2024

White Paper
Disaster Management in Japan

Cabinet Office

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Preface

In the White Paper on Disaster Management 2024, Special Feature 1 is titled “Understanding and Being Prepared for ‘Volcanoes’”, which looks back on the Mount Ontake eruption in 2014 and describes the progress of Japan’s volcano disaster risk management measures, which have been enhanced and strengthened since then. Special Feature 2, titled the “2024 Noto Peninsula Earthquake”, describes the situation and responses mainly during the first three months after the disaster, including the initial response, support for victims and efforts related to recovery and reconstruction.

The first part also covers the status of measures that were implemented in 2023, with a focus on

- Promotion of Disaster Risk Reduction in Advance through Self-Help and Mutual Support and Disaster Risk Reduction Activities through Collaboration Among Diverse Entities
- Disaster Management System, Disaster Response and Preparedness
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Special Feature 1

Understanding and Being Prepared for “Volcanoes”

Japan is one of the world’s most volcanic countries, with 111 active volcanoes. While volcanoes are a blessing to our lives, pyroclastic flows and large volcanic rock fragments generated from an eruption leave almost no time for evacuation. They may cause disasters that pose a high risk to human lives. In the 2014 Mount Ontake eruption, a difficult-to-predict phreatic eruption (an eruption driven by rapid vaporization and expansion of water caused by heating or depressurization of underground water) occurred suddenly, affecting many climbers staying near the crater.

Japan has a history of large-scale volcanic eruptions, including the 1707 Hoei Eruption of Mt. Fuji and the 1914 Taisho eruption of the Sakurajima volcano. In the event of a large-scale volcanic eruption, the surrounding regions may be devastated, leaving a long-lasting impact. Since we live in a volcanic country, we need to learn from past disasters and prepare in advance for volcanic disasters that may occur at any time.

In 2023, the “Act on Special Measures for Active Volcanoes” (Act No. 61 of 1973, hereinafter referred to as the “Act on Special Measures for Active Volcanoes”) was partially amended for further strengthening of measures regarding active volcanoes from a precautionary perspective before a volcanic disaster occurs. The amendment led to newly stipulating the establishment of the Headquarters for Volcano Research Promotion and enacting the “Volcanic Disaster Preparedness Awareness Day”. The amended Act will be enforced in April 2024, which will further strengthen and enhance volcano disaster risk management measures in the future.

Against this background, Special Feature 1 of the White Paper on Disaster Management 2024 focuses on the theme “Understanding and Being Prepared for ‘Volcanoes’”. First, Chapter 1 looks back on the situation caused by the disaster at the time of the Mount Ontake eruption, which completed ten years in 2024, as a case study of recent volcanic eruptions in Japan and describes Japan’s volcano disaster risk management measures in light of lessons learned. Next, Chapter 2 summarizes the evolution of Japan’s volcano disaster risk management measures, which have been enhanced and strengthened through the enactment and amendment of the Act on Active Volcanoes. Chapter 3 introduces examples of volcano disaster risk management measures in various regions that coexist with volcanoes and discusses preparedness against volcanic disasters.

Chapter 1 Ten Years After the Eruption of Mount Ontake, Volcano Disaster Risk Management Measures in Light of Lessons Learned

The 3,067 m high Mount Ontake, which straddles Nagano and Gifu Prefectures, is Japan’s second-highest active volcano after Mt. Fuji. This sacred mountain, an object of worship since ancient times, has been chosen as one of the “100 famous mountains of Japan” and is popular with many climbers for its excellent views.

At 11:52 a.m. on September 27, 2014, the area surrounding the summit of Mount Ontake was bustling with many climbers, as it was lunchtime on a weekend blessed with fine weather after a long time, with autumn colors at their peak. At that time, a phreatic eruption suddenly occurred, resulting in human fatalities, with 63 people dead or missing. More than 15,000 personnel conducted rescue and relief operations for victims over 20 days until October 16.

This chapter reflects on the situation immediately after the Mount Ontake eruption and the rescue and relief operations. It describes subsequent volcano disaster risk management measures and the preparedness required of climbers and tourists, etc.

Fig. 1-1 Location and summit map of Mount Ontake

Source: Nagano Prefecture (2020) “Nagano Prefecture Mount Ontake Eruption Disaster Response Records”
(Reference: https://www.pref.nagano.lg.jp/bosai/kurashi/shobo/bosai/bosai/ontakesankiroku.html)
* Mountain cabin names, mountain trails, elevation values, etc., as at the time of the eruption

Section 1 Looking Back on the Mount Ontake Eruption

The records of the situation immediately after the eruption and the rescue and relief operations are summarized below based on the “Nagano Prefecture Mount Ontake Eruption Disaster Response Records” compiled by Nagano Prefecture.

September 27 (Saturday)

11:52 a.m.	Mount Ontake erupts.
12:01 p.m.	A 119-emergency call is made from a mountain cabin to the Kiso Regional Fire Department, reporting that “about 40 people had taken shelter”.
12:36 p.m.	The Japan Meteorological Agency issues a “Near-crater warning” and raises the volcanic alert level from Level 1 (Normal) to Level 3 (Restriction on proximity to the volcano).
Past 1:00 p.m.	Climbers who had taken shelter in the Otaki Summit Lodge begin to descend.
2:20 p.m.	The Nagano Prefectural Police announce, “There is information about approximately 150 people being stranded near the summit”.
Around 7 p.m.	Nagano Prefecture reveals that 7 people were unconscious.
7:25 p.m.	Around 230 people are confirmed to have descended the mountain.
8:30 p.m.	Nagano Prefecture requests the Fire and Disaster Management Agency to dispatch Emergency Fire Response Teams. The Fire and Disaster Management Agency requests Tokyo and its three neighboring prefectures (Yamanashi, Shizuoka, and Aichi) to mobilize High-Altitude Rescue Teams and Mountain Rescue Teams.
10:30 p.m.	35 people (including police officers, etc.) take shelter in a mountain cabin, of whom two are suspected to have fractures. They spend the night in the cabin without descending the mountain.

September 28 (Sunday)

5:30 a.m.	A Self-Defense Force (SDF) helicopter is dispatched, and rescue operations begin.
6:51 a.m.~	Two people seeking help near the summit are rescued and transported by the SDF helicopter. Rescue and relief operations were continued.
7:40 a.m.	Rescue teams (ground rescue teams), consisting of the Nagano Prefectural Police Headquarters Mobile Unit, Emergency Fire Response Teams, Nagano Prefectural Firefighting Mutual Aid Teams, and the Self-Defense Forces, enter the mountain in succession.
11:40 a.m.	The rescue teams (ground rescue teams) entering the mountain make a contact with multiple individuals in need of rescue. First aid is administered to the injured.
12:00 p.m.	The Fire and Disaster Management Agency announces, “There are 37 injured people, including 3 who are seriously injured”.
2:00 p.m.~	The rescue teams (ground rescue teams) discover 6 climbers and begin guiding them down the mountain on foot. Due to the detection of toxic volcanic gases, the rescue operations are suspended. The Nagano Prefectural Police announce that around 30 individuals have been confirmed to need rescue.
7:30 p.m.	The Japan Meteorological Agency issues a near-crater warning and calls for caution against pyroclastic flows within an area of approximately 4 km from the crater.
10:45 p.m.	The Nagano Prefectural Police announce that 4 deaths have been confirmed. By this time, 30 individuals ranging in age from teens to 60s are transported, of whom 10 are diagnosed with airway burns caused by inhaling volcanic ash.

September 29 (Monday)

6:10 a.m. ~	Rescue teams (ground rescue teams) continue to enter the mountain.
7:09 a.m.~	An SDF helicopter is dispatched. Rescue and relief operations continue.
11:25 a.m.	Due to the high concentration of volcanic gases, the rescue teams (ground rescue teams) begin descending the mountain. The search is halted.
4:30 p.m.	The Nagano Prefectural Police announce that an additional 6 deaths have been confirmed.

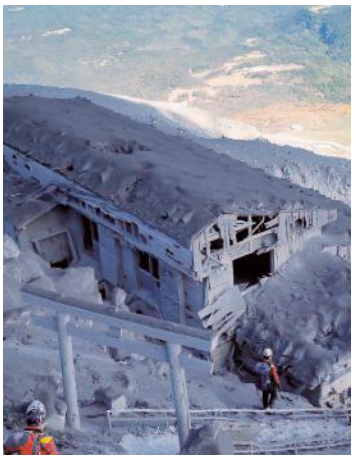
September 30 (Tuesday)

Around 6:12 a.m.	The amplitude of volcanic tremors increases.
6:20 a.m. ~	Rescue teams (ground rescue teams) enter the mountain, but due to the intensifying volcanic activity, rescue and relief operations are temporarily suspended.
12:15 p.m.	As the likelihood of eruption increases, the Nagano Prefectural Disaster Management Headquarters decides to suspend rescue team (ground rescue team) operations for the day.
12:40 p.m.	The rescue teams (ground rescue teams) begin to descend the mountain.
2:20 p.m.	The Nagano Prefectural Disaster Management Headquarters decides to suspend rescue and relief operations by the helicopter as well.

October 1 (Wednesday)

5:10 a.m.	The Nagano Prefectural Disaster Management Headquarters decides to resume rescue and relief operations as there was no major change in the situation despite continuing volcanic tremors.
6:15 a.m.	Rescue and relief operations resume. More than 1,000 personnel, including logistical support teams, engage in rescue and relief operations.
7:23 a.m.~	A large transport helicopter is dispatched. Trapped individuals are rescued one by one.
11:45 a.m.	The Nagano Prefectural Police announced that the cause of death of the 12 people confirmed dead by September 29 was “death by injury” from traumatic shock due to volcanic rock fragments hitting their heads and bodies.

[September 28] Plumes rising from multiple craters
Source: Nagano Prefecture (2020) “Nagano Prefecture Mount Ontake Eruption Disaster Response Records”



[September 28] Severely damaged Mount Ontake Summit Lodge
Source: Nagano Prefecture (2020) “Nagano Prefecture Mount Ontake Eruption Disaster Response

[October 1] Search is on at rocky areas covered with volcanic ash
Source: Nagano Prefecture (2020) “Nagano Prefecture Mount Ontake Eruption Disaster Response Records”

* Continued on the next page

October 2 (Thursday)	
6:00 a.m. ~	Rescue teams (ground rescue teams) continue to enter the mountain. The large transport helicopter suspends take-off due to poor visibility near the summit.
11:26 a.m. ~	Rain is confirmed at the summit. Subsequently, the Nagano Prefectural Disaster Management Headquarters decides to suspend the search operation. The rescue teams (ground rescue teams) that had climbed up to the 9th station are instructed to descend.
2:45 p.m.	The Nagano Prefectural Police announce that, out of the 47 individuals confirmed dead, 46 individuals lost their lives due to "death by injury", caused by volcanic rock fragments hitting the individuals, and the remaining one was "death by thermal injury" caused due to inhalation of hot gases from the eruption.
October 3 (Friday)	
4:55 a.m.	The Nagano Prefectural Disaster Management Headquarters decides to suspend operations for the day due to the rain.
10:30 a.m.	The Nagano Prefectural Disaster Management Headquarters announces that, in addition to the 47 deaths confirmed by October 2, 16 people were still missing.
October 4 (Saturday)	
5:45 a.m.	A helicopter is deployed to survey the area around the summit and mountain trails for possible sediment disaster (landslide disaster), etc.
6:30 a.m.	Rescue and relief operations resume.
3:00 p.m.	Operations for the day end after evacuating 4 trapped individuals.
October 5 (Sunday)	
5:07 a.m.	Due to the approaching typhoon, the Nagano Prefectural Disaster Management Headquarters decides to suspend operations for the day.
October 6 (Monday)	
2:02 p.m.	An SDF helicopter scouts the area near the summit but cannot locate trapped individuals due to poor visibility.
2:05 p.m.	Due to the rain and safety concerns, the Nagano Prefectural Disaster Management Headquarters decides to postpone the resumption of the search.
October 7 (Tuesday)	
6:43 a.m.	Rescue and relief operations resume.
4:31 p.m.	Rescue and relief operations end after 3 trapped individuals are evacuated by the SDF helicopter.
October 8 (Wednesday)	
6:00 a.m.	Rescue and relief operations resume.
3:58 p.m.	Rescue and relief operations end after 1 trapped individuals are evacuated by the SDF helicopter.
October 9 (Thursday)	
6:00 a.m.	A large transport helicopter takes off but is unable to land at the summit due to poor visibility.
9:10 a.m.	The Nagano Prefectural Disaster Management Headquarters decides to suspend all rescue and relief operations for the day due to adverse weather conditions and poor visibility.
October 10 (Friday)	
6:00 a.m.	Rescue and relief operations resume. On this day, the number of people entering the mountain for rescue and relief operations exceeds 500 for the first time.
5:07 p.m.	Rescue and relief operations end.
October 11 (Saturday)	
6:00 a.m.	Rescue and relief operations resume.
4:26 p.m.	Rescue and relief operations end after 1 trapped individuals are evacuated by the SDF helicopter.
October 12 (Sunday)	
6:00 a.m.	Rescue and relief operations resume.
3:06 p.m.	Rescue and relief operations end.
5:00 p.m.	A decision is made to suspend rescue and relief operations for October 13 and 14 due to the expected approach of a typhoon.
October 13 (Monday)	* Rescue and relief operations halted
October 14 (Tuesday)	* Rescue and relief operations halted
6:30 p.m.	A decision is made to deploy the largest number of personnel to re-check areas that have already been searched, by designating operations from October 15 onward as the third phase of rescue and relief operations.
October 15 (Wednesday)	
6:00 a.m.	Rescue and relief operations resume.
11:00 a.m.	Due to deteriorating weather near the summit, a decision is made to suspend search operations of all teams.
October 16 (Thursday)	
6:00 a.m.	Rescue and relief operations resume. 958 personnel enter the mountain, the largest number since the occurrence of the disaster. The number of personnel, including logistical support teams, reaches 1,961, (all personnel entered on foot as helicopters were unable to fly).
8:03 a.m.	Search by visual observation from above is conducted by the Nagano Prefecture Firefighting and Disaster Management helicopter.
9:26 a.m.	Rescue teams (ground rescue teams) arrive at the summit.
2:28 p.m.	Rescue and relief operations end. The rescue teams (ground rescue teams) begin their descent.
5:40 p.m.	A decision is made to end rescue and relief operations.

The Nagano Prefectural Disaster Management Headquarters searches afresh for the six missing individuals from July 29 to August 6 of the following year (2015). On July 31, one missing individual is found.

Source: Compiled by the Cabinet Office based on Nagano Prefecture (2020) "Nagano Prefecture Mount Ontake Eruption Disaster Response Records"

(Reference: https://www.pref.nagano.lg.jp/bosai/kurashi/shobo/bosai/bosai/ontakesankiroku.html)

[October 4] The volcanic ash hampers movement, and merely moving around drains your strength
Source: Nagano Prefecture (2020) "Nagano Prefecture Mount Ontake Eruption Disaster Response Records

[October 7] A transport helicopter arrived at Ichinoike Landing on the muddy ground required a high level of skill
Source: Nagano Prefecture (2020) "Nagano Prefecture Mount Ontake Eruption Disaster Response Records"

[October 10] View towards the summit from near the Otaki Summit
Source: Nagano Prefecture (2020) "Nagano Prefecture Mount Ontake Eruption Disaster Response Records"

[October 16] The largest number of personnel mobilized since the occurrence of the disaster to thoroughly search the area around the summit
Source: Nagano Prefecture (2020) "Nagano Prefecture Mount Ontake Eruption Disaster Response Records"

Section 2 Volcano Disaster Risk Management Measures in Light of the Learnings from the Mount Ontake Eruption

In the 2014 Mount Ontake eruption, a difficult-to-predict phreatic eruption suddenly occurred, killing many climbers in the vicinity of the crater. The local governments at the foot of Mount Ontake enforced entry restrictions until necessary safety measures could be implemented, even after the volcanic alert level was lowered to Level 1. Subsequently, safety measures for climbers, such as establishing evacuation facilities and a prefectural disaster management radio communications system, were implemented. As a result, on July 29, 2023, nine years after the 2014 eruption, the entry restrictions on the mountain trail connecting the Otaki summit and the Kenga-mine peak of Mount Ontake were lifted, and climbing from both the Nagano and Gifu Prefecture trailheads was made possible. In Nagano Prefecture, Kiso Town, and Otaki Village, the following initiatives have been implemented to improve volcano disaster resilience and awareness in light of the learnings from the Mount Ontake eruption.

(Initiatives related to structural and non-structural measures)

In 2018, Nagano Prefecture, Kiso Town, and Otaki Village formulated the “Mount Ontake Disaster Risk Management Capability Strengthening Plan”, intending to steadily improve safety in terms of both the hard and soft measures based on a full understanding and recognition of the fact that Mount Ontake is an active volcano. Based on this plan, the following initiatives have been implemented:

- Evacuation facilities (such as evacuation shelters) are constructed at the summit of Kenga-mine and Hatcho-darumi, in preparation for a sudden eruption, and the roofs of mountain cabins are reinforced with shock-resistant, high-performance fabric materials, utilizing subsidies for the construction of fire and disaster risk management facilities
- Evacuation promotion facilities are designated to support the formulation of evacuation implementation plans for these facilities
- The ground is leveled, and ropes are installed to ensure the safety of the mountain trails as evacuation routes. Also, signs are installed to communicate the status of restrictions and evacuation routes, as well as warnings
- To ensure a means of communication with climbers at the summit, disaster management radio communication speakers are installed, and patrol personnel are stationed during certain periods of the climbing season

Evacuation facility set up on Mount Ontake (Otaki Village)
Source: Nagano Prefecture

(Initiatives to increase awareness of volcano disaster prevention)

In light of the Mount Ontake eruption, the “Nagano Prefecture Volcano Disaster Risk Management Review Committee” was established in Nagano Prefecture in June 2016 to discuss the direction and specific measures for promoting the awareness necessary for living with volcanoes. The committee discussed two main points - “Information dissemination at visitor centers, etc.” and an “Awareness-raising system for volcano disaster risk management utilizing human resources”.

In August 2022, two “Mount Ontake Visitor Centers” (“Yama Terrace Otaki” constructed by Nagano Prefecture in Tanohara, Otaki Village, and “Sato Terrace Mitake” constructed by Kiso Town in the Mitake area) were opened as bases to hand down records and memories of the Mount Ontake eruption, and to disseminate volcano information to climbers.

Concerning the “Awareness-raising system for volcano disaster risk management utilizing human resources”, Nagano Prefecture launched the “Mount Ontake Volcano Meister System” in FY2017 as a new initiative utilizing human resources for volcano disaster risk management, in light of the importance of enhancing information dissemination for climbers and tourists in the Mount Ontake area and preserving the memories of the eruption.

As of March 2024, 28 Volcano Meisters have been certified. They implement various initiatives, including activities for awareness-raising, such as disaster risk management education and regional revitalization, using the Mount Ontake Visitor Centers as their base of operations.

Mount Ontake Visitor Center, Nagano Prefecture
“Yama Terrace Otaki”
Source: Nagano Prefecture

Mount Ontake Visitor Center, Kiso Town
“Sato Terrace Mitake”
Source: Nagano Prefecture

Mount Ontake Volcano Meister conducting an on-site lecture (Nagano City)
Source: Nagano Prefecture

Mount Ontake Volcano Meister raising awareness on safe mountain climbing with “Arukuma”, Nagano Prefecture’s official mascot (Kiso Town)

(Promotion of volcanic research)

In 2016, Nagano Prefecture, Kiso Town, and Otaki Village requested Nagoya University to establish a research facility to enhance volcano disaster risk management measures for Mount Ontake. In response, Nagoya University opened the Mount Ontake Volcano Research Facility in July 2017 within the Mitake Branch Office in Kiso Town (currently, the facility has been relocated to the Mount Ontake Visitor Center in Kiso Town). The facility plays a role in enhancing the ability to assess volcanic activity at Mount Ontake through the latest volcanic research, thus improving regional disaster resilience, developing human resources and disseminating knowledge on volcano disaster risk management.

Mount Ontake Volcano Research Facility, Nagoya University (now located at the Mount Ontake Visitor Center, Kiso Town)
Source: Kiso Town, Nagano Prefecture

Section 3 Preparedness of Climbers

In light of the learnings from the 2014 Mount Ontake eruption, the Act on Active Volcanoes was amended in 2015, requiring climbers to strive to prepare for their safety. It is advisable to consider the following points when climbing and visiting the mountain for sightseeing[1].

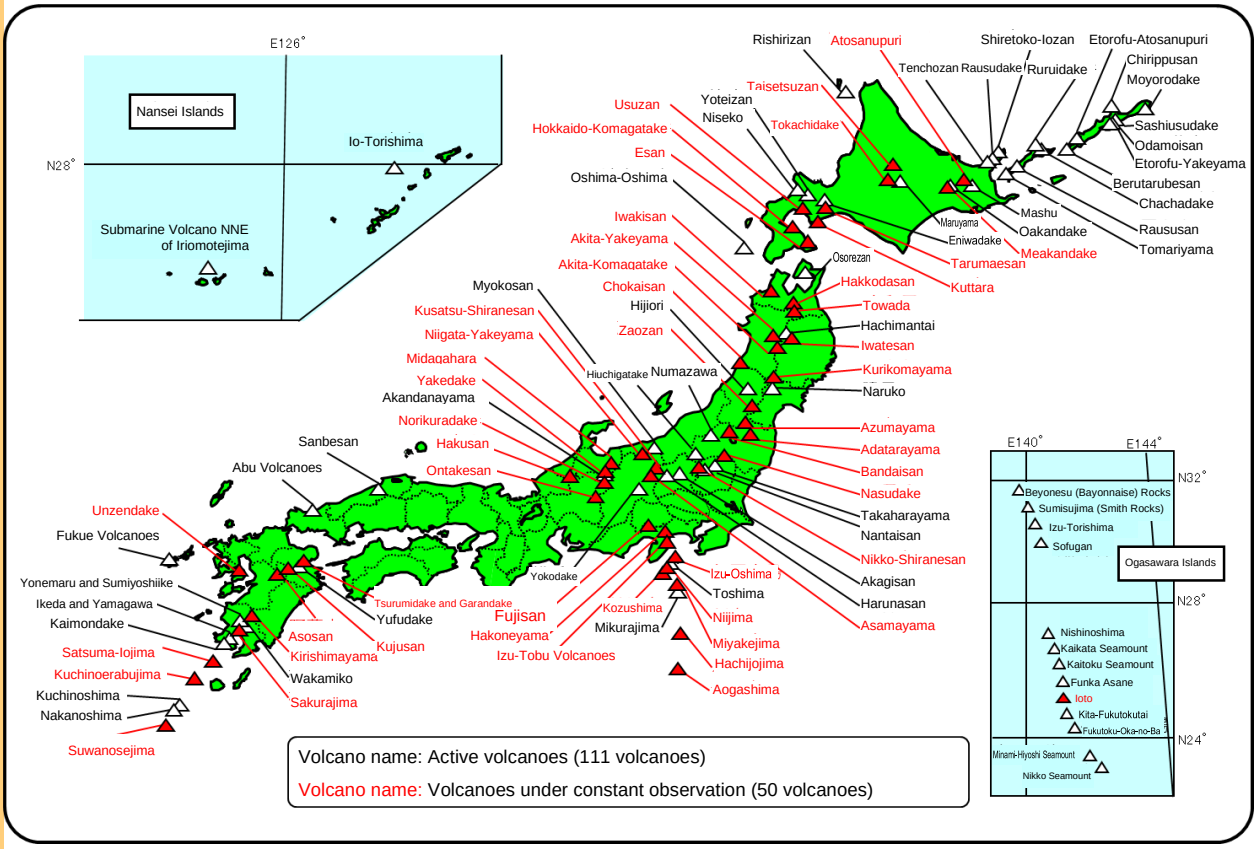
(1) Gather volcano information

Previously, volcanoes that are active or erupting at present were called “active volcanoes”, while those not erupting at present were called “dormant or extinct volcanoes”.

However, given that the lifespan of volcanic activity is long, and a dormant period of several hundred years is merely a brief ‘sleep’, the prevailing approach is that all volcanoes with a record of eruption or the possibility to erupt in the future will be classified as “active volcanoes”.

Based on this approach, in 2003, the Coordinating Committee for the Prediction of Volcanic Eruptions redefined active volcanoes as “those that have erupted within the last 10,000 years or those currently exhibiting active fumarolic activity”. As of April 2024, 111 active volcanoes have been selected by the Policy Committee of the Headquarters for Volcano Research Promotion[2].

Fig. 1-2 Distribution of active and continuously monitored volcanoes



Source: Japan Meteorological Agency

1 Cabinet Office website: “Preparation Before Climbing Volcanic Mountains” (Reference: https://www.bousai.go.jp/kazan/kazan_sonae/index.html)

2 Japan Meteorological Agency website: “What is an Active Volcano?” (Reference: https://www.data.jma.go.jp/vois/data/tokyo/STOCK/kaisetsu/katsukazan_toha/katsukazan_toha.html)

The Japan Meteorological Agency has equipped 50 active volcanoes with seismometers, surveillance cameras, and other monitoring devices to detect eruption precursors. The Agency also receives data from relevant organizations (such as universities, research institutions, and disaster management agencies of local governments) for 24-hour monitoring and observation of volcanic activity (hereinafter referred to as “continuously monitored volcanoes”). In addition, the Agency conducts systematic and dynamic monitoring as needed, including other volcanoes, and issues accurate volcanic warnings, forecasts (volcanic alert levels), and other related information. If the mountain you are about to visit is an active volcano, it is important to check this information beforehand[3].

The volcanic alert levels are indicators based on which “areas where caution is needed” and the “disaster response to be implemented by residents, etc.” are announced by classifying into 5 levels according to the status of volcanic activity. The system is now operational at all 49 continuously monitored volcanoes except for Iwo Jima, which has no nearby residents or climbers. In addition, it is important to know where to evacuate in the event of an eruption using volcano disaster risk management maps. These volcano hazard maps allow for easy visual identification of areas that may be affected by volcanic hazard factors (such as large volcanic rock fragments and pyroclastic flows), with additional information necessary for disaster risk management, such as evacuation shelters, routes and methods, and means of communicating information with residents or temporary visitors.

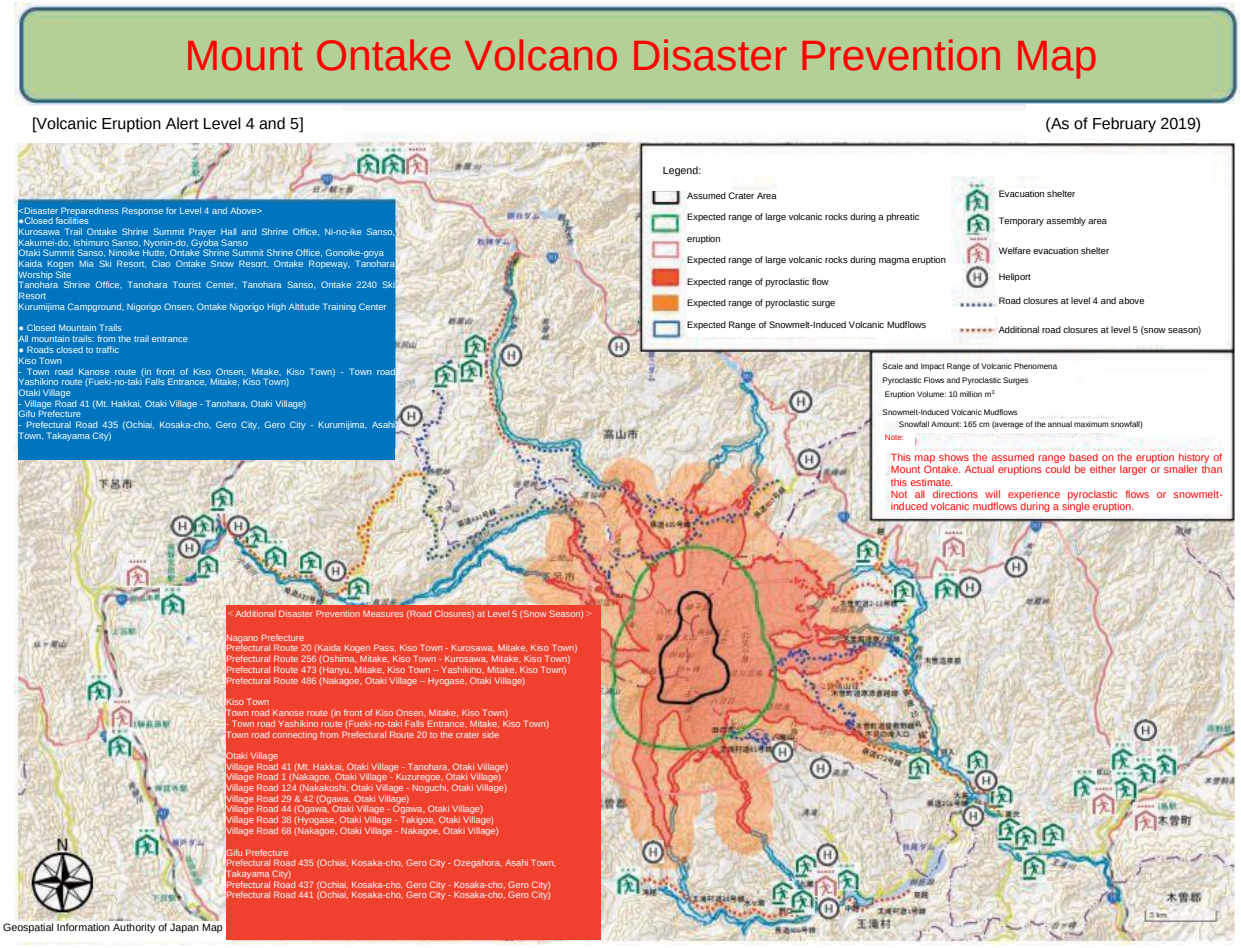
Fig. 1-3 Volcanic alert levels

Type	Name of Warning	Target Area	Volcanic Alert Levels & Keywords			Explanation		
						Expected volcanic activity	Action to be taken by residents	Action to be taken by climbers
Emergency Warning	Eruption warning (residential area) (a.k.a. Residential Area Warning)	Residential areas and non-residential areas near the crater	Level 5	Evacuate		Eruption or imminent eruption that may cause significant damage to residential areas.	Residents must evacuate from residential areas in the danger zone (target areas and evacuation method to be determined according to the situation).	
			Level 4	Evacuate the elderly, etc.		Possibility or increasing possibility of eruption that may cause significant damage to residential areas.	Residents within the alert area should prepare for evacuation. Evacuate the elderly and persons requiring special care in the event of a disaster (target areas to be determined according to the situation).	
Warning	Eruption warning (near crater) (a.k.a. Crater Area Warning)	Non-residential areas near the crater	Level 3	Do not approach the volcano		Eruption or possibility of eruption that may significantly affect areas near residential areas (possible threat to life in such areas).	Residents can go about daily activity as normal (Stay alert for changes in volcanic activity. Restrict mountain access). Depending on the situation, prepare to evacuate the elderly and persons requiring special care in the event of a disaster.	Restrictions on entry to dangerous areas, including prohibitions on mountain climbing and mountain access (scope of restrictions to be determined according to the situation).
		Near the crater	Level 2	Do not approach the crater		Eruption or possibility of eruption that may affect areas near the crater (possible threat to life in such areas).	Residents can go about daily activity as normal. (Collect information on volcanic activity, verify evacuation procedures, participate in disaster management drills, etc. depending on the situation).	Access to areas near the crater restricted, etc. (scope of crater area restrictions to be determined according to the situation).
Forecast	Eruption forecast	Inside the crater	Level 1	Potential for increased activity		Little or no volcanic activity. Possibility of volcanic ash emissions, etc. within the crater as a result of volcanic activity (possible threat to life in such areas).		No restrictions (access to inside the crater restricted as necessary, etc.)

Source: Japan Meteorological Agency website
(https://www.data.jma.go.jp/vois/data/tokyo/STOCK/kaisetsu/level_toha/level_toha.htm)

3 The volcano information, including volcanic warnings and forecasts (volcanic alert levels) issued by the Japan Meteorological Agency, can be checked on the “Information Page for Volcanic Mountain Climbers”.
(Reference: https://www.data.jma.go.jp/vois/data/tokyo/STOCK/activity_info/map_0.html)

Fig. 1-4 Example of volcano disaster risk management map (Mount Ontake)



Source: Compiled by the Cabinet Office based on data from the Mount Ontake Volcanic Disaster Risk Management Council (https://www.ontake-volcano.jp/wp/wp-content/themes/responsive_261/pdf/bousaitaisaku/ bosaimap.pdf)

(2) Submit notification for mountain climbing

At the time of the Mount Ontake eruption, there were delays in identifying missing persons, partly because many climbers did not submit a climbing notification[4]. Ensuring that climbers submit a climbing notification when entering a mountain helps protect their lives and speeds up the overall rescue and relief operations in the event of a disaster. As a result, a provision making it obligatory for climbers to make the best efforts to submit a climbing notification was added to the Act on Active Volcanoes. Furthermore, it was included in the Act that local governments will consider facilitating the submission of climbing notifications, for example, by introducing online submission. Some local governments have already introduced online applications or other submission methods. Therefore, when planning to climb an active volcanic mountain, it is advisable to check in advance the website of the local government of the region where you will go mountain climbing.

4 Cabinet Office Website “Promotion of Future Volcano Disaster Risk Management Measures in Light of the Mount Ontake Eruption (Report)” (Working Group for the Promotion of Volcano Disaster Prevention, Disaster Management Implementation Committee, National Disaster Management Council) (March 26, 2015)
(Reference: https://www.bousai.go.jp/kazan/suishinworking/pdf/20150326_hokoku.pdf)

Fig. 1-5 Example of how to submit a trekking itinerary

Mountain Climbing in Nagano Prefecture Requires Submission of a "Trekking Itinerary"!

When using designated hiking trails in Nagano Prefecture, submission of a trekking itinerary plan is required.
By preparing a trekking itinerary in advance, you can understand the characteristics of the mountain, make adqueate preparations, and enjoy a safe and pleasant climb!
The submission of a trekking itinerary also helps in ensuring swift rescue operations in case of an emergency.

For Climbers:
In Nagano Prefecture, to prevent the spread of COVID-19, a "Mountain Entry Advisory" has been issued

- Enroll in mountain insurance to prepare for emergencies.
- Ensure you have appropriate clothing and equipment for hiking before you begin.
- Please cooperate in preventing the spread of the swine fever virus.

How to Submit a Trekking Itinerary

In Nagano Prefecture, for personal information protection and **swift rescue operations**, **online submissions are recommended**.
Please submit your trekking itineary using one of the following methods and carry the completed plan with you on the day of your hike!

Online Submission

Nagano Electronic Application Service (opens external site in a new window)

- You can attach the trekking itinerary you created as a file.
- If you need to modify the itinerary, please submit it again via the Nagano Electronic Application.
  * The latest submission will be considered the updated plan.
- If you cancel the hike, no additional input is needed, and there is no need to submit a descent notification.

Source: Nagano Prefecture website
(https://www.pref.nagano.lg.jp/kankoki/smartphone/tozankeikakusho.html)

(3) Carry volcano disaster risk management measures equipment

For many of those who lost their lives in the Mount Ontake Eruption, the cause of death was "death by injury" from traumatic shock resulting from volcanic rock fragments hitting their heads or bodies. It is, therefore, important to carry a helmet to protect oneself. In addition, after an eruption, fine volcanic ash particles may be suspended in the air, making it difficult to open your eyes. It is advisable to carry goggles, a mask to prepare against ash fall, and a headlight, as volcanic ash can block sunlight, making the surroundings dark.

It is advisable to carry portable essential items such as rain gear, towels, emergency food, drinking water, communication devices like mobile phones and spare batteries, climbing maps, and a compass in case of a volcanic disaster and as preparation for unexpected situations.

(4) Always be alert while climbing

First and foremost, avoid approaching dangerous areas such as fumaroles or hollows around the crater. If you notice any anomaly, immediately descend and promptly contact the municipality or police.

In light of the learnings from the Mount Ontake eruption, a "Working Group for the Promotion of Volcano Disaster Prevention" has been set up under the "Disaster Management Implementation Committee" of the National Disaster Management Council.

This group cited how evacuation facilities, such as evacuation shelters and buildings, should be developed, stating that taking shelter in mountain cabins effectively protected oneself from volcanic rock fragments that fell around the crater during the Mount Ontake eruption[5]. Therefore, it is crucial to use tools such as a volcano disaster risk management map to identify evacuation locations in advance in the event of an eruption. The Japan Meteorological Agency issues eruption notices to quickly and clearly inform climbers and residents when an eruption occurs so that they can take protective action. If an eruption notice is issued while climbing or if you are caught in an eruption, it is important to temporarily evacuate to a nearby mountain cabin, evacuation shelter, or behind a rock, etc., where your head and body can be protected.

5 Cabinet Office (2015) “Guide to Enhancing Evacuation Shelters, etc. on Active Volcanoes” (Reference: https://www.bousai.go.jp/kazan/shiryo/pdf/201512_hinan_tebiki3.pdf)

Section 1 The Act on Special Measures for Active Volcanoes and its Amendments in Light of the Mount Ontake Eruption

The Act on Active Volcanoes was enacted in 1973 as the “Act on Evacuation Facilities in Areas Surrounding Active Volcanoes” against the backdrop of an urgent need for measures against volcanic rock fragments and ashfall in the wake of the successive eruptions of Sakurajima volcano. Subsequently, in 1978, in response to the disaster caused by the large amounts of volcanic ash during the Mount Usu eruption, the Act was renamed the “Act on Special Measures for Active Volcanoes” and amended by adding measures related to improving public facilities for ash removal and prevention of ash fall. Thus, the Act on Active Volcanoes was enacted and amended to directly address situations where damage is caused by eruptions, with a focus on structural measures such as improving evacuation facilities. The Act has been implemented on a limited basis in some volcanic regions where eruptions have occurred.

In the wake of the 2014 Mount Ontake eruption that had caused severe damage, including many deaths and injuries in the vicinity of the crater, there was a renewed awareness of various priorities related to volcano disaster risk management measures, including the importance of promptly detecting and communicating progression of volcanic phenomena and the necessity to develop alert and evacuation systems not only for residents but also for climbers, as well as discussions incorporating expert knowledge specific to each volcano, which is indispensable to achieve what is necessary.

Based on this, the Act on Active Volcanoes was amended in July 2015, clearly stating that measures for active volcanoes will apply to residents in the volcanic regions and also to climbers, and the following measures were implemented.

- Relevant prefectures and municipalities were required to establish councils to hold necessary discussions to develop alert and evacuation systems according to the status of expected volcanic phenomena (hereinafter referred to as the “Volcanic Disaster Risk Management Councils”).
- Matters concerning the alert and evacuation systems, including the transmission of information, alerts, and forecasts on volcanic phenomena and their progression, notices and alerts issued by heads of municipalities regarding evacuation measures to be taken by residents, climbers, and tourists, etc., as well as evacuation sites, evacuation routes, and other matters, were required to be included in the local disaster management plans.
- In doing so, it was required to hear the opinions of the Volcanic Disaster Risk Management Councils, which include the Central government, relevant local governments, and volcano specialists, so that the discussions could be conducted by incorporating expert knowledge.
- Owners of facilities for attracting visitors, where residents, climbers, tourists, etc. gather, were required to prepare evacuation implementation plans.
- The Central and local governments were required to strive to strengthen the collaboration among volcano research institutions and nurture and retain volcano specialists. Local governments were required to strive to keep track of information on climbers, tourists, etc., while climbers, tourists, etc., were required to strive to take measures on their own to protect themselves, such as gathering volcano information.

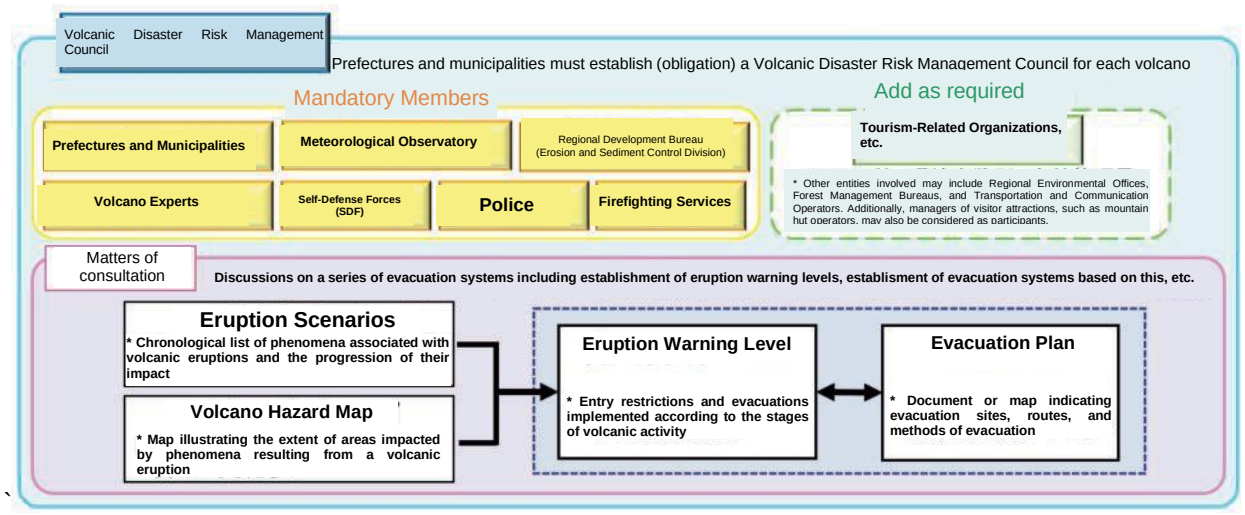
Thus, after the 2015 amendments, the Act on Active Volcanoes became an Act that promotes measures for active volcanoes more comprehensively. It aims to enhance structural measures implemented so far, such as improving evacuation facilities, and non-structural measures, such as developing alert and evacuation systems.

Volcanoes often straddle more than one prefecture and municipality. Since volcanic disasters are expected to have a far-reaching impact, relevant national institutions and local governments must respond coherently in the event of an eruption, ensuring that the smooth evacuation of residents, climbers, etc., is not hindered. In addition, since each volcano has different characteristics, such as topography and nature of the eruption, the establishment of the Volcanic Disaster Risk Management Councils was mandated to develop alert and evacuation systems according to the nature of the disaster. The Volcanic Disaster Risk Management Councils have been established for 49 out of the 50 volcanoes that are continuously monitored at present by the Japan Meteorological Agency (JMA), excluding Iwo Jima, which has no residents or climbers in the vicinity. Relevant prefectures and municipalities play a central role in the Councils, with the participation of specialists with expert knowledge of volcanic phenomena. The relevant parties build a “face-to-face relationship” during normal times and engage in proactive discussions on an ongoing basis on volcano disaster risk management measures, such as joint discussions on the necessary disaster management, by sharing an “image of disaster management” in the event of an eruption.

Furthermore, the phenomena accompanying an eruption continue progressing in a complex manner, and each eruption has different characteristics, even for the same volcano.

Therefore, enhancing the monitoring and research systems and taking disaster risk management measures based on scientific knowledge across various academic fields for each volcano is essential.

Fig. 2-1 Members of the Volcanic Disaster Risk Management Councils and matters of consultation



Source: Cabinet Office data

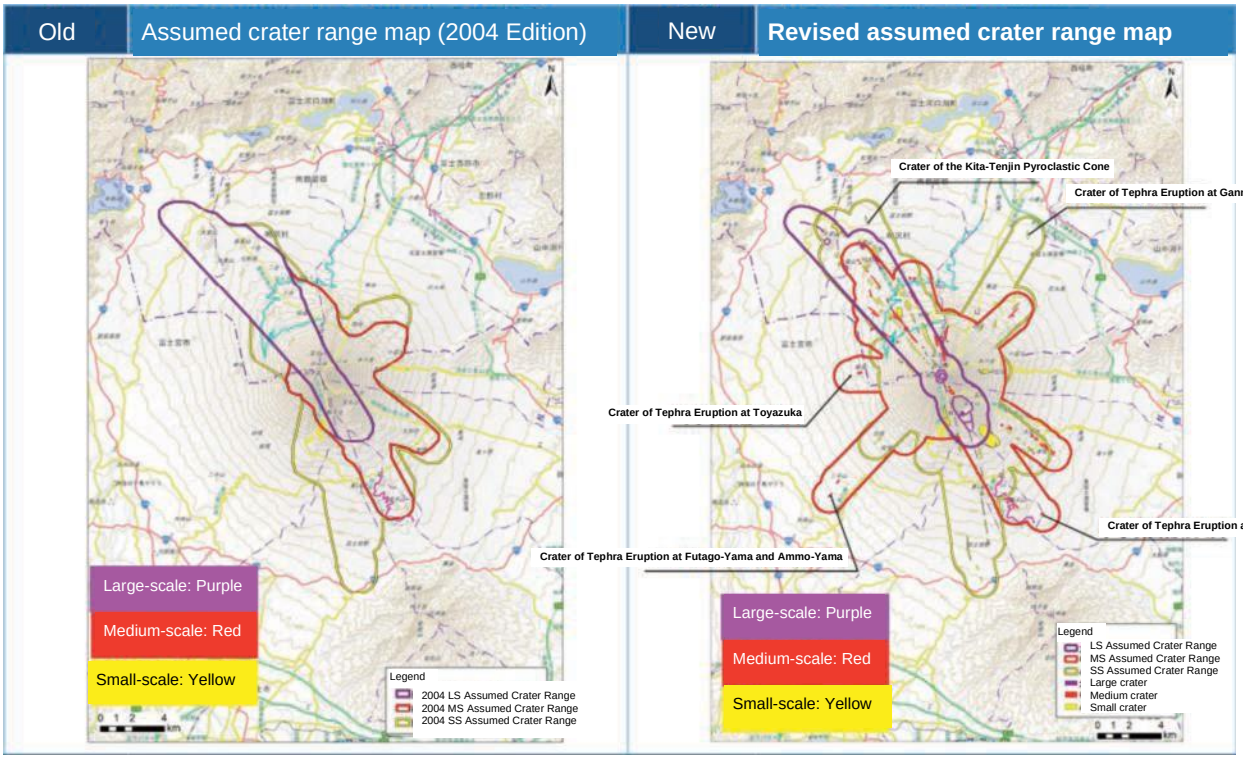
Section 2 Recent Trends Concerning Volcanoes and Amendments to Laws from a Precautionary Perspective

As mentioned in the previous section, after the amendments to the Act on Active Volcanoes in light of the Mount Ontake eruption, volcano disaster risk management measures have been implemented in each volcanic region, but given the recent situation surrounding volcanoes in Japan, there is a movement to strengthen the measures for active volcanoes further.

For example, on Mt. Fuji, the identification of a new crater location near the urban area of Fujiyoshida City (the crater of the gan-no-ana volcanic ejecta) has resulted in the expansion of the expected crater range. In addition, simulations that form the basis of volcano hazard maps have expanded the impact areas of various volcanic phenomena, and municipalities that could be affected by lava flows and snowmelt-type volcanic mudflows have been newly added. In response, the Mount Fuji Volcanic Disaster Risk Management Council revised the Mt. Fuji Hazard Map in 2021 and the evacuation plan based on it in 2023.

(Fig. 2-2).

Fig. 2-2 Expansion of the expected crater range of Mt. Fuji



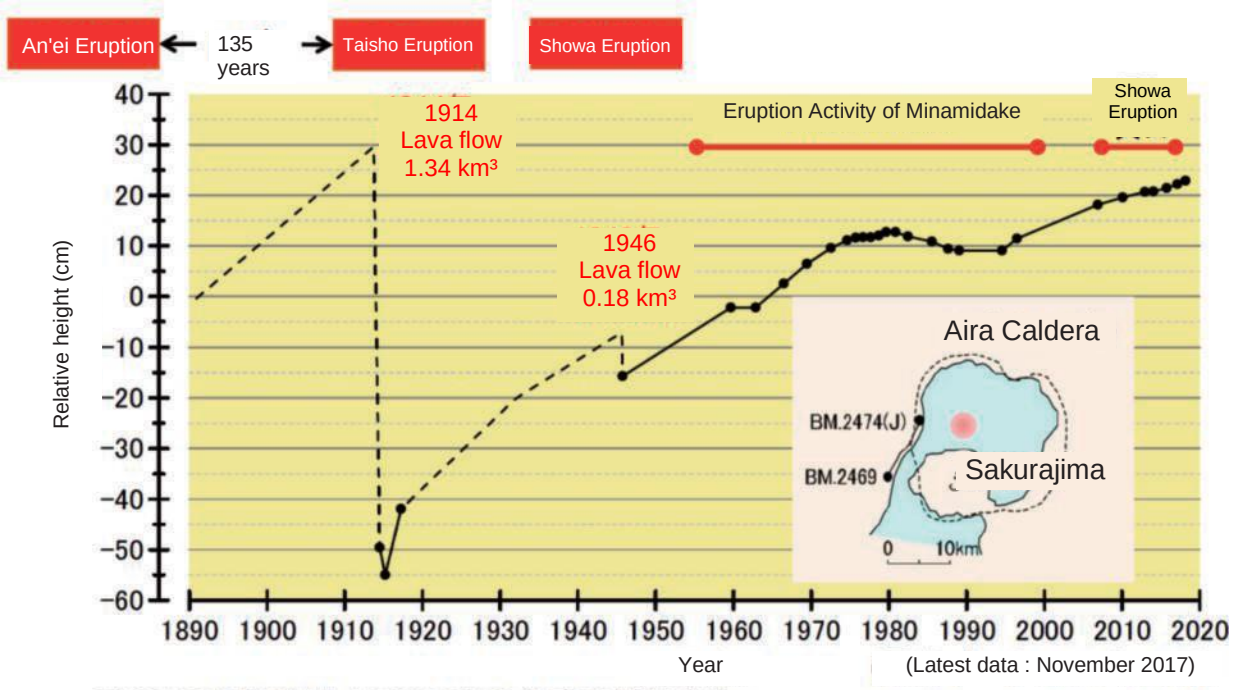
Source: Shizuoka Prefecture website
(Reference: https://www.pref.shizuoka.jp/_res/projects/default_project/_page_/001/030/023/20210326_fujisan_013houkokusyo_setumeisiryou02.pdf)

The possibility of a large-scale eruption has also been pointed out at Sakurajima. During the Taisho eruption, which is considered the largest volcanic eruption of the 20th century in Japan, the eruption began at 10:05 a.m. on January 12, 1914, on the western flank of Sakurajima, followed 10 minutes later by an explosion from the eastern flank with a loud noise. The lava flow buried several settlements on the island's western side and blocked the 400 m wide and 72 m deep Seto Strait on the eastern side, connecting the island to the Osumi Peninsula by land.

