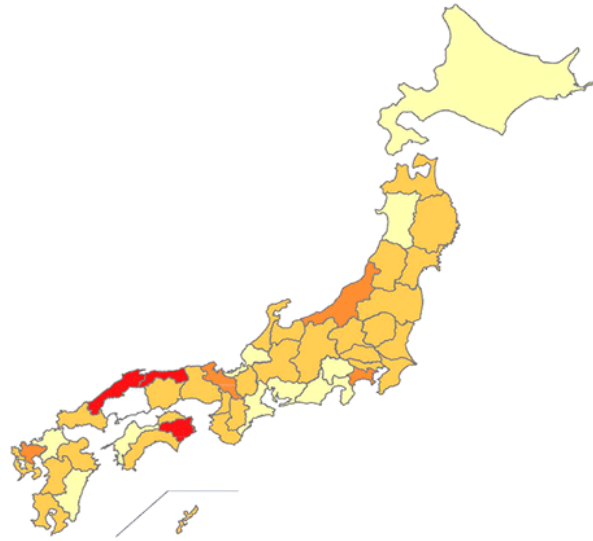
2. Due to the impact of the Great East Japan Earthquake, figures for 2011 do not include parts of Iwate Prefecture (Hanamaki City, Rikuzentakata City, Kamaishi City, Otsuchi Town), Miyagi Prefecture (Onagawa Town, Minamisanriku Town) and Fukushima Prefecture (Minamisoma City, Shimogo Town, Hirono Town, Naraha Town, Tomioka Town, Okuma Town, Futaba Town, Namie Town, Iitate Village), while figures for 2012 do not include parts of Fukushima Prefecture (Kawauchi Village, Katsurao Village and Iitate Village).

Source: Compiled from Cabinet Office, Progress of Local Government Measures Focused on Women or the Promotion of a Gender-Equal Society

Fig. 1-10-2

Female Member in Prefectural Councils for Disaster Management

Prefecture	Total No. of members	No. of female members	Percentage of female (%)	
Tokushima	81	39	48.1	40% or more, 3 councils
Shimane	73	35	47.9	
Tottori	65	28	43.1	
Saga	68	19	27.9	20% - 30%, 4 councils
Niigata	71	19	26.8	
Kyoto	66	14	21.2	
Kanagawa	57	12	21.1	
Gifu	61	12	19.7	10% - 20%, 29 councils
Shiga	58	11	19.0	
Aomori	60	11	18.3	
Miyagi	56	10	17.9	
Tochigi	53	9	17.0	
Yamagata	60	10	16.7	
Kagawa	60	10	16.7	
Nagasaki	68	11	16.2	
Okayama	57	9	15.8	
Toyama	66	10	15.2	
Nagano	67	10	14.9	
Chiba	61	9	14.8	
Iwate	74	10	13.5	
Nara	60	8	13.3	
Okinawa	54	7	13.0	
Gunma	47	6	12.8	
Hyogo	55	7	12.7	
Tokyo	66	8	12.1	
Kochi	58	7	12.1	
Saitama	69	8	11.6	
Ibaraki	52	6	11.5	
Fukushima	54	6	11.1	
Wakayama	54	6	11.1	
Kagoshima	63	7	11.1	
Kumamoto	56	6	10.7	
Osaka	58	6	10.3	
Oita	58	6	10.3	
Ishikawa	70	7	10.0	
Yamaguchi	60	6	10.0	
Hokkaido	68	6	8.8	5% - 10%, 10 councils
Shizuoka	59	5	8.5	
Mie	59	5	8.5	
Ehime	61	5	8.2	
Yamanashi	62	5	8.1	
Miyazaki	53	4	7.5	
Aichi	68	5	7.4	
Akita	60	4	6.7	
Fukuoka	61	4	6.6	
Fukui	56	3	5.4	
Hiroshima	59	2	3.4	5% or less, 10 councils
Total	2,882	453	15.7	



(Note) 1. Formulated based on the Progress of Local Government Measures Focused on Women or the Promotion of a Gender-Equal Society (FY2018) (Cabinet Office).
 2. The data is as of April 1, 2018, in principle. However, the date may vary depending on the situation of each local government.
 3. The percentage of females is rounded to the nearest tenth.
 4. Some islands are omitted for editorial reasons.

Source: Formulated from the Progress of Local Government Measures Focused on Women or the Promotion of a Gender-Equal Society (2018) by the Cabinet Office
 <Refer to Fig. A-44 Female Representation in Local Disaster Management Councils (by Prefecture, 2018) (A-67) >

Fig. 1-10-3

Targets for Prefectural Councils for Disaster Management and Municipal Councils for Disaster Management in the Fourth Basic Plan for Gender Equality

Item	Current	Target (Deadline)
Female Representation in Prefectural Councils for Disaster Management	13.2% (2015)	30% (2020)
Female Representation in Municipal Councils for Disaster Management	- Number of bodies with no female as members: 515 (2014) - Female as a proportion of the membership: 7.7% (2015)	- Number of bodies with no female as members: 0 (2020) - Female as a proportion of the membership: 10% (ASAP), aiming for 30% in due course (2020)

Source: Formulated by the Cabinet Office from the Fourth Basic Plan for Gender Equality

Column:

Empowerment of Female Fire Corps Volunteers

The Momoishi 10th Fire Corps in Oirase Town, Aomori Prefecture is a rare all-women fire corps in Japan, consisting of 12 female volunteers. The predecessor of the 10th Fire Corps was the Hitokawame Female Fire Corps formed in 1923. The women-only fire corps was formed as many men were working away from home in those days. The records show that these women have kept operating manual fire water pumps for three hours to extinguish fires.

The number of female fire corps volunteers has been increasing year by year. Today, there are approximately 26,000 female fire corps volunteers (approximately 500 are in Aomori Prefecture). The National Conference of Female Fire Corps Volunteers, which started in 1994, will hold its 25th round in September 2019. Female fire corps volunteers across the country will gather in Aomori City to interact and share opinions with each other.



Source: Fire and Disaster Management Agency website
(Reference: <https://www.fdma.go.jp/relocation/syobodan/ladies/index.html>)