Sakurajima Taisho eruption (from the Kagoshima city center side)
* When lava flows began to flow down the mountain on the morning of January 14, 1914
Source: Kagoshima Prefectural Museum

As 110 years have passed since the Taisho eruption, it is estimated that the same amount of magma has accumulated in the underground magma chamber as at the time of the Taisho eruption (**Fig. 2-3**) and that we have entered a period when we need to be vigilant against the next large-scale eruption.

Fig. 2-3 Magma accumulation in the Aira Caldera



Changes in the Relative Elevation of BM.2474 with Reference to BM.2469 Over Time

Source: Volcanic Activity Research Centre, Disaster Prevention Research Institute, Kyoto Universitv.
(Reference: https://www.bousai.go.jp/kazan/senmonka/pdf/dai5kai/siryo2_2.pdf)

In view of the recent situation surrounding volcanoes in Japan, the Act on Active Volcanoes was amended in 2023 by parliamentary legislation (enforced in April 2024) from a precautionary perspective before an eruption occurs to further strengthen measures for active volcanoes and ensure the safety of lives and physical safety of residents, climbers and others.

The six main points of the amendments are introduced below.

(1) Assistance from heads of municipalities in preparing evacuation implementation plans (Article 8 of the Act)

When volcanic phenomena occur, it is crucial to reliably communicate information such as volcanic warnings and evacuation instructions to residents and climbers and ensure the safety of users in facilities that are frequented by the general public (e.g., mountain cabins, ropeway stations, accommodation facilities), as well as facilities frequented by persons requiring special care and time to evacuate (e.g., elderly care facilities, hospitals, schools) to ensure quick and smooth evacuation.

Hence, the 2015 amendments to the Act on Active Volcanoes required such facilities, and facilities with names and locations mentioned in the Municipal Disaster Management Plan (hereinafter referred to as “evacuation promotion facilities”), to prepare and publish an evacuation implementation plan specifying matters concerning disaster management systems and evacuation guidance, evacuation drills, and disaster risk reduction (DRR) education for users, and conduct evacuation drills based on this plan. However, as it stands, these efforts have not progressed at some facilities due to problems such as lack of know-how on the part of facility administrators, etc., to prepare evacuation implementation plans or smaller facilities, finding the preparation process itself burdensome.

In view of the above, the amended Act clearly states that heads of municipalities may provide the necessary information and advice, as well as any other assistance, and if necessary, may request Volcanic Disaster Risk Management Councils for opinions when owners or administrators of evacuation promotion facilities prepare an evacuation implementation plan.

(2) Keeping track of information on climbers, etc. (Article 11 of the Act).

It is important to keep track of information on climbers with the help of climbing notifications, etc., to facilitate the collection and consolidation of information on victims and quick identification and safety confirmation of climbers who might have been caught in the eruption, during rescue and search operations in the event of volcanic phenomena. Climbers must also be aware of certain risks when entering a volcanic mountain, such as the possibility of a sudden eruption, and take the necessary measures to ensure their safety. Against this background, although there have been provisions that make it mandatory for local governments to keep track of information on climbers and for climbers to take measures to ensure their safety, these efforts must be further promoted.

The Act on Active Volcanoes amendments have also added provisions related to necessary information and its importance and have improved its content, mandating reasonable efforts.

In concrete terms, the additions made it mandatory for local governments to make efforts to keep track of information on climbers, such as the date of entry and travel routes, to ensure smooth and quick evacuation of climbers and to give due consideration to facilitating the provision of information, such as introducing online submission of climbing notifications.

At the same time, considering that information such as date of entry and travel routes is crucial for rescue operations in the event of volcanic phenomena, climbers were mandated to endeavor to provide said information to local governments, as well as collect information on the possibility of volcanic eruptions, ensure means of communication with relevant parties, and take necessary measures for smooth and quick evacuation.

In light of these amendments, further efforts are expected to improve the climbing notifications' submission rate.

(3) Prompt and accurate communication of information (Article 12 of the Act)

The Act on Active Volcanoes stipulates that when it is necessary to protect the lives and physical safety of residents from volcanic eruptions, the Japan Meteorological Agency must notify relevant prefectures of the information on volcanic phenomena. The prefectures receiving the information must issue the necessary notifications or requests to designated local administrative bodies, local public bodies, and relevant municipalities. The Act also stipulates that the heads of municipalities who receive a notification from a prefecture must communicate the information to residents, climbers and other groups. It is important to communicate information for smooth and quick evacuation of residents, etc., particularly in the event of volcanic phenomena.

For this reason, the amendments to the Act clearly state that information necessary for smooth and quick evacuation in the event of volcanic phenomena shall be promptly and accurately communicated to residents and others through information and communication technology and other means.

(4) Nurturing and sustained securing of volcano specialists (Article 30 of the Act)

Human resources with expert knowledge of volcanoes are necessary for a scientific understanding of volcanic phenomena and appropriate disaster risk management measures. Based on the 2015 amendments to the Act on Active Volcanoes, efforts are being made to nurture volcano specialists; however, the Central and local governments need to work more closely together to secure personnel with expertise on volcanoes.

To this end, the amendments to the Act clearly state that the Central and local governments must strive under mutual collaboration to improve education to allow the acquisition of specialized knowledge and skills concerning volcanoes and endeavor to nurture and continuously secure human resources by ensuring opportunities to demonstrate abilities, among other things.

For example, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) has implemented the "Next-Generation Volcano Research and Human Resource Development Comprehensive Project" since FY2016 to nurture volcano researchers with extensive knowledge and high-level skills related to volcanoes. From FY2024, a program to nurture volcano researchers and professionals who can be immediate contributors will be implemented, which will also target working professionals and practical workforce in local authorities, etc., who wish to become volcano researchers. In addition, the Cabinet Office holds meetings in which volcano specialists participating in Volcanic Disaster Risk Management Councils across the country can exchange information across different councils. These meetings also provide a platform for young specialists to share and exchange opinions on challenges they face in advancing volcano disaster risk management measures. They are also used as opportunities for training specialized personnel.

Local governments are also expected to consider initiatives that consider the intention behind the abovementioned amendments. An example of an innovative initiative by local governments is the "Volcano Disaster Risk Management Officer", a post specializing in countermeasures against volcanic eruptions of Mt. Fuji, established by Yamanashi Prefecture.

This officer is expected to be a valuable human resource, playing the twofold role of an administrative officer and a volcano specialist by planning and operating various plans for Mt. Fuji volcano disaster risk management measures, disaster management drills, training courses, etc.

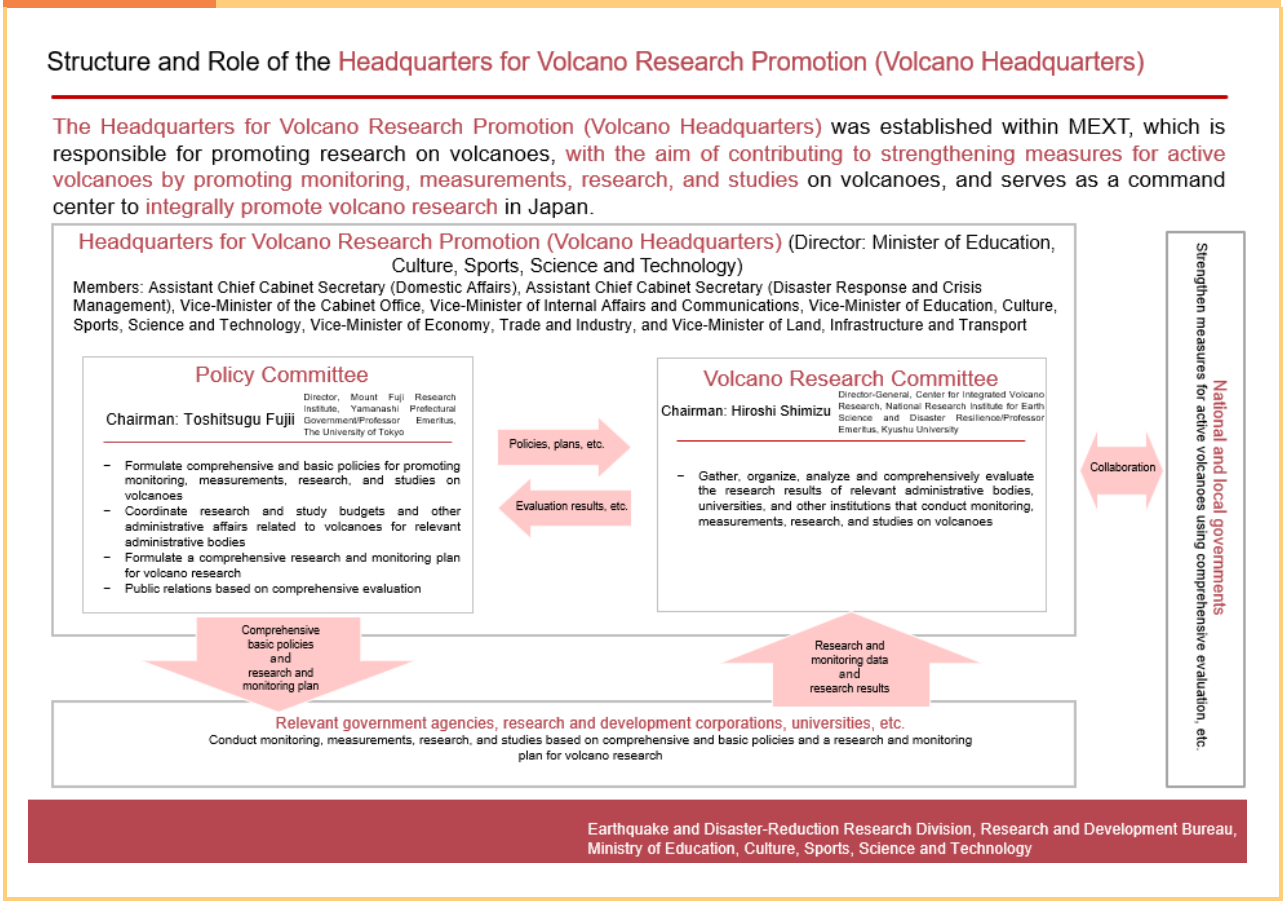
(5) The Headquarters for Volcano Research Promotion (Article 31 ~ 36 of the Act)

Volcanic phenomena are diverse and unpredictable, and since a large-scale eruption causes far-reaching and massive damage over a long period, it is important to conduct monitoring and research on volcanoes and properly assess volcanic activity to reduce the risk of volcano disaster.

Considering the need to promote monitoring, measurements, research, and studies on volcanoes in a unified manner on the national level, the “Headquarters for Volcano Research Promotion” (hereinafter referred to as the “Volcano Headquarters”) was newly established as a special body within MEXT. Two committees, namely, the Policy Committee and the Volcano Research Committee, have been set up at the Volcano Headquarters. The Policy Committee will formulate comprehensive and basic policies and a research and monitoring plan for volcano research. Based on this plan, relevant administrative bodies, universities, and other institutions will monitor, measurements, research, and studies. The Volcano Research Committee will gather, organize, analyze and comprehensively evaluate the research results.

In this way, the Volcano Headquarters is expected to serve as the command center in promoting volcano research in Japan in a unified manner, thereby strengthening volcano disaster risk management measures.

Fig. 2-4 The structure and role of the Headquarters for Volcano Research Promotion



Source: Ministry of Education, Culture, Sports, Science and Technology website
(Reference: https://www.mext.go.jp/a_menu/kaihatu/jishin/1285728_00005.html)

(6) Volcanic Disaster Preparedness Awareness Day (Article 37 of the Act)

August 26 has been newly designated as “Volcanic Disaster Preparedness Awareness Day” to increase public interest and understanding of measures for active volcanoes. The date has been derived from August 26, 1911, when Japan’s first volcanic observatory was established on Mount Asama and observations were started.

Volcanic observatory on Mount Asama
Source: Japan Meteorological Agency

It was stipulated that on “Volcanic Disaster Preparedness Awareness Day”, the Central and local governments must endeavor to conduct events suitable to the intention behind the Day, such as disaster management drills[6]. At the local government level, the events are expected to be conducted creatively according to the local circumstances, such as coordinating with disaster management drills and events, etc., held in connection with the “Disaster Preparedness Day” on September 1 to make the events more effective.

Since FY2022, the Cabinet Office has been implementing a support program to study and implement volcano disaster management drills and based on the results obtained through this support, in August 2023, the Cabinet Office prepared and published on its website the “Guide for Planning and Operation of Volcano Disaster Management Drills in Local Governments, etc. (First Edition)” and a “Collection of Case Studies for Volcano Disaster Management Drills in Local Governments, etc. (First Edition)” to support the planning of drills, etc.[7]

It is expected that initiatives such as disaster management drills in volcanic regions will be promoted while also using these materials.

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6 Japan Meteorological Agency has published a special website for “Volcano Disaster Awareness Day” to promote volcano disaster risk management so that more people can prepare for volcanic disasters while learning about the appeal and benefits of volcanoes.
A special “Volcanic Disaster Preparedness Awareness Day” website has been published on the Japan Meteorological Agency website.
(Reference: Japan Meteorological Agency “Volcanic Disaster Preparedness Awareness Day” Special website: https://www.data.jma.go.jp/vois/data/tokyo/kazanbosai/ index.html)

7 Cabinet Office website (Reference: https://www.bousai.go.jp/kazan/shiryo/index.html)

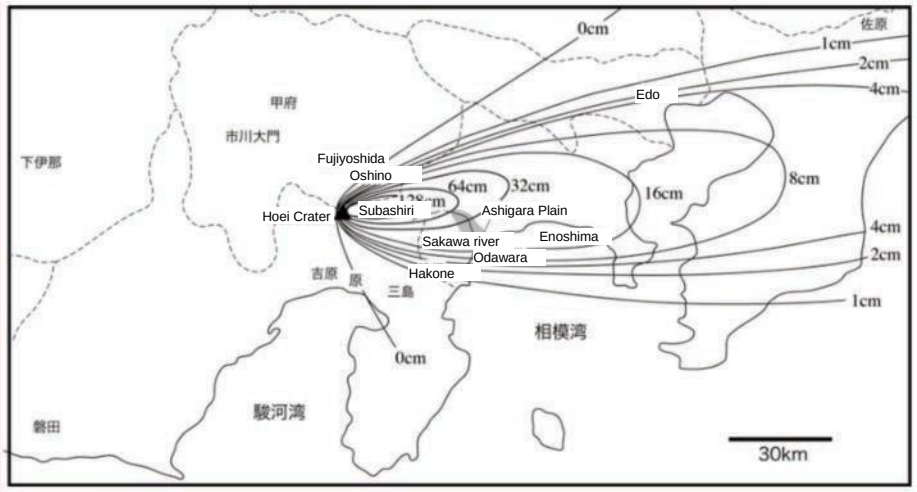
[Column]
Learning from Past Eruptions - Overview of the Hoei Eruption of Mount Fuji -

The Hoei eruption began shortly before noon on November 23, 4th year of the Hoei era in the old Japanese calendar (December 16, 1707). The plume rising from the crater that opened on Mount Fuji's southeastern slope reached the stratosphere. It is said that the sky above the eastern side of the crater was covered by the plume, casting everything around into darkness. The eruption continued intermittently for 16 days until the early hours of December 9. Carried by westerly winds, volcanic ash fell as far as Edo and the Boso Peninsula area.

In the areas surrounding Mount Fuji, eruptive materials such as volcanic rock fragments and volcanic ash rained down, causing numerous houses to collapse under the weight of earthquakes. However, no pyroclastic or lava flows reached villages, and since it was winter and there were no climbers, there are no records indicating a large number of fatalities or injuries1. However, the surrounding fields were buried several meters in many areas, making cultivation impossible for a long period afterward. Additionally, volcanic ash accumulated on the riverbeds of the Sakawa River and other rivers located east of Mount Fuji. During heavy rains, large amounts of volcanic ash flowed down from the mountains, repeatedly causing inundation with a long-lasting impact.

During this eruption, even regions far from the volcano experienced an impact on residents' lives and health due to the volcanic ash. For example, there are records of an outbreak of cold in Edo caused by an increase in the number of people suffering from throat ailments due to dry winds blowing the volcanic ash that fell on the city2. Furthermore, if modern cities were to experience a wide impact of volcanic ash, the impact would not be limited to health and would also significantly affect daily life and socio-economic activities, such as restricted travel by cars and trains, power outages, and suspension of water supply. In light of these anticipated impacts, relevant government ministries and agencies, including the Cabinet Office and local governments, are currently working together to discuss the challenges and countermeasures for widespread ash fall following the eruptions of Mount Fuji.

Mount Fuji has experienced eruptions of various scales and types besides the Hoei eruption. For example, the Jogan eruption in the Heian period is said to have caused a large lava flow that reached Lake Motosu. Although it is unknown when or what type of eruption may occur at Mount Fuji in the future, measures are being taken to prepare for potential eruptions, including the creation of hazard maps and the formulation of evacuation plans, putting to use this history of past eruptions and experiences of that time.



Map showing the main location names associated with the Hoei eruption

The location of the Hoei crater (▲) and the isopachs of the ash fall are also shown. The dashed lines indicate modern-day prefectural borders.

Source: National Disaster Management Council (2011) "Learning from the History of Disasters: Volcanoes"

1: National Disaster Management Council (2006) "Report on the Hoei Eruption of Mt. Fuji in 1707" p.161.

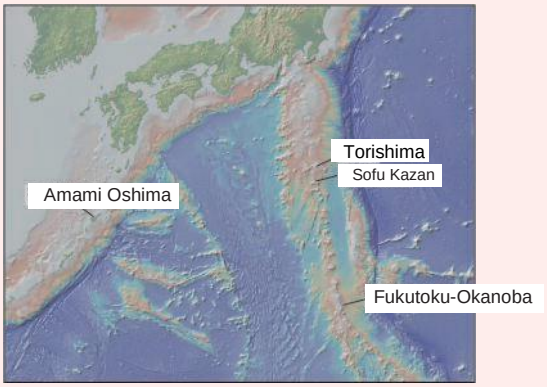
2: National Disaster Management Council (2006) "Report on the Hoei Eruption of Mt. Fuji in 1707" p.78.

[Column]
Understanding Submarine Volcanoes - Underwater Volcanic Activity -

Japan is a “country of volcanoes” with active volcanic activity due to plate subduction and is known to have 111 active volcanoes at present, most of which are on land, where volcanic activity can be monitored. Many unknown active submarine volcanoes are believed to be lying dormant in the seas. Research on submarine volcanoes lags significantly behind land-based volcanoes, raising concerns that unexpected volcanic eruptions could lead to more severe volcanic disasters.

Against this background, the Japan Agency for Marine-Earth Science and Technology (hereinafter referred to as JAMSTEC) is promoting research to understand submarine volcanoes and the Earth’s interior in an integrated manner, with the aim of predicting disasters from submarine volcanoes and assessing their impact on the Earth’s environment, thereby mitigating disasters.

In recent years, JAMSTEC has focused on the waters around the Izu and Ogasawara Islands, which are volcanically active, as a key target for research. JAMSTEC aims to understand volcanic activity through detailed analysis of collected volcanic samples and subsurface structural data obtained using “KAIMEI”, JAMSTEC’s submarine, wide-area research vessel, and other ships. The explosive eruption of Fukutoku-Okanoba in August 2021, in which a large amount of pumice drifted ashore in various parts of Japan, causing an unexpectedly significant impact on fishing operations and other activities, is still fresh in memory. JAMSTEC conducted a detailed analysis of the pumice, revealing that the explosive eruption was caused by basaltic magma that penetrated the magma chamber from deep beneath the volcano. In October 2023, when earthquake activity intensified around Torishima Island and a tsunami occurred, JAMSTEC conducted an emergency survey voyage in the surrounding waters using the “KAIMEI” vessel and confirmed the presence of a caldera-like seafloor topography near the center of the Sofu Seamount. JAMSTEC is analyzing the relationship between this caldera-like seafloor topography and a series of earthquake and tsunami activities.



Volcanic observatory on Mount Asama
Source: JAMSTEC

Photos of the coastline of the Nansei Islands (Amami Oshima, Kagoshima Prefecture) in October 2021 and the pumice that drifted ashore (Minami-Daito Island, Okinawa Prefecture) Source: JAMSTEC

Chapter 3 Living with “Volcanoes”

Section 1 Initiatives for Volcano Disaster Risk Management Measures in Each Region

As described in Chapter 2, Section 1, each volcanic area has established a Volcanic Disaster Management Council, with local governments taking the lead in developing alert and evacuation systems. Since each volcano is different in terms of phenomena that occur during eruptions, topographical characteristics, location concerning residential areas, and tourist and climber traffic, it is important to consider the characteristics of each volcano rather than take a uniform nationwide approach when establishing a disaster management system. Since the number of regions and local governments in Japan that have experienced a volcanic eruption in recent years is limited, many Volcanic Disaster Management Councils in volcanic areas that have not experienced eruptions face challenges in implementing volcano disaster risk management measures.

The Cabinet Office holds the “Liaison and Collaboration Conference of Volcanic Disaster Management Councils” once a year, where members of each Volcanic Disaster Management Council gather under one roof, transcending the boundaries of the Councils. These conferences are expected to strengthen cooperation in promoting volcano disaster risk management measures within each Volcanic Disaster Management Council and with volcano specialists and related administrative organizations by sharing the challenges each council or local government faces and exchanging information on advanced initiatives.

Next, we will introduce volcanic areas promoting unique volcano disaster risk management measures based on their experiences with volcanic eruptions.

(Sakurajima: Kagoshima-shi, Kagoshima)

Kagoshima City holds the “Comprehensive Disaster Management Drill for Sakurajima Eruption” jointly with Kagoshima Prefecture, assuming that a large-scale eruption on the scale of the Taisho eruption (see Chapter 2, Section 2) is imminent at Sakurajima.

This exercise has been held annually since 1971 and has been held 54 times as of 2024. Since FY2020, the evacuation drill has been conducted in two parts — a resident evacuation drill in November and an evacuation shelter experience and exhibition drill in January.

The November evacuation drill for residents includes alerts from Kagoshima City to the entire Sakurajima area via prefectural disaster management radio, discussions for evacuation in each town, and evacuation actions in response to evacuation instructions regarding disaster prevention measures before and after raising volcanic alert levels.

In addition, to pass on the lessons learned from the Taisho eruption to the next generation, drills are conducted at all elementary and junior high schools on Sakurajima Island, which have been designated as evacuation promotion facilities, as well as drills involving cooperation between the fire department, the police, the Self-Defense Forces, and other organizations involved in disaster management.

Evacuation actions at an elementary school
Source: Kagoshima-shi, Kagoshima

Volcanic Disaster Management Liaison Conference, which brings together involved organizations
Source: Kagoshima-shi, Kagoshima

The evacuation shelter experience and exhibition drill in January simulate life after evacuation from Sakurajima Island to the city center. It is conducted every year with changes to the target areas. At the evacuation center, which serves as the venue for the drill, visitors can experience an evacuation shelter and study exhibits prepared by organizations involved in disaster management.

Briefing for residents at the venue of the drill
Source: Kagoshima-shi, Kagoshima

Evacuation shelter experience and exhibition drill in session
Source: Kagoshima-shi, Kagoshima

In response to the continuous volcanic activity at Sakurajima, Kagoshima City has formulated the "Kagoshima City Model City Framework of Volcanic Disaster Risk Reduction"[8] order to expand the population that is involved in disaster preparedness, including non-resident population, by having residents, local communities, business operators, research institutions, and the government work together to raise the level of comprehensive disaster resilience for Sakurajima, and by communicating the appeal of the volcano to the world.

As one of its key initiatives, this framework promotes volcanic disaster risk reduction education to "pass on" to the next generation so that all citizens can learn about the origins of Sakurajima, the blessings of the volcano and the culture that surrounds it, develop an interest and attachment to Sakurajima, and understand and learn how to respond in the event of a volcanic disaster. For example, the "Sakurajima Visit Experience" program provides opportunities for sixth-grade students from urban areas to set foot on Sakurajima and receive on-site explanations from volcano experts.

As part of its global contribution through the "Kagoshima Model," the city accepts Japanese and overseas visitors to participate in the Comprehensive Management Disaster Drill for Sakurajima Eruption mentioned above. They are building a support system for responding to volcanic disasters in other volcanic areas.

Scenes from "Sakurajima Visit Experience"
Source: Kagoshima-shi, Kagoshima

(Izu Oshima: Izu Oshima Geopark, Oshima, Tokyo)

Izu Oshima Geopark, recognized as a Japanese Geopark in 2010, uses its abundant resources that reveal traces of earth activities to promote disaster risk reduction education from the perspective of a Geopark. Many Japanese Geoparks include topographical and geological features formed by volcanic activity.

8 "Kagoshima City Model City Framework of Volcanic Disaster Risk Reduction" on Kagoshima City's website (Reference: https://www.city.kagoshima.lg.jp/kikikanri/kazan/topcitykousou.html)

When a site is designated as a Japanese Geopark, the kind of disaster management and risk reduction activities conducted based on the experience and knowledge of disasters caused by the crustal movement, seismic activity, volcanic activity, etc., are also investigated, meaning that volcanic disaster risk reduction education and dissemination of knowledge about volcanoes are part and parcel of a Geopark's activities[9]. All the geosites that are the highlights of the Izu Oshima Geopark were created by past eruptions of Izu Oshima so that each geosite may speak of possible eruption disasters (e.g., various phenomena caused by volcanic eruptions and the scale of eruptions). Through initiatives such as disaster prevention classes, hands-on learning for local children and students, and guided tours for tourists, the Geopark provides opportunities to learn and understand the disasters and the bountiful blessings that volcanoes bring. Such Geopark activities are expected to have various effects, including developing the ability to act on one's judgment in response to the risk of disasters, passing on disaster culture to the next generation, and disseminating information to other areas.

The Regional Disaster Prevention Plan of the town of Oshima, Tokyo, also stipulates the dissemination of knowledge and information on volcanic disaster risk reduction through the activities of the Izu-Oshima Geopark. Since the dissemination of information on disasters is often seen as counterproductive to tourism, including sightseeing, as it can cause reputational damage, positioning it as a public plan in this manner is an effective way of raising public awareness about volcanic disaster preparedness.

Educational travel observation tour
Source: Oshima, Tokyo

Parent-child volcano experiment class in session
Source: Oshima, Tokyo

Located in Hokkaido's Nishi-Iburi region, Mt. Usu erupted every few decades. Under the theme of coexistence with the volcano, people who have correctly studied the nature and characteristics of Lake Toya and the Usu Volcano area and pass on the memories of past eruptions, as well as the wisdom to mitigate a disaster to the next generation, both within and outside the community, in preparation for the next eruption that is sure to occur, are certified as "Toya-Usu Volcano Meisters," a title limited to the region. The "Toya-Usu Volcano Meister System" was started in 2008 to become a leader in regional disaster prevention, improving regional disaster resilience, and promoting the area's attractiveness. As of 2023, 70 Volcano Meisters have been certified and are engaged in disaster risk reduction education, lecturing at study groups, and providing support.

Volcanic activity in the past has shaped the current landscape of the Usu Volcano area, including Lake Toya and Showa-Shinzan. It has also created hot springs and other resources and industries. With a proper understanding of the disasters that volcanoes can bring, the local community enjoys the volcano's blessings while walking the path of coexistence. The area's many blessings also attract tourists who reside in areas unfamiliar with volcanoes. By having guides pass on their wisdom of past eruption disasters and disseminate knowledge on volcanic disaster risk reduction to tourists (especially students on school field trips), the system is helping deepen public interest and understanding of volcanoes.

9 The Japan Geopark Committee (JGC) recognizes Geoparks in Japan in accordance with the Operational Guidelines for UNESCO Global Geoparks. Japanese Geoparks consist of UNESCO Global Geoparks and Japanese National Geoparks aspiring to become UNESCO Global Geoparks. As of May 2023, 46 Geoparks have been recognized.
(Reference: Japanese Geoparks Network https://geopark.jp/geopark/)

Education activities for disaster risk reduction conducted by Toya-Usu Volcano Meisters
(Left: at the summit of Mt. Usu, right: on the Konpira-yama footpath)
Source: Toya-Usu UNESCO Global Geopark

Section 2 Coexisting With "Volcanoes"

Once a volcano starts erupting, it can cause enormous damage and majorly impact people's lives. As described in the previous section, although measures are being pushed in volcanic areas, including efforts to inform and raise public awareness about volcanic disasters, awareness of volcanic disaster risk reduction among climbers who visit volcanoes is not necessarily high. For example, a 2021 online survey of mountain climbers (in a multiple-choice format) found that 17.6% of all respondents were "highly aware" of "volcanic eruptions," a relatively low level compared to awareness of other risks such as sudden change in weather and heatstroke, which are often encountered when climbing (Fig. 3-1).

Fig. 3-1 Assessment of risks encountered during mountain climbing

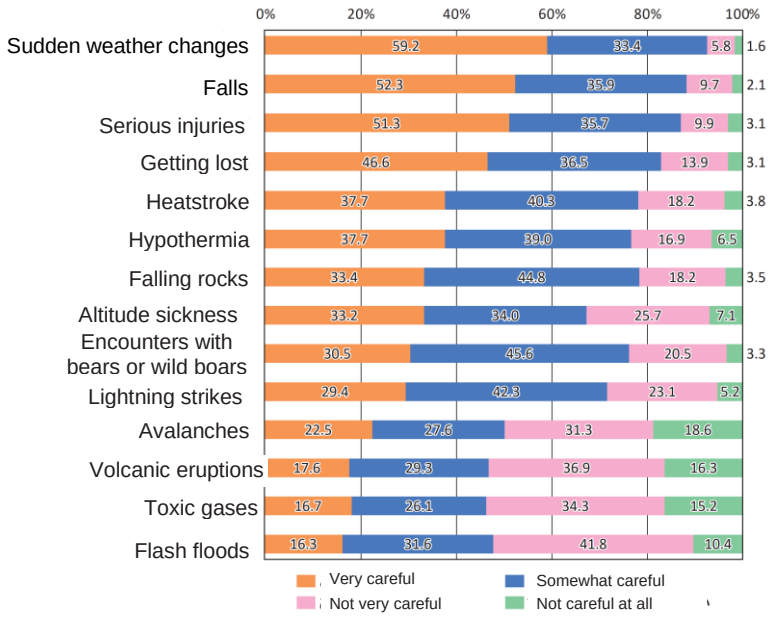


Fig. 13 Evaluation of Risks Encountered During Mountaineering

* WEB survey of people who climb at least once a year (n=960)

Source: Compiled by the Cabinet Office based on Shinya and Naoya (2022) "Awareness on Volcanic Eruptions: Based on a Questionnaire Survey of 'Mountaineers' and Residents of the Tokyo Metropolitan Area" (Research Survey Reports in Information Studies. Interfaculty Initiative in Information Studies, The University of Tokyo 38, 39-77)
(Reference: https://www.iii.u-tokyo.ac.jp/manage/wp-content/uploads/2022/03/38_2.pdf)

As per an online survey of mountain climbers and residents of the Tokyo metropolitan area (residents of Tokyo and Kanagawa Prefectures), the level of awareness regarding the information on volcanoes was higher among climbers than among residents of the Tokyo metropolitan area for many items, with the level of awareness of residents in the Tokyo metropolitan area on information such as eruption alerts and eruption alert levels being only about two-thirds that of climbers (Fig. 3-2). This document states that the reason is that residents of the Tokyo metropolitan area do not live near volcanoes and have little access to such volcano information.

Fig. 3-2 Awareness of information regarding volcanoes

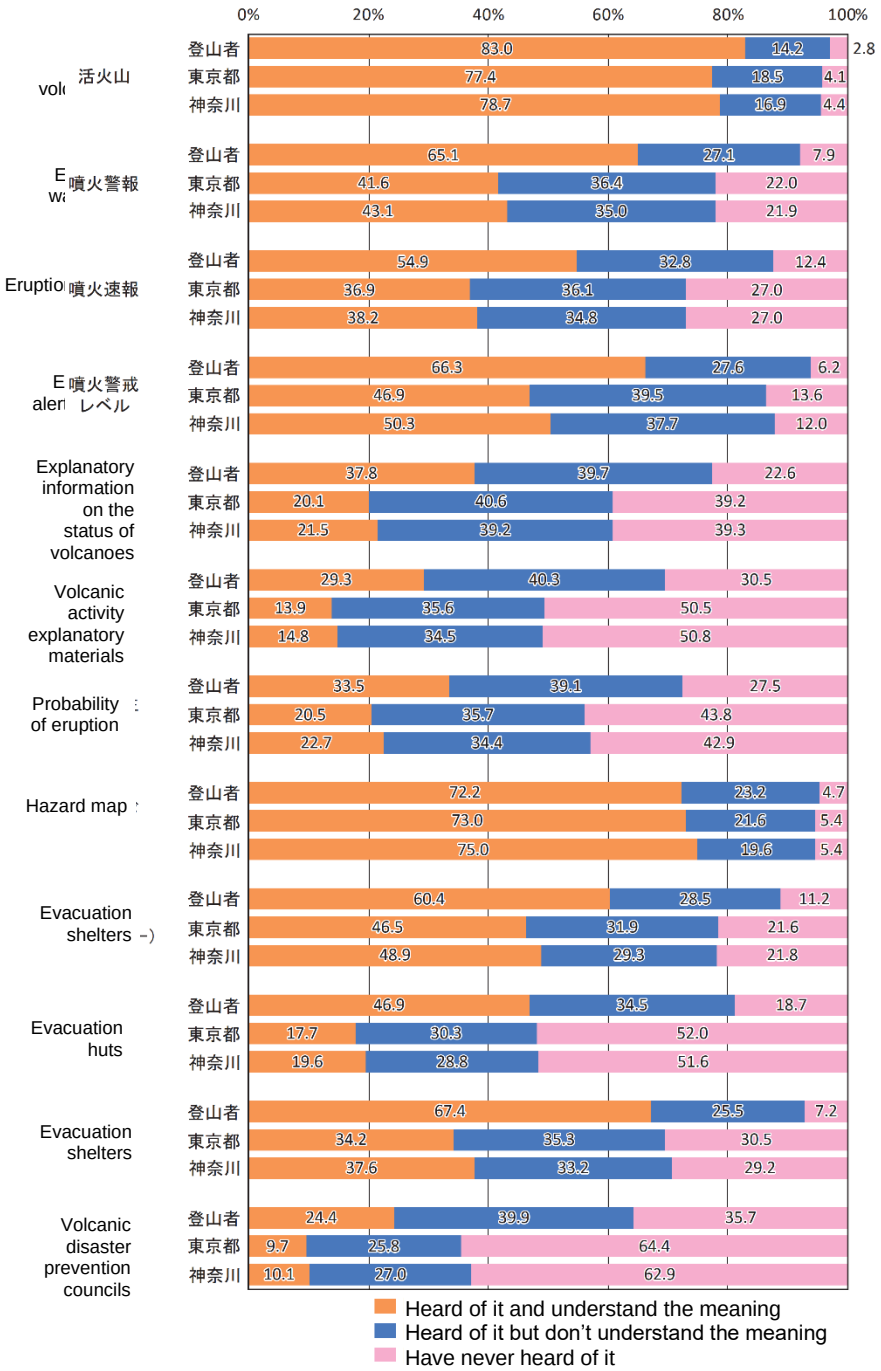
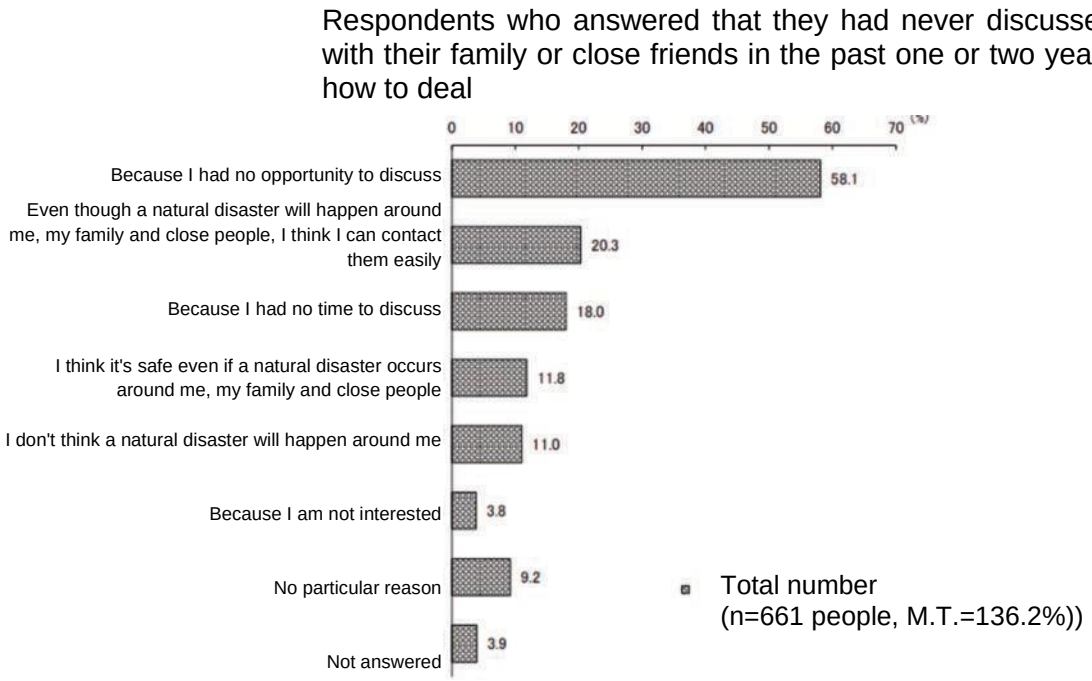


Fig. 23. Awareness of information about volcanoes (mountain climbers n=2,000, Tokyo and Kanagawa n=2,500)

Source: Compiled by the Cabinet Office based on Shinya and Naoya (2022) "Awareness on Volcanic Eruptions: Based on a Questionnaire Survey of 'Mountaineers' and Residents of the Tokyo Metropolitan Area" (Research Survey Reports in Information Studies. Interfaculty Initiative in Information Studies, The University of Tokyo 38, 39-77)
(Reference: https://www.iii.u-tokyo.ac.jp/manage/wp-content/uploads/2022/03/38_2.pdf)

In the “Public Opinion Survey of Disaster Prevention” conducted by the Cabinet Office in September 2022, respondents who answered that they had “never” discussed how to respond in the event of a natural disaster such as an earthquake, tsunami, volcanic eruption, typhoon and heavy rain (36.9% of all respondents) were asked the reason behind their answer (in a multiple-choice format). An overwhelming majority (58.1%) chose “Because I had no opportunity to discuss” (Fig. 3-3). These results suggest that if people have less access to volcano information, they will lose opportunities to prepare for volcanic disasters. Therefore, we must strengthen efforts to reach the public, considering the characteristics of volcanic disasters and regional differences.

Fig. 3-3 Reasons why respondents answered “they had never discussed how to deal with natural disasters with their families or close people”

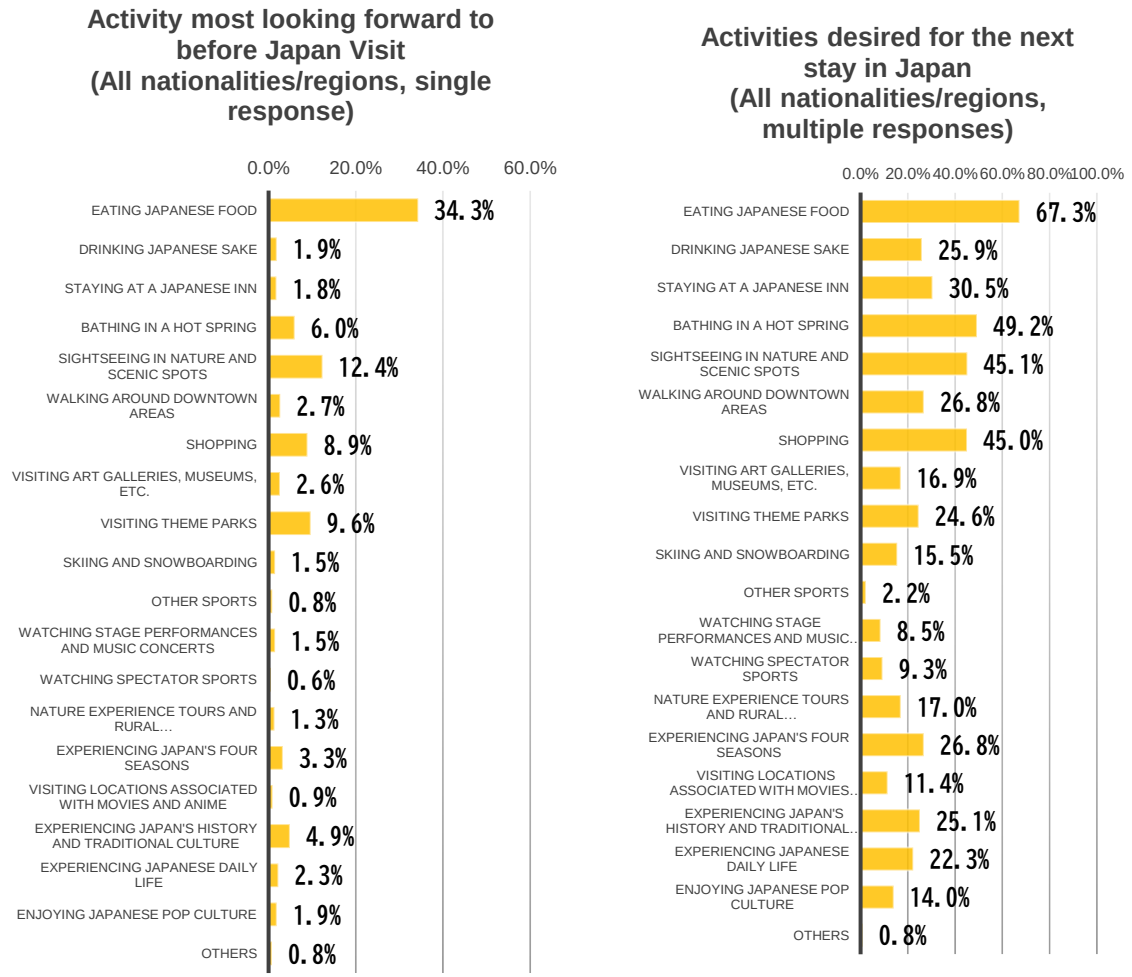


Source: Cabinet Office “Public Opinion Survey on Disaster Management” (Survey in September 2022)

On the other hand, volcanoes bring us abundant and irreplaceable blessings. The majestic mountainous shape created by volcanic activity, caldera lakes that form in craters, waterfalls created by the difference in elevation, and other unique landscapes bring delight and relaxation to visitors. In addition, hot springs produced by the heat from volcanoes are one of Japan’s biggest tourism resources.

According to the Japan Tourism Agency’s Survey on Consumption Trends of Foreign Visitors to Japan, 12.4% of respondents answered “Nature/scenery sightseeing” as the activity that most motivated them to visit Japan (in a single response format), second only to “Eat Japanese food,” while 6.0% of respondents answered, “Bathe in a hot spring”. In addition, around 50% of respondents answered both “Nature/scenery sightseeing” and “Bathe in a hot spring” as activities they would like to do on their next stay in Japan (in a multiple-choice format), which ranked higher than other activities, suggesting that the blessings of volcanoes are also an important tourism resource for foreign visitors to Japan (Fig. 3-4).

Fig. 3-4 Surveys on intention of visiting Japan



Source: Compiled by the Cabinet Office based on Japan Tourism Agency "Survey on consumption trends of foreign visitors to Japan" (2023 Estimated Annual Value (Aggregate Results) [Sightseeing and Leisure Purpose])
(Reference: https://www.mlit.go.jp/kankocho/tokei_hakusyo/gaikokujinshohidoko.html)

In addition, the vast plains created by lava flows and sector collapses, and the volcanic ash that falls and accumulates on the ground have excellent drainage and make suitable soil for agriculture over a long period. Furthermore, the strata created by volcanic activity contain many crevices which store a lot of water inside them. The people who live near volcanoes use the springs and groundwater produced by the volcanoes for domestic purposes, and also for agriculture, livestock farming, and industries. Due to these characteristics, some volcanoes have long been objects of worship, often regarded for their historical and cultural value.

The blessings of volcanoes
Source: Fujinomiya-shi, Shizuoka

In this manner, the people living around volcanoes and others who visit these areas, including tourists, enjoy the blessings of volcanoes in Japan, one of the most volcanic countries in the world. To coexist with volcanoes, which pose a threat of disasters and provide bountiful blessings to surrounding areas, we must properly understand the characteristics of volcanoes and be prepared in the unlikely event of an eruption. As described in the previous section, various volcano disaster risk management initiatives are implemented in each volcanic area. People need to have correct knowledge about volcanoes and make necessary preparations for volcano disasters by using opportunities such as volcano disaster management drills, disaster preparedness classes, and guided tours held in each area, as well as by using various websites or other means to gather information.

Section 3 Conclusion

The Act on Special Measures for Active Volcanoes, which serves as the basis of volcano disaster management measures in Japan, was amended in 2015 in the wake of the Mount Ontake eruption disaster and was further amended in 2023 from the perspective of preventing volcanic disasters before they occur. The recent amendments have advanced volcano disaster risk management measures by establishing the Volcano Headquarters to centralize volcanic research and studies in Japan, enhancing human resource development with specialized knowledge of volcanoes, and designating “Volcanic Disaster Preparedness Awareness Day”. As introduced in Section 1 of this chapter, disaster risk management measures and initiatives toward coexistence that consider the characteristics of volcanoes are being advanced in all areas surrounding volcanoes. However, once a volcanic eruption occurs, it can cause immeasurable damage and severely impact society. For Japan, one of the world’s most volcanically active countries, it is essential for citizens to have the correct knowledge about volcanoes, which present both the threat of disasters and bountiful blessings and to prepare effectively for volcanic disasters. Raising each citizen’s awareness of volcano disaster risk management is necessary to achieve this. Considering the societal impacts of volcanic eruptions, public-private collaboration must be strengthened to promote disaster risk management measures across all sectors.

Special Feature 2

2024 Noto Peninsula Earthquake

The earthquake that struck the Noto region of Ishikawa Prefecture on January 1, 2024, caused extensive damage to many lives, houses, and lifelines, mainly in the same region. The extent of the damage also spread far into Niigata and Toyama prefectures. Many affected people are still forced to live in shelters (as of April 1, 2024). The government continues to support the affected people under the “Disaster Management Headquarters for the 2024 Noto Peninsula Earthquake”, established on January 1. It is making concerted efforts toward the recovery and reconstruction of the affected areas under the “Headquarters for Supporting Recovery and Reconstruction from the 2024 Noto Peninsula Earthquake”, established on January 31. In the future, efforts will be made to verify and identify lessons learned in relation to the recent disaster. In this Special Feature, Chapter 1 describes the damage caused by the earthquake, and Chapter 2 summarizes the situation and response, mainly during the first three months after the disaster, including the initial response, support for the affected people, and recovery and reconstruction efforts, while Chapter 3 discusses future disaster risk management in the wake of the earthquake.

Chapter 1 Overview of the 2024 Noto Peninsula Earthquake and the Damage Caused

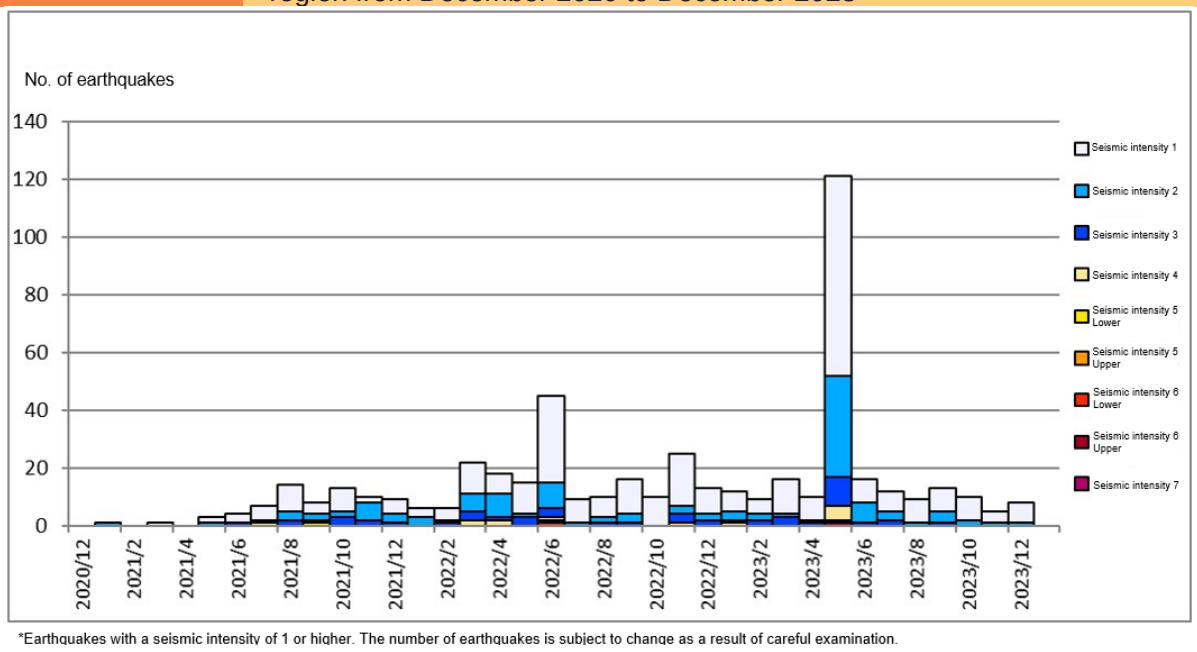
Section 1 Overview of the 2024 Noto Peninsula Earthquake

(1) Overview of Earthquake

At 4:10 p.m. on January 1, 2024, an earthquake of magnitude 7.6 (provisional value) on the Richter scale occurred, with its epicenter at a depth of 16 km (provisional value) in the Noto region of Ishikawa Prefecture (hereinafter referred to as “the earthquake” in this Special Feature). A seismic intensity of 7 was registered in Wajima City and Shika Town in Ishikawa Prefecture, while seismic intensities ranging from 6 Upper to 1 were registered from Hokkaido to the Kyushu region. On the same day, the Japan Meteorological Agency (JMA) named this earthquake and the series of seismic activities since December 2020 as “The 2024 Noto Peninsula Earthquake”.

Seismic activity in the Noto region has been on the rise since December 2020, with 506 earthquakes with a seismic intensity of 1 or higher occurring between December 1, 2020, and December 31, 2023 (**Fig. 1-1**). On May 5, 2023, a magnitude 6.5 (provisional value) earthquake occurred at a depth of 12 km (provisional value) off the Noto Peninsula, with a seismic intensity of 6 Upper observed in Suzu City, Ishikawa Prefecture, causing human casualties and damage to buildings, mainly in Ishikawa Prefecture. After that, the number of earthquakes decreased over time until this earthquake occurred on January 1, 2024 (**Fig. 1-2**).

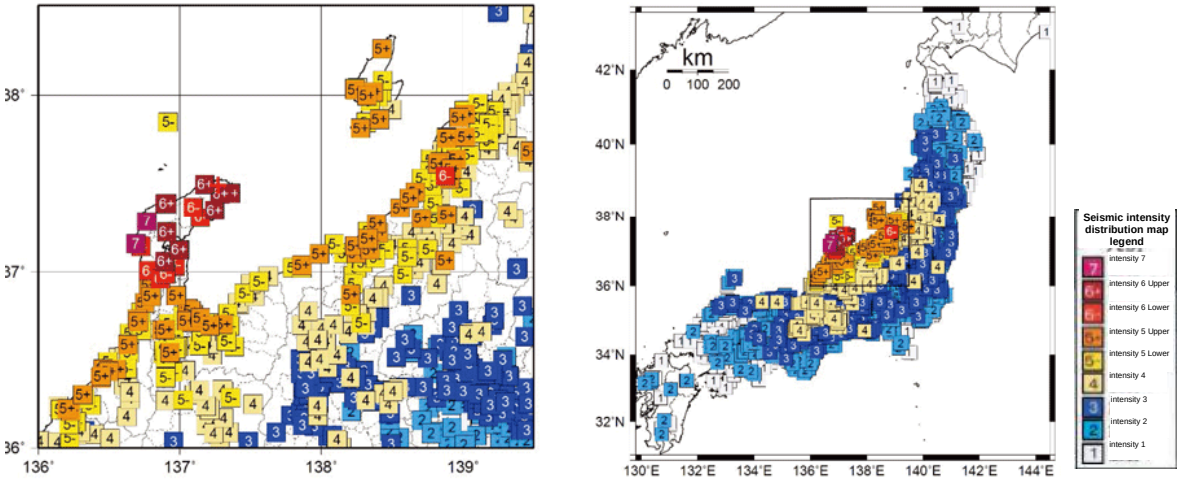
Fig. 1-1 Number of earthquakes by month and maximum seismic intensity in the Noto region from December 2020 to December 2023



*Earthquakes with a seismic intensity of 1 or higher. The number of earthquakes is subject to change as a result of careful examination.

Source: Japan Meteorological Agency documents

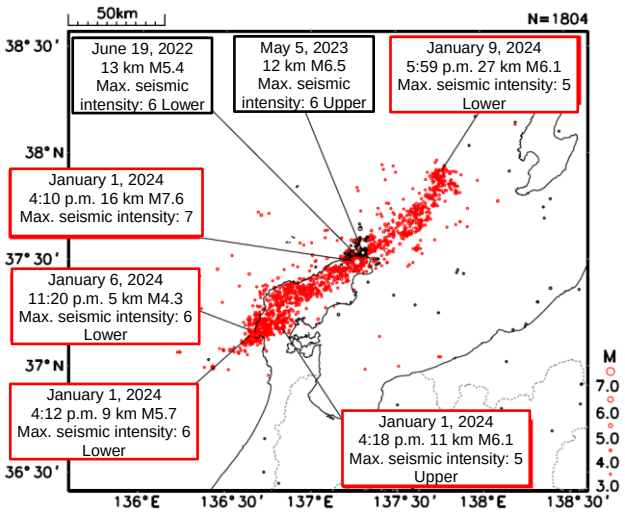
Fig. 1-2 4:10 p.m., January 1, 2024, seismic intensity distribution map of the earthquake in Noto region, Ishikawa Prefecture



Source: Japan Meteorological Agency documents

Until December 2023, the seismic activity was generally within a 30 km square area in the northeastern region of the Noto Peninsula, but immediately after the earthquake on January 1, the seismic activity spread over an area of about 150 km extending from the northeast to the southwest (Fig. 1-3). Around the epicenter of the earthquake, an earthquake of magnitude 5.7 (maximum seismic intensity of 6 Lower) occurred at 4:12 p.m., followed by an earthquake of magnitude 6.1 (maximum seismic intensity of 5 Upper) at 4:18 p.m. on the same day, which was followed by an earthquake of magnitude 4.3 (maximum seismic intensity of 6 Lower) at 11:20 p.m. on January 6 and an earthquake of magnitude 6.1 (maximum seismic intensity of 5 Lower) at 5:59 p.m. on January 9. Earthquakes of similar extent are still occurring (as of April 1, 2024), with 1,772 earthquakes of seismic intensity 1 or higher being observed between 4:00 p.m. on January 1 and 12:00 a.m. on April 1 (Fig. 1-4).

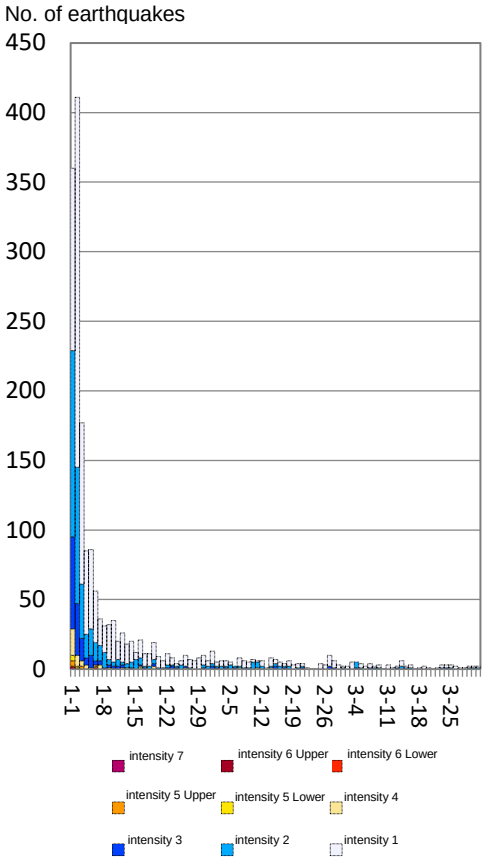
Fig. 1-3 Epicenter distribution map of the 2024 Noto Peninsula Earthquake



*December 1, 2020 to April 1, 2024 12:00 a.m.
*Depth 0 to 30 km, M3.0 or higher
*Earthquakes from January 1, 2024 onward are shown in red
*Earthquakes with a maximum seismic intensity of 6 Lower or greater or M6.0 or higher have been labelled

Source: Japan Meteorological Agency documents

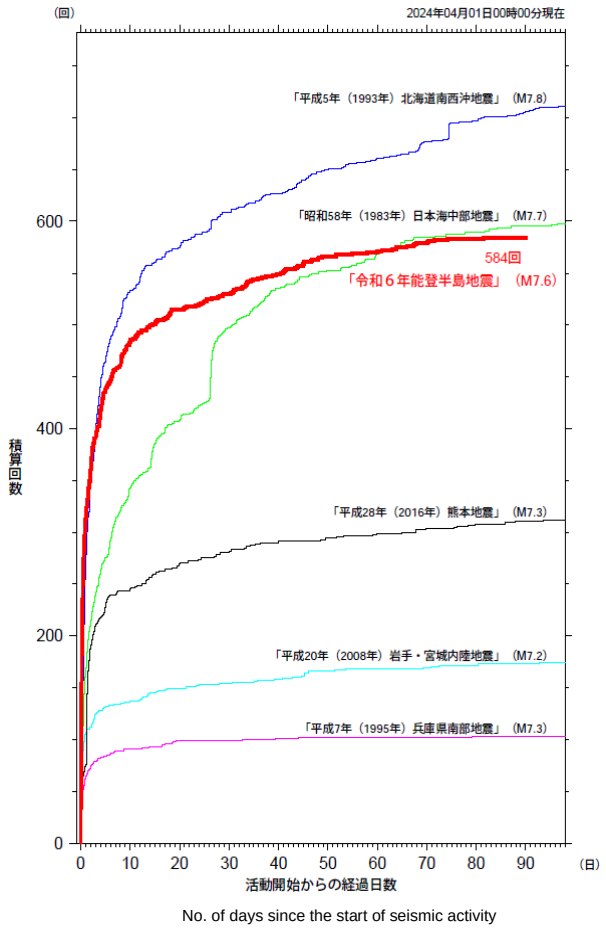
Fig. 1-4 Daily earthquake frequency by maximum seismic intensity for the "2024 Noto Peninsula Earthquake"



*January 1, 2024 to April 1, 2024 12:00 a.m.
*Daily number of earthquakes with a seismic intensity of 1 or higher

Source: Japan Meteorological Agency documents

Fig. 1-5 Comparison of earthquake numbers for major seismic activities on continental plates (Magnitude 3.5 or more)



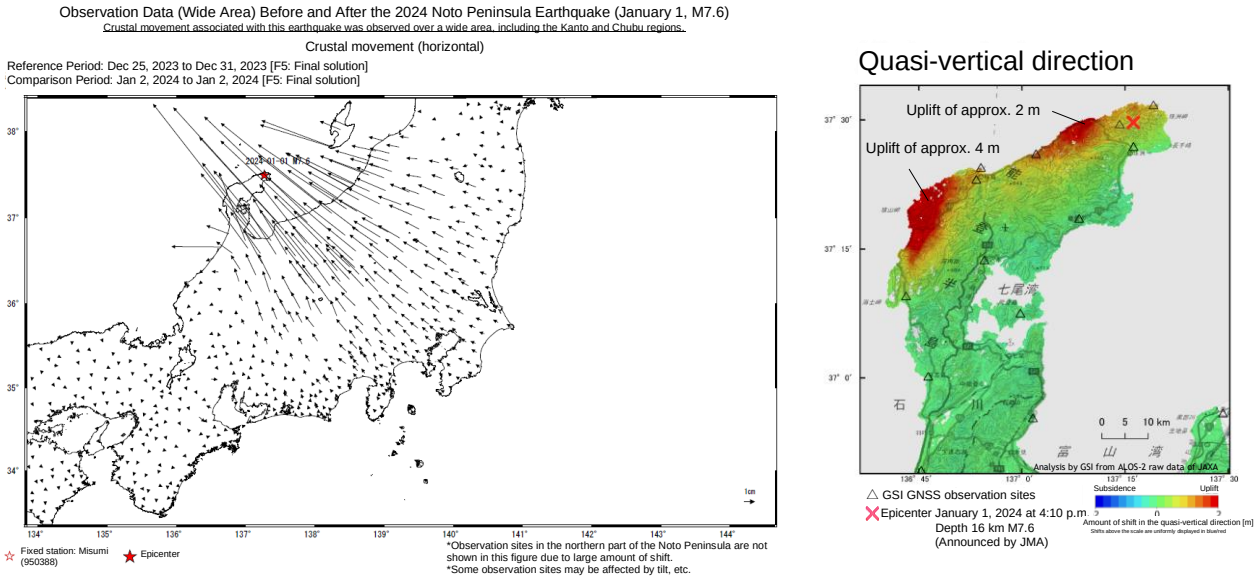
No. of days since the start of seismic activity

This is preliminary data and subject to change with future surveys.
The magnitude of this earthquake is the largest to date.
Note 1: Counting started from the earthquake at 4:10 p.m. on January 1, 2024 (M7.6). Note 2: Counting started from the earthquake at 9:26 p.m. on April 14, 2016 (M6.5).

Source: Japan Meteorological Agency documents

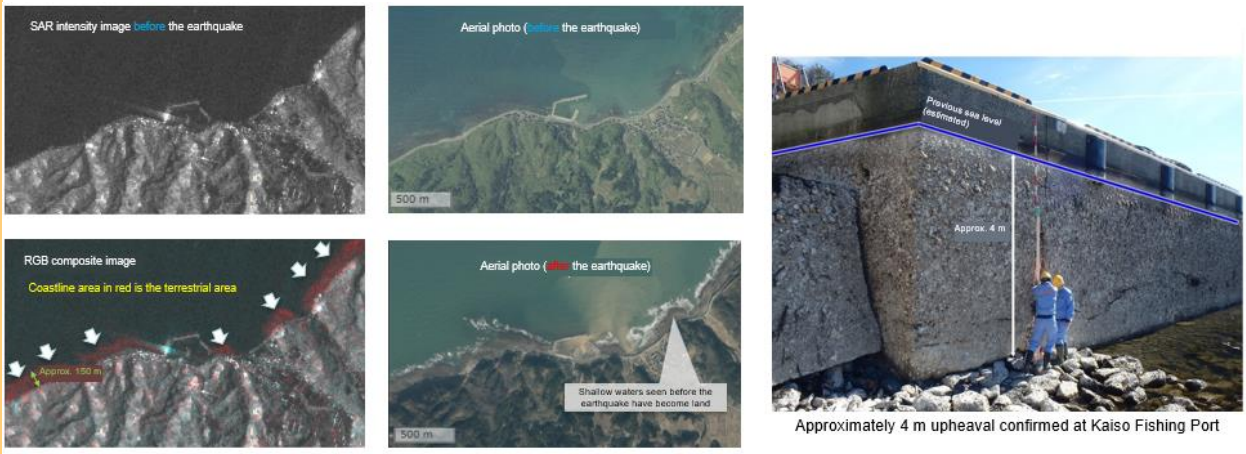
The crustal movement has been observed since around December 2020. However, with the occurrence of the earthquake, the Geospatial Information Authority of Japan's electronic reference stations detected significant crustal movement, mainly in the Noto Peninsula, including a southwestward shift of 2.0 m and an uplift of about 1.3 m at two observation sites in Wajima. In addition, a crustal movement in the northwest-to-north direction was observed over a wide area, not only along the Sea of Japan coast, such as Niigata Prefecture, but also in the Kanto and Chubu regions. According to the analysis of synthetic aperture radar images observed by the Advanced Land Observing Satellite "DAICHI-2," an uplift of up to 4 m and a westward shift of up to 2 m were detected in western Wajima (**Fig. 1-6**). This uplift changed the coastline over a wide area along the northern coast of the Noto Peninsula, and aerial photographs and field surveys confirmed a landward shift (**Fig. 1-7**). Damage due to liquefaction was also observed over an extensive area, particularly in the coastal areas of Ishikawa, Toyama, and Niigata prefectures.

Fig. 1-6 Crustal movement associated with the 2024 Noto Peninsula Earthquake (magnitude 7.6 that struck on January 1) based on analysis of electronic reference station data and "DAICHI-2" observation data



Source: Geospatial Information Authority of Japan data

Fig. 1-7 Coastline changes before and after the earthquake

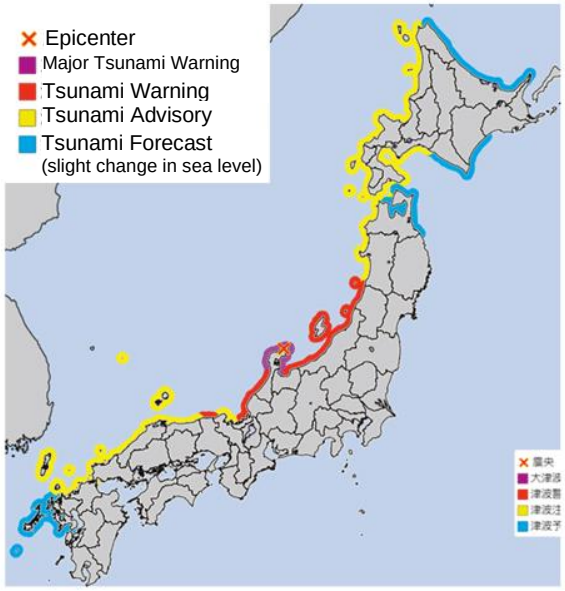


Source: Geospatial Information Authority of Japan data

(2) Overview of Tsunami

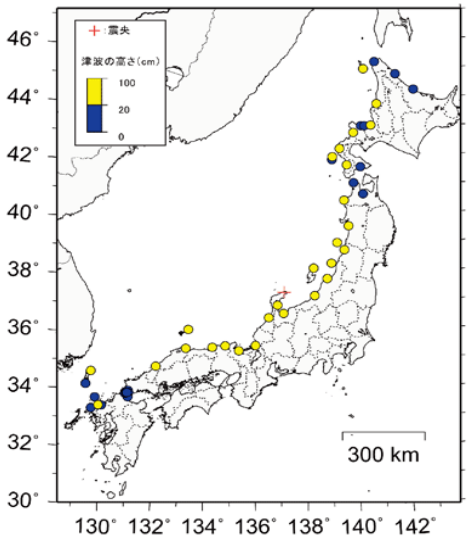
The earthquake led to the issuance of a major tsunami warning for Noto, Ishikawa Prefecture, and the issuance of tsunami warnings from Yamagata to Fukui Prefectures and the northern part of Hyogo Prefecture (**Fig. 1-8**). Tsunamis were observed mainly along the Sea of Japan coast from Hokkaido to the Kyushu region, including one measuring 80 cm at the Kanazawa observation site (Ports and Harbours Bureau) and one measuring 0.8 m at the Sakata observation site (Japan Meteorological Agency) (**Fig. 1-9**). In addition, aerial photographs and field observations showed that the tsunami inundated a large area, including the Noto Peninsula. Field surveys confirmed tsunami inundation heights of 4 m or higher in Suzu City and Noto Town in Ishikawa Prefecture and run-up heights of 5 m or higher in Joetsu City in Niigata Prefecture.

Fig. 1-8 Announcement of tsunami warnings, etc. (Announced at 4:22 p.m. on January 1)



Source: Japan Meteorological Agency documents

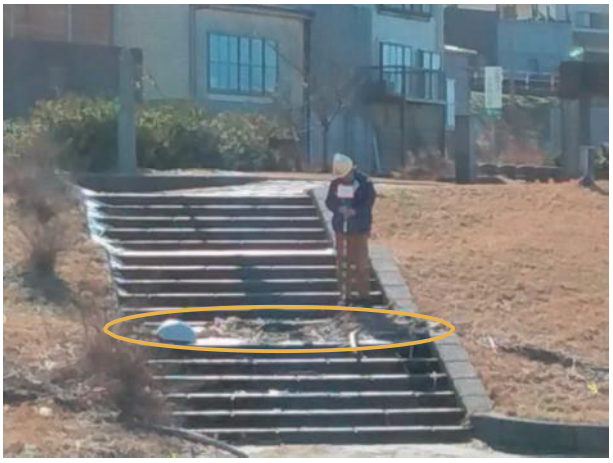
Fig. 1-9 Tsunami observation status



Source: Japan Meteorological Agency document

Sites where traces of the tsunami or washed-up debris were found during the on-site survey

Noto Town Shiramaru (Ishikawa Prefecture): 4.7 m inundation location



Funami Park, Joetsu City (Niigata Prefecture): Run-up height: 5.8m location

Source: Japan Meteorological Agency documents

Section 2 Overview of the Damage

As mentioned in the previous section, the earthquake that occurred on January 1 caused extensive damage to many lives and homes. Fig. 2-1 compares the damage caused by the “Noto Peninsula Earthquake” with the damage caused by the Great Hanshin-Awaji Earthquake, the Great East Japan Earthquake, and the Kumamoto Earthquake.

Fig. 2-1 Comparison of damage caused by the “Noto Peninsula Earthquake” with other earthquake disasters

	Great Hanshin-Awaji Earthquake	Great East Japan Earthquake	Kumamoto Earthquake	Noto Peninsula Note 1 Earthquake
Date of occurrence	5:46 a.m. on January 17, 1995	2:46 p.m. on March 11, 2011	Foreshock: 9:26 p.m. on April 14, 2016 Main shock: 1:25 a.m. on April 16	4:10 p.m. on January 1, 2024
Seismic intensity	Magnitude 7.3	Moment Magnitude 9.0	Magnitude 6.5 Magnitude 7.3	Magnitude 7.6
No. of dead/missing (including disaster-related deaths)	6,437 persons (including around 900 persons)	22,325 persons (including around 3,800 persons)	276 persons (including around 220 persons)	263 persons (including 30 persons Note 2) *Provisional value as of May 28
No. of completely destroyed houses	Approx. 105,000 houses	Approx. 120,000 houses	Approx. 9,000 houses	Approx. 8,000 houses *Provisional value as of May 28

Note 1) The “Noto Peninsula Earthquake” column contains information on the largest in the series of earthquakes (the earthquake that struck the Noto region of Ishikawa Prefecture at 4:10 p.m. on January 1, 2024).
Note 2) The “disaster-related deaths” of the Noto Peninsula Earthquake is a provisional value as of May 28, 2024, when deaths were recognized as caused by the disaster in accordance with the “Act on Provision of Disaster Condolence Grant” (Act No. 82 of 1973), due to worsening injuries from such disaster or illness caused by physical strain from evacuation life, etc.

Source: Prepared by the Cabinet Office based on documents from the Cabinet Office, National Police Agency, Reconstruction Agency, Fire and Disaster Management Agency, Japan Meteorological Agency, Headquarters for Emergency Disaster Control, Extraordinary Disaster Management Headquarters, Ishikawa Prefecture, Hyogo Prefecture, and Kumamoto Prefecture confirmed as of May 28, 2011

(1) Human casualties

The earthquake caused many houses to collapse and left 263 people dead or missing. The majority of the fatalities were reported from Ishikawa Prefecture, with 112 victims in Wajima City (3 missing persons), 111 in Suzu City, 20 in Anamizu Town, 9 in Noto Town, 5 in Nanao City, 2 in Shika Town, and 1 in Hakui City (as of May 28).

Information from the National Police Agency (as of March 31. The number of fatalities (excluding disaster-related deaths) announced by Ishikawa Prefecture includes 228 deaths that were handled by the police) reveals that about 40% of the victims were crushed to death and 20% died due to suffocation or respiratory failure. Many people are believed to have been trapped under collapsed buildings. In addition, just over 10% of the victims died from hypothermia or freezing to death due to the extreme cold. By age, the largest number of fatalities were in their 70s (62 persons), followed by 51 persons in their 80s and 27 persons in their 90s, altogether accounting for approximately 60% of the fatalities. Four fatalities were under the age of ten, and eight were in their teens.

(2) Building damage

Damage to residential buildings occurred in 5 prefectures (Niigata, Toyama, Ishikawa, Fukui, and Nagano), with 8,459 houses destroyed (8,108 in Ishikawa Prefecture, 245 in Toyama Prefecture, and 106 in Niigata Prefecture), 115,324 houses half or partially destroyed (72,799 in Ishikawa Prefecture, 23,361 in Niigata Prefecture, 18,555 in Toyama Prefecture, 591 in Fukui Prefecture, and 18 in Nagano Prefecture (only partially damaged)), and 25 houses flooded above or below floor level (14 in Niigata Prefecture and 11 in Ishikawa Prefecture), resulting in a total of over 120,000 houses damaged across the affected areas.

(As of May 28). Additionally, around 26,000 non-residential buildings were damaged in Ishikawa Prefecture (as of May 28[1]).

1 Ishikawa Prefecture website “Damage Situation (135th Report)”
(Reference: https://www.pref.ishikawa.lg.jp/saigai/documents/higaihou_135_0528_1400.pdf)

Chapter 2

Response to the 2024 Noto Peninsula Earthquake

Section 1 Initial Response

(1) Initial response and establishment of a headquarters system

The government, in response to this earthquake, established the Prime Minister's Office Crisis Response Center at 4:11 p.m. on January 1, 2024. At 4:15 p.m., Prime Minister Kishida issued the following instructions: 1. Provide timely and accurate information to the public regarding the tsunami and evacuation, and thoroughly implement measures to prevent damage, such as resident evacuations; 2. Promptly ascertain the damage situation; and 3. Closely coordinate with local governments and, under the policy of prioritizing human life, work as a unified government to fully engage in emergency disaster response measures, such as rescuing and aiding the victims. The Authorized Disaster Management Headquarters was established at 5:30 p.m. and was upgraded to the Emergency Disaster Countermeasures Headquarters at 10:40 p.m. The first meeting of the Extreme Disaster Management Headquarters was held at 9:15 a.m. on January 2, 2024.

In addition, at 8:00 p.m. on January 1, 2024, a cabinet office investigation team was dispatched to the Ishikawa prefectural office. Furthermore, at 11:22 p.m. on the same day, the On-site Extreme Disaster Management Headquarters (hereinafter referred to as the "On-site Disaster Management Headquarters", headed by Koga, State Minister of Cabinet Office, was established at the Ishikawa Prefectural Office. The on-site disaster management headquarters established four teams focused on infrastructure, relief supplies, livelihood support, and livelihood reconstruction and worked closely with the Ishikawa Prefectural Office. Specifically, the infrastructure team formed groups with stakeholders from the road, electricity, communications and water supply sectors within the on-site disaster management headquarters since road traffic disruptions caused by landslides, fallen trees, and toppled utility poles partially hindered the restoration of infrastructure. The team coordinated efficient road clearance by clarifying the restoration priorities for damaged infrastructure facilities. Additionally, liaison officers from the Cabinet Office and relevant ministries and agencies were dispatched to six cities and towns in the heavily damaged Noto region (Nanao City, Wajima City, Suzu City, Shika Town, Anamizu Town, and Noto Town) to assess the situation in the affected areas and facilitate communication and coordination with the affected cities and towns.

First meeting of the Extreme Disaster Management Headquarters
Source: Prime Minister's Official Website

On-site Extreme Disaster Management Headquarters of the Prime Minister's Office Crisis Response Center (Within Ishikawa Prefectural Office) (January 14)
Source: Cabinet Office

(2) Rescue and relief activities

After the earthquake occurred, the police, fire-fighters, Japan Coast Guard and Self-Defense Forces coordinated to carry-out large-scale rescue and relief operations, prioritizing the saving of lives.

The police dispatched units from the national police force, including the Wide-Area Emergency Assistance Team, immediately after the disaster. These units, in coordination with the Ishikawa Prefecture police, carried out various police activities such as rescue and relief operations and searching for missing persons. By April 1, 2024, approximately 90,000 police personnel had been dispatched to the disaster-affected region. They rescued 114 people through operations such as rescuing and evacuating individuals from collapsed houses and conducting hoist rescues using police helicopters.

The Fire and Disaster Management Agency dispatched an emergency firefighting assistance team of approximately 2,000 personnel immediately after the disaster. The emergency firefighting assistance team, along with the local fire department headquarters, totaling about 70,000 personnel, carried out fire extinguishing, rescue operations from collapsed homes, rescue operations from isolated villages using firefighting and disaster prevention helicopters, and transfers from hospitals and elderly care facilities.

As a result, 435 people were rescued, and 3,500 people were transported by emergency medical transport (cumulative total from the earthquake on January 1 until March 5, as of April 1). By April 1, the Japan Coast Guard deployed 1,453 patrol vessels, 306 aircraft, 18 special rescue team members, and 316 mobile rescue personnel to carry out emergency medical transport and search operations for missing persons.

Immediately after the disaster, the Ministry of Defense (MOD) began collecting damage information and conducting search and rescue operations using aircraft in the parts of the peninsula where the road network was cut off. On January 2, MOD formed a joint task force, with a maximum of 14,000 personnel responding to the situation. From the outset, SDF helicopters were intensively used to save lives, and offshore vessels were used as bases to transport relief supplies, as well as heavy machinery, vehicles, and equipment required for road clearance. By fully utilizing the capabilities of the Ground, Maritime, and Air Self-Defense Forces, approximately 1,040 people were rescued (including the transport of evacuees) as of April 1.

Hoist rescue by police aircraft (Wajima City)
Source: National Police Agency

Nighttime activities at the site of a collapsed house (Suzu City)
Source: National Police Agency

Firefighting efforts by fire-fighters and fire corps volunteers (Wajima City)
Source: Fire and Disaster Management Agency

Emergency medical transport of elderly people by emergency firefighting rescue teams (Wajima City)
Source: Fire and Disaster Management Agency

Self-Defense Forces carrying out rescue operations (Suzu City)
Source: Ministry of Defense

Lifesaving efforts by the Self-Defense Forces and fire-fighters (Wajima City)
Source: Ministry of Defense

(3) Fire outbreak and firefighting activities

There were eleven incidents of fire in Ishikawa Prefecture, five in Toyama Prefecture, and one in Niigata Prefecture, where local fire departments and fire corps volunteers engaged in firefighting activities. In particular, in Wajima City, Ishikawa Prefecture, a fire broke out at Wajima Morning Market, one of three of Japan's largest morning markets, immediately after the earthquake, damaging approximately 240 buildings and covering an area of about 49,000 square meters. The fire occurred in a densely packed wooden area, where it could spread easily. The local fire department and fire corps volunteers extinguished the fire under difficult conditions, as fire hydrants could not be used due to the water supply being cut off and some water tanks used for firefighting were rendered unusable due to collapsed buildings following the earthquake. The fire was suppressed at 7:30 a.m. on January 2 and was extinguished at 5:10 p.m. on January 6.


Fire at Wajima Morning Market
Source: Kyodo News

(4) Response at Shika Nuclear Power Plant

In the wake of the earthquake, the government established the Nuclear Regulation Authority/Cabinet Office Nuclear Accident Joint Alert Headquarters at 4:19 p.m. on January 1 to disseminate information regarding the Shika Nuclear Power Station of Hokuriku Electric Power Company. At the Shika Nuclear Power Station of Hokuriku Electric Power Company, although overflowing of water due to a rippling phenomenon (sloshing) in the spent fuel pool and oil leaks due to some transformer failures occurred, it was confirmed that the necessary safety functions, including the cooling of spent fuel and power supply, were secured.

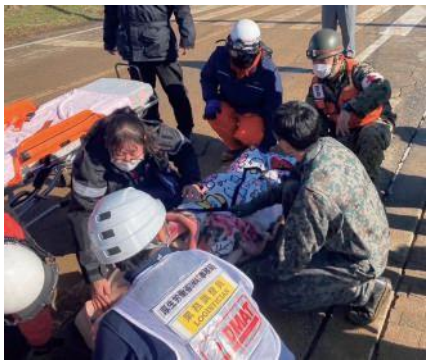
In addition, although measurements could not be confirmed at some of the surrounding monitoring posts, no anomalies were observed in the values indicated by the monitoring posts near the site, and it was confirmed that no issues affecting the safety of the power plant had occurred.

(5) Emergency medical activities

After the disaster, many medical institutions in the affected areas were damaged. In addition, even at medical institutions that suffered minor building damage or were spared from partial or total destruction, there were disruptions in staff attendance, patient transport, and the delivery of medical supplies and other items. Therefore, to provide medical support to the victims, Disaster Medical Assistance Teams (hereinafter referred to as “DMATs”), Disaster Psychiatric Assistance Teams (hereinafter referred to as “DPATs”), Japan Medical Association Teams (hereinafter referred to as “JMATs”), and disaster support nurses were sent to medical institutions and shelters from across the country to carry out emergency medical activities, such as lifesaving measures. In addition, health and sanitation support teams consisting of medical officers, nurses, and other personnel from the Self-Defense Forces conducted mobile medical consultations, mainly in isolated areas.

To date, the teams dispatched to the affected areas include 1,139 DMATs, who transported injured and sick, evacuated hospitalized patients, and provided hospital support; 196 DPATs, who provided psychological care to evacuees through shelter visits; and 1,008 JMATs, who provided medical support in affected cities, towns and secondary evacuation centers. In addition, 3,040 disaster support nurses from the Japanese Nursing Association were dispatched to shelters and medical institutions in the affected areas (as of April 1).

Furthermore, experts in infectious diseases provided advice on infection control in shelters. The Disaster Health Emergency Assistance Teams (hereinafter referred to as “DHEATs”) dispatched from prefectures and designated cities outside the affected prefecture provided support for the command and coordination functions at healthcare centers, etc., and provided healthcare for affected people living in shelters and at homes, etc., by conducting visits based on the list of residents prepared in each city and town by public health nurses dispatched from each local government.



DMAT Patient Transport
Source: Ministry of Health, Labour and Welfare

(6) Procurement and transportation of relief supplies

Immediately after the disaster, following the Prime Minister's instructions, the government started "push-type support", providing essential relief supplies for the lives and living conditions of disaster victims without waiting for requests from the affected areas. On January 2, the first shipment of relief supplies arrived at the wide-area relief supplies transportation hub in Ishikawa Prefecture.

The specific relief supplies included food, drinking water, infant formula and liquid milk, blankets, portable toilets, and other urgently needed relief supplies. In addition, winter clothing, heating devices, and fuel were also provided to address the cold weather. Sanitary products, baby wipes, and infant diapers were also distributed, considering the needs of women and households with children in shelters. In addition, support was provided based on the needs of the affected areas, such as compression stockings to ensure the health of victims, cardboard beds needed to improve the environment in shelters, and relief supplies such as simple laundry kits and washing machines to meet laundry needs during prolonged water outages. In addition, with the cooperation of private logistics business operators, the Self-Defense Forces and the Ishikawa Prefecture Truck Association primarily handled transport from the wide-area relief supplies transportation hub to local governments in the affected areas. Furthermore, at the relief supplies transportation hubs in affected cities and towns, logistics business operators in each city and town were in charge of transporting terminals to shelters, etc., and specialized volunteer groups handled sorting operations.

Wide-area relief supplies transportation hub (Ishikawa Prefectural Industrial Exhibition Hall)
Source: Cabinet Office

Loading work at Wide-area relief supplies transportation hubs with the cooperation of private logistics business
Source: Cabinet Office

Air transport of supplies by Self-Defense Force helicopter (Wajima Sub-Base)
Source: Ministry of Defense

[Column]
Information Gathering Satellite, Publication of Processed Images

The Cabinet Satellite Intelligence Center of the Cabinet Intelligence and Research Office (hereinafter referred to as the “Satellite Center”) develops and operates Information-Gathering Satellites with the primary objective of collecting information necessary for security in areas such as diplomacy and defense and crisis management in response to large-scale disasters. Outputs, including images created based on information obtained by Information-Gathering Satellites, are distributed to the Prime Minister’s Office and ministries and agencies that use them and are utilized to assess the situation and make policy decisions.

As part of these activities, the Satellite Center not only distributes images from Information-Gathering Satellites, which are processed such that they do not reveal the satellite capabilities (hereinafter referred to as “processed images”), to the Prime Minister’s Office and the ministries and agencies that will use the images, but also makes the images public when the images are deemed to be useful in the early detection of the damage situation and for the rapid rescue and evacuation of victims in the event of a disaster or accident causing large-scale damage within Japan. After starting to release images in 2015, the Satellite Center has released processed images for nine disasters, including large-scale floods, volcanic eruptions, and earthquakes, until FY 2023.

Twenty-one processed images of the affected areas were made public on the Cabinet Secretariat website during the Noto Peninsula earthquake that occurred on January 1, 2024. In addition, by providing the images to relevant government ministries and agencies, the Satellite Center contributes to the elucidation of the disaster situation, disaster relief and recovery operations.

Areas affected by the 2024 Noto Peninsula Earthquake
Left: Wajima City center (fire outbreak location), Right: Suzu City Kamito Town (river clogging due to landslide)
Source: Cabinet Office website (Reference: https://www.cas.go.jp/jp/houdou/240111csice.html)

Section 2 Policy Responses Since the Occurrence of the Disaster

(1) Application of support systems, etc.

1. Application of the Disaster Relief Act

The “Disaster Relief Act” (Act No. 118 of 1947) was applied to 35 cities, 11 towns, and 1 village in Niigata, Toyama, Ishikawa, and Fukui prefectures (Date of application of the Act: January 1). The National Treasury made it possible for each prefecture to implement emergency relief measures (such as setting up and running shelters and providing emergency temporary housing).

2. Designation of Disaster of Extreme Severity

On January 11, based on the “Act on Special Financial Support to Deal with the Designated Disaster of Extreme Severity” (Act No. 150 of 1962), a Cabinet Order was passed designating this disaster as a Disaster of Extreme Severity (a major disaster not limited to a specific region).

As a result, a total of 12 measures were applied (including additional designation by the Cabinet decision on February 9), including special financial assistance for disaster recovery projects for public civil engineering facilities, special measures for subsidies for disaster recovery projects related to agricultural land, and special provisions for disaster-related guarantees under the Small and Medium-Sized Enterprise Credit Insurance Act.

3. Designation of specific emergency disasters

On January 11, based on the “Act on Special Measures concerning Preservation of Rights and Interests of Victims of Specified Disaster” (Act No. 85 of 1996), a Cabinet Order was passed designating the disaster caused by the 2024 Noto Peninsula Earthquake as a Specified Disaster and applied the following measures to this Specified Disaster: Extension of the expiration date pertaining to administrative rights and interests, Exemption from the responsibilities pertaining to unfulfilled duties, Exception of orders of commencement of bankruptcy proceedings for corporations on the grounds of insolvency, Exception for the period for accepting or renouncing inheritance, and Exception of the fees for filing of a petition for conciliation under the Civil Conciliation Act.

4. Designation of a Major disaster under the Large-Scale Disaster Reconstruction Act

Based on the “Act on Reconstruction from Large-Scale Disasters” (Act No. 55 of 2013; hereinafter referred to as the “Large-Scale Disaster Reconstruction Act”), a Cabinet Order was passed on January 19 designating disaster caused by the 2024 Noto Peninsula Earthquake as an Extreme Disaster. This enabled the government to carry out recovery work on affected ports, airports, coastlines, and other areas, acting on behalf of local governments.

5. Measures for the Reconstruction of Livelihoods

On January 6, Ishikawa Prefecture decided to apply the “Act on Support for Reconstructing Livelihoods of Disaster Victims” (Act No. 66 of 1998) to all areas (19 municipalities). Subsequently, Toyama Prefecture (all areas (15 municipalities)) and Niigata Prefecture (all areas (30 municipalities)) also decided to apply the Act. Based on this Act, if a house met certain requirements, such as being destroyed or otherwise damaged, the affected family living in that house was to be paid a basic support grant (up to 1 million yen) and an additional support grant (up to 2 million yen) depending on the damage to the house and the method of rebuilding the house.

Six cities and towns in the Noto region (Nanao City, Wajima City, Suzu City, Shika Town, Anamizu Town, and Noto Town) are facing particularly severe damage compared to other areas. Many people have been forced to evacuate from their homes due to the geographical constraints of the peninsula, such as a severe shortage of land suitable for building houses, as well as a significantly high proportion of elderly people. Given the circumstances and the characteristics of the region, where significant and complex challenges need to be overcome for the revitalization of local communities, Ishikawa Prefecture has introduced a new grant system (Temporary Special Grant for Supporting Regional Welfare Promotion) of up to 3 million yen for households with elderly or disabled people whose houses have been half-destroyed or worse, and households that are likely to have difficulties in borrowing or repaying their loans in the relevant area.

In addition, based on the “Act on Provision of Disaster Condolence Grants” (Act No. 82 of 1973), disaster condolence grants were provided to the families of those killed in the disaster and disaster disability relief grants were provided to individuals who have suffered severe disabilities due to the disaster. Furthermore, disaster assistance funds were provided to heads of households who fulfilled the requirements.

(2) Wide-area support for disaster-affected areas and local governments

In this disaster, many organizations from outside the affected areas have rushed to the aid of victims and local governments in the affected areas.

As mentioned in the previous section, various units, including the police (Police Disaster Dispatch Team), fire department (Emergency Firefighting Assistance Team), Self-Defense Forces, and the Japan Coast Guard units, were dispatched to the affected areas for emergency and rescue operations. In addition, many medical and welfare professionals, including DMAT, DPAT, JMAT, the Japan Disaster Dental Assistance Team (JDAT), the Japan Disaster Rehabilitation Assistance Team (JRAT), DHEAT, the Disaster Infection Control Team (DICT) established by the Japanese Society for Environmental Infectious Diseases, the Japan Dietetic Association - Disaster Assistance Team (hereinafter referred to as “JDA-DAT”), and the Disaster Welfare Assistance Team (hereinafter referred to as “DWAT”), along with disaster support nurses, public health nurses, and care workers, were dispatched to the affected areas to provide medical care and welfare support.

The TEC-FORCE (Technical Emergency Control Force of the Ministry of Land, Infrastructure, Transport and Tourism; hereinafter referred to as the “TEC-FORCE”) was dispatched to support disaster recovery projects and transport, such as emergency transport of evacuees and transport of emergency supplies, and to assess the level of emergency risk of damaged buildings, in addition to road clearance. In addition, specialized organizations were dispatched by various ministries and agencies, including MAFF-SAT (Ministry of Agriculture, Forestry and Fisheries Support and Advice Team), to assist with disaster recovery in various fields and support the disaster victims.

Confirmation of assessment targets by TEC-FORCE (Suzu City)
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

TEC-FORCE filling out and attaching assessment stickers (Anamizu Town)
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

MAFF-SAT installs blue tarps on damaged reservoir (Shika Town)
Source: Ministry of Agriculture, Forestry and Fisheries (MAFF)

Inspection of agricultural village drainage facilities using MAFF-SAT (Noto Town)
Source: Ministry of Agriculture, Forestry and Fisheries (MAFF)

Wide-area support is also being provided on a large scale by local governments across the country to affected local governments. A general adviser team was dispatched to the six affected cities and towns in the Noto region to support the disaster management of the affected local governments. By April 1, 62 prefectures and cities had decided to dispatch support teams (personnel in charge of disaster response tasks such as running shelters and issuing disaster damage certificates) to 14 cities and towns in Ishikawa Prefecture, three cities in Toyama Prefecture, and one city in Niigata Prefecture under the counterpart method, which are currently engaged in support operations. In addition, for the emergency response and restoration of infrastructure and lifelines, support teams from across the country were dispatched to restore water supply, electricity, and communications. Since the water supply in the affected areas was disrupted for an extended period, water tankers and toilet trailers were also sent by local governments and other organizations nationwide.

After the occurrence of the disaster, many supporters, including personnel from supporting local governments, recovery business operators, and volunteers, entered the affected areas and provided a wide range of support. However, hotels and inns in the affected areas also suffered severe damage, and there was a shortage of accommodation. For this reason, Ishikawa Prefecture and other areas came to the aid of supporters by securing and improving accommodation facilities for them, using special tax allocation measures and the temporary facility development support program by the Organization for Small & Medium Enterprises and Regional Innovation, JAPAN.

Fig. 2-2 Key initiatives and support for affected local governments and supporting organizations

Key initiatives and support	Main supporting organizations
Lifesaving and search operations	Wide-Area Emergency Assistance Team (National Police Agency), Emergency Firefighting Assistance Team (Fire and Disaster Management Agency), Self-Defense Forces, Japan Coast Guard
Medical support Health activities Infectious disease measures	DMATs (Disaster Medical Assistance Teams), DHEATs (Disaster Health Emergency Assistance Teams) DICT (Disaster Infection Control Team of the Japanese Society for Infection Prevention and Control), Self Defense Forces, etc.
Disaster management support	Dispatch of local government officials (general adviser team), etc.
Operation of evacuation centers (support for meals and bathing) Support for issuance of disaster damage certificates Material management and transportation support	Dispatch of local government officials (support teams), Self-Defense Forces, etc.
Water supply support Infrastructure survey and restoration support Support for restoration of the Noto Railway Nanao Line Farmland and agricultural facility surveys, etc. Fishing port facility surveys, etc.	Japan Water Works Association, TEC-FORCE (Technical Emergency Control Force of the Ministry of Land, Infrastructure, Transport and Tourism), Self-Defense Forces, RAIL-FORCE (Railway Disaster Investigation Force of the Japan Railway Construction, Transport and Technology Agency), National Institute for Land and Infrastructure Management (NILIM), National Research and Development Agency Public Works Research Institute (PWRI), Building Research Institute (BRI), Port and Airport Research Institute, National Federation of Land Improvement Associations, Fisheries Infrastructure Development Center, MAFF-SAT (Ministry of Agriculture, Forestry and Fisheries Support and Advice Team), etc.
Emergency risk assessment for damaged buildings Risk assessment of affected residential areas	National Council for Emergency Risk Assessment for Damaged Buildings, dispatch of local government officials, TEC-FORCE (MLIT), etc.
Disaster waste treatment support	Disaster waste treatment support system (human resources bank) D. Waste-Net (Disaster Waste Treatment Support Network), etc.
Support for school reopening (Dispatch of school counselors and teachers)	Japanese Society of Certified Clinical Psychologists Board of Education of each prefecture and designated city
Support for affected pets	Japan Veterinary Medical Association (JVMA), dispatch of local government officials

Source: Cabinet Office data

(3) Support Package, Financial Measures, and Tax Responses

On January 2, by decision of the Prime Minister, the government established the “Team to Support for Reconstructing Lives and Livelihood of the Affected due to the 2024 Noto Peninsula Earthquake” led by the Deputy Chief Cabinet Secretary and comprising vice ministers of various ministries and agencies, to provide swift and seamless support for the reconstruction of the lives and livelihoods of those affected by the disaster. On January 25, based on the results of discussions by the support team and others, the government announced2 the “Package for the Restoration of Lives and Livelihoods of the Affected” (approved by the Emergency Disaster Management Headquarters for the 2024 Noto Peninsula Earthquake; hereinafter referred to as “the Support Package”), compiling emergency measures that the government should take in the areas of “reconstruction of lives”, “reconstruction of livelihoods”, and “disaster recovery, etc.”[1].

In addition, the government responded flexibly to changing financial needs by utilizing the general reserve fund, etc., from the FY 2023 budget, which had a remaining balance of over 460 billion yen at the time of the disaster. Specifically, on January 9, the Government decided to use the reserve fund (approximately 4.74 billion yen) to provide financial support for immediate push-type material support. Next, as a financial measure necessary for the implementation of the measures in the Support Package, the government decided to use 155.3 billion yen on January 26 and 116.7 billion yen on March 1 from the reserve fund. Furthermore, in order to be able to respond seamlessly and flexibly according to the stage of recovery and reconstruction in FY 2024 as well, on January 16, a decision was made to increase the general reserve fund in the FY 2024 budget by 500 billion yen to a total of 1 trillion yen. On April 23, a decision was made to use 138.9 billion yen of the reserve fund as a financial measure necessary to implement the measures in the Support Package.

As a local financial measure for the affected local governments, on January 9, it was decided to advance the payment of a portion of the special tax allocation (26.14 billion yen) due in March to 51 organizations in Ishikawa Prefecture and 17 cities and towns within the prefecture, while a similar decision was taken on February 9, for Ishikawa Prefecture and 7 cities and towns within the prefecture, in order to facilitate their short-term cash flow. On March 22, a decision was made regarding the payment of the special tax allocation for FY 2023, of which 40.2 billion yen was allocated for disaster-related expenses for the 2024 Noto Peninsula Earthquake.

1 Cabinet Office website “Package of Measures to Support the Daily Lives and Livelihoods of Disaster Victims”
(Reference: https://www.bousai.go.jp/pdf/240125_shien.pdf)

In addition, new special tax allocation measures were implemented for the cost of securing accommodation for support staff and other personnel centrally in Ishikawa Prefecture, and local financial measures were upgraded for disaster recovery projects for water and sewage and the "Residential Land Liquefaction Prevention Project", which is an area-wide liquefaction countermeasure that includes neighboring residential areas.

In terms of the taxation system, in addition to extending the deadline for filing and paying income tax, etc., based on the "Act on Temporary Special Provisions of the Income Tax Act and Act on Reduction or Release, Deferment of Collection and Other Measures Related to Tax Imposed on Disaster Victims of the 2024 Noto Peninsula Earthquake Disaster" (Act No. 1 of 2024), which was enacted on February 21 (promulgated and enforced on the same day), measures were implemented to enable the application of miscellaneous loss deductions in the calculation of income tax for the year 2023 and individual inhabitant tax for the year 2024 for losses on assets such as housing and household goods, income tax reduction and exemption for the year 2023 under the Special Provisions of the Disaster Exemption Act, and inclusion of losses from business assets as necessary expenses for the calculation of income tax for the year 2023.

In addition, households, including those affected by the disaster whose individual inhabitant tax has been fully exempted, were made eligible for price inflation support for tax-exempt households (a total of 100,000 yen/household, with an additional 50,000 yen/person for children).

(4) Response to the generous support for the affected areas

Since the disaster occurred, more than 270 specialized volunteer organizations, including NPOs focusing on disaster victim support, have entered the affected areas and are engaged in activities such as managing shelters and removing debris with heavy machinery. In addition, starting January 2, the Japan Voluntary Organizations Active in Disaster (JVOAD) entered the Ishikawa Prefectural Government Office to share information and coordinate activities through information-sharing meetings with specialized volunteer organizations, the government, and the Council of Social Welfare.

In addition, disaster volunteer centers have been set up in each city and town, led by the Council of Social Welfare of the affected areas, which accept applicants for volunteering, match volunteers with the ever-changing needs of disaster victims, and conduct activities such as cleaning up damaged houses and sorting and transporting disaster debris. In particular, in the wake of the recent disaster, Ishikawa Prefecture and other prefectures asked general volunteers to refrain from entering the affected area directly due to traffic congestion caused by limited access roads to the affected areas and a shortage of accommodation within the areas at the beginning of the disaster. As a result, general volunteers were required to enter the affected areas primarily by volunteer buses departing from places like Kanazawa City. Additionally, as many victims were evacuated outside the region for secondary evacuation, it became difficult to assess the need for volunteers, due to which the number of volunteers was limited compared to past disasters. In response, Ishikawa Prefecture, in collaboration with the national government and relevant agencies, worked on securing accommodation bases within the affected areas and improving the working environment for volunteers and other supporters. Until May 6, approximately 90,000 volunteers had participated in volunteer activities in Ishikawa, Toyama, and Niigata Prefectures (according to Ishikawa Prefecture's data[2] and a study by the National Council of Social Welfare).

Ishikawa Prefecture established the Ishikawa Prefecture 2024 Noto Peninsula Earthquake Disaster Donation Distribution Committee to fairly distribute the donations (approximately 56.4 billion yen as of April 1) received in sympathy for those affected by the disaster. Since the first committee meeting on February 1, the distribution plan has been decided step by step. As a result, by the second committee meeting, Ishikawa Prefecture had decided to distribute donations of 1 million yen for the dead and missing, 100,000 yen for the seriously injured, and 1 million yen for households whose houses were destroyed (donations, including initial and secondary allocations)[3]. Similarly, Toyama Prefecture has also decided to distribute donations based on the decision of its Donation Distribution Committee, and similar distribution has been planned in Niigata and Fukui Prefectures.

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2 Ishikawa Prefecture website "Governor's press conference (May 8, 2024)"
(Reference: https://www.pref.ishikawa.lg.jp/chiji/kisya/r6_5_8/documents/0508_kisyakaikensiryou.pdf)

3 Ishikawa Prefecture website: "2024 Noto Peninsula Earthquake Disaster Relief Fund Distribution Comm...
(Reference: https://www.pref.ishikawa.lg.jp/kousei/gienkinbussi/r6notohantoujishingienkin.html)

Organization performing emergency food distribution
Source: OPEN JAPAN

Volunteers who carry out the cleaning of residences
Source: Ishikawa Prefecture

(5) Establishment of 2024 Noto Peninsula Earthquake Recovery and Reconstruction Support Headquarters

On January 31, the government established the "2024 Noto Peninsula Earthquake Recovery and Reconstruction Support Headquarters" headed by the Prime Minister and comprising all Cabinet members to expedite and strengthen the recovery and reconstruction from the Noto Peninsula earthquake through close collaboration between relevant ministries and agencies. Specifically, following the compilation of the Support Package on January 25, the Headquarters was tasked with 1. confirming the progress of recovery and reconstruction efforts by each ministry and agency, 2. ensuring that measures are aligned across ministries, and 3. liaising and coordinating on the execution of the reserve fund and other related matters. The Headquarters has held five meetings[4] since February 1 (as of May 8), and, responding to the needs of the affected areas, has been promoting recovery and reconstruction through efforts such as restoring infrastructure and lifelines and supporting disaster victims and affected business operators, by flexibly and dynamically utilizing the reserve fund and other resources.

Section 3 Response to Damage of Infrastructure, Lifelines, etc.

(1) Infrastructure-related

1. Roads

Many roads, including National Route 249, the main artery of the Noto Peninsula, were damaged due to collapses, slope failures, cracks, and steps. In Ishikawa Prefecture in particular, up to 93 prefectural roads, including the Noto-Satoyama Kaido, National Route 249, the Suzu Doro, and the Nanao-Wajima Line, were closed to traffic (as of January 5), and the entire Okunoto region was cut off, making access difficult. Since many roads in the Noto Peninsula were closed, the influx of traffic to the affected areas was concentrated on certain roads, causing traffic congestion in many areas and hindering the transport of relief supplies and recovery operations. In addition, up to 3,345 persons (as of January 5) in 33 districts were isolated due to road closures, unable to receive assistance and making the restoration of access to isolated communities an urgent issue.

Therefore, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) began emergency restoration of trunk roads on January 2 and established a 24-hour system to carry out emergency restoration operations successively, mainly with the support of local construction industry associations and the Japan Federation of Construction Contractors. Since a number of affected areas were identified, particularly along the coast, MLIT, in cooperation with the SDF, also proceeded with emergency restoration in a comb-like pattern from both the inland and seaside, securing roadways in 13 directions. Thanks to these restoration efforts, about 80% of the trunk roads in the peninsula were reopened to traffic on January 9, and on January 15, this percentage further increased to about 90%. As a result, on January 19, access was established practically with all communities. The emergency restoration continues based on requests for supply of water and electricity, as well as requests from the local governments of affected areas, with various duties assigned to road administrators and also shared among the national, prefectural, and municipal governments. On January 23, the national government decided to carry out full-scale restoration on behalf of Ishikawa Prefecture, and the restoration work is now underway.

4 Cabinet Office website "Headquarters for Supporting Recovery and Reconstruction from the 2024 Noto Peninsula Earthquake" (Reference: https://www.bousai.go.jp/updates/r60101notojishin/hukkyuhonbu.html)

Nakaya Tunnel on National Route 249 (Wajima City)
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Noetsu Expressway (Anamizu Town)
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Road cut off due to slope failures
Source: Kyodo News

Road to an isolated community in Wajima City
Source: Kyodo News

GSDF personnel providing evacuation support for isolated residents
Source: Ministry of Defense

Evacuation of residents from isolated communities using SDF helicopter
Source: Ministry of Defense

2. Landslide disasters/coastal damage

As of March 28, 440 landslide disasters had occurred (409 in Ishikawa Prefecture, 18 in Niigata Prefecture, and 13 in Toyama Prefecture), with river clogging confirmed in six rivers (at 14 locations), particularly in Ishikawa Prefecture. The national government, in cooperation with Ishikawa Prefecture, has established a surveillance system, which includes surveys by TEC-FORCE and the installation of surveillance cameras. The Government also supports alert and evacuation systems by providing surveillance images to local governments. The national government is also implementing emergency measures against landslide disasters in areas along the Kawarada and Machino rivers and coastal areas along National Route 249 in Ishikawa Prefecture, where sediment and driftwood have accumulated in streams and on slopes in an unstable state, presenting a high risk of secondary disasters occurring due to rainfall in the future.

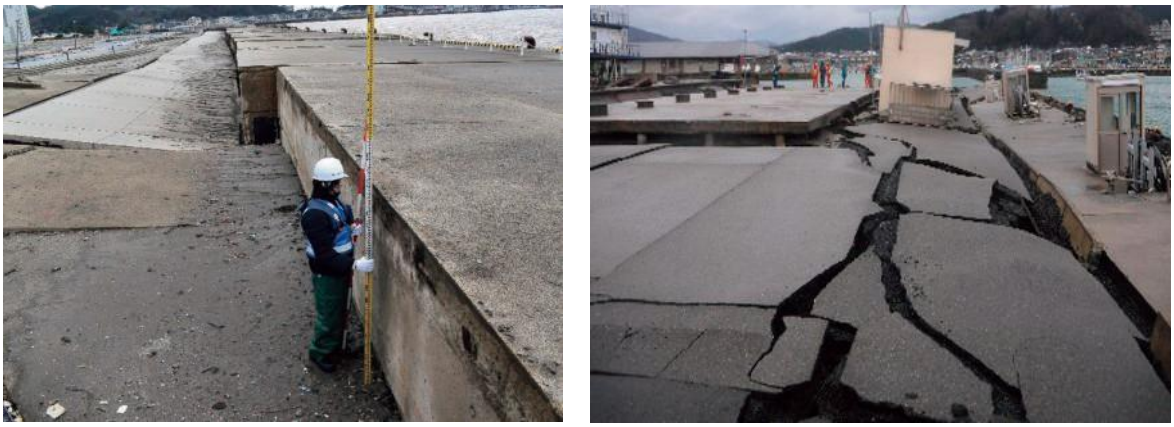
Damage to levee revetments and other facilities was confirmed at twelve coastal locations in Ishikawa Prefecture. MLIT has taken over recovery work on the Horyu Shoin Coast, ensuring conformity with local Reconstruction and Community Development Plans.

3. Railways

Immediately after the disaster, railway operations were suspended in the affected prefectures. However, the Hokuriku Shinkansen and JR Hokuriku Line resumed operations on January 2. The JR Nanao Line (from Tsubata to Wakuraonsen), which suffered damage that included warped rails and tilted support pillars, resumed operation between Takamatsu and Hakui on January 15, between Hakui and Nanao on January 22, and between Nanao and Wakuraonsen on February 15. On the third-sector Noto Railway Nanao Line (from Wakuraonsen to Anamizu), which suffered extensive damage, including a large inflow of sediment and extensive roadbed damage, TEC-FORCE and the Railway Disaster Investigation Force (RAIL-FORCE) of the Japan Railway Construction, Transport and Technology Agency were dispatched to the affected sites to survey the damage situation and provide technical advice to the business operators. Additionally, at two locations severely affected by sediment inflow, the prompt commencement and facilitation of sediment removal were made possible through coordination with road restoration work on National Route 249. As a result of these efforts, operations between Wakuraonsen and Noto-Nakajima stations resumed on February 15 and on the entire line on April 6. Until the resumption of operations, information on alternative transport services was shared on the official website of the Ministry of Land, Infrastructure, Transport and Tourism, etc., to ensure convenience for users.

4. Ports and coasts around ports

Damage to wharves and breakwaters was confirmed at 22 of the 29 ports in Niigata, Toyama, Ishikawa, and Fukui Prefectures (including the ports of Nanao, Wajima, and Iida). From January 2, partial management of port facilities at the six ports of Nanao, Wajima, Iida, Ogi, Ushitsu, and Anamizu in the Noto region, which suffered particularly heavy damage, was taken over by MLIT at the request of Ishikawa Prefecture, in accordance with Article 55-3-3 of the Port and Harbour Act (Act No. 218 of 1950). Since then, emergency restoration of damaged facilities has been underway at each port, and ships have been deployed to conduct disaster relief activities.



Damage situation at Wajima Port
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

On February 1, at the request of Ishikawa and Toyama Prefectures, as well as Nanao City, it was decided that MLIT would carry out full-scale recovery work of certain damaged port and coastal facilities in accordance with the “Act on Reconstruction from Large-Scale Disasters” at a total of eight ports and two coasts, including the six ports mentioned above plus the ports of Fushiki-Toyama and Wakura, and the coasts around Wakura and Iida ports. Efforts are being made to complete the recovery work within approximately two years.

5. Aviation

Noto Airport was closed from the beginning of the disaster due to numerous small cracks in the runway, damage to lights, etc. However, the airport began to receive rescue helicopters the day following the disaster and fixed-wing aircraft of the SDF on January 12, after the hours for receiving rescue aircraft were extended and the runway was emergency restored.

Civil aircraft operations between Noto and Haneda resumed on January 27, with one round trip per day (two round trips per day before the disaster) three days a week and one round trip per day every day from April 15 (as of the end of April).

Hereafter, MLIT will take over and carry out full-scale recovery work through the application of the “Act on Reconstruction from Large-Scale Disasters”.

(2) Lifelines

1. Power

Up to approximately 40,000 households within the service area of Hokuriku Electric Power Transmission & Distribution Company were left without power on January 1 due to collapsed utility poles and snapped wires. Since the beginning of the disaster, Hokuriku Electric Power Transmission & Distribution Company received support from electric power companies and partner businesses, including workers and power supply vehicles, and thousands of people were involved in responding on a daily basis. By deploying construction vehicles and personnel to priority areas in conjunction with the progress of road clearance, the Company has endeavored to quickly resolve power outages at shelters, etc., where power outages have continued, through priority work to restore power lines and commencement of alternative supply using power supply vehicles, etc. Thanks to such recovery efforts, as of April 1, the supply of electricity has been restored except to houses, etc., where electricity cannot be used for safety reasons (safety measures have been implemented by Hokuriku Electric Power Transmission & Distribution Company).

Utility poles that collapsed due to the earthquake
Source: Hokuriku Electric Power Transmission & Distribution Company

2. Gas

Although the supply of city gas was temporarily suspended in some areas due to pipeline damage caused by liquefaction in the initial stage of the disaster, for gas producers and general gas pipeline business operators, the damage and supply disruptions were resolved on January 5.

Supply has been resumed for retail gas businesses (formerly known as Community Gas), except in areas where recovery is difficult due to collapsed houses.

Although there were some equipment failures at supply bases and filling stations for LP gas, there were no supply disruptions due to alternative deliveries from other locations and the use of cylinders in stock in the affected areas.

3. Water supply and sewerage

Up to approximately 136,440 households in 29 cities, 7 towns, and 1 village across the six prefectures of Ishikawa, Niigata, Toyama, Fukui, Nagano, and Gifu had their water supply cut off due to broken distribution pipes and pipelines. As of May 8, approximately 3,110 households in two cities in Ishikawa Prefecture (Wajima City and Suzu City) were still subject to suspension of water supply. In addition to damage to water purification plants, water pipes, including non-seismic resistant, as well as earthquake resistant pipes, suffered ruptures, such as joints coming loose.

In response to the suspension of the water supply, water trucks and tankers were first dispatched from all over Japan to the affected areas as part of emergency water supply activities. As of January 31, about one month after the disaster, a total of 147 water trucks, including 98 from the Japan Water Works Association (JWWA), 41 from the SDF, and 8 from MLIT, had been dispatched[5] to the affected areas 6. Portable water purification equipment of the Japan Water Agency was installed in Suzu City, and the Japan Coast Guard also supplied water to SDF water trucks and tankers from patrol vessels that were docked at the wharves of Nanao and Wajima ports. The restoration of water supply facilities was difficult due to the extensive damage to facilities and the difficulty of providing support in the Noto region, which had limited access and accommodation facilities. However, engineers from water utilities are dispatched to the affected sites one by one to survey the damage situation and draw up restoration plans, and recovery work is progressing steadily.

Emergency water supply activities by the Bureau of Waterworks Tokyo Metropolitan Government
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Discussion between Osaka Municipal Waterworks Bureau and Noto Town
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Sewerage officials from local governments and private business operators (such as the Japan Sewer Collection System Management Association) across Japan assisted with the restoration of sewerage pipelines from January 5. From January 7, the Japan Sewage Works Agency provided emergency support to sewage treatment plants and pumping stations that had suspended operations. As of April 1, sewage treatment plants and pumping stations that had suspended operations in six particularly hard-hit cities and towns in the Noto region of Ishikawa Prefecture had already resumed operations. To ensure that there are no delays in the restoration of water supply, currently, support is being provided for the early restoration of both water supply and sewerage, with the transfer of water administration from the Ministry of Health, Labour and Welfare (MHLW) to MLIT in April 2024. In addition, recovery operations are underway in conjunction with community drainage facilities and septic tanks.

Restoration of water supply pipes in Wajima City
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

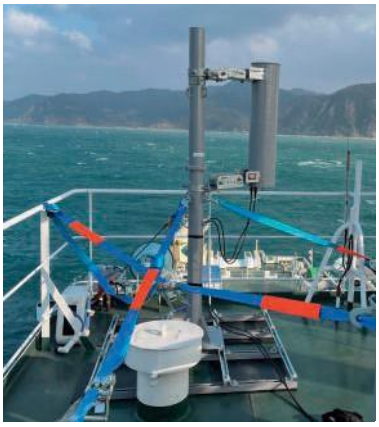
Laying of temporary pressure feed pipes in Suzu City
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

5 Ministry of Health, Labour and Welfare website “Earthquake with Epicenter in Noto Region of Ishikawa Prefecture (60th Report)” (attachment)
(Reference: https://www.mhlw.go.jp/content/001200995.pdf)

4. Communication

Equipment failures and power outages resulted in the suspension of cell phone base station operations. On January 3, a total of 839 base stations owned by four carriers were out of service. In Ishikawa Prefecture, in particular, disruptions occurred in eight cities and towns immediately after the disaster. The communication coverage in the six most affected cities and towns (Nanao City, Wajima City, Suzu City, Shika Town, Anamizu Town, and Noto Town) was reduced to 20 to 30% of its pre-disaster level at the peak of the disruption. On January 18, the four carriers announced that except in difficult-to-access areas, emergency restoration had been largely completed, thanks to the use of mobile base stations (shipboard base stations, portable satellite antennas, wired power drones, and vehicle-mounted base stations). Each carrier is proceeding with full-scale restoration by restoring commercial power, replacing optical fiber, repairing base stations, etc. In areas where communication infrastructure had not been restored, carriers provided satellite communication equipment to shelters, etc., through coordination with the Ministry of Internal Affairs and Communications (MIC), which were used for Internet communication.

Although fixed-line telephone services were restored relatively quickly after the disaster compared to other lifelines, as of April 1, some parts of Wajima City were still unable to access fixed-line telephone or optical communications line-based Internet services.



Ship base station
Source: NTT DOCOMO, Inc.

Satellite communication equipment
Source: KDDI CORPORATION

5. Broadcasting

In terms of broadcasting infrastructure, operations of terrestrial TV and radio services were suspended in some areas due to the depletion of fuel for the auxiliary power supply that had been in operation after the commercial power supply was cut off at the beginning of the disaster. To ensure access to reliable information for all affected people, measures that included coordinating with the SDF for fuel resupply to relay stations at which the commercial power supply had not yet been restored, the use of satellite broadcasting to air programs of NHK Kanazawa Broadcasting Station, and the installation of TVs and antennas at evacuation shelters, were implemented. Following the restoration of commercial power supply, broadcast disruptions were eliminated across the entire region by January 24. Since the affected areas are highly dependent on cable TV (96.4% in Noto Town, 70.1% in Suzu City, etc.), the recovery of the main center facilities has been expedited, and the restoration of transmission lines with snapped cables and other damage is progressing.

(3) Public facilities, etc.

1. Educational facilities

Thirty-two national schools, 888 public schools, 102 private schools, and 761 social education, sports, and cultural facilities reported material damage (as of April 1), mainly in Niigata, Toyama, and Ishikawa prefectures. In Ishikawa Prefecture, which was particularly hard-hit, 86 public schools closed temporarily on January 9 after the winter break was over (by February 6, all schools had resumed some educational activities, making use of shortened classes and online learning). Junior high schools in Wajima City, Suzu City, and Noto Town were mass evacuated to facilities in Kanazawa City and Hakusan City. Many schools were also used as shelters.

2. Medical care - Social welfare facilities

As of April 1, up to 26 medical facilities, including 19 in Ishikawa Prefecture, were confirmed to have suffered damage, and two medical institutions had buildings in danger of collapsing (patients inside the buildings were already transferred). Three facilities experienced power outages and 23 facilities suspension of water supply. However, as of April 1, all medical institutions in Ishikawa Prefecture had their water supply restored. Essential medical functions at the four public hospitals in the northern region of Noto, which played a central role in securing the healthcare system in the affected areas, were maintained immediately after the disaster through the provision of medical care and wide-area evacuation support by DMAT, etc., and the dispatch of nurses to provide assistance.

As for social welfare facilities, up to 307 facilities for the elderly, including 191 facilities in Ishikawa Prefecture, were confirmed to have suffered damage, with 30 facilities without power and 161 facilities having their water supply cut off. As of April 1, water supply was still suspended at 71 of these facilities. In addition, up to 48 facilities for people with disabilities, including 41 facilities in Ishikawa Prefecture, were confirmed to have been affected, with six facilities experiencing power outages and 30 facilities without water supply. As of April 1, one facility was still under electrical blackout, and 28 facilities were subject to suspension of water supply. Taking into account the prolongation of evacuation life, etc., DMAT and other teams took the lead in transporting the elderly and persons requiring special care from facilities for the elderly in the affected areas to medical institutions and facilities for the elderly outside the affected areas, as well as to level 1.5 evacuation centers (see next section). In addition, nursing care personnel were dispatched for assistance to facilities for the elderly and persons with disabilities in the affected areas to provide the support necessary to ensure the provision of nursing care and welfare services for the disabled.

3. Cultural Properties

A total of 401 cultural properties (including two national treasures (buildings), 55 important cultural properties (buildings) and six arts and crafts) were damaged, mainly in Niigata, Toyama, and Ishikawa prefectures. Damage to four World Heritage sites and 40 Japan Heritage sites was also confirmed (as of April 1). Workshops and stores of Wajima lacquerware, an Important Intangible Cultural Heritage of Japan, were also severely damaged.

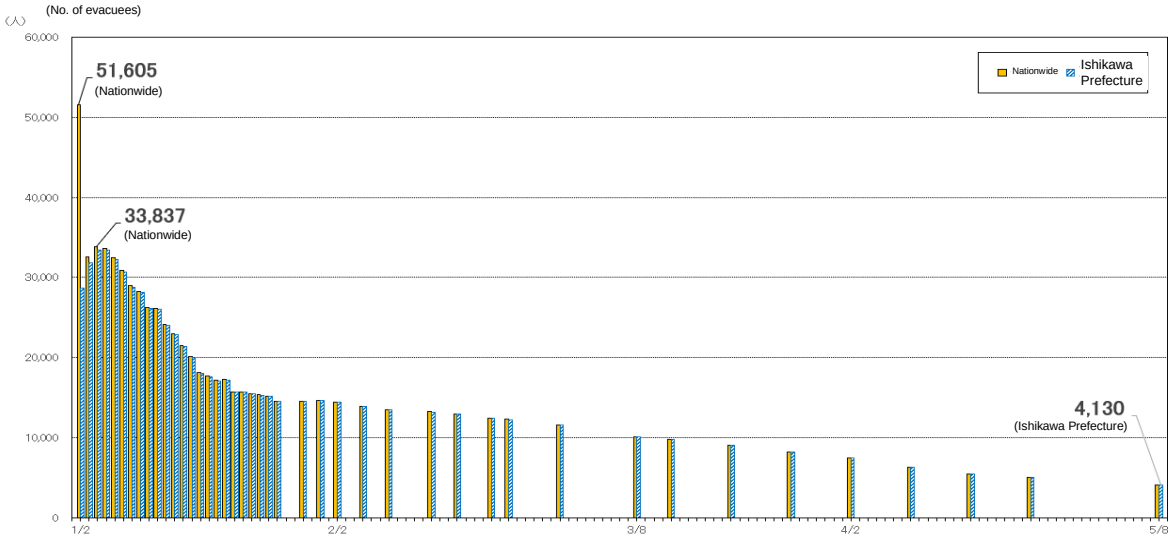
Section 4 Livelihood Support for Victims, etc.

(1) Evacuation life (including secondary evacuation)

As more than 120,000 houses were damaged in the affected areas, many affected people were forced to live in shelters over extended periods immediately after the disaster. Approximately 1,300 shelters were opened in eleven prefectures (1 regional prefecture, 1 urban prefecture, and 9 prefectures) immediately after the disaster, and the number of evacuees exceeded 50,000 (as of 5:00 a.m. on January 2). At 6:00 a.m. on January 3, approximately 480 shelters had been opened in Niigata, Toyama and Ishikawa Prefectures, where approximately 30,000 people evacuated. Food, clothing and other daily necessities, cardboard beds, partitions, temporary toilets and other materials necessary to improve the shelter environment were delivered through push-type support. Also, since the water supply was cut off, toilet trailers were dispatched, and water-recycling-type shower facilities were installed. Welfare shelters were also installed for older adults, persons with disabilities, infants, and others requiring special attention (hereinafter referred to as “persons requiring special care”), who were likely to find it difficult to live in ordinary shelters.

Local government staff in the affected areas, who took charge of the management of shelters, were supported by local government staff dispatched for assistance from across the country and specialized volunteer organizations, such as NPOs that had entered the affected areas. Many trailer houses and container houses were sent to the affected areas, where they were used to provide better accommodation to relief workers, including those who managed shelters. The number of evacuees in Ishikawa Prefecture, which had suffered severe damage, was approximately 30,000 immediately after the disaster, which subsequently reduced to approximately 4,000 evacuees as of May 8, living in 275 shelters (including secondary evacuation, etc.) of Ishikawa Prefecture (**Fig. 2-3**).

Fig. 2-3 Changes over time in the number of evacuees in shelters



Note 1: Days for which no reports on damage situation, etc. were received from the Emergency Disaster Management Headquarters have been left blank.
Note 2: The number of evacuees includes evacuees in secondary shelters such as hotels and inns, evacuees in Level 1.5 evacuation centers, and those in wide-area evacuation at other local governments.

Source: Compiled based on the report “Damage Caused by the 2024 Noto Peninsula Earthquake” by the Disaster Management Headquarters (As of May 8)
(Reference: https://www.bousai.go.jp/updates/r60101notojishin/r60101notojishin/index.html)

Installation of partitions (Noto Town)
Source: Cabinet Office

Kitchen car (Dispatched from Osaka Prefecture)
Source: Cabinet Office

Toilet car (Dispatched from Uwajima City, Ehime Prefecture)
Source: Cabinet Office

Prime Minister Kishida's visit to a shelter in Wajima City (January 14)
Source: Cabinet Office

Minister of State for Disaster Management Matsumura and State Minister of Cabinet Office Koga visiting a shelter in Shika Town (February 10)
Source: Cabinet Office

To secure hotels, inns, etc., to accommodate evacuees, the Tourism Agency took the lead in coordinating with the travel industry and accommodation for around 5,000 people was secured on January 9, and for 31,000 more people in other parts across the country by the end of February.

To secure hotels, inns, etc., for accommodating evacuees, the Japan Tourism Agency took the lead in coordinating with the travel industry. Accommodation for around 5,000 people was secured on January 9, and for 31,000 more people in other parts of the country by the end of February. The standard for using disaster relief expenses per night was raised from 7,000 yen to 10,000 yen as an exceptional case to secure accommodation facilities faster. In addition, temporary shelters (Level 1.5 evacuation centers) were set up at Ishikawa General Sports Center (Kanazawa City) and other locations, which accommodated a maximum of 367 evacuees (on January 21), mainly the elderly and persons requiring special care[6]. As for evacuation to secondary shelters, starting with Ishikawa Prefecture, where 196 people evacuated[7] to secondary shelters in Komatsu City and other cities by January 8 using airlift support by SDF helicopters and buses and taxis secured by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), a maximum of 5,275 people evacuated to hotels, inns, etc., which were used as secondary shelters, within and outside the prefecture (February 16) (**Fig. 2-4**)[8].

At Level 1.5 evacuation centers, a medical care system has been established, care workers and other staff have been dispatched, a daily life consultation helpdesk has been set up (through the Livelihood Welfare Fund Loan System), and arrangements have been made for the admission of elderly evacuees living in the Level 1.5 evacuation centers to welfare facilities within and outside the prefecture so that persons requiring special care, such as the elderly and persons with disabilities, can live safely and comfortably.

The number of evacuees has decreased as lifelines are restored and temporary housing is built in the affected areas. As of May 8, 64 people (1,495 in total) were still living in Level 1.5 evacuation centers and 1,729 people (10,999 in total) in secondary shelters (**Fig. 2-5**).

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6 Ishikawa Prefecture website, "27th Disaster Management Headquarters Members Meeting" (p21, 28)
(Reference: https://www.pref.ishikawa.lg.jp/saigai/documents/0121shiryo.pdf)

7 Ishikawa Prefecture website, "16th Disaster Management Headquarters Members Meeting" (p 25)
(Reference: https://www.pref.ishikawa.lg.jp/saigai/documents/0109kaigisiryou.pdf)

8 Cabinet Office website, "Verification Team for the 2024 Noto Peninsula Earthquake (3rd Meeting)" (Document 2, p 1)
(Reference: https://www.bousai.go.jp/updates/r60101notojishin/pdf/kensho_team3_shiryo02.pdf)

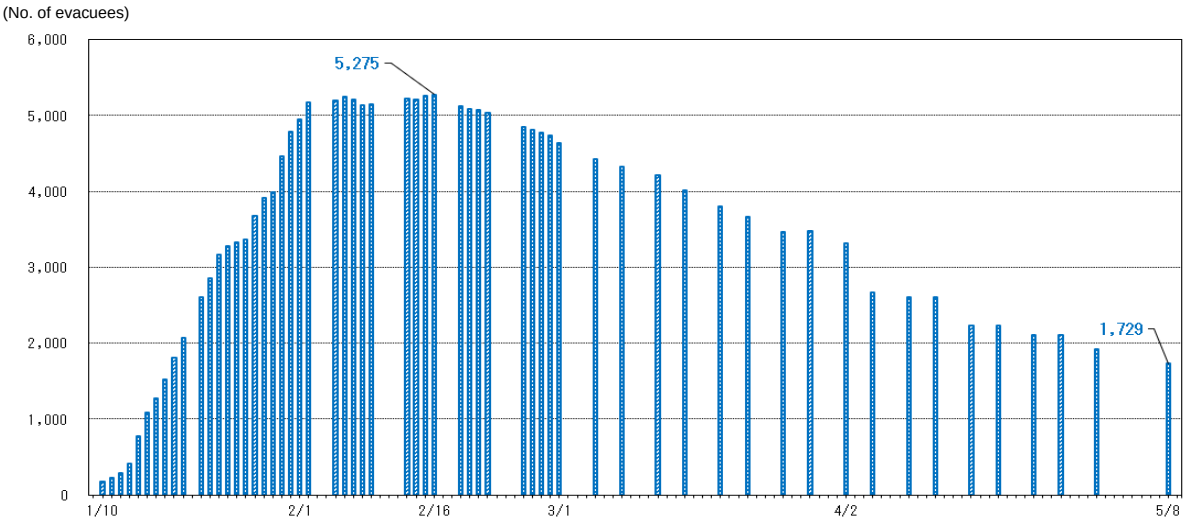
Fig. 2-4 Major secondary shelters (February 16)

*This map does not illustrate the situation at all secondary evacuation sites as of February 16.

Level 1.5 Evacuation Center

(Ishikawa General Sports Center)
Source: Cabinet Office

Fig. 2-5 Changes over time in the number of evacuees in secondary shelters in Ishikawa Prefecture



Note: This graph consists of data from January 10. Days for which no reports on damage situation, etc. were received from Ishikawa Prefecture have been left blank.

Source: Compiled based on the report “Extent of Damage, etc.,” by Ishikawa Prefecture (as of May 8)
(Reference: https://www.pref.ishikawa.lg.jp/saigai/202401jishin-taisakuhonbu.html#higai)

To provide medical support to the affected people, medical support teams (DMATs, JMATs, etc.) have been assessing the medical needs and providing hospital support and medical assistance in the affected areas. In addition, DHEATs dispatched from prefectures and designated cities outside the affected prefectures have been providing support for the command and coordination functions at healthcare centers, etc., as well as providing healthcare for affected people living in shelters and at home by conducting door-to-door visits based on the list of residents prepared in each city and town by public health nurses and registered dietitians, etc.

JDA-DAT has set up a base (Special Nutritional Food Stations) to provide necessary foods to those who have special nutritional needs (foods for people with swallowing difficulties, allergen-eliminated foods, liquid milk, etc.), as well as to conduct continuous individual nutritional assessments for persons requiring special care in shelters (including Level 1.5 evacuation centers) and at home, and provide nutrition and dietary support based on the results of these assessments.

In addition to providing support for well-being in shelters (including Level 1.5 evacuation centers), DWATs provide consultation to evacuees at home in the vicinity of shelters on difficulties in daily life. For the elderly and persons with disabilities, etc., who are home-based, specialized welfare teams, such as caregiving support specialists and consultation support specialists, make individual visits with public health nurses to check on the evacuees.

To protect the affected people from crimes that take advantage of disasters and to ensure their safety and security, the police dispatched special units from across the country to patrol the affected areas with patrol cars and other vehicles and to guard shelters, as well as to provide consultation and crime prevention guidance, and install security cameras at shelters.

Medical assistance by a DMAT (Wajima City)
Source: Ministry of Health, Labour and Welfare

“Helpdesk for Comprehensive Consultation on Well-being” set up by a DWAT in Level 1.5 evacuation center
Source: Ministry of Health, Labour and Welfare

Door-to-door visit by public health nurses (Wajima City)
Source: Ministry of Health, Labour and Welfare

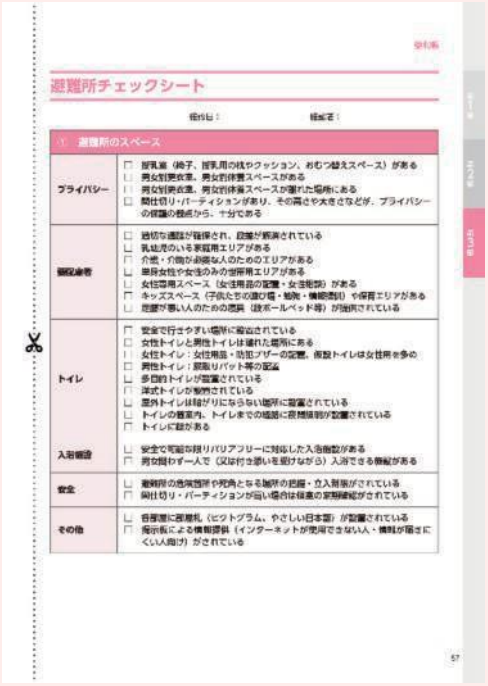
Public health nurse providing healthcare (Wajima City)
Source: Ministry of Health, Labour and Welfare

[Column]

Initiatives Based on the Perspective of Joint Participation by Men and Women During Noto Peninsula Earthquake

In past disasters, women's participation in disaster management decision-making processes and on-site disaster response was inadequate, giving rise to problems such as the different needs of men and women not being adequately addressed. From this perspective, immediately after the 2024 Noto Peninsula Earthquake, the Gender Equality Bureau of the Cabinet Office requested that local governments of the affected areas take measures based on the "Guidelines for Disaster Preparedness and Reconstruction from the Perspective of Gender Equality". In addition, staff from the Bureau were dispatched to the On-site Extreme Disaster Management Headquarters to provide support for the establishment and operation of shelters from the perspective of gender equality. Specific efforts in Level 1.5 evacuation centers included the placement of sanitary products in women's toilets and the installation of rest areas, children's spaces and nursing rooms for female evacuees, with the cooperation of Ishikawa Prefecture, based on the "Evacuation Shelter Check Sheet" in the Guidelines. In addition, the prefecture took the initiative to promote the participation of women in the operation and management of shelters and assigned female staff to be in charge of distributing relief supplies.

To prevent sexual crimes, sexual violence, spousal violence, and other such acts at shelters, etc., Ishikawa Prefecture conducted awareness-raising activities, including the display of posters prepared by the prefecture, the dissemination of information on consultation helpdesks for victims, using SNS and awareness-raising cards, and the distribution of crime prevention buzzers (4,200 buzzers distributed through push-type support) to the affected cities and towns.


避難所チェックシート

プライバシー	□ 授乳室（椅子、授乳用の枕やクッション、おむつ替えスペース）がある □ 男女別更衣室、男女別休養スペースがある □ 男女別更衣室、男女別休養スペースが離れた場所にある □ 間仕切り・パーティションがあり、その高さや大きさなどが、プライバシーの保護の観点から、十分である
福祉避難所	□ 適切な通路が確保され、段差が解消されている □ 乳幼児のいる家庭専用エリアがある □ 介護・介助が必要な人のためのエリアがある □ 単身女性や女性のみの世帯用エリアがある □ 女性専用スペース（女性用品の配置・女性相談）がある □ キッズスペース（子供たちの遊び場・絵本・情報提供）や保育エリアがある □ 体調が悪い人のための医具（段ボールベッド等）が施設されている
トイレ	□ 安全で行きやすい場所に設置されている □ 女性トイレと男性トイレは離れた場所にある □ 女性トイレ：女性用品・防犯ブザーの配置、仮設トイレは女性用を多め □ 男性トイレ：尿取りパット等の配置 □ 多目的トイレが整備されている □ 洋式トイレが設置されている □ 屋外トイレは暗がりにならない場所に設置されている □ トイレの数室内、トイレまでの経路に段差解消が整備されている □ トイレに鍵がある
入浴施設	□ 安全で可能な限りバリアフリーに対応した入浴施設がある □ 男女問わず一人で（又は付き添いを受けながら）入浴できる機能がある
安全	□ 避難所の危険箇所や死角となる箇所の把握・立入禁止がされている □ 間仕切り・パーティションが高い場合は様子の定期確認がされている
その他	□ 各居室に避難札（ピクトグラム、やさしい日本語）が設置されている □ 掲示板による情報提供（インターネットが使用できない人・情報が届きにくい人向け）がされている

Children's space in Level 1.5 evacuation center (Ishikawa General Sports Center)
Source: Cabinet Office

Source: "Guidelines for disaster preparedness and reconstruction from the perspective of gender equality" Part 3 Convenience Accounts "Evacuation Shelter Check Sheet"
(Reference: https://www.gender.go.jp/policy/ saigai/fukkou/pdf/guidelene_07.pdf)

(2) Securing housing

More than 120,000 houses were damaged in the affected areas, because of which securing housing for the affected people became an urgent issue. In particular, in the Okunoto region that suffered severe damage, efforts were made to secure housing amid limited availability of flat land suitable for constructing emergency temporary housing, few accommodation bases for construction workers, and time-consuming restoration of lifelines such as water supply.

To conduct damage assessment surveys and issue disaster victim certificates, which are prerequisites for reconstructing houses, the Cabinet Office, on January 13, presented points to be noted regarding the application for disaster victim certificates and the implementation of damage assessment surveys (e.g., simplified surveys for external appearance, assessment using photographs, etc., and faster assessment by collectively assessing affected buildings that are destroyed, using aerial photographs, etc.), and advised the relevant municipalities in Niigata, Toyama and Ishikawa Prefectures to ensure that damage assessment surveys and issuance of disaster victim certificates are carried out promptly and appropriately after that[9]. In addition, helpdesks have been set up even at Level 1.5 evacuation centers to facilitate the issuance of disaster victim certificates, and online application is being promoted by various local governments, allowing the applicants to apply for the issuance of disaster victim certificates using the My Number Card via Mynaportal and other such means[10].

Concerning support for emergency housing for evacuees, which includes “emergency temporary housing (construction-type)”, “rental emergency housing (vacant private homes used for temporary shelter)”, which is provided by renting private homes, and “provision of public housing”, Ishikawa Prefecture has been liaising and coordinating with local governments within and outside the prefecture and the national government, and providing emergency temporary housing, while comprehensively taking into account the actual situation in the region and the time required to provide such housing.

1. Emergency temporary housing (Construction-type)

Construction of emergency temporary housing (construction-type) began on January 12 in Wajima City and Suzu City and on January 15 in Noto Town and Anamizu Town. As of May 8, 5,771 construction of emergency temporary housing (construction-type) had been started, of which 3,557 had been completed. Various types of emergency temporary housing are being built, including moving houses, trailer houses, prefabricated houses and wooden structures (row house-type). In addition to promoting conventional construction, Ishikawa Prefecture has been scaling up “community development-type” construction of wooden row houses, taking into account the Satoyama and Satoumi landscape, and also promoting “return to hometown-type” construction of individual wooden houses to enable disaster-affected people who have left their local villages and are living in rental emergency housing (vacant private homes used for temporary shelter), to return to their hometowns.

Moving houses (Suzu City) Trailer houses (Shika Town)

Prefabricated houses (Wajima City) Community development-type (Wajima City) Hometown return type (Image)

Source: Cabinet Office data

9 Cabinet Office website, “Points to be Noted for the Prompt Issuance of Disaster Victim Certificates Related to the 2024 Noto Peninsula Earthquake” (Announced on January 13, 2024)
(Reference: https://www.bousai.go.jp/updates/r60101notojishin/pdf/tsuuchi_r60113_seirei.pdf)

10 Digital Agency website: “[The 2024 Noto Peninsula Earthquake] Online Application for Disaster Victim Certificates”
(Reference: https://www.digital.go.jp/2024-noto-peninsula-earthquake#ishikawa)

2. Rental emergency housing (Vacant private homes used for temporary shelter)

Ishikawa Prefecture has been securing rental emergency housing (vacant private homes used for temporary shelter) using private rental homes. Approximately 4,500 homes have been secured in Ishikawa Prefecture, with 3,549 homes decided to be occupied as of May 8. The houses available in Niigata, Toyama and Fukui Prefectures are 1,000, 1,500, and 1,200 homes for those who move from Ishikawa to a neighboring prefecture.

3. Provision of public housing

As of April 1, MLIT had secured approximately 9,300 ready-to-occupy public housing units across all prefectures, with approximately 800 units already occupied. In addition, 300 units of UR Rental Housing had been secured across the country, with “lifestyle support advisers” assigned to provide various consultations to ensure elderly people can live safely and comfortably.

According to the information by the Ministry of Finance (MOF), the number of ready-to-occupy National Public Officers’ housing units provided in four prefectures of the Hokuriku region, as of April 1, was - 107 units in Niigata Prefecture, 188 units in Toyama Prefecture, 139 units in Ishikawa Prefecture, and 101 units in Fukui Prefecture. In response to a request from Ishikawa Prefecture, the MOF had allowed the use of 105 National Public Officers’ housing units in Ishikawa Prefecture.

(3) Disaster waste treatment, etc.

The total amount of rubbish cleared from houses damaged due to the earthquake and disaster waste generated from demolishing completely or partially destroyed buildings is estimated to be approximately 2.44 million tons in Ishikawa Prefecture alone[11].

The damaged houses need to be demolished as soon as possible for the recovery and reconstruction of the affected areas, and publicly funded demolition is underway, where cities and towns demolish and remove buildings on behalf of their owners based on applications. Management support is provided by officials of the Ministry of the Environment and local governments, who have knowledge and experience in disaster waste treatment, and support for accepting applications, etc., is also provided by personnel dispatched from supporting local governments to accelerate the process of receiving applications and contract formalities for publicly funded demolition in the six particularly hard-hit cities and towns in Ishikawa Prefecture (Nanao City, Wajima City, Suzu City, Shika Town, Anamizu Town, and Noto Town). Under the “Subsidy for Disaster Waste Disposal Project Expenses”, which supports the disposal of disaster waste in disaster-affected municipalities, aid is provided for publicly funded demolition and removal of damaged houses, including destroyed houses and also half-destroyed houses as a special case. In addition, 95% of the local share of the state aid is funded by local allocation tax. As an exceptional case, a fund set up by the prefecture is used to reduce the local burden when the financial burden of disaster waste disposal is particularly excessive given the financial strength of the affected municipality, thereby supporting smooth and speedy disposal of disaster waste. In the affected cities and towns, demolition was carried out at public expense, starting with houses that were in danger of collapsing and had a high priority for demolition. As of May 5, 356 houses in Ishikawa Prefecture had been demolished. In April, about 100 teams of demolition contractors arrived at the site one by one. From May onwards, about 500 to 600 teams are working to accelerate demolition work with the aim of completing the work in October 2025, the target year in the Ishikawa Prefecture Disaster Waste Disposal Action Plan.

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11 Ishikawa Prefecture website, “Ishikawa Prefecture Disaster Waste Disposal Action Plan for the 2024 Noto Peninsula Earthquake (February 29, 2024)” (p 5)
(Reference: https://www.pref.ishikawa.lg.jp/haitai/documents/jikkoukeikaku.pdf)

Publicly funded demolition
(AnamizuTown)
Source: Ministry of the Environment

Disaster waste being carried to a temporary storage site (Anamizu Town)
Source: Source: Ministry of the Environment

Section 5 Support for Reconstruction of Livelihoods, etc.

(1) Support for Small and Medium-Sized Enterprises (SMEs) and Small/Micro-Enterprises

Many manufacturing companies and small and medium-sized enterprises (SMEs) and small/micro-enterprises in the Hokuriku region, concentrated in the Ishikawa Prefecture, suffered damage to their buildings and facilities. As of April 1, more than 90% of the industries that could affect supply chains outside the affected areas have resumed or are on track to resume production, while about 20% of textile and craft companies have not yet set a target date for resuming production. In particular, traditional industries, such as Wajima-Nuri (Wajima lacquerware), significant local industries in the affected area, suffered extensive damage. The earthquake tremors and the fire on Wajima Asaichi Street destroyed many stores and workshops.

To support the reconstruction of the affected businesses, the government designated the disaster as a “Disaster of Extreme Severity” (a severe disaster not limited to a specific region) on January 11, applied special provisions for disaster-related guarantees under the “Small and Medium-sized Enterprise Credit Insurance Act” (Act No. 264 of 1950), and compiled a support package including measures for the reconstruction of livelihood on January 25. The Small and Medium Enterprise Agency and related organizations are providing various forms of support for affected business operators. These include the Small and Medium Enterprise Specified Facility Disaster Recovery Subsidy (Nariwai Reconstruction Support Project), which provides up to 1.5 billion yen in Ishikawa Prefecture and up to 300 million yen in Niigata, Toyama, and Fukui Prefectures for disaster recovery costs for facilities and equipment; subsidies of up to 2 million yen through the Small Business Sustainability Subsidy for costs related to business reconstruction; support for the restoration of arcades and streetlights in shopping districts in affected areas and the organization of customer-attracting events; and financial assistance through the Japan Finance Corporation and other financial institutions. In addition, amid the ongoing impact of COVID-19 and the May 2023 earthquake on businesses, the “Noto Peninsula Earthquake Reconstruction Support Fund” was established to address the problem of double debt caused by pre-existing loans. Furthermore, the “Noto Industrial Reconstruction Consultation Center” was established to provide various consultation services, including financial support for the recovery and reconstruction of business operators affected by the earthquake and to facilitate the debt purchase support offered through the above fund. In addition, support is being provided to make additional guarantee fees zero when changing repayment conditions for interest-free, unsecured loans (private zero-zero loans) provided by private financial institutions during the COVID-19 Crisis. Furthermore, support is being provided for the revival of traditional industries by establishing a temporary Wajima lacquerware workshop and subsidies of up to 10 million yen for the cost of tools and raw materials necessary for business continuity.

Prime Minister Kishida holds a roundtable discussion with Wajima lacquerware artisans (February 24)
Source: Prime Minister's official website

(2) Support for agriculture, forestry and fisheries

In addition to the damage to farmland, farm roads, irrigation and drainage channels, reservoirs, and other agricultural facilities, the disaster also caused damage to cattle sheds, agricultural greenhouses, common-use facilities, and many agricultural and livestock machinery. In the forestry sector, the earthquake caused widespread mountain area collapses, damage to forest roads, and damaged timber processing and distribution facilities and special-purpose forestry promotion facilities. Concerning fisheries, the tsunami and ground upheaval caused extensive damage, including capsizing, sinking, and grounding of fishing vessels, and damage to fishing port facilities and common use facilities. In particular, ground upheaval caused damage to the Shiroyone Senmaida Rice Terraces, recognized as a World Agricultural Heritage site and a symbol of "Noto's Satoyama and Satoumi," and to many fishing ports, including the Kaiso Fishing Port in Wajima City, known as a base for squid fishing boats, as a result of which, fishing boats are still unable to go out to sea. This situation exemplifies the symbolic damage to the primary industry, a major sector in the affected area.

Small cracks in the ground at Shiroyone Senmaida
Source: Cabinet Office

Prime Minister Kishida visits the Shiroyone Senmaida Rice Terraces (February 24)
Source: Prime Minister's official website


Ground upheaval at Kaiso Fishing Port (Wajima City)
Source: Fisheries Agency

To support agriculture, forestry and fisheries, the Ministry of Agriculture, Forestry and Fisheries (MAFF) is providing subsidies for the reconstruction and repair of machinery, greenhouses, cattle sheds, etc., subsidies for securing seeds and seedlings to either continue rice farming or switch to other crops, introducing production materials for the resumption of farming, such as agricultural greenhouse materials, and for outsourcing farm work, subsidies for the restoration of fishing boats and fishing equipment as well as the restoration and maintenance of timber processing and distribution facilities, and subsidies for the recovery and development of collapsed mountain areas and the restoration of farmland and agricultural facilities. In particular, the restoration of farmland and agricultural facilities is highly subsidized by the National Treasury due to the designation of the disaster as a "Disaster of Extreme Severity" (a severe disaster not limited to a specific region)

Large-scale mountainside collapses occurred in Wajima and Suzu cities, and seven locations in the Oku-Noto area that sustained severe damage are receiving support from disaster recovery projects under the direct control of the national government, with ongoing support toward full-scale recovery.

As for fisheries, the earthquake affected 60 of the 69 fishing ports in Ishikawa Prefecture, and several instances of ground upheaval were observed, mainly in Wajima City and Suzu City. In addition to conventional recovery efforts, for fishing ports with particularly severe damage due to ground upheaval (approximately 20 fishing ports), it was essential to divide recovery into two phases: temporary restoration for short-term resumption of livelihoods and full-scale restoration (dredging of anchorage, offshoring of vessels to adjacent areas, etc.) for medium- to long-term functional improvement. The Cabinet Office has been supporting recovery operations, including construction work for the Fisheries Agency (the coast of Ukai Fishing Port, Noroshi Fishing Port, etc.) under the "Act on Reconstruction after Large-Scale Disaster." In addition to using salvage vessels to move fishing boats (approximately 200 vessels) that were stuck at Wajima Port due to seabed upheaval, the Cabinet Office is also supporting the efforts of fishermen to restore fishing grounds, including surveys of the damage situation, removal of drifts and sediment, and restoration and recovery of the fishing grounds environment.

In the future, the Cabinet Office will support the study of reconstruction policies with a vision for the future of the region, improvement of farmland and agricultural facility functions in conjunction with recovery, restoration of terraced rice fields in consideration of the landscape, creation of sustainable Satoyama in conjunction with tourism, forest control measures and forest management in affected areas at high risk of mountain disasters, and improvement of the functions of fishing port facilities, such as the promotion of the marine industry and utilization of Satoumi resources.

(3) Support for Recovery of Tourism, etc.

The disaster also significantly impacted the tourism industry, which is one of the region's major industries. As of April 1, most accommodation facilities in the Noto region have suffered severe damage and are not in operation. While accommodation facilities elsewhere in Ishikawa Prefecture, including those in the Kanazawa and Kaga areas and Niigata, Toyama, and Fukui Prefectures, are operating, many have canceled or are not taking reservations. The Wajima Morning Market, a major tourist attraction in the Noto region, has yet to be reconstructed after a major fire caused by the earthquake destroyed approximately 240 stores and an area of 49,000 m^2.

While over 20 traditional inns and hotels in Wakura Onsen (Nanao City), one of Japan's most famous hot spring towns, suffered damage, some facilities are being used to lodge the people, providing relief and aid.

To support the recovery of the tourism industry, in addition to measures to support small and medium enterprises and small/micro-enterprises, such as support for the reconstruction of livelihoods and ensuring the employment of employees of affected businesses through special provisions for employment adjustment subsidies, the Japan Tourism Agency (JTA) and other organizations have been working to restore tourism demand and economic activities while dispelling harmful rumors, taking advantage of opportunities such as the opening of the Hokuriku Shinkansen between Kanazawa and Tsuruga on March 16, as well as by disseminating accurate information about the Hokuriku region, including the affected areas, and conducting promotional activities to contribute to the recovery of tourism in the affected areas and attract visitors to the entire Hokuriku region since January 26.

In addition, to stimulate travel demand, the government is implementing “Hokuriku Ouenwari” (a program offering a subsidy rate of up to 50% per person, a maximum of 20,000 yen/night) from March 16. It will consider more generous measures to stimulate travel demand for the Noto region while monitoring the recovery situation. In addition, sales of local specialty products, travel, etc., will be promoted through the hometown tax system.

Source: Hokuriku Support Discount Portal Site (Reference: https://oen.hk.campaign-management.jp/)

Section 6 Town Planning for Reconstruction

(1) Support for Reconstruction and Community Development

The Cabinet Office has been discussing reconstruction and community development in affected municipalities, mainly in the Oku-Noto area, which suffered significant damage. To support reconstruction and community development in the affected municipalities, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) conducted successive surveys starting in March, which included assessments of the damage situation and questionnaires for residents to support the formulation of reconstruction and community development plans in seven municipalities (Nanao City, Wajima City, Suzu City, Shika Town, Nakanoto Town, Anamizu Town, and Noto Town). Since April, MLIT has provided ongoing support for reconstruction and community development, from the planning stage to the project stage, by assigning district officials from the Ministry, providing technical support through the Urban Renaissance Agency (URA), and offering cross-sectoral support through cooperation with related ministries and agencies.

In addition, on February 22, the Cabinet Office and the Cabinet Secretariat compiled and published the “Reference Materials for Reconstruction and Community Development,” which includes ideas and tips for reconstruction and community development and points to keep in mind when advancing projects for the same, for use by disaster-affected local governments when considering reconstruction and community development.

(2) Measures against Liquefaction

Since the disaster, MLIT has conducted on-site surveys using TEC-FORCE and provided information on support systems and case studies of measures against liquefaction through meetings between the national and prefectural governments and affected municipalities. In areas where particularly significant liquefaction damage was concentrated due to so-called “lateral flow,” which is lateral movement of the ground surface caused by liquefaction, efficient countermeasures and construction methods must be considered based on topographical and geological conditions.

In addition, the subsidy rate for “Projects for the Prevention of Residential Land Liquefaction,” which stipulates measures to be implemented by local governments to counter the liquefaction of public facilities and adjacent residential land comprehensively, will be increased from the usual 1/4 to 1/2. Under effectiveness promotion projects, the national and local governments are strengthening support measures and encouraging initiatives by affected municipalities by demonstrating that the national and local governments can provide subsidies of up to 2/3 of the total cost when affected persons receive support from their local governments to restore damaged ground and housing foundations, etc., which can hinder the implementation of projects for the prevention of residential land liquefaction.

To achieve smooth recovery and reconstruction of the affected areas, the government must implement measures to prevent the liquefaction of residential land through projects to prevent residential land liquefaction. To this end, the national government will provide technical support to affected local governments using the knowledge gained from direct surveys. It will promote community development to prevent liquefaction damage from occurring again by supporting the early commercialization of measures in as many areas as possible.

Liquefaction damage observed in Uchinada Town
Source: Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Visit by Minister of State for Disaster Management, Matsumura, to the site of liquefaction damage in Toyama Prefecture (January 20)
Source: Cabinet Office

Chapter 3 Future Disaster Management Measures

The recovery and reconstruction support for the areas affected by the 2024 Noto Peninsula Earthquake is still ongoing and needs to continue in the future. At the same time, it is important to constantly review the disaster response based on the experiences and lessons learned from the recent disasters. In the case of the 2024 Noto Peninsula Earthquake, it is necessary to identify measures to overcome the challenges that emerged when reviewing the series of disaster responses, and also identify new technologies that are deemed effective in disaster response. Those aimed at strengthening initial response and emergency countermeasures should be reflected in future measures.

To this end, a “Verification Team for the 2024 Noto Peninsula Earthquake”, chaired by the Deputy Chief Cabinet Secretary, with senior officials from relevant government ministries and agencies as members, was convened to collect and organize the experiences of personnel involved in the disaster response after the occurrence of the 2024 Noto Peninsula Earthquake, including support to local governments, shelter management, and procurement and transportation of supplies[1].

The verification team conducts inspection activities aimed at identifying points to appraise and improve the recent disaster response and making use of these in future disaster response, including in affected areas where recovery work is still ongoing. The team has inspected the disaster response under three areas, namely, support to local governments, shelter management, and procurement and transportation of supplies, conducted in collaboration with various government ministries and agencies through the establishment of the “Team to Support for Reconstructing Lives and Livelihood of the Affected due to the 2024 Noto Peninsula Earthquake”. The inspection activities were also focused on the new technologies from startups that contributed significantly to the initial response and emergency countermeasures under difficult circumstances compared to previous disaster responses due to the geographical constraints of the peninsula.

In addition to the independent inspection by this verification team, the experiences and lessons learned from the 2024 Noto Peninsula Earthquake will be discussed with experts, with the goal of improving institutional and operational aspects and applying these improvements to future disaster response.

1 Cabinet Office website “Verification Team for the 2024 Noto Peninsula Earthquake” (Reference: https://www.bousai.go.jp/updates/r60101notojishin/kensho_team.html)

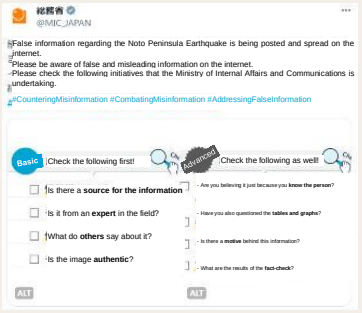
[Column]
Countermeasures Against False and Misleading Information on the Internet during Disasters

The circulation and spread of false and misleading information on the Internet during a disaster can hinder prompt lifesaving and rescue operations and smooth recovery and reconstruction activities and can also lead to crime. Therefore, addressing this issue is important alongside other responses such as lifesaving, rescue, recovery, and reconstruction.

It has been pointed out that during the 2024 Noto Peninsula Earthquake, posts with uncertain authenticity were circulated, for example, “unauthentic posts calling attention to suspicious persons or vehicles” and “posts with unauthentic calls for rescue, such as those containing nonexistent addresses”. The Ministry of Internal Affairs and Communications (MIC) has been raising awareness to prevent people from being misled by false and misleading information through the use of SNS, etc. In addition, MIC has requested digital platform operators of major SNS to take appropriate measures in accordance with their terms of use, such as deleting information that is clearly false and may potentially cause social confusion.

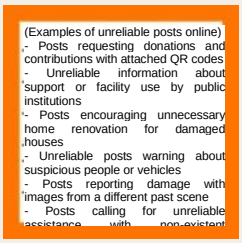
In the “Package for the Restoration of Lives and Livelihoods of the Affected”, measures such as awareness-raising with multi-layered combinations of various communication methods for residents of the affected areas and the general public and utilizing technologies for countering false and misleading information are being promoted under the “Countermeasures Against False and Misleading Information on the Internet in Affected Areas”.

In addition, the “Study Group on How to Ensure Soundness of Information Distribution in Digital Space (Chaired by Joji Shishido, Professor, Graduate Schools for Law and Politics, University of Tokyo)” organized by MIC, has been examining various countermeasures by considering international trends and taking into account various rights and interests, including freedom of expression, while also considering the opinions of a wide range of stakeholders, including digital platform business operators. In addition, the Study Group has prepared and published educational material for awareness-raising, titled “How to Navigate with the Internet – Avoid Deception by False and Misleading Information”.



Ministry of Internal Affairs and Communications Official X (1) (January 2, 2024)

Government PR



Ministry of Internal Affairs and Communications Official X (2) (January 15, 2024)

Awareness-raising educational material

(Reference: Ministry of Internal Affairs and Communications website https://www.soumu.go.jp/use_the_internet_wisely/special/nisegojouhou/)[1]
(Reference: Ministry of Internal Affairs and Communications website https://www.soumu.go.jp/use_the_internet_wisely/special/fakenews/)[2]
(Reference: Government public relations online useful articles https://www.gov-online.go.jp/article/202403/entry-5920.html)[3]
(Reference: Government public relations online X https://x.com/gov_online/status/1749982855172595722?s=46)[4]

1 2 3 4

Part 1 Status of Disaster Management Measures in Japan

Japan is prone to various types of disasters due to its natural conditions. In FY 2023, many disasters, including the 2024 Noto Peninsula Earthquake, caused damage. Part 1 describes recent disaster management measures, focusing on the progress of the measures implemented on a priority basis in FY 2023.

Chapter 1
Status of Initiatives for Disaster Management Measures

Section 1 Promotion of Disaster Risk Reduction in Advance through Self-Help and Mutual Support and Disaster Risk Reduction Activities through Collaboration Among Diverse Entities

1-1 Raising Public Awareness of Disaster Risk Reduction

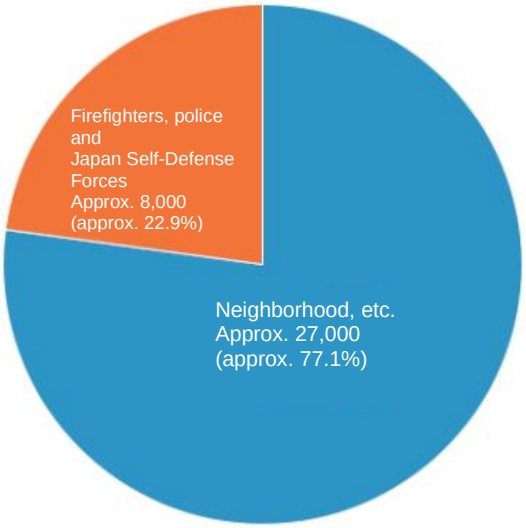
Japan has historically experienced many natural disasters due to its topography, weather and other natural conditions. As a result, during normal times, both structural measures, such as the construction of levees and earthquake resistance, aimed at preventing and mitigating disaster damage, and non-structural measures, such as the creation of hazard maps and disaster risk reduction education, aimed at ensuring appropriate actions in the event of a disaster, are implemented to prepare for the occurrence of potential disasters. In addition, in the event of a disaster, the Government makes relentless efforts through “public support”, such as immediate rescue and lifesaving efforts for disaster victims, dispatch of personnel from the National and local governments to provide on-the-ground human assistance to affected areas, push-type support for supplies, with emergency transportation of essential supplies to shelters and evacuees, without waiting for requests from the affected areas, and financial assistance through measures such as designating an area with a disaster of extreme severity and assistance based on the “Act on Support for Reconstructing Livelihoods of Disaster Victims” (Act No. 66 of 1998).

However, there are concerns about the limitations of “public support” in the event of a wide-area, large-scale disaster, such as the anticipated Nankai Trough earthquake, massive earthquakes along the Japan Trench and Chishima Trench, or increasingly severe and frequent meteorological disasters in recent years.

In the Great Hanshin-Awaji Earthquake, a survey showed that approximately 80% of those buried alive were rescued through “self-help”, including help from family members and “mutual support” from neighbors and others, and those rescued by “public support” such as rescue teams was only about 20% (**Fig. 1-1-1**).

The environment surrounding local governments is becoming more challenging, with municipal areas becoming wider due to mergers of municipalities and a reduction in the number of local government officials. Moreover, due to an aging society, the number of people in need of attention is on the increase. Therefore, it is important to build local communities where disaster risk management awareness is fostered, where “people protect their own lives” and “residents help each other”, with each citizen taking concrete action and considering disasters as “one’s affair” rather than “someone else's”.

Fig. 1-1-1 Entities that carried out rescue and the number of rescued persons in the Great Hanshin-Awaji Earthquake

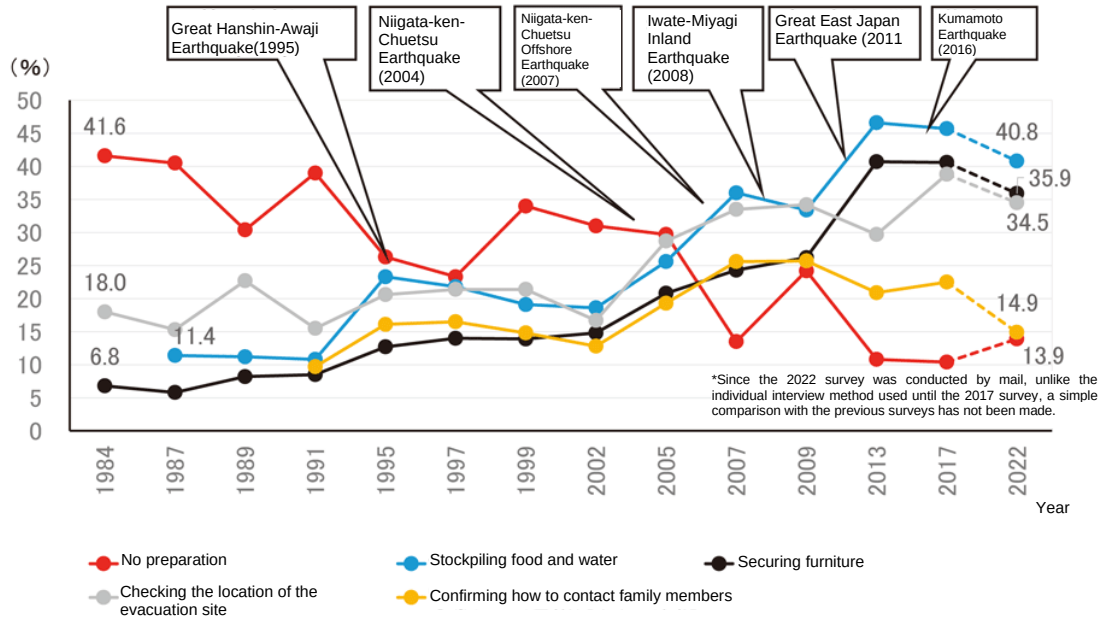


Source: Compiled by the Cabinet Office based on “Prediction of Human Damage from Large-Scale Earthquake Disasters” by Yoshiaki Kawata (1997), Journal of Japan Society for Natural Disaster Science, Vol. 16, No. 1 (featured in the 2016 Disaster Management White Paper, Special Feature: “Future Disaster Management”)

Concrete actions for disaster prevention and mitigation include, first and foremost, “self-help”, which involves understanding disaster risks in your area, making “preparations” in advance by securing furniture and stocking up on food, etc., participating in evacuation drills to ensure the ability to take appropriate actions during the evacuation, and preparing your evacuation action plan (My Timeline), in which actions to be taken during events such as an approaching typhoon, are organized in advance in chronological order, according to the situation of each resident. It is also necessary to take measures to mitigate damage from disasters through “mutual support”, such as helping neighbors at the time of a disaster.

According to the results of a “Public Opinion Survey on Disaster Preparedness” conducted by the Cabinet Office in September 2022, the recognition of the importance of “self-help” and the movement to take concrete measures have steadily permeated among the public after major disasters such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake (**Fig. 1-1-2**). However, despite the occurrence of the Kumamoto Earthquake, which caused significant damage, the subsequent survey conducted in 2017 revealed that the implementation rate of “self-help” efforts, such as “securing furniture”, remained at 40.6%, indicating a trend of stagnation. Although the results of the most recent survey in 2022 cannot simply be compared to the results of previous surveys, since the survey was conducted by post, unlike the individual interview method used until 2017, the overall implementation rate of efforts has likely not increased. One reason for this is that many citizens only see and hear in the media about the damage caused by disasters and do not feel personally affected, which may make it difficult to raise public awareness of disaster risk reduction in the wake of disasters.

Fig. 1-1-2 Trends in the selection rate for self-help efforts in preparation for major earthquakes (Public Opinion Survey on Disaster Preparedness)



Source: Cabinet Office “Public Opinion Survey of Disaster Prevention”

As described in Special Feature 1 in Chapter 3, Section 2 “Co-existing with ‘Volcanoes’”, those who responded that “they had never discussed how to deal with natural disasters with their families and close acquaintances” (36.9% of the total) in the 2022 survey, when asked the reason for this (multiple responses allowed), the most common response was “there was no opportunity to discuss”, which was selected by an overwhelmingly high percentage (58.1%) of respondents. This suggests that efforts should be strengthened to reach out to the public who have not yet started the efforts for disaster preparedness.

There is a renewed awareness of the importance of “mutual support”, which was demonstrated by the effective evacuation in the Naganuma area of Nagano City in Nagano Prefecture in the wake of Typhoon Hagibis, where local disaster management leaders took the lead in preparing evacuation plans and conducting evacuation drills and other activities during peacetime.

While the government will continue its relentless efforts to strengthen “public support”, it is becoming increasingly difficult to prevent sudden and severe disasters solely with structural measures, such as existing disaster management facilities, or government-led non-structural measures, due to the increasingly severe and frequent meteorological disasters associated with global warming and the increasing number of elderly people requiring support in an aging society. Rather than focusing only on government-led efforts, disaster risk management policies that focus on residents' “self-help” and “mutual support” based on a shared understanding across the entire population are needed. Currently, there are disparities in disaster resilience across regions, and it is necessary to spread the efforts by “local communities” having high disaster risk management awareness, across the entire nation and build a society that can respond effectively to disasters.

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

The “National Council for Promoting Disaster Risk Reduction” was convened in 2015, which comprised experts from various sectors, including six local organizations, the business community, the education sector, and medical and welfare-related fields, to engage in the exchange of information, opinions and other necessary collaborations and raise disaster risk management awareness in cooperation with the National Disaster Management Council. The Council engages in dissemination and awareness-raising activities.

(1) National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023

The “National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023” was jointly organized by the Cabinet Office, the National Council for Promoting Disaster Risk Reduction, and the Council for Promoting Disaster Risk Reduction (an organization comprising industry associations, etc. working to promote a national campaign for disaster damage mitigation) on September 17-18, 2023 in Kanagawa Prefecture, the epicenter of the Great Kanto Earthquake, which completed 100 years in 2023.

Under the theme “Preparing for the Next 100 Years - Learning From the Past and Passing Down the Lessons Learned to the Next Generation”, the Conference aimed to encourage many people to reflect on great earthquakes and to pass down to the next generation the importance of disaster “preparedness” and “mutual support”.

In his opening remarks, Mr. Matsumura, Minister of State for Disaster Management, greeted on behalf of the organizers and expressed his hope that “by holding such events annually, the disaster management network will spread throughout the country and local disaster resilience will be enhanced, thereby further strengthening disaster ‘preparedness’ in Japan as a whole”. Next, Mr. Seike, Chairman of the National Council for Promoting Disaster Risk Reduction and Chairman of the Council for Promoting Disaster Risk Reduction (President of the Japanese Red Cross Society), delivered the organizer’s address. Mr. Kuroiwa, Governor of Kanagawa Prefecture, and Mr. Yamanaka, Mayor of Yokohama City, delivered greetings on behalf of the host location. The opening session included a keynote address on “The Great Kanto Earthquake - With a Focus on Relief and Rescue” by Ms. Kitahara, a Visiting Scholar at the Institute of Disaster Mitigation for Urban Cultural Heritage, Ritsumeikan University, reflecting on the nature of the Great Kanto Earthquake disaster. In the high-level session organized by the Cabinet Office, Mr. Kuroiwa, Governor of Kanagawa Prefecture, Ms. Okubo, Deputy Mayor of Yokohama City, Mr. Uemura, Deputy Director General of the Cabinet Office, Professor Irie of Matsumoto University, Associate Professor Oki of Keio University, and Professor Sakamoto of Hyogo Prefectural University took the stage to discuss the theme of “Preparing for the Coming Mega Earthquake in the Next 100 Years” from their perspectives. The session was moderated by Emeritus Professor Fukuwa of Nagoya University, who summarized the discussions and reviewed the importance of disaster preparedness.

In addition, sessions on lessons learned from disasters and efforts related to “self-help” and “mutual support” were organized by various groups from the government, public interest groups, academia, the private sector, and NPOs. There were also workshops where participants could learn about disaster management through hands-on experience, booth displays, poster exhibits, stage presentations, outdoor displays featuring vehicles, and "Original Sessions" organized freely by exhibitors. Approximately 400 exhibiting organizations introduced their disaster prevention and mitigation activities.

In the closing session, messages for the future were delivered by young people, including their thoughts on future disaster management. This was followed by a greeting from Vice-Chairman Akimoto of the National Council for Promoting Disaster Risk Reduction (President of the Japan Firefighters Association) on behalf of the organizers, a summary of the Conference by Emeritus Professor Emoto of Kanagawa University, and a report on the efforts for the exhibition at the host location, titled “BOSAI Kokutai 2023 – A Conference for Sharing Regional Information and Cooperation”. Also, a video message was received from Mr. Kabashima, Governor of Kumamoto Prefecture, the next host location of the Conference. In closing, Mr. Horii, then State Minister of the Cabinet Office, expressed his gratitude to the participants and his expectations for the next conference. Approximately 16,000 people in person attended the Conference, and there were approximately 11,000 views online, both of which were the highest numbers ever. Through this Conference, it was confirmed that the combination of “public support” provided by the government, “self-help”, where each individual prepares for disasters with the awareness about “protecting one’s own life”, and “mutual support”, where communities, schools, businesses, and volunteers help each other, plays a role in enhancing the disaster resilience of Japan. It was also confirmed that linking “preparedness” and “mutual support” is crucial for future large-scale disasters.

Opening address by Matsumura, Minister of State for Disaster Management


Opening Remarks by Chairman Seike

Keynote address (opening) by Ms. Kitahara, Visiting Scholar

High-level session

Messages by young people (closing)

Address on behalf of the organizers by Vice-Chairman Mr. Akimoto (Closing)

(2) The 9th National Council for Promoting Disaster Risk Reduction

The 9th National Council for Promoting Disaster Risk Reduction was held on December 20, 2023, at the Large Hall of the Prime Minister's Office. In his opening remarks, Prime Minister Kishida thanked the member organizations of the National Council for Promoting Disaster Risk Reduction for their efforts toward disaster management activities, stating, “Disasters can happen at any time. To raise Japan's disaster risk management awareness, which faces the risk of large-scale disasters such as Nankai Trough earthquakes and Tokyo Inland earthquakes, relentless efforts by people from all walks of life are indispensable”. He concluded by requesting further cooperation from the member organizations of the National Council.

Next, activity reports such as those on “National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023” were presented, and the Japan Chamber of Commerce and Industry and the Japan Care Manager Association introduced their efforts to raise disaster risk management awareness through “self-help” and “mutual support”. In addition, the Japan Firefighters Association announced that the New Japan Fire Services Hall would be constructed in August 2024 as a new comprehensive base for firefighting in Japan.

The 9th National Council for Promoting Disaster Risk Reduction (attended by Prime Minister Kishida)

In addition, as the year 2023 marks the 100th anniversary of the Great Kanto Earthquake of 1923, a special page on the “100th Anniversary of the Great Kanto Earthquake” was launched in January 2023 to raise disaster risk management awareness. The page featured materials and reports related to the Great Kanto Earthquake, as well as information on events planned by government agencies and various organizations to commemorate the centenary of the Great Kanto Earthquake.

The page also introduced related events, etc. associated with the “100th Anniversary of the Great Kanto Earthquake” held during the year by the National and local governments, member organizations of the National Council for Promoting Disaster Risk Reduction, private organizations, and others, making use of the common logo of the “100th Anniversary of the Great Kanto Earthquake”.

The common logo of the “100th Anniversary of the Great Kanto Earthquake”

(Special page on the “100th anniversary of the Great Kanto Earthquake” https://www.bousai.go.jp/kantou100/index.html)

1-3 Measures on Disaster Management Drill and Disaster Risk Reduction Education

In the event of a disaster, disaster risk management agencies, such as national government agencies, local governments, and other public corporations, are required to work together and take appropriate measures in cooperation with residents. Therefore, disaster risk management efforts must be made during peacetime, such as through coordinated drills by relevant agencies. For this reason, organizations involved in disaster risk management conduct disaster management drills in accordance with the “Basic Act on Disaster Management” (Act No. 223 of 1961), the Basic Disaster Management Plan, and other regulations, with the aim of verifying and confirming emergency countermeasures in the event of a disaster and raising disaster risk management awareness among residents.

In FY 2023, various drills, as listed below, were conducted in accordance with the “FY 2023 Comprehensive Disaster Management Drill Framework” (decided by the National Disaster Management Council on May 30, 2023), which sets out the basic policy for conducting disaster management drills and comprehensive disaster management drills in the Government.

(1) “Disaster Preparedness Day” – A comprehensive disaster management drill

On “Disaster Preparedness Day”, observed on September 1, 2023, a drill was conducted, imagining the immediate aftermath of a Tokyo Inland earthquake. First, Prime Minister Kishida and other ministers assembled on foot at the Prime Minister's Office. They conducted a drill for the operation of a meeting of the Extreme Disaster Management Headquarters. During the meeting, the implementation system and steps for emergency countermeasures in the immediate aftermath of the earthquake were confirmed in coordination with local governments, such as assessing damage and requests for assistance, via a video conference with Mr. Motomura, Mayor of Sagamihara City, Kanagawa Prefecture, receiving reports from cabinet ministers on the extent of damage and response status, and confirming disaster response policies focused on prioritizing human life. After the meeting, Prime Minister Kishida held a press conference. Through an NHK broadcast, he drew people’s attention to the increased risk of building collapses and landslide disasters. He urged the public to take action to save lives and to refrain from hoarding and panic-buying food and daily necessities to minimize economic and social disruption. In addition, drills were conducted on the necessary procedures for establishing the Extreme Disaster Management Headquarters and declaring a disaster emergency.

A joint disaster management drill of nine prefectures and cities was also conducted on the same day, with Sagamihara City as the main venue. Prime Minister Kishida and relevant cabinet ministers participated in a field investigation drill. Prime Minister Kishida observed rescue and relief drills by the police, fire department and Self-Defense Forces and got hands-on experience of drills, including the setup of utility hole toilets and fire-fighting drills using bucket relays.

Government Headquarters operation drill
Source: Prime Minister's official website

Field investigation drill in coordination with the joint disaster management drill of nine prefectures and cities
Source: Prime Minister's official website

(2) Government tabletop exercise

In December 2023, exercise for the operation of the Extreme Disaster Management Headquarters secretariat (Cabinet Office (Central Government Building No. 8)) and the operation of the On-site Extreme Disaster Management Headquarters (key wide-area disaster management base in the Tokyo Bay waterfront area (Ariake-no-oka region)) were conducted in conjunction, imagining a Tokyo Inland earthquake. The drills were attended by officials from the relevant government ministries and agencies and officials from Tokyo, Saitama, Chiba and Kanagawa Prefectures, who gathered at the drill venue. They conducted a situation-based drill simulating conditions close to an actual disaster, as well as a discussion-based drill, discussing issues that require coordination among relevant agencies during a disaster.

In the regional block-based drills, drills for the operation of the On-site Extreme Disaster Management Headquarters were conducted in cooperation with the prefectures that are expected to be affected. These drills simulate trench-type earthquakes, such as those around the Japan Trench, Chishima Trench, and Nankai Trough. Situation-based and discussion-based drills were conducted in the Tohoku region (Sendai City) and Hokkaido (Sapporo City) in November 2023 and in the Kinki region (Osaka City) in December 2023, where participants gathered onsite.

The drills in Kyushu (Kumamoto City), which were scheduled to take place in January 2024, and in Shikoku (Takamatsu City) and the Chubu region (Nagoya City), which were scheduled to take place in February 2024, were canceled due to the response to the 2024 Noto Peninsula Earthquake.

Drill for the operation of the Extreme Disaster Management Headquarters secretariat, simulating a Tokyo Inland earthquake

Drill for the operation of the On-site Extreme Disaster Management Headquarters, simulating a trench-type earthquake, such as earthquakes around the Japan and Chishima Trench

(3) Disaster risk reduction education efforts

In order for all citizens to protect their own lives from disasters, each citizen must be able to take appropriate actions in the event of a disaster. For this reason, it is necessary to spread practical disaster risk reduction education across the country so that children can acquire the necessary disaster management knowledge and learn proactive disaster management actions from childhood.

The government is taking initiatives such as the following, based on the “Third Plan for the Promotion of School Safety”, approved by the Cabinet in March 2022.

- Prepare and disseminate a new manual for disaster risk reduction education that takes into account developmental stages to enable all schools nationwide to implement practical disaster risk reduction education and evacuation drills that impart necessary knowledge such as local disaster risks and normalcy bias
- Prepare and disseminate teaching materials and data that are easy to use in schools, and prepare teaching materials for young children, including templates for information communication and awareness-raising at home, especially for disaster risk reduction education from early childhood, aiming at providing thorough disaster risk reduction education to parents and young children
- Regularly and concretely investigate disaster risk reduction education implemented in schools nationwide, including the status of implementation and review of practical evacuation drills, to set key indicators and publish the results of these investigations

In FY 2023, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) prepared a manual on disaster risk reduction education for junior high school and high school teachers, and the Cabinet Office collected case studies to enhance disaster risk reduction education for pre-school children.

[Column]
Effectively Implementing Disaster Risk Reduction Education through "Learn, Prepare, and Act"

Reo Kimura, Professor, Faculty of Human Science and Environment, Graduate School of Human Science and Environment, University of Hyogo
(Chairman, Executive Committee, Disaster Risk Reduction Education Challenge Plan)

It is said that the three perspectives of "Learn, Prepare, and Act" are important for the effective implementation of disaster risk reduction education (see note). "Learning" refers to scientifically understanding earthquakes, tsunamis and volcanic eruptions and understanding meteorological hazards based on past damage. In other words, it is about "understanding the nature and characteristics of the enemy". "Preparing" involves understanding the damage and impact of disasters, as well as various challenges, such as rescue operations and evacuation life, and using lessons learned from past disasters for one's preparedness. "Taking action" involves using maps and other information to anticipate disasters that may occur in the region and practicing methods to ensure personal safety in the event of a disaster, measures to prevent damage, and "self-help" and "mutual support" to minimize the damage that has already occurred.

Based on these three perspectives, disaster risk reduction education is practiced across the country, and opportunities are also provided to share the know-how of these practices. To raise the disaster risk reduction awareness of the public and promote the sharing of knowledge and experiences of disasters, the Cabinet Office, the National Council for Promoting Disaster Risk Reduction, and the Council for Promoting Disaster Risk Reduction jointly organize the "National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai)" annually since FY 2016. This Conference serves as a platform not only for schools but also for individuals, communities, organizations, governments, and businesses to introduce various disaster risk reduction education efforts and exchange opinions. In addition, there is an initiative organized by Hyogo Prefecture, the Mainichi Shimbun, and the Hyogo Earthquake Memorial 21st Century Research Institute (Disaster Reduction and Human Renovation Institution), called the "1.17 Disaster Reduction Future Award 'Bousai Koshien'", which was launched in FY 2004, based on lessons learned from the Great Hanshin-Awaji Earthquake and subsequent natural disasters. The Award recognizes innovative activities in disaster risk reduction education in which students actively engage at their schools and communities to create a safe and secure society for the future. The details of the award can be found on the website.

Furthermore, there has been a movement to support disaster risk reduction education practices over a year. The "Disaster Risk Reduction Education Challenge Plan", promoted by the Cabinet Office, is a program in which organizations, schools and individuals from all over Japan with a motivation to engage in disaster risk reduction education are invited to submit their plans for enhanced disaster risk reduction education. The selected plans receive support in the form of funding, ideas, etc., to help implement the plans for one year. Launched in FY 2004, the program has supported the practical activities of 10 to 30 organizations every year and approximately 350 organizations in the 20 years up to FY 2023. In FY 2024, which marked the 21st year of the plan, the plan was relaunched as the "New Disaster Risk Reduction Education Challenge Plan", with a focus on two key themes in step with the times: 1. "Collaboration between schools and communities" and 2. "Disaster risk reduction education using digital and corporate technologies". A call for practicing organizations was made, and as a result, 12 organizations were selected as practicing organizations. It is hoped that in the future, the activities of these organizations will contribute to the promotion of disaster risk reduction education activities in communities and schools across the country. Past practices and findings from disaster risk reduction education were shared in a symposium called the Disaster Management Education Networking Forum at the above-mentioned "National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai)" and are also introduced on the website.

There is a need to enhance "self-help", "mutual support", and "public support" capabilities for disaster management through disaster risk reduction education that helps you "Learn, Prepare, and Act" while making effective use of various opportunities.

The "FY 2023 Disaster Management Education Networking Forum" held at the "National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023"
Source: Cabinet Office website
(Reference: https://www.bosai-study.net/cp2023/forum/report.html)

1-4 Measures for Tsunami Disaster Prevention

(1) Tsunami evacuation drills

In FY 2023, earthquake and tsunami disaster drills organized by the National and local governments and private companies were conducted throughout Japan, mainly on “Tsunami Preparedness Day (November 5)”.

The Cabinet Office, in cooperation with local governments, conducted drills with the participation of residents at 10 locations across Japan (Kushiro Town, Hokkaido; Oirase Town, Aomori Prefecture; Hirono Town, Fukushima Prefecture; Kiho Town, Mie Prefecture; Kushimoto Town, Wakayama Prefecture; Naruto City, Tokushima Prefecture; Komatsushima City, Tokushima Prefecture; Hiji Town, Oita Prefecture; Nishinoomote City, Kagoshima Prefecture; Amami City, Kagoshima Prefecture). The participants conducted drills to protect their own lives in the event of an earthquake (ShakeOut drills) and to take actions to evacuate from tsunamis after the shaking has subsided (Tsunami evacuation drills), as well as drills for safety confirmation and setup of shelters. Workshops were held before and after the drills, in which residents learned about local damage estimation, geographical conditions, etc., and were provided with opportunities to apply what they learned in taking appropriate evacuation actions in the event of a tsunami. About 9,000 people participated in the drills and workshops.

Self-protection drill (Komatsushima City, Tokushima Prefecture)

Tsunami evacuation drill (Hiji Town, Oita Prefecture)

Shelter setup drill (Hirono Town, Fukushima Prefecture)

Disaster preparednessworkshop (Naruto City, Tokushima Prefecture)

(2) Awareness-raising activities

1. Awareness-raising activities for tsunami preparedness

In order to disseminate information on “Tsunami Preparedness Day” and “World Tsunami Awareness Day” and promote recognition and initiatives for tsunami preparedness, in FY 2023, various media were used to spread awareness, such as displaying educational posters in companies and local governments across the country and showing display images at checkout counters in major convenience stores and supermarkets.

Awareness-raising poster on tsunami preparedness

Cash register display at a convenience store

2. Special event on “Tsunami Preparedness Day” in FY 2023

On “Tsunami Preparedness Day” and “World Tsunami Awareness Day” on November 5, the Cabinet Office, the National Council for Promoting Disaster Risk Reduction, and the Council for Promoting Disaster Risk Reduction organized a special online event, “Tsunami Preparedness Day”.

The event began with a greeting by Mr. Matsumura, Minister of State for Disaster Management, Cabinet Office, followed by a keynote address by Professor Imamura of the International Research Institute for Disaster Science, Tohoku University, on the topic “Looking Back on the Tsunami During the Great Kanto Earthquake 100 Years Ago - The Nature of Complex Disasters -”. Initiatives related to tsunami preparedness in Otsuchi Town, Iwate Prefecture, and Yokosuka City, Kanagawa Prefecture, were also introduced, followed by a discussion with the speakers.

An archived video of the event is available on the “Special Website for Tsunami Preparedness”.

(Reference: https://tsunamibousai.jp/)

Opening address by Matsumura, Minister of State for Disaster Management

Part 1 Keynote speech by Professor Imamura

Part 2 Panel discussion

1-5 Resident-led Initiatives (Promotion of Community Disaster Management Plans)

The Community Disaster Management Planning System was established through the 2013 amendment to the “Basic Act on Disaster Management” to promote voluntary disaster risk management activities by community residents, etc. (individuals living in the area and business operators with establishments) through “self-help” and “mutual support” in cooperation with municipalities, and to enhance local disaster resilience. The system allows community residents, etc., to formulate a Community Disaster Management Plan (draft) and propose to the Municipal Disaster Management Council that the plan be included in the Municipal Disaster Management Plan.

The contents of the Community Disaster Management Plan draft are freely decided by various entities within the community, such as residents, businesses, and welfare workers, through discussions on local disaster risks and disaster management actions and activities during peacetime and emergencies. After being placed in the Municipal Disaster Management Plan, the Plan serves as a link between “self-help”, “mutual support”, and “public support”. The contents of the plan, as well as the process of formulation, such as repeated discussions among community residents, are crucial in strengthening the power of mutual support.

As of April 1, 2023, 2,428 communities across 216 municipalities in 43 prefectures had their Community Disaster Management Plans laid out under local disaster management plans, and 6,510 communities across 389 municipalities in 46 prefectures were working toward the development of their Community Disaster Management Plan. Ten years have passed since the system was established, and the Community Disaster Management Plan is expected to permeate further the local communities (Fig. 1-5-1, Fig. 1-5-2).

Fig. 1-5-1 Number of Community Disaster Management Plans reflected in local disaster management plans (as of April 1, 2023)

◆Reflected in the local disaster management plans: 43 prefectures, 216 municipalities, 2,428 districts

(367 districts with new plans reflected in FY 2022)

* Surveyed: Municipalities
* Total as of April 1, 2023

Prefecture name	Number of municipalities	Number of districts
Hokkaido	10	51
Aomori Prefecture	0	0
Iwate Prefecture	5	49
Miyagi Prefecture	3	61
Akita Prefecture	2	2
Yamagata Prefecture	5	51
Fukushima Prefecture	2	7
Ibaraki Prefecture	6	83
Tochigi Prefecture	8	17
Gunma Prefecture	2	34
Saitama Prefecture	7	21
Chiba Prefecture	3	10
Tokyo	11	186
Kanagawa Prefecture	4	38
Niigata Prefecture	2	2
Toyama Prefecture	2	2

Prefecture name	Number of municipalities	Number of districts
Ishikawa Prefecture	1	1
Fukui Prefecture	1	1
Yamanashi Prefecture	10	553
Nagano Prefecture	13	106
Gifu Prefecture	7	27
Shizuoka Prefecture	6	29
Aichi Prefecture	9	23
Mie Prefecture	5	19
Shiga Prefecture	3	11
Kyoto	4	49
Osaka	5	84
Hyogo Prefecture	9	173
Nara Prefecture	4	11
Wakayama Prefecture	1	1
Tottori Prefecture	1	4
Shimane Prefecture	1	1

Prefecture name	Number of municipalities	Number of districts
Okayama Prefecture	4	10
Hiroshima Prefecture	1	1
Yamaguchi Prefecture	3	87
Tokushima Prefecture	1	1
Kagawa Prefecture	4	32
Ehime Prefecture	7	86
Kochi Prefecture	3	44
Fukuoka Prefecture	8	88
Saga Prefecture	0	0
Nagasaki Prefecture	0	0
Kumamoto Prefecture	13	302
Oita Prefecture	0	0
Miyazaki Prefecture	3	8
Kagoshima Prefecture	15	60
Okinawa Prefecture	2	2
Total	216	2,428

Source: Cabinet Office data

Fig. 1-5-2 Number of communities working toward the development of Community Disaster Management Plans (as of April 1, 2023)

◆ **Working toward the formulation of Community Disaster Management Plans[Note]: 46 prefectures, 389 municipalities, 6,510 districts**

Note: Including those that have been proposed to municipalities but not yet reflected in the local disaster management plans

*** Surveyed: Municipalities**
*** Total as of April 1, 2023**

Prefecture name	Number of municipalities	Number of districts
Hokkaido	11	46
Aomori Prefecture	3	11
Iwate Prefecture	4	15
Miyagi Prefecture	9	370
Akita Prefecture	0	0
Yamagata Prefecture	6	120
Fukushima Prefecture	11	51
Ibaraki Prefecture	6	32
Tochigi Prefecture	22	91
Gunma Prefecture	5	76
Saitama Prefecture	10	164
Chiba Prefecture	7	46
Tokyo	8	69
Kanagawa Prefecture	9	150
Niigata Prefecture	8	172
Toyama Prefecture	9	28

Prefecture name	Number of municipalities	Number of districts
Ishikawa Prefecture	12	379
Fukui Prefecture	16	846
Yamanashi Prefecture	13	86
Nagano Prefecture	18	147
Gifu Prefecture	6	57
Shizuoka Prefecture	6	89
Aichi Prefecture	12	27
Mie Prefecture	14	100
Shiga Prefecture	8	177
Kyoto	6	33
Osaka	12	379
Hyogo Prefecture	9	406
Nara Prefecture	5	14
Wakayama Prefecture	2	13
Tottori Prefecture	3	8
Shimane Prefecture	4	27

Prefecture name	Number of municipalities	Number of districts
Okayama Prefecture	9	130
Hiroshima Prefecture	5	100
Yamaguchi Prefecture	3	26
Tokushima Prefecture	8	22
Kagawa Prefecture	14	48
Ehime Prefecture	6	33
Kochi Prefecture	1	1
Fukuoka Prefecture	9	100
Saga Prefecture	1	1
Nagasaki Prefecture	3	24
Kumamoto Prefecture	28	841
Oita Prefecture	1	305
Miyazaki Prefecture	8	46
Kagoshima Prefecture	13	585
Okinawa Prefecture	6	19
Total	**389**	**6,510**

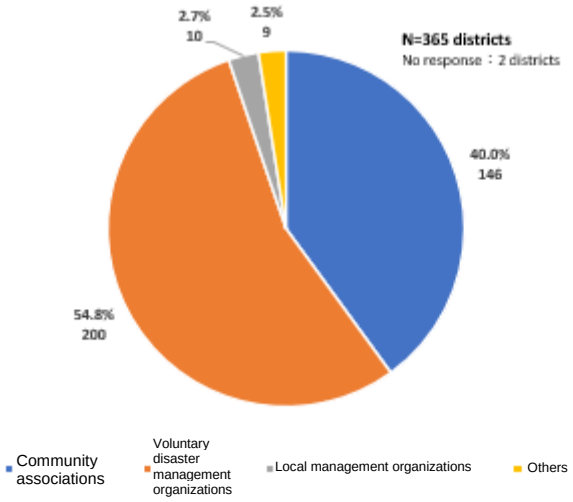
Source: Cabinet Office data

(1) Trends in Community Disaster Management Plans

The Cabinet Office performed an analysis of the Community Disaster Management Plans of 367 communities, which were laid out under local disaster management plans during FY 2022, which revealed the following characteristics (**Fig. 1-5-3**, **Fig. 1-5-4** and **Fig. 1-5-5**).

1. Regarding the main entities responsible for formulating the Community Disaster Management Plans, residents and neighborhood associations accounted for 40.0%, while voluntary disaster management organizations accounted for 54.8%.
2. Regarding the population of the communities, 59.4% had a population of 500 or fewer, while 71.2% had a population of 1,000 or fewer.
3. Regarding the trigger for the development of the Community Disaster Management Plans, 67.3% of the communities cited “encouragement from the government”. This suggests that government support is important in the formulation of a Community Disaster Management Plan.

Fig. 1-5-3 Entities responsible for formulating the Community Disaster Management Plans laid out under local disaster management plans during FY 2022

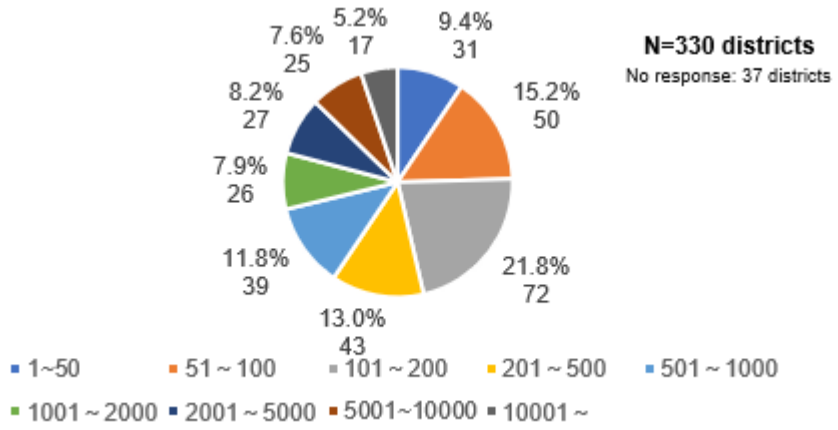


Others:

- Preparatory committees organized mainly by town council officials
- Community associations, voluntary disaster management associations, and local management organizations
- School district liaison committee
- Neighborhood associations and voluntary disaster management organizations

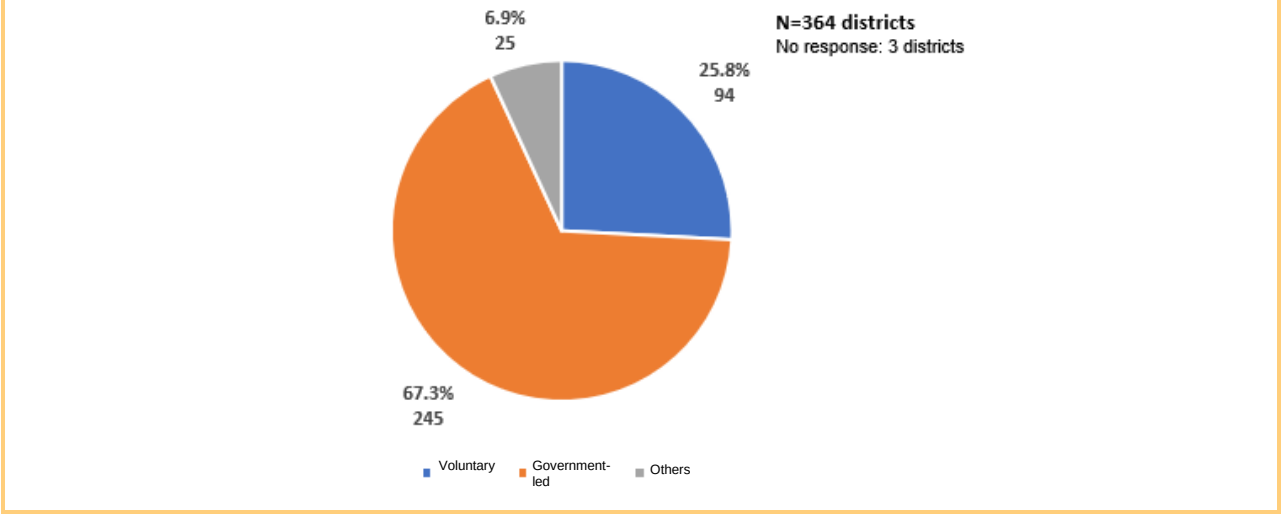
Source: Cabinet Office data

Fig. 1-5-4 Population within communities having the Community Disaster Management Plans laid out under local disaster management plans during FY 2022



Source: Cabinet Office data

Fig. 1-5-5 Triggers for formulating the Community Disaster Management Plans laid out under local disaster management plans during FY 2022



Source: Cabinet Office data

(2) Initiatives by the Cabinet Office to promote the development of Community Disaster Management Plans

To promote the development of Community Disaster Management Plans, the Cabinet Office has been preparing reference materials such as the Guidelines for Community Disaster Management Plan and building a “Community Disaster Management Plan Library” where Community Disaster Management Plans can be viewed by region or theme. In addition, the Cabinet Office has held the following forums and training courses in FY 2023.

(Reference: https://www.bousai.go.jp/kyoiku/chikubousai/index.html)

1. Community Disaster Management Plan Forum 2023 - “Formulation of Community Disaster Management Plans Based on Lessons Learned in 100 Years Since the Great Kanto Earthquake”

The “Community Disaster Management Plan Forum 2023 - “Formulation of Community Disaster Management Plans Based on Lessons Learned in 100 Years Since the Great Kanto Earthquake” was held on September 17, 2023 as one of the sessions of the “National Conference for Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023” to share examples and experiences related to the formulation of Community Disaster Management Plans in various regions and to promote the development of Community Disaster Management Plans. In this forum, experts and officials from the Cabinet Office held discussions based on case studies of the formulation of the Community Disaster Management Plans in Tokyo, Kanagawa and other areas affected by the Great Kanto Earthquake. An archived video of this forum is also available.

2. Basic training course on the formulation of Community Disaster Management Plans

“A Basic Training Course on the Formulation of Community Disaster Management Plans” was held on December 22, 2023, via online streaming to promote the formulation of Community Disaster Management Plans by introducing different perspectives and approaches to those involved in the formulation of such Plans.

In the training course, experts involved in supporting the formulation of Community Disaster Management Plans, local government officials and other personnel involved in supporting the formulation of such plans spoke about their experiences from their respective positions and answered questions from the participants. An archived video of this training course is also available.

3. Model projects for Community Disaster Management Plans

The Cabinet Office has been implementing model projects to support the formulation of Community Disaster Management Plans since FY 2014. In FY 2023, Community Disaster Management Plans were formulated for the Hikawa area of Yamanashi City, Yamanashi Prefecture, the Hatamachi area of Kishiwada City, Osaka Prefecture, and the Nakagawa area of Yakage Town, Okayama Prefecture, with the support of experts and officials from the Cabinet Office.

[Column]

Celebrating 10 Years of the Implementation of the Community Disaster Management Planning System

Yoshiteru Murosaki, Professor Emeritus, Kobe University; Honorary Chairman, The Japan Society of Community Disaster Management Plan

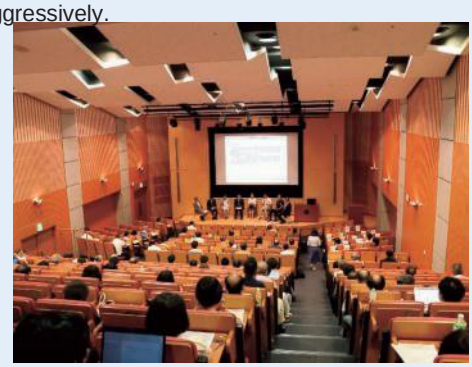
As disasters evolve, disaster management must evolve accordingly, and community-based disaster risk management must also evolve. The Great East Japan Earthquake taught us the necessity for community-based disaster risk management to evolve. In response to the Great East Japan Earthquake, the Basic Act on Disaster Management was amended in June 2013 to include provisions for the community-led Community Disaster Management Planning System.

Following this amendment, guidelines for the development of a Community Disaster Management Plan were issued in March and enforced from April of the following year. This year marks the 10th anniversary of the enforcement of the guidelines. Although started as a model project in 15 communities, the Community Disaster Management Plan initiative has spread like wildfire across the country. Over the past 10 years, nearly 9,000 communities have engaged in this initiative, as per the Cabinet Office records.

The Community Disaster Management Planning System was designed to improve local disaster resilience by incorporating bottom-up community proposals into official local disaster management plans, recognizing the importance of collaboration and cooperative governance in disaster management. The system proposed to develop (1) disaster preparedness in line with local conditions, (2) disaster preparedness that draws out the self-motivation of residents, (3) disaster preparedness through cooperation among diverse stakeholders, and (4) disaster preparedness that tackles challenges in a sustained manner.

The system gave rise to initiatives full of ingenuity, as shown in the “Community Disaster Management Plan Library”, a collection of case studies presented by the Cabinet Office. This wide-ranging collection includes not only activities during emergencies, but also activities aimed at prevention and reconstruction. In addition to activities involving residents, business operators, civic groups and related populations, activities where neighboring communities collaborate transcending administrative boundaries have also been started. Furthermore, forums such as the “Japan Society of Community Disaster Management Plan” have been launched where stakeholders from industry, academia, government, and the private sector gather to conduct research.

The importance of Community Disaster Management Plans was reaffirmed during the 2024 Noto Peninsula Earthquake, and the government wants to encourage more communities to engage in this initiative aggressively.



A symposium of the Japan Society of Community Disaster Management Plan
Source: Courtesy of the Seminar by Siei Kin, Senshu University

Journal of the Japan Society of Community Disaster Management Plan
Source: Website of the Japan Society of Community Disaster Management Plan

1-6 Environmental Improvement for Volunteer Activities

In the event of a disaster, volunteers, NPOs and various other organizations rush to the affected areas to provide meticulous support to disaster victims, thereby playing a crucial role. The Cabinet Office is working to improve the environment to facilitate activities of volunteers, NPOs and others to support disaster victims. In recent years, during large-scale disasters, it has become a well-established practice for various supporting entities, including government agencies, volunteers, and NPOs, to provide support to disaster victims while sharing information and coordinating activities through collaboration.

(1) Promotion of the development of support systems for disaster victims through public-private partnerships

In the “Survey on the Status of Support Systems for Disaster Victims through Public-Private Partnerships” conducted by the Cabinet Office in November 2023, it was confirmed that 23 prefectures had developed support systems for disaster victims (e.g., a coordinating organization) through public-private partnerships. The common reasons cited by prefectures that responded as not having taken action towards the development of support systems for disaster victims through public-private partnerships were “NPOs (including coordinating organizations) to collaborate with, are not identified” and “there is no awareness about the necessity of public-private partnerships”. The survey revealed that in order to promote the establishment of Japan Voluntary Organizations Active in Disaster at the prefectural level, there is a continuing need to raise awareness of the importance of public-private partnerships, as well as to deploy pioneering practices horizontally.

The Cabinet Office conducts training courses to allow government agencies and personnel of the Council of Social Welfare, NPOs, and other disaster volunteer centers to meet during peacetime and discuss various issues related to collaboration and cooperation, with the aim of deepening mutual understanding. In FY 2023, the Cabinet Office held a “Training Course to Promote Collaboration among Diverse Entities” via online streaming, in which the necessity of collaboration among diverse entities was explained from the standpoints of government agencies, the Council of Social Welfare, and Japan Voluntary Organizations Active in Disaster. Approximately 114 participants from 25 prefectures attended the course.

(2) Model project for the development of support systems for disaster victims through public-private partnerships

In order to create an environment where diverse private sector entities, such as NPOs and companies with expertise, can effectively demonstrate their capabilities to support disaster victims, it is important to establish and functionally enhance the Japan Voluntary Organizations Active in Disaster at the prefectural level, to perform coordination of activities, information sharing, and other coordination among diverse entities participating in providing support. For this reason, the Cabinet Office provided support to prefectures that are trying to establish and functionally enhance the Japan Voluntary Organizations Active in Disaster through a model project, thereby striving to accelerate its initiatives further. The specific initiatives included the development and training of disaster victim support personnel through public-private partnerships, as well as networking among private sector organizations at the prefectural level.

In addition, the insights and know-how gained from this model project were widely shared with other prefectures, and support was provided to advance initiatives aimed at the establishment of the Japan Voluntary Organizations Active in Disaster in prefectures across the country.

Model project for the development of support systems for disaster victims through public-private partnerships

Development and training of disaster victim support personnel through public-private partnerships

Networking meeting

(3) Consideration towards model training for “evacuation life support leaders/supporters” and on-the-job training for evacuation life support advisors (provisional name).

In recent years, natural disasters have become more severe and frequent, and evacuation life can sometimes last for extended periods, with shelters being set up for weeks or months at times, making improving the living conditions at evacuation shelters a challenge. After a disaster, municipal staff and other local government officials continue to play a central role in the operation of shelters after the shelters have been set up. However, there are limitations to how long they can continue to operate the shelters while dealing with various other tasks. Therefore, in providing support for the evacuation life of disaster victims, the perspectives of “self-help” and “mutual support” cannot be overlooked. Moreover, the operation of evacuation shelters over extended periods requires specialized knowledge and skills.

To address these issues, based on the recommendations of the “Working Group on Disaster Risk Reduction Education and Public Awareness (Disaster Volunteer Team)” compiled in May 2021, the Cabinet Office is taking initiatives for the realization of an “Ecosystem for Evacuation Life Support and Human Resource Development for Disaster Volunteers” to provide systematic skill-building opportunities to motivated local personnel and increase the number of individuals who can take on roles in supporting evacuation life in each region, thereby contributing to the strengthening of local disaster resilience.

In FY 2023, model training to promote the development of “evacuation life support leaders/supporters” who can take on roles in evacuation life support was conducted in six districts across Japan (Hiroshima City, Hiroshima Prefecture; Yatsushiro City, Kumamoto Prefecture; Setouchi City, Okayama Prefecture; Seki City, Gifu Prefecture; Shimada City, Shizuoka Prefecture; and Okazaki City, Aichi Prefecture), in continuation of the previous year.

The model training consisted of preliminary on-demand learning (eight units of about 20 minutes each) and exercises spanning over two days. The exercises included environmental improvement exercises and interpersonal communication exercises through role plays in a venue designed to replicate a shelter.

In addition, as part of the review of the curriculum for the training of evacuation life support advisors (provisional name), a trial program was implemented, in which participants of the above-mentioned model training and candidates for training instructors were sent for about a week to shelters in the areas affected by the 2024 Noto Peninsula earthquake where there were concerns that evacuation life might last for extended periods. The program consolidated the knowledge and skills required of advisors for supporting the actual operation of a shelter and for improving living conditions in shelters.

Model training for “evacuation life support leaders/supporters”

1-7 Establishment of a Business Continuity System

(1) Establishment of a business continuity system for central ministries and agencies

In the past, central ministries and agencies have promoted efforts towards business continuity by developing business continuity plans for each central ministry and agency from the viewpoint of ensuring the continuity of the core functions of the capital in the event of a Tokyo Inland earthquake, etc. In March 2014, following the Cabinet decision on the “Business Continuity Plan of the Central Government (Measures against Tokyo Inland Earthquake)” (hereinafter referred to as the “Government’s Business Continuity Plan”) based on the “Act on Special Measures Against Tokyo Inland Earthquake” (Act No. 88 of 2013), central ministries and agencies reviewed their existing business continuity plans.

The Cabinet Office formulated guidelines in June 2007 to support the development of business continuity plans for central ministries and agencies. Since then, the guidelines have been reviewed in light of the increasing severity and frequency of recent disasters and changes in social conditions, with the most recent revision in April 2022. In addition, the effectiveness of business continuity plans of central ministries and agencies is assessed by experts in accordance with the Government’s Business Continuity Plan, and based on the assessment, central ministries and agencies review their business continuity plans and improve their initiatives as necessary.

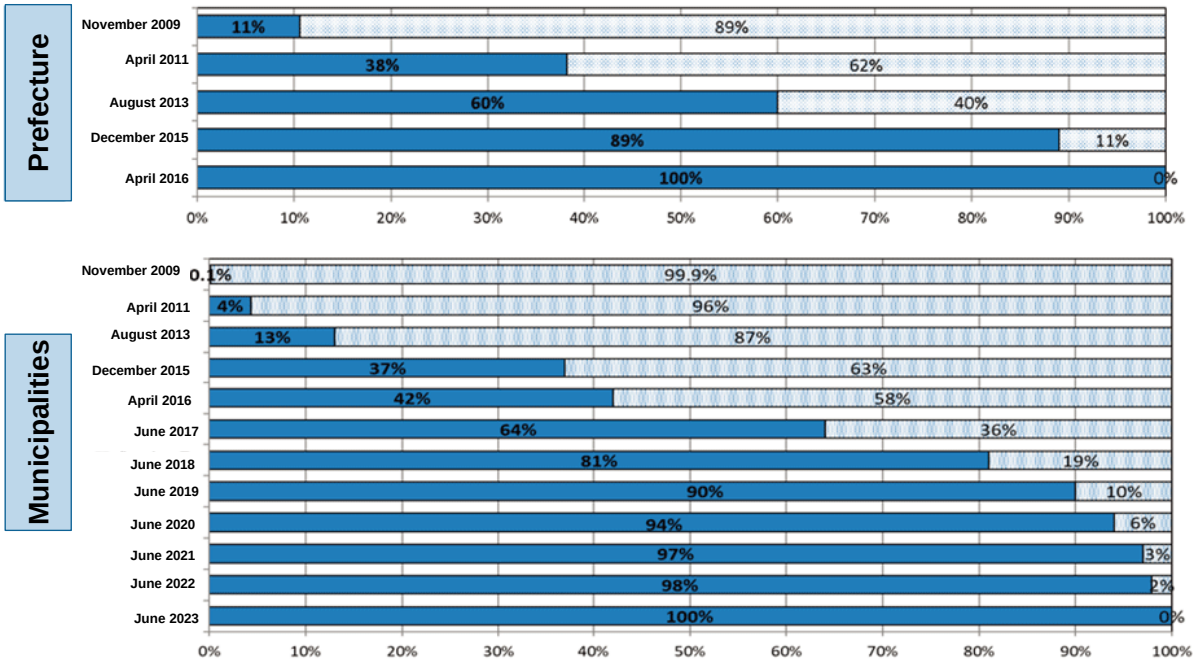
Through these efforts, the Government intends to establish a business continuity system to ensure the smooth continuation of business in the event of a Tokyo Inland earthquake.

(2) Establishment of a business continuity system for local governments

Local governments must secure their administrative functions and continue their operations in the event of a disaster. For this reason, local governments need to develop a business continuity plan and establish a business continuity system. As of April 2016, 100% of prefectures and as of June 2023, 100% of local governments had formulated their business continuity plans (Fig. 1-7-1).

Fig. 1-7-1 Status of development of business continuity plans in local governments

As of June 1, 2023,100% of prefectures and 100% of municipalities have formulated their BCPs.



Source: November 2009: Survey on the Status of the Business Continuity System in the Event of an Earthquake (survey by the Cabinet Office (Disaster Management) and the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications)
August 2013: Survey on Comprehensive Crisis Management Systems in Local Governments (survey by the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications)
December 2015: Survey on the "Status of Development of Business Continuity Plans" and "Status of Development of Specific Criteria for Issuing Evacuation Advisories, etc." in Local Governments (survey by the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications)
April 2016, June 2017, June 2018, June 2019, June 2020, June 2021: Results of the Survey on the Status of Development of Business Continuity Plans in Local Governments (survey by the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications).
June 2022: Results of the Survey on the Status of Development of Business Continuity Plans, etc., in Local Governments (survey by the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications).
June 2023: Results of the Survey on the Status of Development of Business Continuity Plans, etc. and the Status of Securing Emergency Power Sources in Local Governments (survey by the Cabinet Office (Disaster Management) and the Fire and Disaster Management Agency, Ministry of Internal Affairs and Communications)

The Cabinet Office has formulated and disseminated the "Business Continuity Plan Formulation Guidelines for Municipalities (developed in May 2015), the "Business Continuity Plan Formulation Guidelines for Municipalities in the event of a large-scale disaster" (revised in May 2023) and the "Guide to Formulate Aid Acceptance Plans Regarding the Receipt of Human Support for Municipalities" (revised in June 2021). In addition, to support the establishment of a business continuity system and a support system in local governments, training courses and briefing sessions for officials in charge of municipalities have been held every year since FY 2015 through the collaboration between the Cabinet Office and the Fire and Disaster Management Agency.

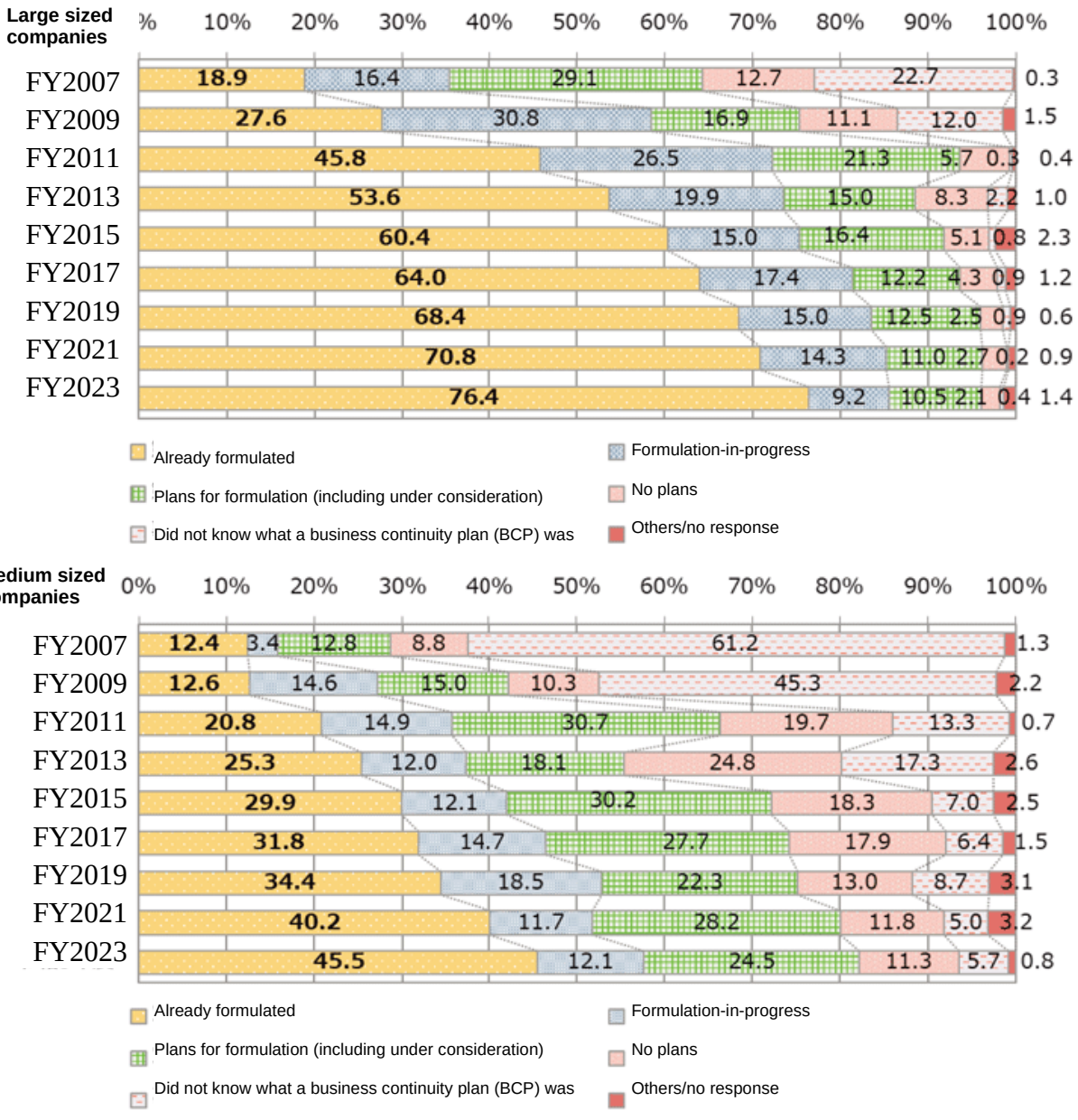
(3) Establishment of a business continuity system for the private sector

In the event of a large-scale disaster or a similar incident that causes a company's business activities to slow down, the impact is beyond the company itself. Supply chain disruptions and other such factors can have a significant impact on the company's business partners, the local economy and society, and, ultimately, the entire country. Therefore, companies need to ensure the continuity of their business activities in the event of a large-scale disaster.

The Cabinet Office developed guidelines in 2005 to promote the development of business continuity plans (BCPs) for companies. The Cabinet Office recommends developing BCPs in line with these guidelines. The content of the guidelines has been reviewed in light of changes in social conditions, and a revised version was recently published in March 2023. In addition, in order to further promote efforts by companies, the Cabinet Office is working with industry associations, etc., to promote the dissemination of information relating to business continuity efforts, such as preparing and disseminating a simplified pamphlet that summarizes the key points of BCP development in an easy-to-understand manner and a collection of case studies of efforts for reference.

The Cabinet Office has been conducting a biennial survey on the actual status of efforts taken by private companies, including the percentage of companies that have developed BCPs. According to the “FY 2023 Survey on Business Continuity and Disaster Reduction Efforts Made by Corporations”, the number of large and medium-sized companies that have developed BCPs is rising, which now account for 76.4% of large companies (70.8% in the previous survey (FY 2021)) and 45.5% of medium-sized companies (40.2% in the previous survey), and the percentage is 85.6% for large companies and 57.6% for medium-sized companies, if those in the process of developing a BCP are also included (Fig. 1-7-2).

Fig. 1-7-2 Status of BCP development by large and medium-sized companies



Source: Compiled by the Cabinet Office from the “FY 2023 Survey on Business Continuity and Disaster Reduction Efforts Made by Corporations”

[Column]

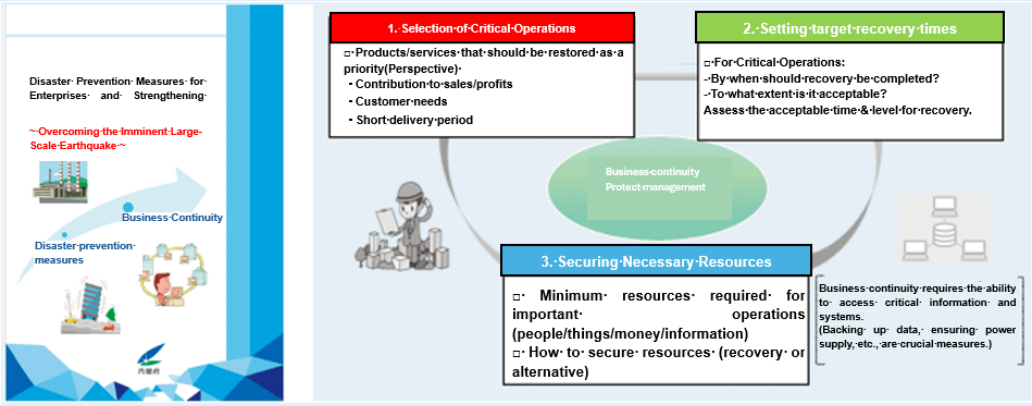
Dissemination of Simplified Brochures and Other Materials for Enterprises to Improve their Business Continuity Capabilities

A large-scale disaster that would have a severe impact on Japan's economic activities, such as a Nankai Trough earthquake or a Tokyo Inland earthquake, is said to be imminent. In the event of such a large-scale disaster, the damage and impact will not be limited to the affected areas but are expected to spread across the country. In particular, various industries are interdependent through supply chains, and there is a concern that the disruption of a single company's operations could spread across the entire nation like a chain reaction, affecting related companies and industries both domestically and internationally.

To avoid a severe impact on business activities as much as possible, “advance preparation”, such as by developing business continuity plans (BCPs), diversifying suppliers, and collaborating across companies and industries, is essential. This is in addition to efforts already underway, such as the earthquake-proofing of offices, safety confirmation, stockpiling of food, etc. To this end, in December 2023, the Cabinet Office prepared a simplified pamphlet summarizing in an easy-to-understand manner how to develop a BCP, including the key points (*) for BCP development, such as selecting critical operations, setting recovery time objectives and securing necessary resources. A collection of case studies was also compiled describing the efforts taken by companies that have actually developed a BCP and its effectiveness.

In order to overcome the imminent large-scale earthquake, the Cabinet Office will continue to strengthen business continuity efforts in Japan by collaborating with economic and industry associations.

*Key points for BCP development (excerpt from the Simplified Pamphlet).



Source: Cabinet Office website
Simplified Pamphlet: https://www.bousai.go.jp/kyoiku/kigyou/pdf/pamphlet_231212.pdf
Case Studies：https://www.bousai.go.jp/kyoiku/kigyou/pdf/jirei_231212.pdf

1-8 Collaboration with Industry

(1) Disaster Risk Management Economic Consortium

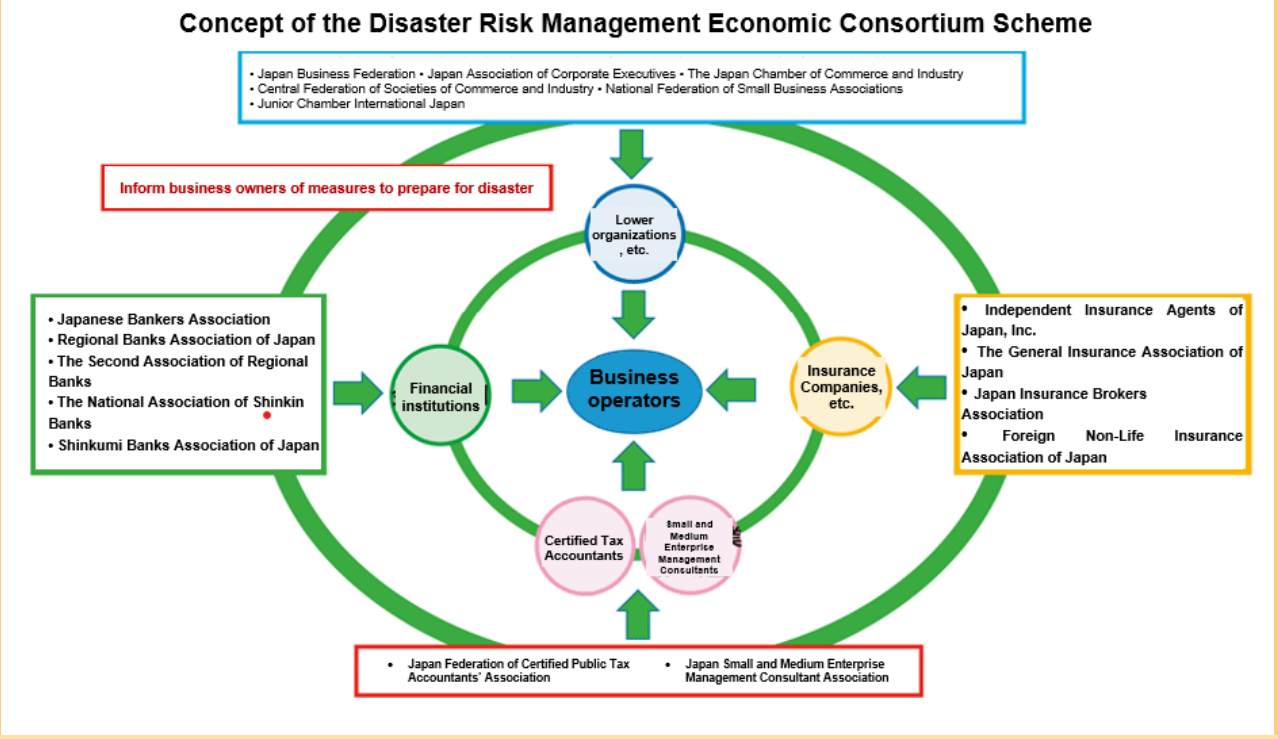
In order to improve the disaster risk management capabilities of society as a whole, there is a need for private business operators to improve their preparedness for large-scale natural disasters. For this reason, the “Disaster Risk Management Economic Consortium” was established in 2018 as a platform for business operators to exchange opinions and communicate with each other (**Fig. 1-8-1**).

The “Disaster Risk Management Economic Consortium” has formulated the “Principles of Disaster Management Economic Action”, which aim to raise awareness for improving the disaster risk management capabilities of business operators through original ideas tailored to the characteristics of their respective industries. In FY 2023, members of 17 organizations were engaged in activities focused on spreading and raising awareness of these principles among their respective subsidiary organizations.

Specifically, two administrative subcommittee meetings were held, where, in addition to exchanges of opinions among the members, the Cabinet Office introduced measures related to disaster risk reduction and business continuity, and experts delivered lectures.

(Reference: https://www.bousai.go.jp/kyoiku/consortium/index.html)

Fig. 1-8-1 "Disaster Risk Management Economic Consortium"



Source: Cabinet Office data

(2) Disaster Prevention x Technology Public-Private Partnership Platform

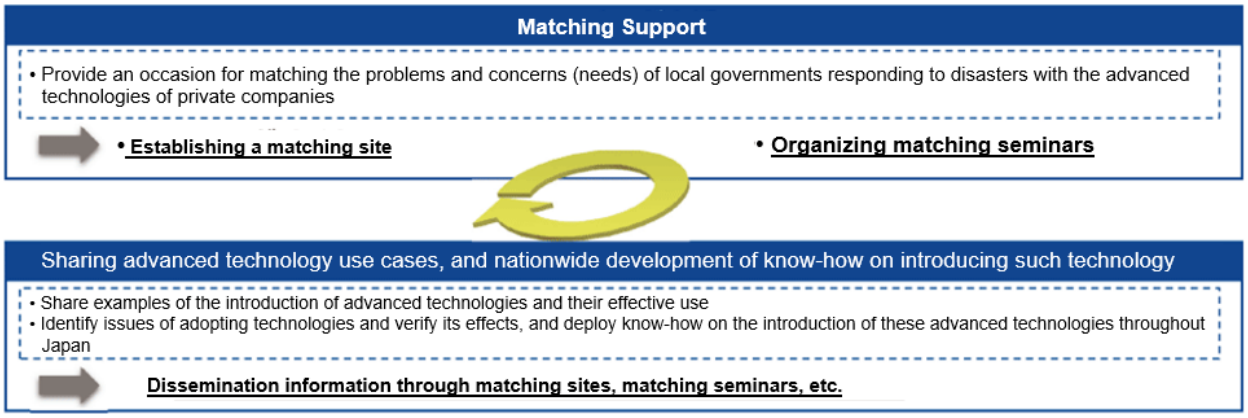
Local governments must actively utilize advanced technologies, including digital technologies, to respond more effectively and efficiently to the increasingly severe and frequent disasters that have occurred in recent years. Some local governments have already started using advanced technologies and demonstrated their effectiveness in disaster response. However, many local governments have not yet introduced such technologies due to limited opportunities to collect information on advanced technologies and introduce them.

For this reason, in FY 2021, the Cabinet Office established the "Disaster Prevention x Technology Public-Private Partnership Platform". This platform was designed as a forum for matching the needs of local governments in disaster response and private companies with advanced technologies and for the horizontal deployment of examples of effective use of advanced technologies by local governments (Fig. 1-8-2).

As part of its efforts, the Platform has established a permanent website (hereinafter referred to as the "Matching Website") and seminars (hereinafter referred to as the "Matching Seminars") to provide a venue for interaction between local governments and private companies, etc.

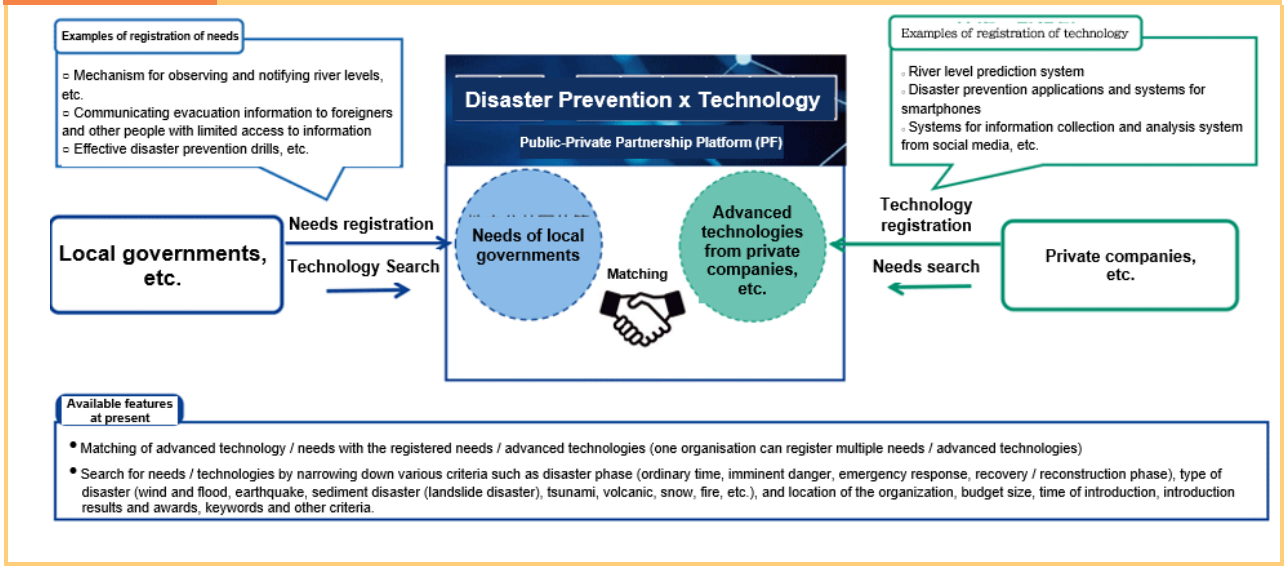
The Matching Website has been in operation since July 2021, allowing local governments to register their disaster risk reduction issues and needs and private companies to register their useful technologies for disaster risk reduction. As of the end of March 2024, approximately 450 local governments and 1,060 private companies had registered on the Matching Website (Fig. 1-8-3).

Fig. 1-8-2 Disaster Prevention x Technology Public-Private Partnership Platform (Prevention Technology PF)



Source: Cabinet Office data

Fig. 1-8-3 Overview of the Prevention Technology PF Matching Website



Source: Cabinet Office data

Registered technologies are automatically matched with potential needs. They can also be freely searched by narrowing down criteria such as disaster phases from “ordinary times” to “recovery and reconstruction period”, disaster types such as “wind and flood damage” and “earthquake”, and the costs and results of introducing these technologies. In addition, registered organizations can contact other parties with useful information using the contact information registered on the Matching Website.
(Reference: https://www.bosaitech-pf.go.jp)

Matching seminars were held eight times during FY 2023. They included case studies of advanced technologies actually introduced at local governments, the introduction of local governments' measures for disaster management, and an “Individual Consultation Session”, where private companies could introduce their technologies, and local governments could discuss their issues and needs with their counterparts on a one-on-one basis.

These efforts have provided local governments with opportunities to learn about advanced technologies, get introduced to the technologies of private companies, and share issues with companies, creating new opportunities for introducing these technologies.

(3) “Disaster Preparedness” Collaboration Project

2023, which marked the 100th anniversary of the Great Kanto Earthquake, was an important opportunity to strengthen preparedness against the threat of mega-disasters such as a Tokyo Inland earthquake and a Nankai Trough earthquake.

To this end, the Cabinet Office recruited private companies and other organizations to collaborate in raising disaster awareness at the national, household, and business levels and promoting “disaster preparedness” in daily life. A project (the “Disaster Preparedness” Collaboration Project) was implemented to promote widespread public awareness through these companies' normal business activities (**Fig. 1-8-4**).

As of the end of March 2024, 124 companies and organizations had endorsed the project, and each company had conducted activities related to “disaster preparedness”. In September 2023, the Cabinet Office held a meeting for the exchange of opinions with the supporting companies and organizations. The project will continue to be implemented in the future.

Fig. 1-8-4 “Disaster Preparedness” Collaboration Project

Source: Cabinet Office data

1-9 Initiatives in the Academic Field

In Japan, research activities on disaster risk reduction are conducted in various fields, including natural phenomena such as earthquakes, tsunamis, volcanic eruptions and heavy rains, civil engineering works and structures such as buildings, emergency medical care, healthcare and sanitation such as environmental hygiene, various human activities including economy, geography and history, information, and energy. The Great East Japan Earthquake created awareness about the importance of research on disaster prevention and mitigation from a comprehensive and interdisciplinary perspective, and the necessity of promoting information sharing and exchanges with different fields beyond specialized areas and fostering interdisciplinary collaboration. Therefore, through discussions by the Science Council of Japan and relevant academic societies, the “Japan Academic Network for Disaster Reduction” was established in January 2016 as a network of academic societies involved in disaster prevention, mitigation and restoration, with the cooperation of 47 academic societies. As of the end of March 2024, 62 academic societies (59 regular members and 3 special members) had joined the Network.

In August 2023, the Network, in collaboration with the Science Council of Japan’s Council of Japan Academic Network for Disaster Reduction, held the 5th “Liaison Conference on Disaster Management among the Science Council of Japan, Academic Societies, and Government Ministries and Agencies” under the theme of “How to Develop Human Resources for Disaster Prevention and Mitigation”, where both central ministries and agencies, and the academic community presented their respective initiatives. In addition, public symposia were held in April, July, and September 2023 and March 2024, where opinions were widely exchanged on the role that disaster science should play.

5th “Liaison Conference on Disaster Management among the Science Council of Japan, Academic Societies, and Government Ministries and Agencies”

1-10 Strengthening Disaster Response Efforts from Gender-Equality Perspectives

Disasters threaten the lives of all people, but it is known that the impact varies depending on factors such as gender, age and disability. The creation of a disaster-resilient society requires the impact of disasters on people to be minimized with the help of disaster response tailored to the different needs of women, children, the elderly, and people with disabilities. The Cabinet Office has been promoting disaster management and reconstruction initiatives from the perspective of gender equality. As of April 2023, the proportion of female members in the Prefectural Disaster Management Councils had remained at 21.8%, while in the Municipal Disaster Management Councils, the percentage had remained at 10.8%. These figures fall short of the target set in the Fifth Basic Plan for Gender Equality (approved by the Cabinet on December 25, 2020) (to increase the proportion of female members in both Prefectural and Municipal Disaster Management Councils to 30% by 2025) (**Fig.1-10-1** and **Fig. 1-10-2**).

Consequently, in April 2023, the Director-General of the Gender Equality Bureau of the Cabinet Office and the Director General for Disaster Management, Cabinet Office jointly issued a notice to all local governments urging them to accelerate the appointment of female members to local disaster management councils. In February 2024, an online symposium was held for heads of local governments, senior officials, and members of local disaster management councils. In the symposium, case studies of initiatives were introduced by various organizations, and the participants shared their understanding of the importance of women's participation in the decision-making process in disaster management and during on-site disaster response. Furthermore, in September 2023, at the “National Conference on Promoting Disaster Risk Reduction (BOSAI Kokutai) 2023”, a workshop was conducted under the theme “Let's All Discuss! “Disaster Management from Women's Perspective” aims to “connect” women involved in disaster management across regional and organizational boundaries. The workshop strengthened the networking among private sector organizations, female disaster management professionals, and local female disaster management leaders.

During the Noto Peninsula Earthquake in January 2024, staff from the Gender Equality Bureau were dispatched to the On-site Extreme Disaster Management Headquarters, where they worked on disaster response from the perspective of gender equality, such as raising awareness and encouraging the use of the “Women’s Perspectives for Strengthening Disaster Response Capabilities - Guidelines for Disaster Preparedness and Reconstruction from the Perspective of Gender Equality” (created in May 2020; hereinafter referred to as the “Guidelines”) and the “Evacuation Shelter Check List” from women's perspectives included in the Guidelines.

In addition, an annual survey on the status of initiatives by local governments, based on the Guidelines, is conducted every year since 2021. The survey aims to bring further “visibility” into the progress of each initiative and accelerate efforts from the perspective of gender equality across the country.

In the future, efforts from the perspective of gender equality will continue, contributing to the improvement of local disaster response capabilities.

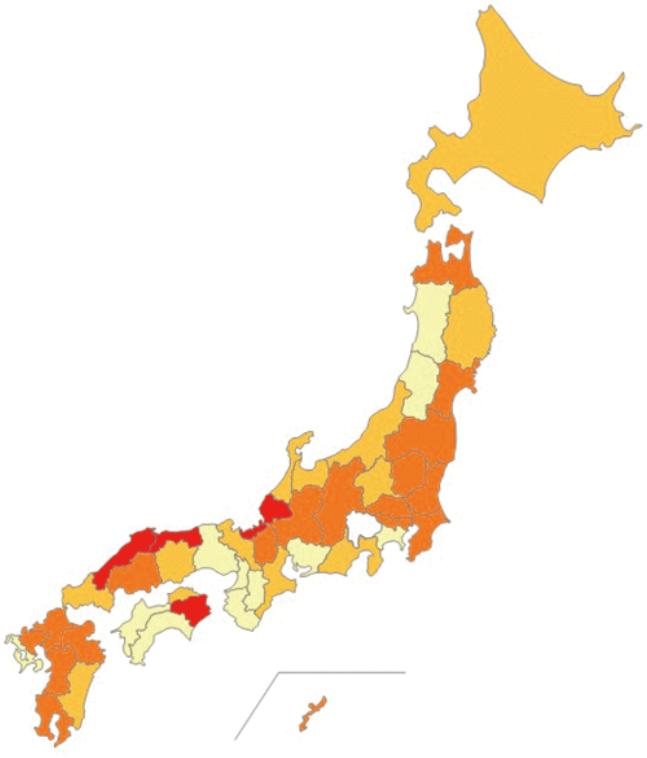
*Main initiatives in the Fifth Basic Plan for Gender Equality:

- In both the National and local governments, the disaster/risk management department and gender equality department will work more closely together during peacetime to promote disaster management and reconstruction initiatives from the gender equality perspective.
- Regarding the percentage of women in the Prefectural Disaster Management Councils, the National government will request each prefecture to promote initiatives for increasing female participation. Furthermore, the National government will collaborate with prefectures to promote efforts for the early dissolution of municipal disaster management councils with no female members and to increase the percentage of female members. It will deploy good practices from municipalities where women are actively appointed to these councils.
- Regarding the Disaster Management Headquarters of local governments, efforts will be made from normal times, aiming at the placement of female staff and gender equality officials and at promoting understanding among male staff members regarding initiatives from the perspective of gender equality.
- The status of initiatives by local governments based on the Guidelines will be followed up, bringing more “visibility” into the initiatives.

(Reference: https://www.gender.go.jp/about_danjo/basic_plans/5th/pdf/2-08.pdf)

Fig. 1-10-1 Proportion of female members in Prefectural Disaster Management Councils

Prefecture	Total number of committee members (persons)	Women (persons)	Ratio of women (%)	
Tokushima	81	41	50.6	40% or more, 4 organizations
Tottori	69	29	42.0	
Shimane	72	30	41.7	
Fukui	52	21	40.4	
Shiga	62	20	32.3	20% or more to less than 40%, 18 organizations
Kumamoto	69	22	31.9	
Saitama	73	23	31.5	
Tokyo	92	28	30.4	
Kagoshima	57	17	29.8	
Chiba	53	15	28.3	
Hiroshima	73	20	27.4	
Miyazaki	60	16	26.7	
Saga	72	19	26.4	
Nagasaki	61	16	26.2	
Oita	60	14	23.3	
Ibaraki	52	12	23.1	
Fukuoka	61	14	23.0	
Tochigi	56	12	21.4	
Okinawa	56	12	21.4	
Nagano	80	17	21.3	
Fukushima	54	11	20.4	
Aomori	60	12	20.0	15% or more to less than 20%, 13 organizations
Kyoto	66	13	19.7	
Gunma	53	10	18.9	
Kagawa	60	11	18.3	
Toyama	67	12	17.9	
Niigata	74	13	17.6	
Shizuoka	63	11	17.5	
Ishikawa	70	12	17.1	
Yamaguchi	60	10	16.7	
Miyazaki	55	9	16.4	
Hokkaido	69	11	15.9	
Iwate	77	12	15.6	
Mie	65	10	15.4	
Okayama	59	9	15.3	
Yamagata	62	9	14.5	10% or more to less than 15%, 11 organizations
Osaka	63	9	14.3	
Wakayama	56	8	14.3	
Kanagawa	57	8	14.0	
Nagasaki	68	9	13.2	
Nara	61	8	13.1	
Hyogo	56	7	12.5	
Ehime	60	7	11.7	
Akita	61	7	11.5	
Aichi	71	8	11.3	
Kochi	60	6	10.0	
Yamanashi	64	4	6.3	Less than 10%, 1 organization
Total	3,002	654	21.8	



(Remarks)
1. The source of the data is the Cabinet Office's "Progress of Local Government Measures Focused on Women or the Promotion of a Gender-Equal Society" (FY2022).
2. In principle, the survey data was as of April 1, 2023, but may differ depending on the circumstances of each local government in some cases.
3. Ratio of women was rounded off to the one decimal place.
4. Some islands have been omitted for the convenience of data notatio

Source: Compiled by the Cabinet Office from “The Status of Formation of a Gender-Equal Society and the Promotion of Policies Related to Women in Local Governments (FY 2023)”

Fig. 1-10-2 Targets and current values for Prefectural and Municipal Disaster Management Councils in the Fifth Basic Plan for Gender Equality

Item		Present Status	Performance Target (deadline)
Ratio of women among Prefectural Disaster Management councils' committee members		19.2% (2022)	30% (2025)
Ratio of women among municipal Disaster Management council's committee members			
	Number of organizations with no women committee members	285 (2022)	0 (2025)
	Ratio of women among committee members	10.3% (2022)	Aiming for 15% (in early stage), And even for 30%(by 2025)

Source: Compiled by the Cabinet Office from "Fifth Basic Plan for Gender Equality 'Toward a Reiwa Society Where All Women and Girls Can Thrive and Achieve Their Full Potential'" (approved by the Cabinet on December 25, 2020) and "The Status of Formation of a Gender-Equal Society and the Promotion of Policies Related to Women in Local Governments (FY 2023)"

Section 2 Disaster Management System, Disaster Response and Preparedness

2-1 Amendment of Basic Disaster Management Plan

The Basic Disaster Management Plan is a basic plan for disaster management in Japan that is prepared by the National Disaster Management Council in accordance with Article 34-1 of the Basic Act on Disaster Management and "must be reviewed each year in the light of the findings of scientific research pertaining to disasters and disaster management, conditions of disasters that have occurred, and the effect of implemented disaster response measures, and when found necessary", the Council is to revise it. Based on the Basic Disaster Management Plan, local governments must prepare local disaster management plans, and designated administrative organizations and designated public corporations need to prepare disaster management operational plans.

(Reference: https://www.bousai.go.jp/taisaku/keikaku/kihon.html)

The Basic Disaster Management Plan was recently revised in May 2023 (Fig. 2-1-1). The major revisions include the addition of a description for the strengthening of comprehensive safety and security measures for passenger vessels in light of the disaster that occurred in FY 2022 and the addition of a description for support for disaster victims in cooperation with various entities, such as the establishment and functional enhancement of disaster relief intermediary support organizations in light of recent policy developments.

Fig. 2-1-1 Overview of Revisions to the Basic Disaster Management Plan (May 2023)

Overview of Revisions to the Basic Disaster Management Plan (May 2023)

■ Basic Disaster Management Plan

A comprehensive and long-term plan for disaster management in Japan prepared by the Central Disaster Management Council based on the Basic Act on Disaster Management, which forms the basis for disaster preparedness and response plans prepared by Designated Administrative Organs and Designated Public Institutions, and local disaster management plans prepared by local governments

Main Revisions

Main Revisions in light of recent policy developments

○ Support for disaster victims in cooperation with various entities

- Development and enhancement of disaster relief intermediary support organizations (*1) by prefectures and clear division of roles among related parties
- Clear mention of locations where disaster volunteer centers are planned to be set up
- Establishment of a system to support disaster victims, such as disaster case management (*2)

*1 Organizations that support and coordinate the activities of NPOs, volunteers, etc.,

*2 An initiative where meticulous support is provided to disaster victims on an ongoing basis, in cooperation with related parties, based on an understanding of the situation of each disaster victim

○ Communication of information to the public

- Explanation and communication of information related to scales of long-period earthquake ground motions
- Thorough public awareness and communication in the event of communication disruption
- Promotion of measures for information access and communication for people with disabilities

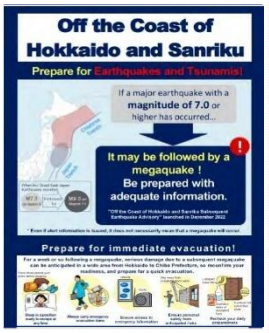
○ Utilization of digital technology

- Utilization of digital technology to create victim registers and lists of individuals requiring support for evacuation actions

Revisions in light of changes in the Basic Plan for trench-type earthquakes around the Japan Trench and the Chishima Trench

○ Explanation and communication of the Off the Coast of Hokkaido and Sanriku Subsequent Earthquake Advisory (*)

* If an earthquake with a Mw value of 7.0 or more occurs in or around the anticipated focal regions of megathrust earthquakes along the Japan Trench and the Chishima Trench, the potential for a large earthquake is considered to be relatively high. In such cases, the "Off" the Coast of Hokkaido and Sanriku Subsequent Earthquake Advisory", which has been operational since December 2022, is issued to warn of a subsequent earthquake.



Revisions in light of disasters that occurred in 2022

<An accident involving a sightseeing boat in Shiretoko, Hokkaido>

○ Strengthening of comprehensive safety and security measures for passenger boats

*** Revisions to the Maritime Disaster Management section**

<Tide level changes due to volcanic eruptions in the Tonga Islands>

○ Public awareness and dissemination of information on tsunamis caused by volcanic eruptions, etc.

Source: Cabinet Office data

2-2 Enrichment of Training Programs for the Heads and Staff of Local Governments

Prompt and accurate disaster response depends on the knowledge and experiences of the head and disaster management staff of local governments. For this reason, the Cabinet Office has planned and implemented the "Training of Disaster Prevention Specialists" for the staff of local governments from FY 2013 in order to develop human resources who are able to "respond to crisis situations promptly and accurately" and "form networks between the national and local governments."

In FY 2023, "the Training Program at Ariake Hill" was implemented from August to October and from December to March 2024. This training program consists of on-demand classroom lectures and group (face-to-face) exercises to acquire knowledge and skills in overall disaster management operations, from the basics of disaster management related to laws and regulations to disaster management command and control. In FY 2023, the Basic Disaster Management Course was made completely on-demand, and some courses were renewed with position-specific exercises. The "Training Program for Local Governments," jointly sponsored by prefectures and the Cabinet Office, was carried out in five locations across Japan to improve regional disaster resilience based on disaster response challenges brought about by regional variances. In FY 2023, "Regional Study Groups" consisting of applicant organizations (prefectures), the Cabinet Office, and training coordinators met to discuss curriculum tailored to local conditions and needs.

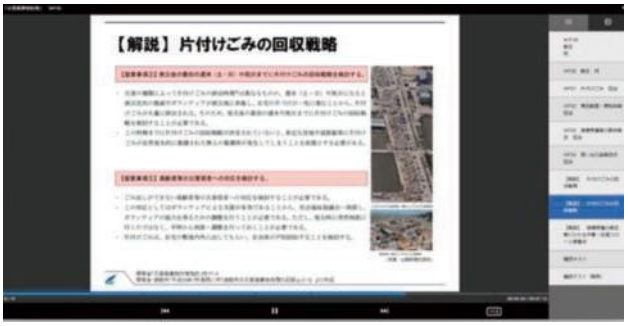
In addition, "Disaster Response e-Learning," which is designed to help support staff members who perform disaster management operations on-site for disaster response to acquire basic knowledge relevant to their assigned tasks quickly, introduced a new theme of "Disaster Waste Disposal" in July 2023, while e-learning under the themes of "Opening and Operating Shelters," "Survey for Residence Damage Certification and Issuance of Disaster Damage Certificates," and "Assessment and Communication of Evacuation Information," continued to be implemented.

In planning and implementing these training programs, the Cabinet Office established a planning and review committee for “Nurturing Disaster Management Specialists” consisting of disaster management-related experts in order to review and expand the contents of training while taking into account advice based on social conditions and needs.

In the event of a large-scale disaster, the heads of local governments and those responsible for crisis and disaster management must work in close contact settings with the national government and other local governments to deliver a prompt and accurate disaster response. To this end, the Cabinet Office and the Fire and Disaster Management Agency jointly hosted the “National Seminar on Disaster and Crisis Management for Heads of Local Government” for the mayors of cities, wards, towns and villages nationwide, with the aim of enabling them to exert effective leadership in the event of a disaster and supporting them to enhance their response capabilities in disaster risk management. The Cabinet Secretariat, the Cabinet Office, and the Fire and Disaster Management Agency jointly hosted the “Special Training Program on Disaster and Crisis Management” for heads of departments and chiefs of crisis management departments of prefectures. They also hosted the “Training Program for Supervisors at Local Governments in Crisis and Disaster Management” for supervisors in municipalities to deepen their knowledge and skills necessary at each phase, including the initial response and disaster response. This training contributes to forming a “face-to-face relationship” during normal times.

Training Program at Ariake Hill

Training Program for Local Governments (Tokushima Prefecture)”



“Disaster Response e-Learning” (Disaster Waste Disposal)

“National Seminar on Disaster and Crisis Management for Heads of Local Government”

2-3 Securing Designated Emergency Evacuation Sites and Designated Shelters

A "designated emergency evacuation site" is a facility or place where residents evacuate in an emergency to ensure the safety of their lives under imminent danger of a tsunami or flood. A "designated shelter" is a facility designed to allow evacuees to stay for a necessary period until the danger of disaster is over or to temporarily house residents who are unable to return home due to disaster.

At the time of the Great East Japan Earthquake, evacuation sites and shelters were not always clearly distinguished, which unfortunately contributed to the spread of damage. Therefore, the Cabinet Office amended the "Basic Act on Disaster Management" in 2013, requiring the mayors of municipalities to clearly specify designated emergency evacuation sites and designated shelters separately in advance and to inform (publicly notify) residents of these details. The status of designated emergency evacuation sites as of April 1, 2022, is shown in **Fig. 2-3-1**.

Fig. 2-3-1 Designation of Designated Emergency Evacuation Sites

	Designated Emergency Evacuation Sites							
	Flooding	Sediment Disaster (Landslide Disaster)	Storm surge	Earthquake	Tsunami	Widespread fire	Flood Rainfall inundation	Volcanic phenomena
Number of designated evacuation sites (sites)	70,979	66,671	22,577	85,901	39,118	40,550	37,990	10,665
Expected capacity (10,000 people)	12,263	13,426	5,992	23,872	8,874	17,813	7,621	2,705

Source: Compiled by the Cabinet Office based on the Fire and Disaster Management Agency's "Current Status of Regional Disaster Management Administration" (with multiple responses for each category)

The designated emergency evacuation sites can also be viewed on the Geospatial Information Authority of Japan's web map, "GSI Maps".
(Reference: https://www.gsi.go.jp/bousaichiri/hinanbasho.html)

Along with the Fire and Disaster Management Agency, the Cabinet Office is encouraging local governments to designate their designated emergency evacuation sites without delay. Since designated emergency evacuation sites are to be specified for each type of disaster, local governments nationwide are also being encouraged to follow the "Hazard Specific Evacuation Guidance Sign System (JIS Z 9098) (instituted in March 2016)" when installing or updating guidance sign boards. This system was established to help evacuees clearly identify such facilities (**Fig. 2-3-2**). The International Standard for the Hazard Specific Evacuation Guidance Sign System (ISO22578) was issued in February 2022.
(Reference: https://www.bousai.go.jp/kyoiku/zukigo/index.html)

Fig. 2-3-2 Example of a signboard using the hazard-specific evacuation guidance sign system

- A pictogram indicating it is an evacuation site (required).
- Hazard specific pictograms (required).
- Suitability/unsuitability marks ("o" for suitable and "x__ for unsuitable.)

- Stating that it is an evacuation site. (Example of a evacuation site name)
- Preferably also in a foreign language.(Example in English)

Source: Cabinet Office data

The number of designated shelters in accordance with Article 49-7 of the Basic Act on Disaster Management has increased from 48,014 as of October 1, 2014, to 82,184 as of December 1, 2022.

Improving the quality of life and ensuring a good living environment, even under conditions where people are forced to live inconveniently in shelters during a disaster, is important. For this reason, the Cabinet Office has extensively examined issues related to promoting the designation of shelters and welfare shelters in municipalities, the improvement of toilets at shelters, and the development of support systems and consultation services for persons requiring special care and is taking necessary measures.

In recent years, the "Sub-Working Group Concerning Evacuation of Elderly and Other Persons with Special Needs Based on Typhoon Hagibis in 2019 (hereinafter referred to as the "SWG for the Elderly")" was held in FY 2020, wherein it was deemed appropriate that a new system be established to specify the persons who would be accepted at each welfare shelter and, by publicly announcing such information when designating such facilities in advance, clarify that such designated shelters are only for these persons and their families. In light of this, the "Regulations for Enforcement of the Basic Act on Disaster Management" (Prime Minister's Office Order No. 52, 1962) and the "Guidelines for Securing and Managing Welfare Shelters", etc. were revised in May 2021.

Moreover, there has been a requirement at shelters to implement measures to prevent infectious diseases, to improve living conditions, to ensure appropriate opening and securing of disaster prevention functional facilities according to the location of shelters, and to manage shelters from a female perspective. Accordingly, in April 2022, the "Guidelines for Ensuring Satisfactory Living Conditions at Shelters" was published, based on which the "Shelter Management Guidelines" and the "Guidelines for Securing and Managing Toilets at Shelters" were prepared.

In July 2022, the Cabinet Office published the “Examples of Efforts to Improve the Living Environment and Countermeasures against COVID-19 in Shelters,” which provides examples of advanced initiatives in shelter operations.

(Reference: https://www.bousai.go.jp/taisaku/hinanjo/index.html)

2-4 Formulation of Individual Evacuation Plans

In recent years, a large number of the elderly and persons with disabilities have been affected by disasters. Therefore, the final reports of the SWG for the Elderly identified that it is necessary to promote the smooth and prompt evacuation of the elderly, etc., by further promoting the formulation of individual evacuation plans, which are designed to support residents in need of assistance in evacuation, such as the elderly and persons with disabilities who have difficulty in evacuating on their own. It was also deemed appropriate to obligate municipalities to make efforts to formulate individual evacuation plans, which are already under formulation in some municipalities, from the viewpoint of encouraging more municipalities across the country to formulate these plans.

Based on suggestions by the SWG for the elderly and the amendment and enforcement of the "Basic Act on Disaster Management" in May 2021, the “Guidelines for Measures for Residents in Need of Assistance in Evacuation” were revised and published to promote the smooth formulation of individual evacuation plans in municipalities. The Guidelines suggest that municipalities formulate individual evacuation plans for persons who are deemed to be a high priority for requiring assistance in evacuating within around five years and describe the procedures for formulating such plans.

New local allocation tax measures to cover the cost of formulating individual evacuation plans were introduced in FY 2021 and will continue to be implemented in FY 2024.

Since regional circumstances, such as disaster conditions, hazard situations, climate, population size, age distribution and status of securing shelters, vary by municipalities preparing the individual evacuation plan, each municipality faces different challenges when formulating individual evacuation plans.

For this reason, model projects for the formulation of individual evacuation plans were conducted in 34 municipalities and 18 prefectures in FY 2021, in 23 municipalities and 11 prefectures in FY 2022, and in 57 municipalities and 21 prefectures in FY 2023 to build an effective, efficient method for formulating these plans. The process and knowledge of planning were then shared with local governments across Japan (**Fig. 2-4-1**).

Since FY 2023, the Cabinet Office has been strengthening support to prefectures by holding prefectural-level meetings to promote individual evacuation plans and providing peer support (supporter dispatch), in which local government officials (supporters) with experience in formulating individual evacuation plans are dispatched to local governments in need of support, to discuss issues together and provide advice and other support, with the aim of realizing multilayered and detailed support.

Fig. 2-4-1 FY 2023 Model Projects for Formulation of Individual Evacuation Plans

FY 2023 Model Projects for Formulation of Individual Evacuation Plans

4. Implementation of individualized support targeting prefectures

To support municipalities through prefectural governments, various case studies tailored to regional characteristics will be collected and organized. This aims to develop and disseminate a foundation of knowledge and expertise to enable effective support to municipalities by prefectural governments.

- Sixteen Organizations Selected

(Hokkaido, Yamagata Prefecture, Fukushima Prefecture, Tokyo, Kanagawa Prefecture, Niigata Prefecture, Shizuoka Prefecture, Nagano Prefecture, Aichi Prefecture, Shiga Prefecture, Kyoto Prefecture, Osaka Prefecture, Tottori Prefecture, Ehime Prefecture, Fukuoka Prefecture, Nagasaki Prefecture)

1. Prefectural Individual Evacuation Plan Promotion Meetings

A conference will be held with the participation of representatives from all prefectures nationwide. The agenda includes introducing advanced case studies, sharing the progress of individual evacuation plan creation by prefectures and municipalities, and promoting municipal support by prefectural governments. (To be held four times during the fiscal year.)

1st Meeting: June 6 (Completed), 2nd Meeting: August 25 (Completed), 3rd Meeting: November 9 (Completed), 4th Meeting: December 3 (Completed)

2. Peer support (dispatch of supporters)

Municipal officials who are leading the way in these efforts will be dispatched as supporters to municipalities across the country to provide advice and address challenges, helping to facilitate the creation process.

- Implemented by 62 organizations

3. Dissemination and awareness-raising (conducted by the Cabinet Office)

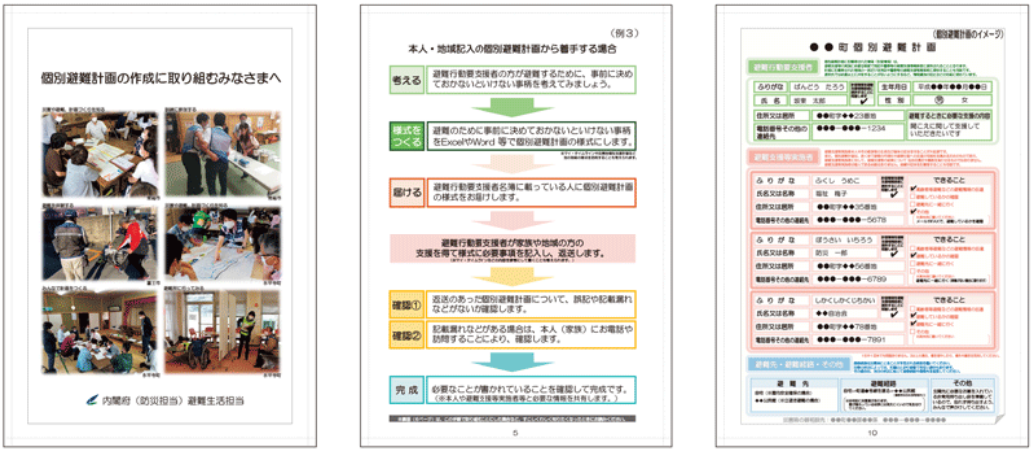
The Cabinet Office will promote further dissemination and information sharing of the project results to local governments and related organizations.

- A portal site will be established to publish relevant notifications, case studies, templates, and recorded videos of training sessions conducted by municipalities

Source: Cabinet Office data

Based on the initiatives of the model organizations, a streamlined procedure for preparing individual evacuation plans was presented to municipal officials and others involved in the preparation of individual evacuation plans to promote public awareness (Fig. 2-4-2).

Fig. 2-4-2 To Those Working on Individual Evacuation Plans (Excerpt)



Source: Cabinet Office data

(https://www.bousai.go.jp/taisaku/hisaisyagyousei/r4kohou.html)

These efforts have helped ensure the effectiveness of evacuation for residents in need of assistance in evacuation and encouraged the formulation of individual evacuation plans nationwide.

2-5 Study to Enhance Support for Affected People

Based on the current status of systems and initiatives for supporting disaster-affected people, the Cabinet Office established the “Study Group on Support for Affected People” in May 2022 with the aim of examining more efficient and higher quality support for affected people. The study group is discussing issues such as improving the environment for evacuees, securing and improving their housing, strengthening cooperation among various actors in supporting affected people, and disaster case management (an initiative to provide continuous, attentive support to affected people through the cooperation of related parties, based on an understanding of each affected person’s situation). Based on the discussions by the study group, the following initiatives are ongoing such as the preparation of a guide for disaster case management, the holding of briefing sessions, and the implementation of model projects to strengthen cooperation with NPOs and volunteers. In addition, the study group will continue to discuss and implement feasible measures to enhance and strengthen support for affected people.

With respect to disaster case management, the Cabinet Office has prepared the “Case Book of Disaster Case Management Initiatives,” which contains examples of advanced initiatives by local governments and has prepared standardized guidance for local governments nationwide to implement disaster case management irrespective of their experience with disasters.

In FY 2023, in order to clarify the position of disaster case management in the Basic Disaster Management Plan and to promote and raise awareness of disaster case management, the Cabinet Office held nationwide workshops for administrative staff to show them specific approaches to the guidance, and in cooperation with 10 prefectures nationwide, held briefing sessions for local governments and private organizations including NGOs involved in disaster case management in, with an aim to build face-to-face relationship from normal times.

(Reference: https://www.bousai.go.jp/taisaku/hisaisyagyousei/case/index.html)

From FY 2024 onward, the Cabinet Office will continue its efforts to promote the dissemination of disaster case management by utilizing the aforementioned case book and guidance. This will include briefing sessions targeting a wide range of stakeholders, such as local government officials, welfare personnel, and NPOs, building a public-private partnership platform, and implementing model projects related to disaster case management for local governments.

2-6 Use of Digital Technology in Disaster Management

(1) Consolidation of information during disasters

In the event of a disaster, it is important to share information collected by the national and local governments and private companies, such as the damage situation, the movement of evacuees, and the availability of relief supplies. To this end, the Cabinet Office established the “National and Local Government Public-Private Disaster Information Hub Promotion Team” in 2017 to discuss information exchange, etc.

(Reference: https://www.env.go.jp/earth/earth/tekiou/page_01311.html)

Based on these discussions, the ISUT (Information Support Team), an on-site dispatch team, began operation in FY 2019 to support disaster responses of local governments by consolidating, mapping, and providing information on disaster damage and shelters in the event of a large-scale disaster. At the site of a disaster, some information, such as damage information and disaster waste, changes from moment to moment and cannot be shared in advance (i.e., dynamic information). The ISUT collects, organizes, and maps such information, then systematically organizes it on the ISUT website, which is a site for displaying electronic maps. This is shared with relevant organizations (i.e., administrative organizations and designated public corporations) to support prompt and accurate decision-making by disaster response organizations.

ISUT has provided information support to disaster response organizations through the ISUT website, sharing information on road restrictions, road closures, and the availability of evacuation shelters and welfare facilities during Typhoon Hagibis in 2019 and the 2024 Noto Peninsula Earthquake.

In order for the ISUT to conduct its activities more quickly and effectively, some of its operations, such as mapping, have been outsourced to private business operators since 2021 in order to enhance the system further. Training programs on the use of the ISUT website were also implemented.

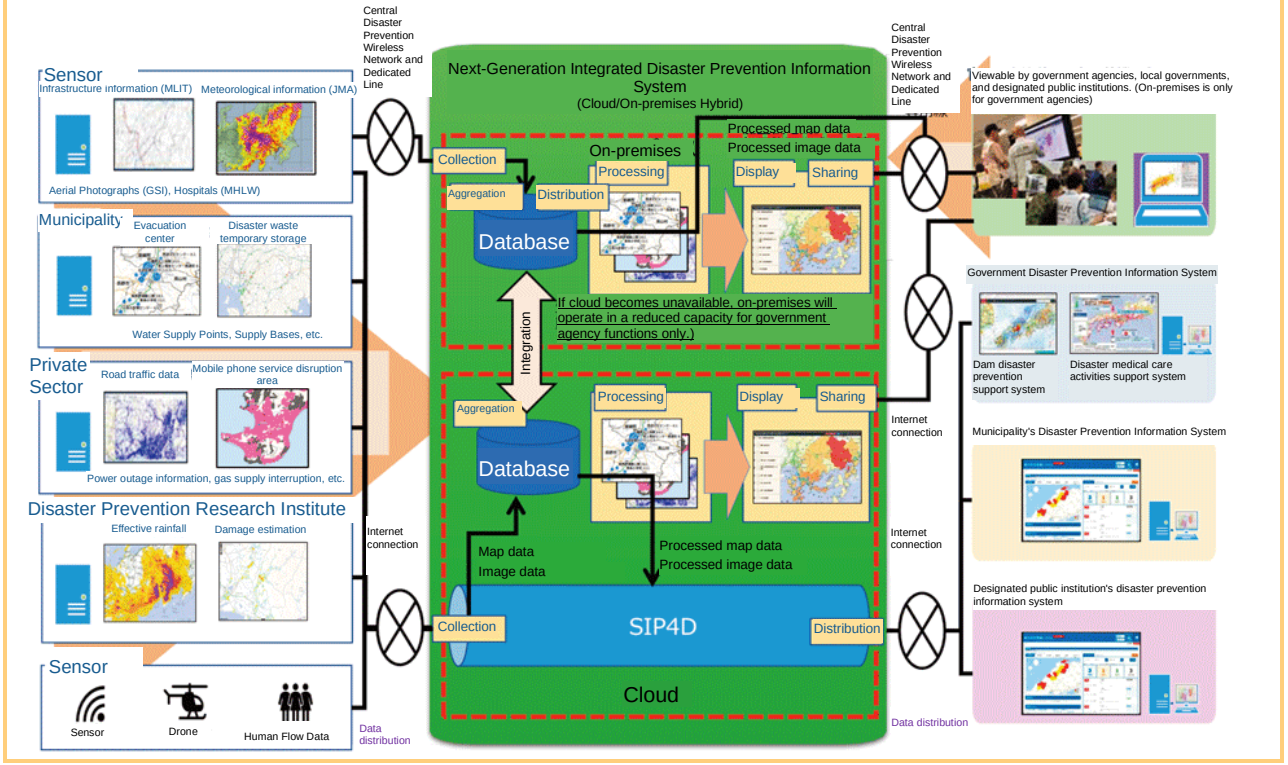
(2) Measures taken based on the recommendations of the Digital and Disaster Management Technology Working Group

Based on the recommendations of the “Digital and Disaster Management Technology Working Group” compiled in May 2021, the Cabinet Office is promoting various initiatives to drive Digital Transformation (DX) in Disaster Management, centered on the following.

1. Development of the next Integrated Disaster Management Information System (SOBO-WEB)

The Integrated Disaster Management Information System is a system designed to share disaster information as geospatial information and support prompt and accurate decision-making by the Government in the event of a disaster. However, its information collection and other functions need to be further enhanced. The next system, which began operations in FY 2024, has incorporated mechanisms such as SIP4D (Shared Information Platform for Disaster Management), which the National Research Institute for Earth Science and Disaster Resilience (NIED) operates as part of its R&D activities. The scope of its use will be expanded to include local governments and designated public corporations in addition to central government ministries and agencies. To realize and strengthen functions such as information collection, analysis, processing, and sharing, as well as to link the system with other disaster response organizations, information items that are necessary in the event of a disaster (basic shared disaster response information), and rules for handling such information have been developed.

Fig. 2-6-1 Schematic diagram of the Next-generation Integrated Disaster Management Information System (SOBO-WEB)



Source: Cabinet Office data

2. Study to enhance disaster response using “Disaster Management IoT” data

At disaster sites, in addition to various cameras and disaster management helicopters, aerial photography with drones, etc., is also used to check the situation. To appropriately acquire and share the vast and diverse data from these IoT among disaster-affected municipalities and disaster management organizations, a research project is ongoing to organize technical standards for data formats and specifications of the equipment to be used. A verification system has also been launched to verify the effectiveness of the project.

In FY 2024, a system will be built based on the requirements identified in the research project.

3. Study on the handling of personal information in the field of disaster management

In the past, personal information protection ordinances in each municipality had various rules for handling personal information (the so-called “2,000-piece problem”). However, the Digital Reform-related Acts have established common rules and a system for the centralized monitoring and supervision of the handling of personal data. Taking this as an opportunity, the Cabinet Office established the “Study Group on the Handling of Personal Information in the Field of Disaster Management” in March 2022. In March 2023, the Cabinet Office developed the “Guidelines for Handling Personal Information in the Field of Disaster Management” to clarify the handling of personal information and prevent local governments and other relevant entities from having any doubts about the handling of personal information during a disaster or normal times.

These guidelines are based on the following two fundamental policies.

a Given that the initial 72 hours following a disaster are crucial for saving lives, active use of personal information should be considered.

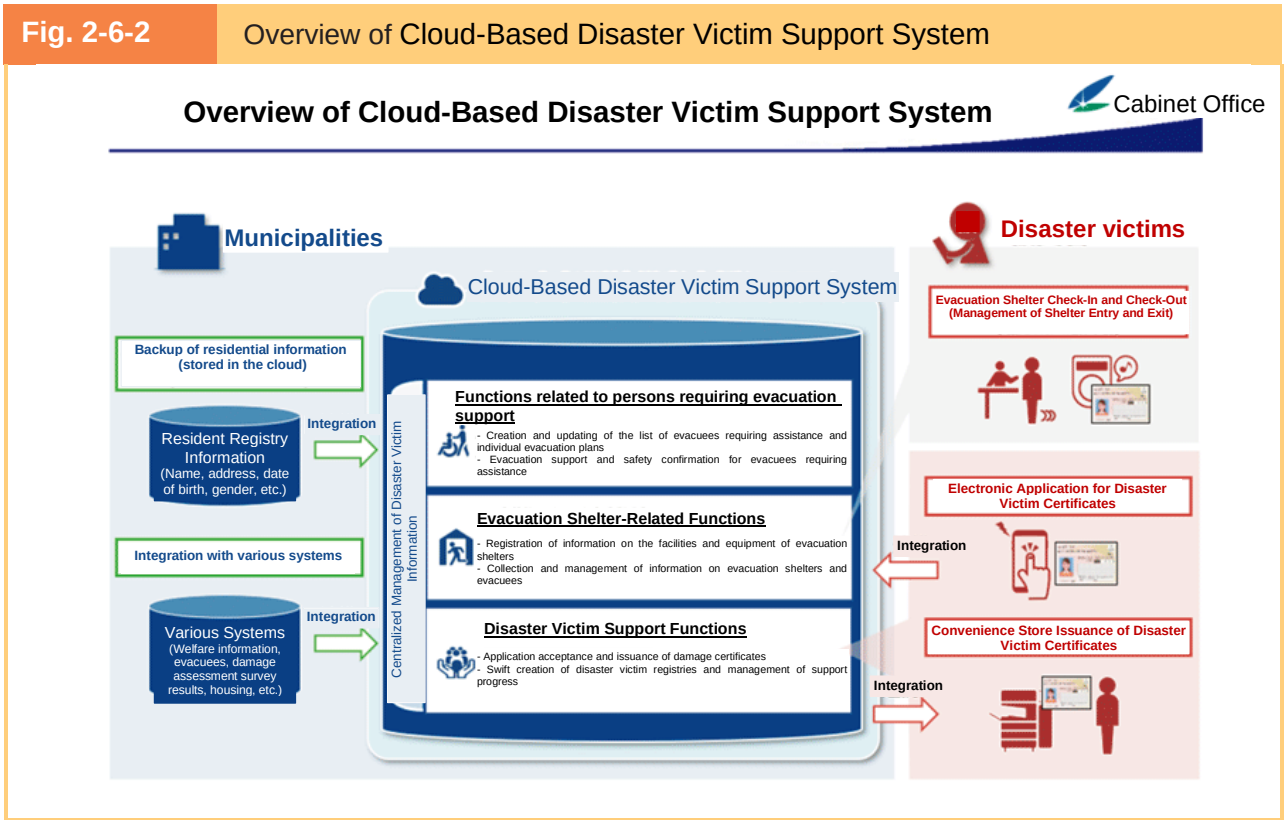
b However, when using personal information, it is necessary to protect the rights and interests of individuals in accordance with the Act on the Protection of Personal Information and the Basic Act on Disaster Management. For example, it is necessary to give sufficient consideration to those whose individual rights and interests are especially in need of protection, such as victims of domestic violence or stalking.

The Cabinet Office has been disseminating these guidelines through briefing sessions. It will continue to work towards the appropriate handling of personal information by local governments in the field of disaster management.

(3) Building a Disaster Relief Cloud System

The Cabinet Office developed the “Disaster Relief Cloud System” from FY 2021 to FY 2022 to support municipalities in the formulation of individual evacuation plans in normal times, as well as in preparing disaster victim registers based on Resident Registration data and allowing affected people to apply for a Disaster Affected Certificate and other government documents online and receive them at convenience stores by using their My Number Card in times of disaster. The system began operating in FY 2022 after local governments were invited to participate in the Japan Agency for Local Authority Information Systems (J-LIS).

Fig. 2-6-2 Overview of Cloud-Based Disaster Victim Support System



Source: Cabinet Office data

2-7 Holding Meetings for Immediate Natural Disaster Response and Coordination Team

In order for the government to carry out rapid and smooth initial response and emergency measures immediately after a large-scale disaster strikes, it is crucial for disaster management officials, including the Deputy Chief Cabinet Secretary for Crisis Management, to establish “face-to-face working relationships” during normal times, and to ensure appropriate role- sharing and mutual collaboration and cooperation.

To facilitate the exchange and sharing of information among related parties, the “Meetings of Immediate Natural Disaster Response and Coordination Team” have been held regularly. Additionally, when large-scale disasters such as the Heavy Rain Event of July 2018 and Typhoon Hagibis in 2019 occurred, the government established a cross-ministerial team to support the daily lives of affected people under the supervision of the Deputy Chief Cabinet Secretary (Administrative Affairs) to provide more comprehensive, prompt, and robust livelihood support to affected people. Through this team, the government has made it possible to quickly restore power and water services at an early phase, assess the needs of the affected people, and anticipate and address necessary measures like providing push-mode support, including water, food, cardboard beds, and partitions, improving the living environment in evacuation centers, dispatching personnel to affected municipalities, and securing housing. Working as one, relevant ministries and agencies put together a package of measures for rebuilding lives and livelihoods in the affected areas.

Based on these experiences, since FY 2020, the Basic Disaster Management Plan has clearly stipulated and institutionalized the establishment of a “team to support the lives and livelihood restoration of the affected” to provide prompt and smooth support for rebuilding the lives and livelihood of affected people in the event of a future large-scale disaster.

In response to the 2024 Noto Peninsula Earthquake, following the establishment of the Disaster Management Headquarters for the 2024 Noto Peninsula Earthquake on January 1, a team to support the lives and livelihood restoration of the affected was set up on January 2 to formulate measures for rebuilding lives and livelihoods in the affected areas.

2-8 Promotion of Development of Ships Utilization Medical Care Provision System in Times of Disaster, etc.

Regarding hospital ships (defined as vessels whose primary function is to provide medical services on-board in times of disaster, etc.), the government has long since conducted research, studies and demonstration drills utilizing existing ships.

In 2021, the Act on Promotion of Development of Ships Utilization Medical Care Provision System in Times of Disaster, etc. (Act No. 79 of 2021) was passed through legislation introduced by a Diet member. In July 2022, the government established the Preparatory Office for the Establishment of the Headquarters for Promotion of Medical Services Utilizing Vessels in the Cabinet Secretariat. In FY 2023, it conducted cross-ministerial liaison meetings, demonstration drills using private vessels and medical modules capable of conducting medical activities in times of disaster, and coordinated with relevant ministries and medical organizations to conduct disaster medical drills utilizing SDF vessels, simulating a trench-type earthquake in the vicinity of the Japan and Chishima Trenches, thereby advancing preparations for the Act’s enforcement as a unified government-wide effort.

The Act aims to promote the development of a medical care delivery system utilizing ships in preparation for disasters, etc., and came into effect on June 1, 2024. The Act establishes basic policies including coordination with land-based medical services, acquisition of ships to be used primarily for providing medical care in times of disaster, and securing of personnel. It also mandates the establishment of a Headquarters for the Promotion of Medical Services Utilizing Vessels in the Cabinet. Based on these basic policies, the government is to implement any necessary legislative and fiscal measures and formulate a plan to promote development.

The government will engage with medical organizations and other stakeholders while continuing to work towards the development of the medical care delivery system utilizing ships in times of disaster, etc.

2-9 Disaster Prevention and Mitigation Measures Based on Climate Change Risks

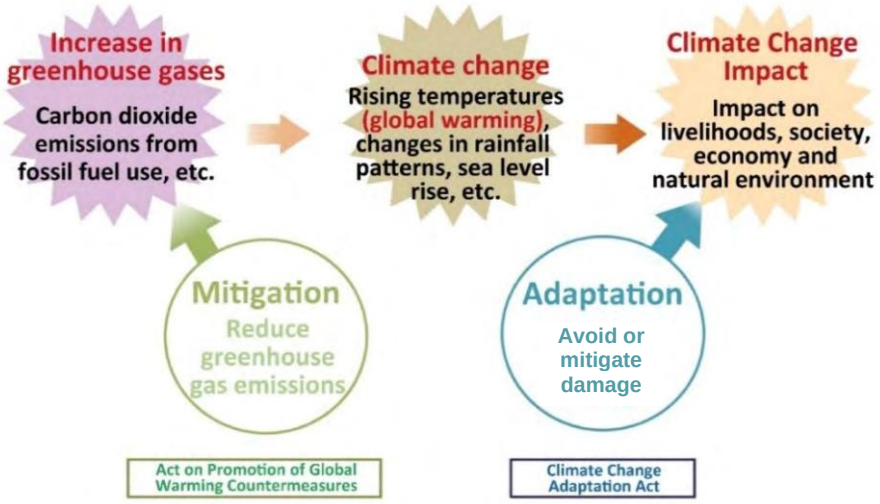
(1) Mitigation and Adaptation Measures are Inseparable for Climate Change Adaptation

Rising average temperatures and more frequent heavy rainfall in recent years clearly demonstrate climate change and its impacts around the world, leading to what is termed a "climate crisis" that threatens the foundations of human survival and the survival of all other living things. Although it is not easy to establish direct causal links between each of these weather events and global warming, projections indicate that continued global warming will increase the risks of extreme heat and heavy rainfall.

Japan has set an ambitious target aligned with its 2050 net-zero goal to achieve a 46% reduction in greenhouse gas emissions in FY 2030 from levels seen in FY 2013 and will continue strenuous efforts in its

challenge to meet its goal of cutting emissions by 50%.However, even if we steadily promote climate change measures toward achieving the 2050 net-zero targets and limit the temperature increase to approximately 1.5°C, projections indicate increased risks of extreme heat events and heavy rainfall. Therefore, adaptation measures are essential to prevent or reduce current and projected damage (Fig. 2-9-1).

Fig. 2-9-1 Relationship between Adaptation and Mitigation



Source: Ministry of the Environment documents

(2) Promotion of Climate Change Adaptation Plan

The "Climate Change Adaptation Act" (Act No. 50 of 2018, hereinafter referred to as the "Adaptation Act") was promulgated on June 13, 2018, to establish the legal framework for climate change adaptation and promote it more robustly. The act came into effect on December 1 of the same year. In November 2018, prior to the enforcement of the Adaptation Act, the "Climate Change Adaptation Plan" (hereinafter referred to as the "Adaptation Plan") was formulated in accordance with the Act's provisions.

In December 2020, the government published the "Assessment Report on Climate Change Impacts in Japan", incorporating the latest scientific findings on climate change monitoring, impact assessment, and projections across various sectors. Based on this report, the adaptation plan was revised in October 2021. In April 2023, the Adaptation Act was amended to promote a government-wide approach to heatstroke measures. In May, the Cabinet approved the formulation of the "Action Plan for Heatstroke Prevention" and some amendments to the Adaptation Plan (addition of basic provisions of the "Action Plan for Heatstroke Prevention").

Additionally, the "Climate Change Adaptation Promotion Council," comprising relevant government ministries and agencies, verified a method for monitoring the short-term progress of measures based on the Adaptation Plan. Based on this method, the Council identified the status of implementation of sector-specific and infrastructure-specific measures using Key Performance Indicators (KPIs, which are key indicators designed to monitor the short-term progress of measures contributing to the government's adaptation efforts by quantitatively measuring the achievement of adaptation objectives). It published them in October 2023 as a follow-up report to the Adaptation Plan.

(Reference： http://www.env.go.jp/earth/tekiou.html)

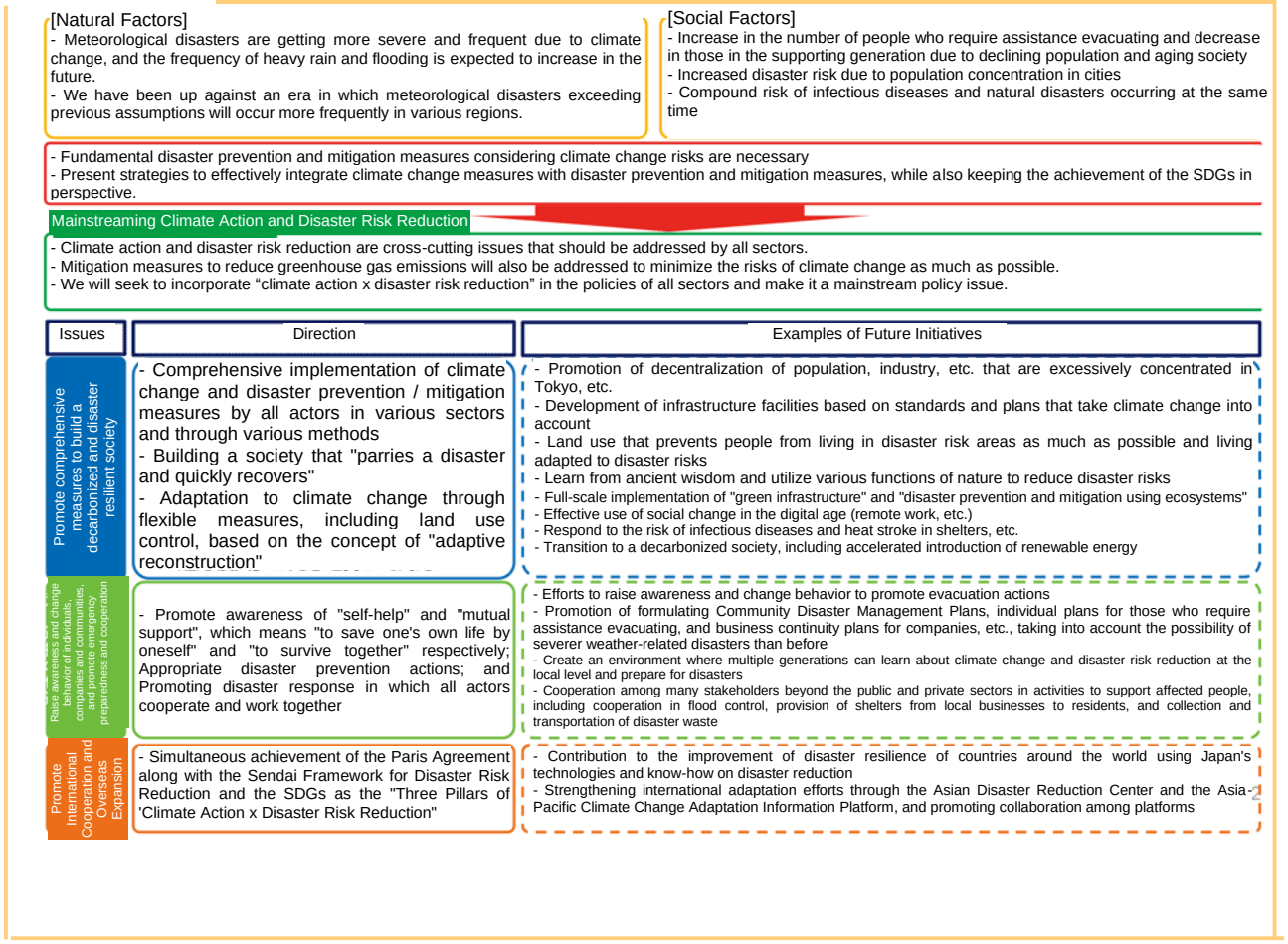
(3) "Strategy for Enhancing the Synergy between Climate Action and Disaster Risk Reduction" and "Adaptive Recovery" Initiatives

In June 2020, the Ministry of the Environment (MOE) and the Cabinet Office published the "Strategy for Enhancing the Synergy between Climate Action and Disaster Risk Reduction in the Era of Climate Crisis", which effectively coordinates climate change measures with disaster management and mitigation measures (Fig. 2-9-2).

MOE has incorporated "Strategy for Enhancing the Synergy between Climate Action and Disaster Risk Reduction" into policies across various fields to comprehensively take climate change measures and disaster management and mitigation measures. This concept was included in the October 2021 revision of the Adaptation Plan to promote it as the government's mainstream policy. In March 2024, the Ministry published a manual for local governments titled "Starting from Feasible Steps: A Practical Manual for "Strategy for

Enhancing the Synergy between Climate Action and Disaster Risk Reduction" —For Disaster Management and Mitigation Measures Based on Regional Climate Change Risks," which promotes "Adaptive Recovery," an approach that encourages adaptation to climate change by controlling land use beyond mere restoration to the original form. (Reference: https://www.env.go.jp/earth/earth/tekiou/page_01311.html)

Fig. 2-9-2 Outline of "Strategy for Enhancing the Synergy between Climate Action and Disaster Risk Reduction in the Era of Climate Crisis"

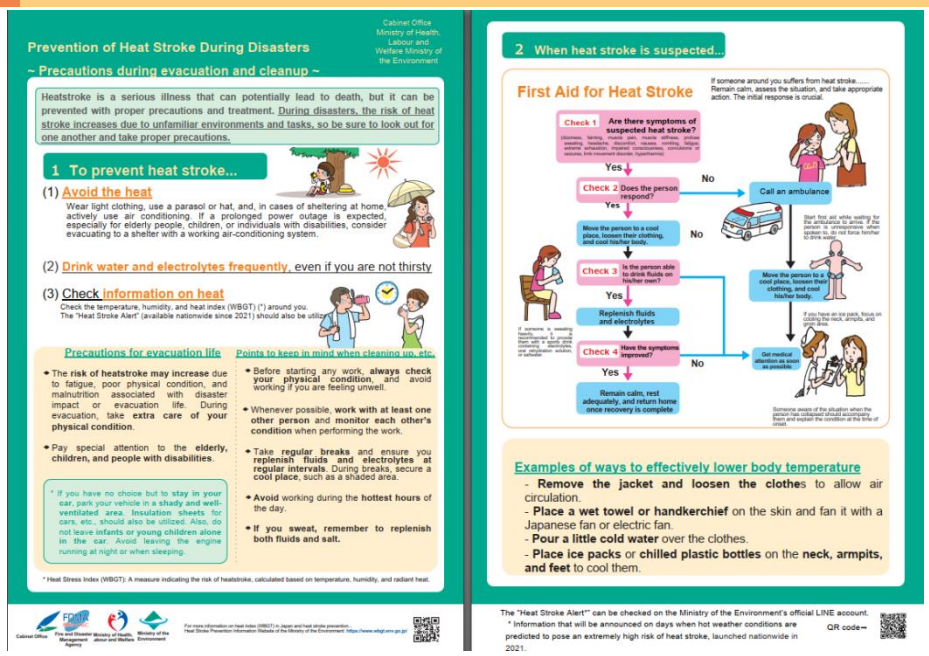


Source: Cabinet Office, Ministry of the Environment documents
(https://www.bousai.go.jp/pdf/0630_kikohendo.pdf)

(4) Heat Illness Prevention in Evacuation Life and Cleanup Operations during Disasters

Natural disasters occurring during summer months may increase the risk of heat illness during evacuation life and cleanup operations due to infrastructure failures and shortage of relief supplies in the immediate aftermath. Therefore, in March 2021, MOE, the Cabinet Office, the Fire and Disaster Management Agency (FDMA), the Ministry of Health, Labour and Welfare (MHLW), and the Japan Meteorological Agency (JMA) collaborated and published a leaflet on heat illness prevention measures in evacuation life and cleanup operations during disasters (revised in May 2023). In FY 2023, they also conducted awareness-raising campaigns targeting local governments in July before the onset of summer (**Fig. 2-9-3**).

Fig. 2-9-3 Leaflet for Heat Illness Prevention during Disasters



Source: Ministry of Environment website
(https://www.wbgt.env.go.jp/pdf/pr/20230530_leaflet_in_disasters.pdf)

Section 3 Measures against Each Anticipated Type of Disaster

3-1 Measures against Earthquakes and Tsunamis

(1) Reviewing Measures against a Nankai Trough Megaquake

With respect to disaster management measures in the event of a megaquake along the Nankai Trough, the national government, local governments, and private business operators have been collaborating to actively advance measures based on the Basic Plan for the Promotion of Nankai Trough Earthquake Disaster Management Countermeasures developed in March 2014 (hereinafter referred to as the "Basic Plan" in this section). With March 2024 marking 10 years since the creation of the Basic Plan, a review of this Basic Plan has been initiated.

In February 2023, the Cabinet Office established the “Study Group on Nankai Trough Megaquake Model and Damage Estimation Method”, composed of experts in seismology and earthquake engineering. The study group proceeded with technical discussions on tsunami height, seismic intensity distribution, and methods of calculating damage estimation based on the latest scientific knowledge.

(Reference: https://www.bousai.go.jp/jishin/nankai/kento_wg/index.html)

Further, in March 2023, the Cabinet Office established the "Working Group on Nankai Trough Megaquake Disaster Management" under the Disaster Management Implementation Committee of the National Disaster Management Council in order to check the progress of disaster management measures set forth in the Basic Plan and summarize issues, as well as to review damage estimation reflecting the progress of disaster management measures using the new calculation method examined by the "Study Group on Nankai Trough Megaquake Model and Damage Estimation Method". The Cabinet Office will also study new measures to be promoted in the future.

(Reference: https://www.bousai.go.jp/jishin/nankai/taisaku_wg_02/index.html)

(2) Study on Measures against a Tokyo Inland Earthquake

Regarding disaster management measures for a Tokyo Inland Earthquake, the national and local governments and private business operators have been collaborating to advance measures based on the Basic Plan for the Promotion of Tokyo Inland Earthquake Emergency Measures (hereinafter referred to as the "Basic Plan" in this section) created in March 2014 and revised in March 2015 (establishing disaster mitigation targets and specific policy targets for 10 years from 2015). As March 2025 will mark 10 years since the disaster mitigation goals were set in the Basic Plan, a review of the Basic Plan has been initiated.

In December 2023, the Cabinet Office established the “Working Group on Tokyo Inland Earthquake Disaster Management” under the Disaster Management Implementation Committee of the National Disaster Management Council to check the progress of disaster management measures set forth in the Basic Plan and summarize issues, as well as to review the new calculation method regarding tsunami height, seismic intensity distribution and damage estimation, which are separately studied by the "Study Group on Tokyo Inland Earthquake Model and Damage Estimation Method". The Cabinet Office will also study new measures to be promoted in the future.

(Reference: https://www.bousai.go.jp/jishin/syuto/taisaku_wg_02/index.html)

In addition, the Cabinet Office has established guidelines (in March 2015) regarding measures to be taken for stranded persons due to a large-scale earthquake, and efforts are being made to implement these measures based on the principle of restricting people from returning home at once for three days. On the other hand, in response to recent changes in social conditions etc., and based on the "Future Response Policies for Stranded Persons" compiled by a committee of experts (in August 2022), the Cabinet Office has been considering specific measures to ensure the effectiveness of the Measures for Stranded Persons due to a Tokyo Inland Earthquake.

(Reference: https://www.bousai.go.jp/jishin/syuto/kitaku/kento_index.html)

(3) Study on Measures against a Megaquake in the Vicinity of the Japan and Chishima Trenches

With respect to disaster management measures in the event of a megaquake along the Japan and Chishima Trenches, a “Working Group for Studying Megaquake Countermeasures in the Vicinity of the Japan and Chishima Trenches” was established in April 2020. In December 2021, this working group compiled the results of the estimated human life, material, and economic damages resulting from a maximum-class earthquake and tsunami. In March 2022, the working group compiled disaster management measures based on these estimated damages. After receiving this report from the working group, in addition to designating areas for the promotion of disaster management for trench-type earthquakes in the vicinity of the Japan and Chishima Trenches under the “Act on Special Measures for Promotion of Earthquake in the Vicinity of the Japan and Chishima Trenches” (Act No. 27 of 2004), the “Basic Plan for Promotion of Disaster Management for Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches” (hereinafter referred to as the “Basic Plan” in this section) was amended in September 2022.

There have also been confirmed cases of earthquakes (subsequent earthquakes) of a large magnitude that occur following an earthquake with a moment magnitude of 7.0 or more along the Japan and Chishima Trenches. To prepare for these subsequent earthquakes, the “Guidelines for the Response to an Off the Coast of Hokkaido and Sanriku Subsequent Earthquake Advisory” was published in November 2022, and the "Off the Coast of Hokkaido and Sanriku Subsequent Earthquake Advisory" began operating in December 2022.

In preparation for an actual disaster, the national government created the “Plan for Concrete Emergency Response Activities for Trench-Type Earthquakes in the Vicinity of the Japan and Chishima Trenches” in May 2023, which clarified the bases of operation for police, fire departments, and Self-Defense Forces rescue teams in advance, and also specified a time-line for prompt rescue operations that takes into account the challenges and geographical conditions unique to snowy and cold regions.

In the future, the Cabinet Office will continue to work on disaster management measures aimed at achieving the disaster mitigation goals set forth in the Basic Plan. It will also promote and raise awareness of appropriate disaster management actions based on the nature and content of the Off the Coast of Hokkaido and Sanriku Subsequent Earthquake Advisory. The Cabinet Office will also continue to promote measures against trench-type earthquakes in the vicinity of the Japan and Chishima Trenches in cooperation with relevant local governments and others.

(Reference: https://www.bousai.go.jp/jishin/nihonkaiko_chishima/WG/index.html)

(4) Study on Measures Against an Inland Earthquake in the Chubu and Kinki Regions

In the past, there have been cases in which earthquakes on active faults have caused severe damage in Western Japan, and there have been cases of increased fault activity before and after the Nankai Trough earthquakes. If a large-scale earthquake were to occur in the Chubu and Kinki regions, where urban areas are spread across prefectures, the damage is expected to be enormous and widespread.

Regarding such earthquakes that may occur directly beneath the Chubu and Kinki regions, the National Disaster Management Council reviewed and compiled the damage estimation and disaster management measures from 2004 to 2008. However, these measures must be reviewed in light of the lessons learned from the Great East Japan Earthquake of 2011 and the latest scientific findings.

For this reason, in November 2022, the Cabinet Office established the "Chubu and Kinki Regions’ Inland Earthquake Model Study Group," composed of experts in seismology and earthquake engineering. The group is currently reviewing conventional earthquake models for the Chubu and Kinki regions based on the latest scientific knowledge. It is considering the creation of new earthquake models that will take all possibilities into account.

This study group will estimate the expected seismic intensity distribution in the event of an inland earthquake in the Chubu and Kinki regions and then consider the damage estimation and disaster management measures.
(Reference: https://www.bousai.go.jp/jishin/chubu_kinki/kentokai/index.html)

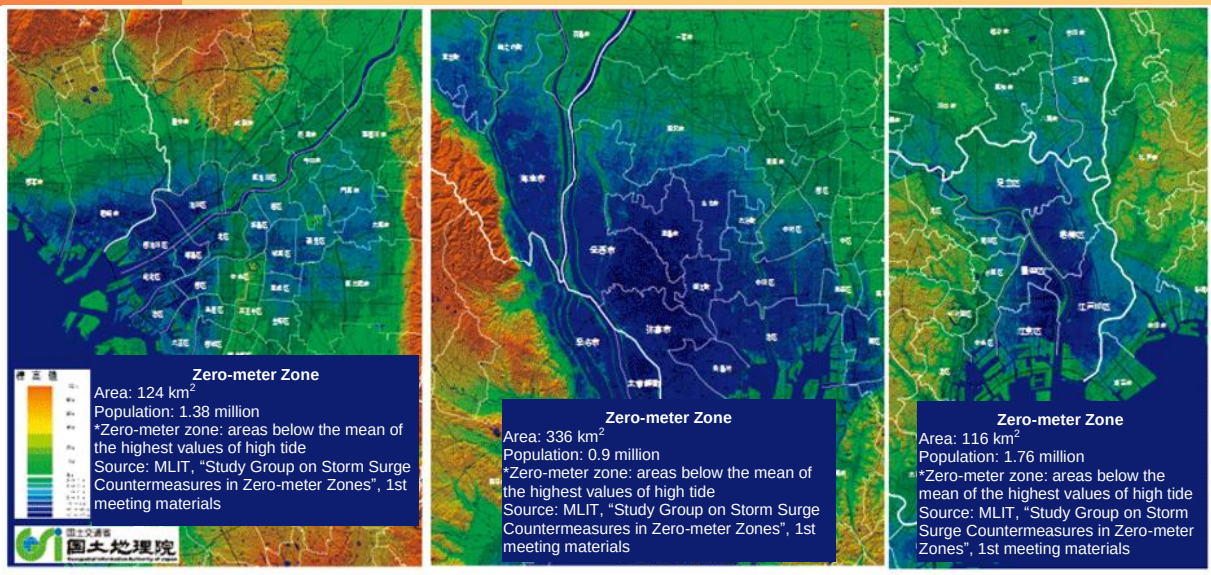
3-2 Measures against Wind and Flood Damage and Sediment Disasters (Landslide Disasters)

(1) Consideration of Large-scale and Wide-area Evacuation due to Flood and Storm Surge Flooding in the Tokyo Metropolitan Area and Other Big Cities

With global warming, there are concerns that the proportion of intense tropical cyclones will increase, and it is predicted that large-scale flooding requiring large-scale and wide-area evacuation will occur in the future. In addition, there are extensive “zero-meter zones” in the three major metropolitan areas in Japan. In the event of a large-scale flood caused by a levee breach or similar disaster, significant congestion is expected due to the evacuation of a large number of residents, as well as numerous isolated people due to delayed escape (Fig. 3-2-1).

Based on this, the “Working Group on Large-Scale and Wide-Area Evacuation from Floods and Storm Surge Flooding”, established in June 2016 under the Disaster Management Implementation Committee of the National Disaster Management Council, examined how large-scale and wide-area evacuation from floods and storm surge flooding should be implemented in the three major metropolitan areas. In March 2018, a report titled “Fundamental Thought Process on Large-Scale and Wide-Area Evacuation from Floods and Storm Surge Flooding (Report)” was compiled.
(Reference: https://www.bousai.go.jp/fusuigai/kozuiworking/)

Fig. 3-2-1 Zero-meter Zones in the Three Major Metropolitan Areas



Source: Created by the Cabinet Office from the Geospatial Information Authority of Japan website

Based on this report, the Cabinet Office established the "Study Group on Extensive Evacuation from Large-Scale Flood Disasters in Urban Areas" in collaboration with the Tokyo Metropolitan Government in June 2018 to clarify the issues that should be addressed by government agencies and other relevant organizations working together in order to implement large-scale wide-area evacuations in the event of a large-scale flood, and also to consider cooperation and role-sharing among relevant organizations. The study group was held seven times by FY 2021, and in March 2022, the “Guidelines to Support the Planning of Wide-Area Evacuation (Report)” was created.
(Reference: https://www.bousai.go.jp/fusuigai/suigaiworking/suigaiworking.html)

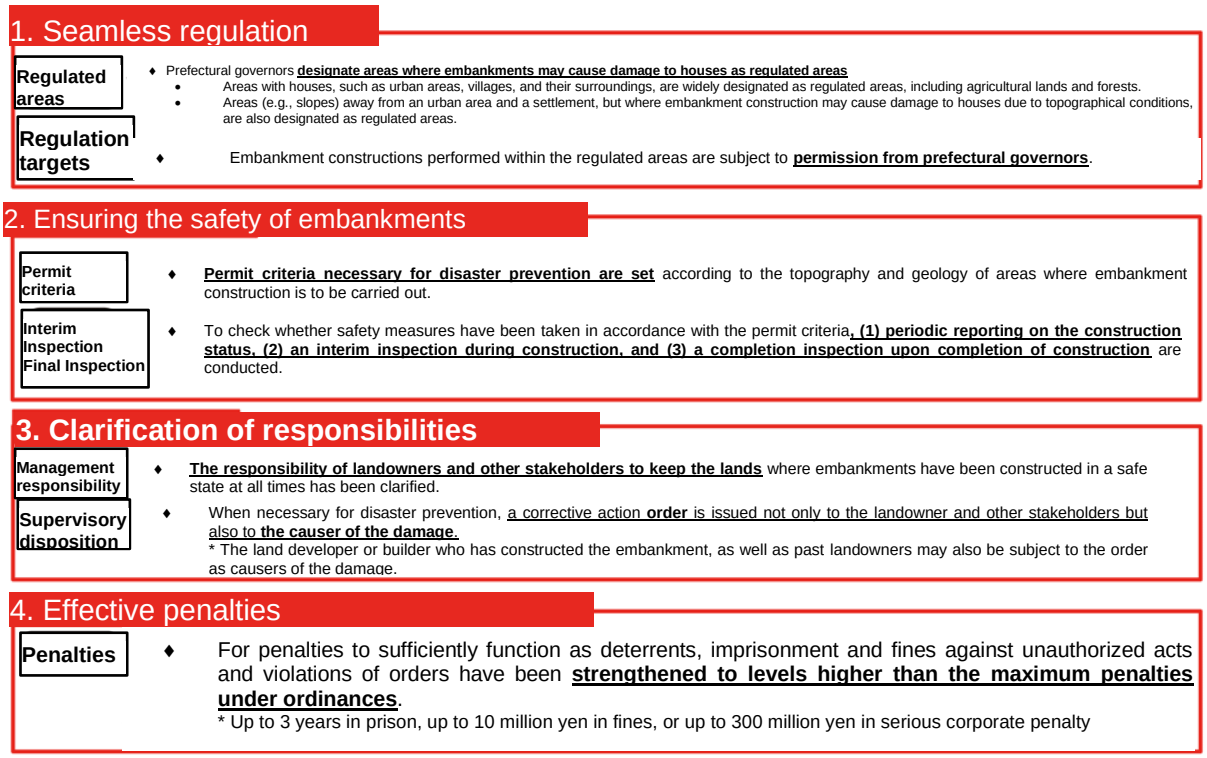
In June 2022, the Cabinet Office and the Tokyo Metropolitan Government established the “Study Group on Specific Measures for Wide-area Evacuation in the Tokyo Metropolitan Area” to facilitate wide-area evacuation in the event of large-scale flooding in the metropolitan area. This group aims to deepen the relationships between relevant organizations during normal times and to concretize further efforts based on the guidelines.

(Reference: https://www.bousai.go.jp/fusuigai/suigaiworking/kouikihinan.html)

(2) Promotion of Measures to Ensure the Safety of Embankments

In light of the collapse of an embankment due to heavy rainfall in Atami City, Shizuoka Prefecture, in July 2021, which caused a large-scale debris flow disaster, and due to the fact that there are areas where regulations under various land use laws are not necessarily sufficient, the "Act on Regulation of Residential Land Development" (Act No. 191 of 1961) was fundamentally revised, including its name and purpose. Additionally, the "Act on the Regulation of Residential Land Development and Specific Embankments" (hereinafter referred to as the “Embankment Regulation Act”) was enforced on May 26, 2023, to regulate dangerous embankments under a uniform nationwide standard comprehensively, irrespective of the land use (residential land, agricultural land, forest, etc.). The outline of the Embankment Regulation Act is as follows (Fig. 3-2-2).

Fig. 3-2-2 Overview of the Embankment Regulation Act

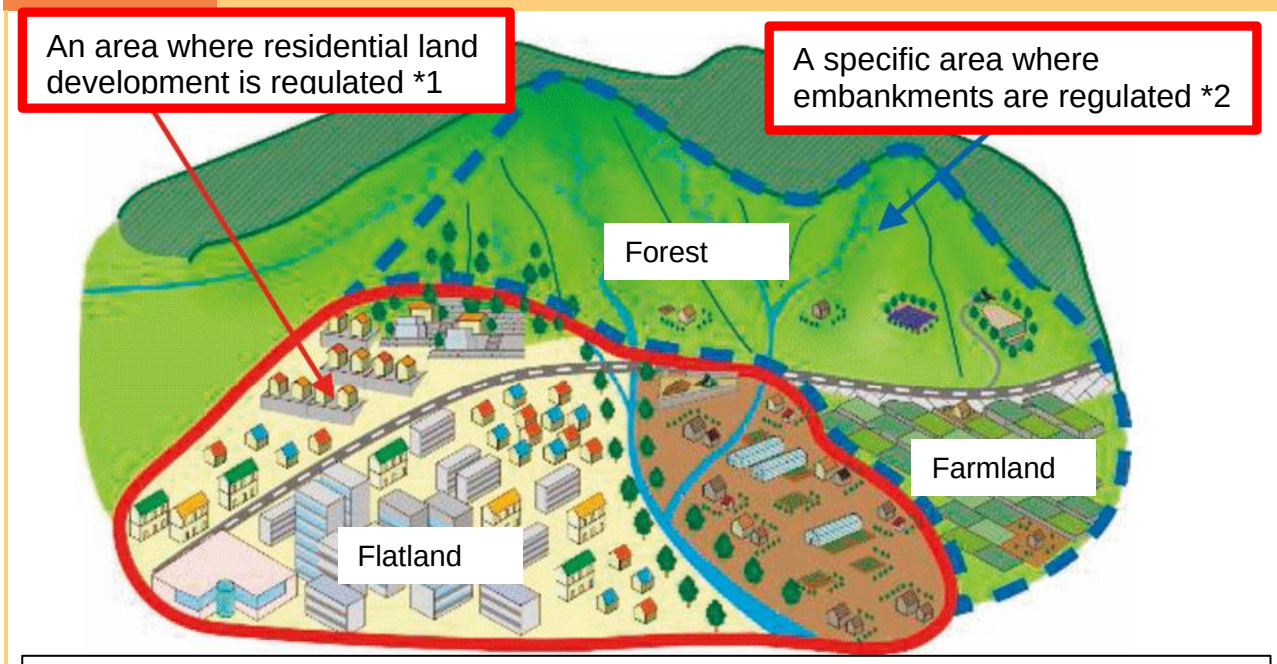


Source: Ministry of Land, Infrastructure, Transport and Tourism documents

In June 2022, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and the Ministry of Agriculture, Forestry and Fisheries (MAFF) established the “Study Group on Embankment Disaster Management” to examine the safety standards for embankments and similar structures. Based on the opinions of experts from this group, the “Guidelines for the Implementation of Basic Surveys”, “Guidelines for the Promotion of Safety Measures for Embankments”, “Guidelines for Dealing with Illegal or Dangerous Embankments”, and the “Embankment Disaster Management Manual” were developed.

To ensure that the regulations under the Embankment Regulation Act are implemented swiftly and effectively, the Cabinet Office will continue to promote measures to ensure the safety of embankments by supporting prefectures in the implementation of basic surveys for designating regulated areas and supporting initiatives against dangerous embankments such as safety assessments and measures for dangerous embankments.

Fig. 3-2-3 Image of the Regulated Area



*1. An area where residential land development is regulated: an area such as an urban area and village where houses are clustered together and embankment construction may cause damage to the houses
*2. A specific area where embankments are regulated: an area away from an urban area and a settlement, but where embankment construction may cause damage to houses due to topographical conditions

Source: Ministry of Land, Infrastructure, Transport and Tourism documents

3-3 Measures against Volcanic Disasters

As described in Chapter 2, Special Feature 1, “Volcano Disaster Management Measures in Japan”, the Act on Special Measures for Active Volcanoes (Act No. 61 of 1973), which was revised in 2015 in light of the lessons learned from Mount Ontake eruption disaster (September 2014), requires that local governments designated as volcanic disaster hazard zones (23 prefectures and 179 municipalities) incorporate specific and detailed measures concerning the development of alert and evacuation systems into their local disaster management plans. These measures will be developed based on the “unified evacuation plan for each volcano,” as deliberated by the “Volcanic Disaster Management Council,” which comprises stakeholders in volcanic areas. The Act also requires the owners of municipality-designated facilities that attract visitors or facilities used by people requiring special care (evacuation promotion facilities) to create an “Ensuring Evacuation Operation Plan” and conduct training based on the plan to ensure the smooth evacuation of facility users. Additionally, further strengthening of measures for active volcanoes was carried out through amendments to the Act made in 2023 (to be enforced in April 2024) from a preventive perspective before a volcanic disaster occurs. As a result, with the guidance of the “Volcanic Disaster Management Council”, the provisions of the Act have been strengthened to enable municipalities to provide information, advice, and other assistance necessary to create evacuation operation plans. In addition, August 26, the date of establishment of Japan’s first volcanic observatory at Mount Asama and when observations began, has been designated as “Volcanic Disaster Preparedness Awareness Day”, with the addition of a new provision stipulating that events such as Volcano Disaster Prevention Drills be conducted on this day.

However, many local governments face challenges in creating evacuation plans since the number of personnel who have experienced a volcanic eruption is limited, and volcanoes differ in the scale of expected eruption and regional characteristics. To this end, the Cabinet Office has been creating a guidebook that summarizes specific procedures and key considerations for planning and collaborating with local governments in developing evacuation plans and ensuring evacuation operation plans. The Cabinet Office is also revising guides and creating a collection of case studies based on the knowledge and outcomes gained from collaborative discussions. Additionally, people with experience in leading roles in volcano disaster risk management at local governments are being dispatched as “volcano disaster risk management experts” to volcanic areas to promote volcano disaster risk management measures nationwide.

In FY 2022 and FY 2023, the Cabinet Office provided support for the planning and implementation of drills in model areas to encourage local governments to conduct volcano disaster management drills, as well as to review evacuation plans and local disaster management plans developed based thereon, intending to raise awareness of volcano disaster management among residents. In August 2023, the Cabinet Office compiled the knowledge and outcomes gained through collaborative discussions with local governments into the “Guide for Planning and Operating Volcano Disaster Management Drills at Local Governments” and the “Casebook on Volcano Disaster Management Drills.” In the future, the Cabinet Office is expected to promote initiatives such as volcano disaster management drills in each volcanic area, utilizing these materials while taking advantage of opportunities like “Volcanic Disaster Preparedness Awareness Day”.

Additionally, considering the impact of ash falls and the basic approach to ash fall countermeasures compiled by the “Working Group on Countermeasures for Wide-Area Ash Falls from Major Volcanic Eruptions” in 2020, the Cabinet Office is continuing its efforts to examine specific countermeasures in collaboration with relevant ministries, agencies and local governments.

3-4 Measures against Snow Disasters

Japan is an arc-shaped archipelago consisting of steep mountain ranges. During the winter, cold seasonal winds blow from Siberia, while warm ocean currents from the south flow into the Sea of Japan, resulting in heavy snowfall and snow accumulation on the Sea of Japan side. As a result, snow disasters, such as people falling off roofs during snow removal, avalanches, snowstorms, paralysis of urban functions and disruption of traffic due to snow accumulation, occur every year. When heavy snowfall was expected in FY 2023, the government took all precautions, such as holding Inter-Agency Disaster Alert Meetings. When heavy snowfall occurred, the government took unified emergency disaster response measures considering the damage.

Additionally, based on past snow disasters, the Cabinet Office created the “Guide on Snowfall for Municipalities” in January 2019 (revised in November 2023) to enable even municipalities with little experience of snow-related disasters to respond quickly and appropriately to heavy snowfall and continue to update the guide with the latest efforts, ensuring it is disseminated to local governments.

In heavy snowfall areas, comprehensive measures for heavy snowfall areas, including snow disaster prevention, are being implemented following the “Act on Special Measures concerning Countermeasures for Heavy Snowfall Areas” (Act No. 73 of 1962) and the Basic Plan for Heavy Snowfall Areas, formulated based on this Act. In FY 2023, MLIT provided Grants for Emergency Measures for Ensuring Safety in Heavy Snowfall Areas to support areas involved in the formulation of safe snow management policies that establish a future vision for safe regional development and local rules and measures to achieve that vision and to provide support to local governments that are implementing experimental measures aimed at ensuring safety during snow removal activities (including developing a system for mutual support for snow removal, holding safety seminars, promoting the use of safety anchors for fixed lifelines, and developing and introducing automated and labor-saving technologies for snow removal).

Section 4 International Cooperation for Disaster Risk Reduction

4-1 Cooperation for Disaster Risk Reduction through the United Nations and Other International Organizations

Japan has accumulated extensive experience and knowledge regarding disasters and disaster prevention measures. By sharing this knowledge, Japan is leading global discussions in disaster risk reduction and is contributing to strengthening disaster risk reduction efforts worldwide. Particularly, following the 3rd UN World Conference on Disaster Risk Reduction held in Sendai City, Miyagi Prefecture, in March 2015, countries around the world are expecting Japan to play a leading role in implementing the “Sendai Framework for Disaster Risk Reduction 2015-2030” (hereinafter referred to as the “Sendai Framework”), which was adopted at the conference. As a result, the Cabinet Office and the Ministry of Foreign Affairs are proactively promoting disaster prevention cooperation through international organizations such as the United Nations.

(1) Disaster prevention cooperation through the United Nations Office for Disaster Risk Reduction (UNDRR)

To promote the Sendai Framework, the Cabinet Office and the Ministry of Foreign Affairs have jointly contributed approximately 5.37 million USD (about 735 million yen) in FY 2023 to support the activities of the

United Nations Office for Disaster Risk Reduction (UNDRR), which is responsible for monitoring, coordinating, and assisting with the implementation of the framework across various regions and countries.

In FY 2023, which marks the midpoint of the Sendai Framework's implementation period, a mid-term review was conducted to assess the initiatives and achievements under the framework and to identify challenges for the second half of the implementation period. Each country, including Japan, reported on the progress of their efforts to the United Nations.

Based on the results of this review, the first UN high-level meeting on disaster risk reduction in eight years was held at UN Headquarters in May 2023. Japan was represented by the then Parliamentary Vice-Minister of Cabinet Office, Nakano, who announced Japan's initiatives to achieve the goals of the 2030 Sendai Framework. Additionally, a side event on the "investment in disaster risk reduction" theme was co-hosted by Japan, the G7 chair, and India, the G20 chair.

At the high-level meeting, a "Political Declaration" (an 11-page document of agreed statements by various countries) was adopted to accelerate progress in the second half of the period. The Political Declaration confirmed that initiatives would be further strengthened in the following areas: enhancing disaster risk analysis in light of climate change impacts, fostering collaboration between disaster management agencies and climate change departments, reinforcing measures to encourage investment in disaster risk reduction, including private sector investment, and sharing experiences on "Build Back Better" in response to the increasing number of disaster-affected areas.

High-level meeting for the mid-term review of the "Sendai Framework for Disaster Risk Reduction 2015-2030"

(2) International Recovery Platform (IRP)

The International Recovery Platform (IRP) was established in Kobe City, Hyogo Prefecture, in March 2005 following adopting the "Hyogo Framework for Action 2005-2015" at the 2nd UN World Conference on Disaster Risk Reduction held in Kobe. The IRP aims to enhance the network and framework to support smooth recovery, spread awareness of lessons learned from recovery efforts, develop common methods and systems for recovery, and provide advice and support for formulating recovery plans and strategies. The Sendai Framework calls for strengthening the IRP as one of the international mechanisms for promoting "Build Back Better". As co-chair of the Steering Committee, the Japanese government (Cabinet Office) is contributing to laying the foundation for its development while supporting IRP activities.

The "International Recovery Forum 2024" was held in Kobe on January 25, 2024, with 347 participants from 70 countries under the theme "Build Back Better: Increasing Climate Risks and Resilient Recovery." At the forum, discussions were held on the challenges of resilient recovery, preparations for recovery, and recovery initiatives in island nations. In addition, during the group sessions, Japan shared its experiences and lessons learned to promote "Build Back Better" worldwide.

International Recovery Forum

(3) Cooperation in Disaster Risk Reduction through Joint Activities with the Asian Disaster Reduction Center (ADRC)

The Asian Disaster Reduction Center (ADRC) was established in 1998 in Kobe City, Hyogo Prefecture, to share lessons learned from disasters with the Asian region. As of March 2024, 32 Asian countries are members. The ADRC leads the promotion of the Sendai Framework in Asia, focusing on three pillars: sharing disaster risk reduction information, developing human resources in member countries, and improving community disaster resilience. As part of its human resource development initiatives, the ARDC invites visiting researchers from member countries (132 visiting researchers in total since its beginning as of March 2024) to train human resources who can contribute to the planning and formulation of disaster risk management policies in their respective countries through research on disaster risk reduction policies. Additionally, the ADRC collects and provides information on each country's disaster management system and the latest disaster information on its website. It also promotes using satellite data to provide disaster information when disasters occur.

The Cabinet Office, in collaboration with the ADRC, hosts the "Asian Conference on Disaster Reduction (ACDR)". With the participation of member countries and international organizations, the conference facilitates information sharing, exchange of opinions, and promotion of cooperation on disaster prevention and risk reduction issues in Asia. The 19th conference was held on October 20, 2023, in Dushanbe, Tajikistan, under the theme "Effective Implementation of DRR Measures — Enabling Digital Transformation (DX) in DRR." The Representatives from member countries(18 out of the 31) at the time, along with international organizations, regional bodies, the private sector, and academic and research institutions, totaling 120 participants, attended the event on-site, while 111 participants from 7 member countries joined online. At the conference, the Minister of State for Disaster Management, Mr. Matsumura, delivered an opening message via video in which the progress and challenges faced in implementing the Sendai Framework were reviewed. Information was shared, and opinions were exchanged on advanced technologies to reduce risks from earthquakes and ground disasters, as well as on initiatives to address climate crises such as glacial lake outburst floods and the escalating threat of wildfires.

Asian Conference on Disaster Risk Reduction

4-2 Bilateral and Multilateral Disaster Risk Reduction Coordination

In addition to its initiatives through international organizations, the Cabinet Office is deepening cooperation with disaster prevention departments in governments worldwide, including by sharing experiences of disaster management policies through opportunities such as visits by ministers in charge of disaster prevention from overseas.

(1) Cooperation with ASEAN through the Japan-ASEAN Ministerial Meeting on Disaster Management

The “Japan-ASEAN Ministerial Meeting on Disaster Management” was launched in October 2021 by the Government of Japan (Cabinet Office) and the departments in charge of disaster management of the 10 ASEAN member states to strengthen further cooperation on disaster risk reduction between Japan and ASEAN.

On October 12, 2023, the 3rd Japan-ASEAN Ministerial Meeting on Disaster Management was held for the first time in a face-to-face format in Vietnam. Then State Minister of Cabinet Office, Mr. Horii, attended as co-chair and reviewed the progress of the “Japan-ASEAN Action Plan for Disaster Management” developed in 2022. Additionally, since 2023 marks the 50th anniversary of Japan-ASEAN friendship and cooperation and the 50th anniversary of Japan-Vietnam diplomatic relations, a commemorative ceremony was held to review the achievements of past disaster prevention cooperation. A public-private disaster prevention seminar to promote the expansion of Japan’s disaster-related companies into ASEAN was also conducted in collaboration with the Ministry of Land, Infrastructure, Transport and Tourism.

Japan-ASEAN Ministerial Meeting on Disaster Management and Commemorative Ceremony

(2) Cooperation between the Cabinet Office and the U.S. Federal Emergency Management Agency (FEMA)

Based on the memorandum of cooperation signed in December 2014, the U.S. Federal Emergency Management Agency (FEMA) and the Cabinet Office share information and exchange opinions through international conferences and video conferences.

(3) Cooperation between Japan and South Korea through the Japan-Korea Meetings on Disaster Management

Based on the “Action Plan for Japan-South Korea Joint Declaration: A New Japan-Korea Partnership towards the Twenty-first Century”, which was agreed upon at the Japan-Korea Summit in October 1998, the Japan-Korea Meetings on Disaster Management have been held annually since 1999, on rotating basis. Due to the impact of the COVID-19 pandemic, the event had been suspended since 2016, but after South Korea expressed its intention to resume the meetings, it was held on December 18, 2023. At the meeting, the two countries presented best practices in disaster management, and on the same day, they also visited the Central Disaster Safety Situation Room, which serves as the hub for disaster response in South Korea.


Japan-Korea Meeting on Disaster Management

(4) Activities of the Japan International Public-Private Association for Disaster Risk Reduction (JIPAD)

The “Japan International Public-Private Association for Disaster Risk Reduction (JIPAD)” was established in 2019 to promote the overseas deployment of disaster management technologies and expertise, Japan’s strengths, through public-private cooperation. As of March 2024, 209 companies and organizations are members of JIPAD.

JIPAD hosts the “Public-Private Disaster Management Seminar” to introduce Japan’s disaster risk management policies, technologies, and expertise comprehensively, build a public-private network and strengthen cooperation in disaster management.

In October 2023, the Japan-ASEAN Public-Private Disaster Management Seminar was held in Ha Long, Vietnam, in cooperation with MLIT as a side event for the aforementioned “Japan-ASEAN Ministerial Meeting on Disaster Management”. In the keynote speech at the seminar, the Director General of the Vietnam Department of Embankment Management and Disaster Prevention introduced the achievements of the Japan-Vietnam Disaster Management Collaboration Dialogue. During the panel discussion, representatives from MLIT, Japanese companies operating in Vietnam, local governments with which they do business, and representatives from ASEAN countries discussed public-private collaboration in disaster risk reduction. Five Japanese companies introduced their products and technologies at the reception that followed, which was attended by about 140 people from ASEAN member countries and companies.

Japan-ASEAN Public-Private Disaster Management Seminar

In addition, taking advantage of the opportunity presented by overseas disaster management administration executives and officials visiting Japan, a public-private disaster management seminar was held at the Cabinet Office. In July 2023, the Cabinet Office introduced Japan’s disaster prevention expertise and the contributions of Japanese companies, which are essential to disaster prevention in Japan, to representatives of disaster prevention-related organizations in Fiji who visited Japan for JICA training, and in November 2023, the Deputy Mayor of Almaty, Kazakhstan, who visited Japan to learn about earthquake countermeasures, and the Director General of the Philippine Civil Defense Office, who visited Japan for a JICA invitation program. JIPAD companies and organizations also gave presentations, after which they exchanged opinions with the participants.

Section 5 Measures to Promote National Resilience

5-1 Formulation of the Annual Plans for National Resilience

The government finalized the “Annual Plan for National Resilience 2023” (hereinafter referred to as “Annual Plan 2023” in this section) on July 28, 2023 (as decided by the National Resilience Promotion Headquarters). The Annual Plan 2023 is based on the new “Fundamental Plan for National Resilience” (hereinafter referred to as the “Fundamental Plan”) approved by the Cabinet on the same day and summarizes the key measures to be implemented in FY 2023 for each of the 35 policy groups. It is also designed to steadily promote these measures through the PDCA (Plan-Do-Check-Act) cycle and manage their progress using quantitative indicators. Additionally, the Annual Plan 2023 summarizes the progress of the “Five-year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience” (hereinafter referred to as the “Five-Year Acceleration Plan” in this section), which was formulated in December 2020, at the end of the second year (end of FY 2022). (Fig. 5-1-1).

FIG. 5-1-1 Overview of the Annual Plan for National Resilience 2023 (July 2023)

National Resilience Annual Plans 2023 Overview 1

国土強靱化 NATIONAL RESILIENCE

Based on the "Fundamental Plan for National Resilience", the annual plan outlines the main measures to be undertaken for each of the 35 policy groups during the fiscal year, manages progress using quantitative indicators, and ensures the steady promotion of measures through the PDCA cycle.

1. Key Points of National Resilience Efforts for FY 2023

(1) Direction of National Resilience Policies

Based on the Fundamental Plan, efforts will be advanced in the following areas: "Development and management of disaster prevention infrastructure to protect the lives and property of citizens", "Strengthening lifelines such as transportation, communication, and energy, which serve as the foundation for economic development", "Advancement of national resilience measures through the utilization of digital and other new technologies", "Strengthening public-private partnerships, including ensuring business continuity during disasters", and "Further strengthening disaster prevention capabilities at the regional level".

(2) Promotion of the Five-Year Acceleration Plan (2021 to 2025)

- Progress has been individually managed for 123 measures to achieve their respective medium- and long-term targets. Approximately 9.9 trillion yen was secured by FY2023, the third year of the plan.
- To facilitate the implementation of large-scale, multi-year projects, the flexible use of national treasury liabilities is being promoted.

(3) Promotion of regional resilience

- Regional plans have been developed in all prefectures and 1,724 municipalities (approximately 99% of the total) (as of April 2023).
- In future, we will improve and enhance the regional plans to make them more effective. This will be done, for example, by presenting "regional future visions" that should be common goals for all entities and by clarifying "what" measures will be taken by "whom," "by when" and "where" to achieve the visions.

2. Major policies of the Annual Plan for National Resilience 2023 (main examples)

- Promotion of river basin management measures in cooperation with all stakeholders, earthquake and tsunami resistance-enhancing measures for infrastructure facilities, aging countermeasures, and the promotion of automation and remote operation of water gates, etc.
- Elimination of missing links on high-standard highways and securing energy supply and communication infrastructure to ensure a disaster-resistant national highway network
- Utilization of digital and other new technologies, such as improving the accuracy of forecasts for stationary linear mesoscale convective system, utilizing drones during disasters, and sharing disaster information through the networking of information systems
- Strengthening public-private partnerships, including the enhancement of supply chain resilience, promotion of BCP formulation by private companies, and securing emergency power supplies at private facilities
- Strengthening disaster response efforts from gender-equality perspectives, strengthening regional disaster prevention capabilities, including disaster prevention measures to protect valuable regional cultural assets, etc.

National Resilience Annual Plans 2023 Overview 2

国土強靱化 NATIONAL RESILIENCE

3. Progress in management of Five-Year Acceleration Plan

- We had targeted an overall project size of approximately 15 trillion yen (including the use of fiscal investment and loans and projects by the private sector), and by FY2023, the third year of the project, we secured approximately 9.9 trillion yen.
- The progress of the 123 measures as of the completion of the first fiscal year (end of FY2022) is summarized as a list of progress statuses as follows:

Category	Estimated scale of projects (at the time of Cabinet decision)	Scale of projects (As of FY 2023)	Of which, government funds (As of FY 2023)
Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation and Building National Resilience	**Approx. 15 trillion yen**	**Approx. 9.9 trillion yen**	**Approx. 5.0 trillion yen**
1 Measures to cope with increasingly severe wind and flood damage and imminent large-scale earthquakes	Approx. 12.3 trillion yen	Approx. 8.0 trillion yen	Approx. 3.8 trillion yen
2 Aging countermeasures for a shift to preventive maintenance	Approx. 2.7 trillion yen	Approx. 1.7 trillion yen	Approx. 1.0 trillion yen
3 Promotion of digitization, etc., for efficient implementation of measures related to national resilience	Approx. 0.2 trillion yen	Approx. 0.2 trillion yen	Approx. 0.2 trillion yen

* Of the total project size of the five-year acceleration plans, which is approximately 15 trillion yen, the government expenditures are generally in the mid-7 trillion-yen range.

* Some of the totals do not add up due to rounding.

Source: National Resilience Promotion Office, Cabinet Secretariat website
(Reference: https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/pdf/kakuteigaiyou_r057028.pdf)

5-2 The National Resilience Related Budgets and Revision of Tax Systems Contributing to National Resilience

In the FY 2023 supplementary budget, approximately 1.5 trillion yen in national funds (including 0.3 trillion yen allocated for the National Resilience Emergency Response) was for accelerating and enhancing the Five-Year Acceleration Plan, which aims for a project scale of around 15 trillion yen over five years. Approximately 11.8 trillion yen in project scale has been secured so far (November 2023). In addition, approximately 0.4 trillion yen in national funds has been allocated as expenses to steadily promote initiatives for national resilience based on the Fundamental Plan. Additionally, in the initial budget for FY 2024, approximately 5.2 trillion yen in national funds was allocated for the national resilience budget.

Furthermore, to promote national resilience initiatives undertaken by private business operators through the tax system, the government has been working in collaboration with relevant ministries to enhance the tax system's contribution to national resilience further. Eight items, including two expansions, were compiled in the tax revisions for FY 2024 and made public.

5-3 Improving the Effectiveness of a Fundamental Plan for Regional Resilience

To make national resilience effective, it is essential that not only the national government but also local governments and private business operators, along with other stakeholders, make a concerted effort. The “Fundamental Plan for Regional Resilience” (hereinafter referred to as “Regional Plan” in this section) serves as the basic plan for promoting regional resilience. All 47 prefectures and nearly all municipalities have formulated it. To further enhance resilience efforts moving forward, it is important to incorporate lessons learned from past disasters, consider changes in socio-economic conditions, and ensure collaboration and cooperation with various local stakeholders, such as community residents and private business operators, from the planning stage. This approach will help enhance regional plans and make them more effective. In addition, the Fundamental Plan has positioned “further strengthening of regional disaster resilience” as one of the directions for developing national resilience policies, and the content of regional plans must be improved to serve as a guiding compass for promoting regional resilience.

In light of this, the government created the “Guidelines for Developing and Revising a Fundamental Plan for Regional Resilience (2nd Edition)” (October 2023), which outlines important points to consider when reviewing regional plans, and the “Collection of Unique Policies and Project Examples of Prefectural Governments Contributing to National Resilience” (November 2023). It provided these to local governments across the country. In addition, the government supported regional efforts to enhance resilience by holding briefing sessions by its officials and prioritizing projects for which the project site and implementation period are specifically stated in the regional plans for grants and subsidies administered by relevant government ministries and agencies.

5-4 Encouragement of Measures for National Resilience by Private Sectors, Promotion of Public Relations, and Raising Public Awareness

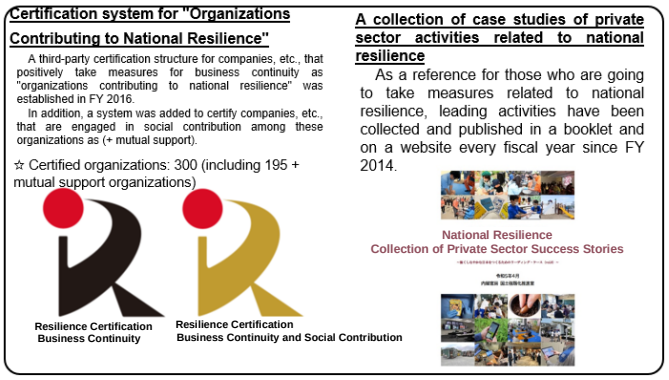
(1) Encouragement of measures for national resilience by private sectors

To promote efforts by private companies and other entities contributing to national resilience, the government has operated a system since FY 2016 in which a third party certifies companies and other entities actively working to continue their business as “Organizations Contributing to National Resilience.” During a large-scale natural disaster, maximizing mutual support throughout society is important, not just the self-help of individual companies. Therefore, in FY 2018, a system was added to certify companies and other entities actively working to contribute to society as “Organizations Contributing to National Resilience (+ Mutual Support).” As of the end of November 2023, 300 organizations (195 of which are “+ Mutual Support” organizations) have been certified.

In addition, concerning the pioneering initiatives by private companies and other entities in national resilience, the government is working to disseminate these initiatives by compiling a “Collection of Case Studies of Private Initiatives Contributing to National Resilience” every year and introducing them on its website and social media (Fig. 5-4-1).

Furthermore, to expand individual and local activities related to national resilience, “National Resilience Workshops” have been held for the general public, with a total of 5 such workshops held in FY 2023. In December 2023, a symposium was held in Miyazaki City, Miyazaki Prefecture, to promote and raise awareness of national resilience.

Fig. 5-4-1 Encouragement of measures for national resilience by private sectors



Source: National Resilience Promotion Office, Cabinet Secretariat website
(Reference: https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/torikumi_minkan.html)

(2) Promotion of Public Relations and Raising of Public Awareness for National Resilience

In promoting national resilience, the efforts of the national and local governments and all relevant stakeholders are essential. It is necessary to further increase understanding and awareness at all levels, including private companies, organizations, local communities, households, and individuals, regarding the need for disaster prevention and its effectiveness.

The new basic plan, formulated in July 2023, put forth the following basic policies: 1. Communicate in an easy-to-understand manner specific information on the philosophy and effects of national resilience; 2. Disseminate information from the recipient's perspective and use appropriate media; and 3. Promote independent and proactive efforts by related organizations and further strengthen cooperation among them. Based on these basic policies, the Cabinet Office and relevant government ministries and agencies will work together to proactively engage in public relations and awareness-raising activities for national resilience.

As part of this effort, a new national resilience poster was created and displayed nationwide at train stations, highway rest areas, shopping centers, and government office buildings. Additionally, they compiled and disseminated information about examples of national resilience initiatives that proved effective in times of disaster (**Figs. 5-4-2** and **5-4-3**). Various media, such as social media, banner ads, and radio programs, were utilized to communicate the message in an easy-to-understand manner to a wide range of people.

Fig. 5-4-2 National Resilience Poster

Source: National Resilience Promotion Office, Cabinet Secretariat website
(Reference: https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/kouhou.html)

Fig. 5-4-3 Good Practices in Effective Disaster Management, Disaster Mitigation, and National Resilience

Flood Damage Mitigation in the Yamato River System through Basin-Wide Flood Control Measures (Yamato River Basin (Nara City, Oji Town, Misato Town, Tawaramoto Town, etc.), Nara Prefecture)

Five-year Acceleration Plans | Three-year Emergency Measures | Examples of effectiveness during disasters | 国土強靭化 NATIONAL RESILIENCE

Summary of effects: In June 2023, during the heavy rains caused by the seasonal rain front, the Yamato River basin recorded rainfall comparable to the October 2017 flood. However, thanks to basin-wide flood control measures, such as river channel excavation, the development of flood control reservoirs, and stormwater storage facilities, the number of flooded houses significantly decreased.

Ministry name: Ministry of Land, Infrastructure, Transport and Tourism

■ Implementation entity:

- Yamato River Office, Kinki Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism

- Municipalities in the Yamato River Basin (Nara Pref. area)

■ Outline of measures: River channel excavation, construction of flood control reservoir and rainwater harvesting facilities, etc.

■ Project cost*: 48.5 billion yen (2018 to 2023)

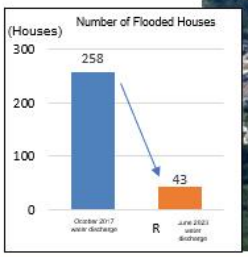
(including 8.5 billion yen for five-year acceleration measures (acceleration and deepening))

(Including 8.7 billion yen for three-year emergency measures)

* River projects under direct control and in Nara Prefecture (information provided by Nara Prefecture)

■ Others:

- In the October 2009 flooding, a 12-hour rainfall of 155 mm was recorded, and 258 houses were confirmed to be flooded.
- Due to flood control measures throughout the basin, the number of flooded houses decreased to 43, even though the June 2023 flood recorded the same amount of rainfall (140 mm in a 12-hour rainfall).



Status of river channel excavation

Status of storage facilities

Measures to Strengthen Road Network Functions by Eliminating Missing Links on High-Standard Roads and Converting Them to Four Lanes and by Creating a Double Network of High-Standard Roads and Directly Controlled National Highways (Miyazaki City - Nichinan City, Miyazaki Prefecture)

Five-year Acceleration Plans | Examples of effectiveness during disasters | 国土強靭化 NATIONAL RESILIENCE

Outline of Measures: To quickly recover and rebuild from increasingly severe and frequent disasters, it is necessary to strengthen the functionality of the road network. To ensure the functionality of the disaster-resistant national trunk road network, with the goal of securing passage for emergency vehicles within approximately one day and passage for general vehicles within approximately one week after a disaster, we will eliminate the missing link in high-standard roads, expand temporary two-lane sections to four lanes, and strengthen the double network of high-standard roads and directly controlled national highways that can function as alternatives.

Ministry name: Ministry of Land, Infrastructure, Transport and Tourism

Higashi-Kyushu Expressway, Kiyotake JCT to Kitago

■ Implementation entity

Miyazaki River and National Highway Office, Kyushu Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism

■ Project Overview

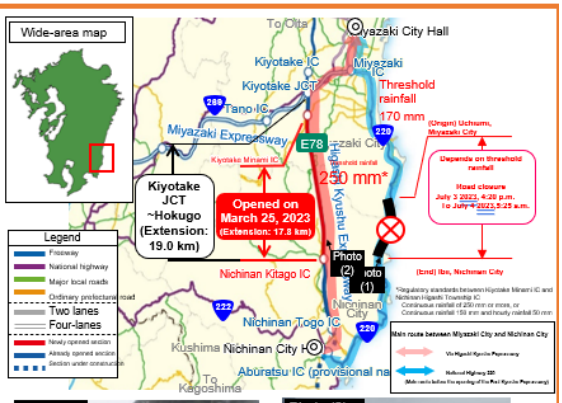
The East Kyushu Expressway between Kiyotake JCT and Nichinan-Hokugo IC (19.0 km long) forms part of the expressway network. It was developed for wide-area linkage in eastern Kyushu, efficient logistics, regional development, and the construction of a disaster-resistant road network.

■ Project cost： 162.2 billion yen

(including 8.5 billion yen for five-year acceleration measures (acceleration and deepening))

■ Effect

During the heavy rainfall in the rainy season of 2023, the Ibii area of Nichinan City recorded a continuous rainfall of 194 mm, exceeding the threshold standard, and National Route 220 was closed to all traffic for about 13 hours. **However, the East Kyushu Expressway section between Kiyotake Minami IC and Nichinan-Hokugo IC, which opened on March 25, 2023, served as a detour and effectively functioned as an alternative route.**



▲ Photo (1): Regulations on Route 220 (Ibii area) (July 3-4, 2023)

Source: National Resilience Promotion Office, Cabinet Secretariat website
(Reference: https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/kouhou/koukahakkijirei.html)

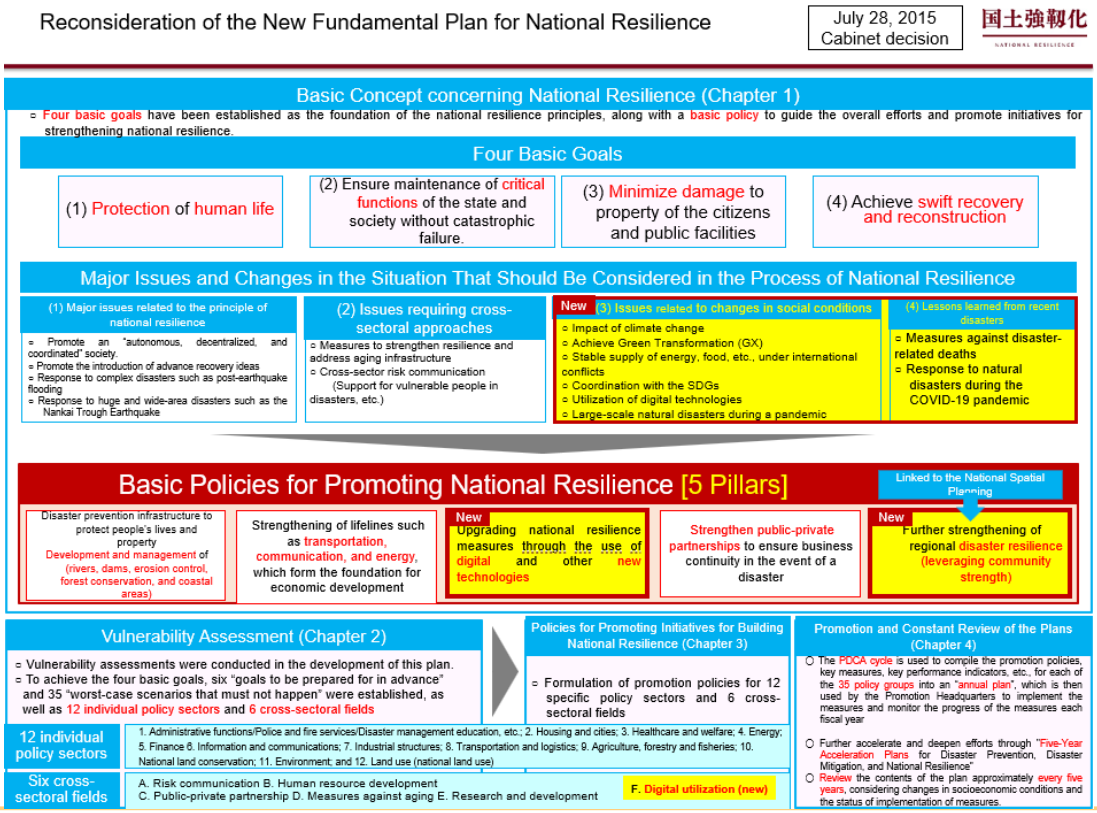
5-5 Reconsideration of the Fundamental Plan for National Resilience

The Fundamental Plan will be reviewed approximately every five years, considering changes in socio-economic conditions and the progress of national resilience initiatives. Following the revision in December 2018, the second revision was made in July 2023.

The new Fundamental Plan takes into consideration the lessons learned from natural disasters that occurred after the previous revision, such as Typhoon Hagibis in 2019, as well as changes in social conditions, such as the impact of climate change and the realization of Green Transformation (GX) as a measure to mitigate it, the stable supply of energy, food, etc. during international conflicts, and the occurrence of natural disasters during pandemics. The plan positions five principles to serve as the direction for developing national resilience policies, which are (1) development and management of disaster risk reduction infrastructure to protect human lives and property; (2) strengthening lifelines such as transportation, communications, and energy that form the foundation of economic development; (3) enhancing national resilience measures by utilizing new technologies such as digital technology; (4) strengthening public-private partnerships to ensure business continuity in times of disaster; and (5) further enhancing regional disaster resilience.

In addition to the ongoing efforts on “Development and management of disaster risk reduction infrastructure” and “strengthening of lifelines,” many new initiatives have been incorporated in the new Fundamental Plan, particularly regarding the “utilization of new technologies such as digital technology” and “enhancement of regional disaster resilience.” Notably, the section on “utilization of new technologies such as digital technology” emphasizes maximizing the potential of digital technologies to significantly improve productivity and convenience for local communities, improve the quality of industries and life, and strengthen national and regional disaster resilience (Fig. 5-5-1).

Fig. 5-5-1 Reconsideration of the New Fundamental Plan for National Resilience



Source: National Resilience Promotion Office, Cabinet Secretariat website
(Reference: https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/kihon.html)

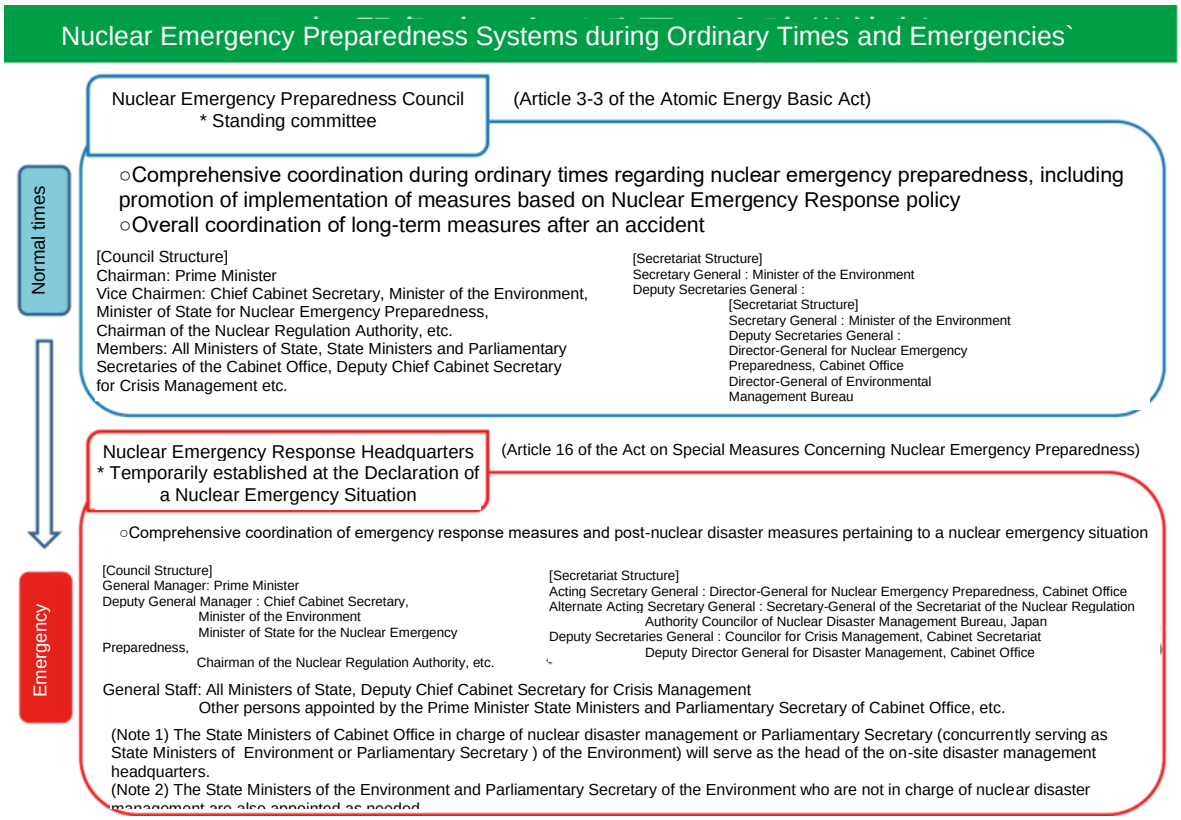
Chapter 2 Status of Countermeasures Against Nuclear Emergency

Section 1 Nuclear Emergency Preparedness Systems

1-1 Nuclear Emergency Preparedness System in Ordinary Times

As the potential damage in the event of a nuclear disaster is vast and widespread, the entire government must work in an integrated manner and promote nuclear disaster risk management measures. To this end, the “Nuclear Emergency Council” has been established in the Cabinet as an organ to promote nuclear disaster risk management throughout the government from ordinary times. The main role of the Council is to approve local emergency responses that have been confirmed to be concrete and rational in accordance with the NRA Guide for Emergency Preparedness and Response (NRA EPR Guide) by the Local Nuclear Disaster Management Council in each region, which is attended by the Cabinet Office, relevant ministries and agencies, and relevant local governments, etc. The Prime Minister is the chairman of the Nuclear Emergency Council, with vice-chairmen including the Chief Cabinet Secretary, the Minister of the Environment, the Minister of State for Nuclear Emergency Preparedness, and the Chairman of the Nuclear Regulation Authority, and members including all Ministers of State and the Deputy Chief Cabinet Secretary for Crisis Management, among others (Fig. 1-1-1).

Fig. 1-1-1 Nuclear emergency preparedness systems during ordinary times and emergencies.



Source: Cabinet Office data

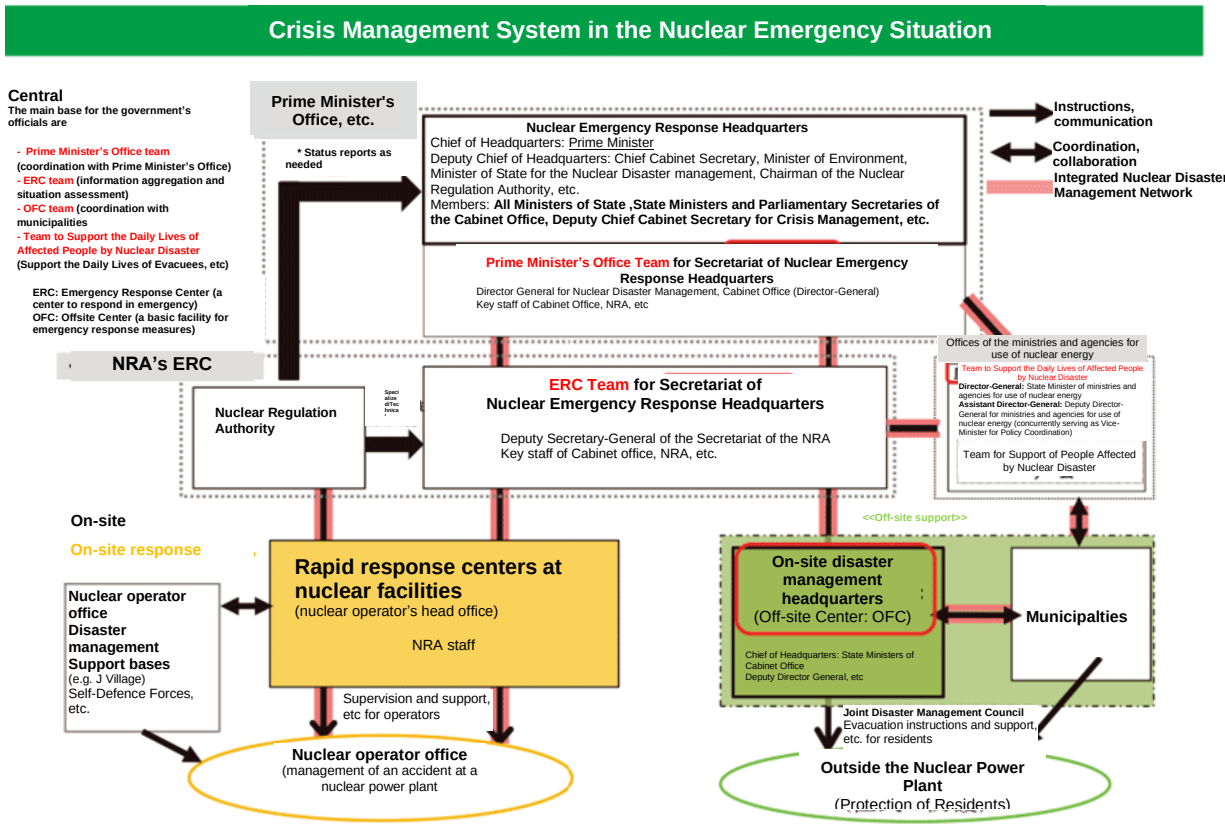
1-2 Nuclear Emergency Preparedness System in a Time of Emergency

The “Nuclear Emergency Response Headquarters” is established in the event of a nuclear emergency resulting from the release of a large amount of radioactive material, etc. The main role of the Headquarters is to assess the actual situation at the site of the nuclear emergency and the extent of the damage and to carry out comprehensive coordination among relevant national agencies and local governments, etc., in order to implement emergency response measures accurately and promptly, tailored to the situation. The head of the Headquarters is the Prime Minister, with the deputy heads including the Chief Cabinet Secretary, the Minister of the Environment, the Minister of State for Nuclear Emergency Preparedness, and the Chairman of the Nuclear Regulation Authority, and the members, including all Ministers of State and the Deputy Chief Cabinet Secretary for Crisis Management, among others (Fig. 1-1-1).

With regard to the division of roles within the Headquarters, the Nuclear Regulation Authority is primarily responsible for making decisions on technical and specialized matters, while the procurement of equipment necessary to support nuclear facilities and overall offsite support are handled by the relevant ministries and agencies under the direction of the head (the Prime Minister). The Director General for Nuclear Disaster Management, Cabinet Office, which was established on October 14, 2014, will be responsible for the Secretariat of the Headquarters.

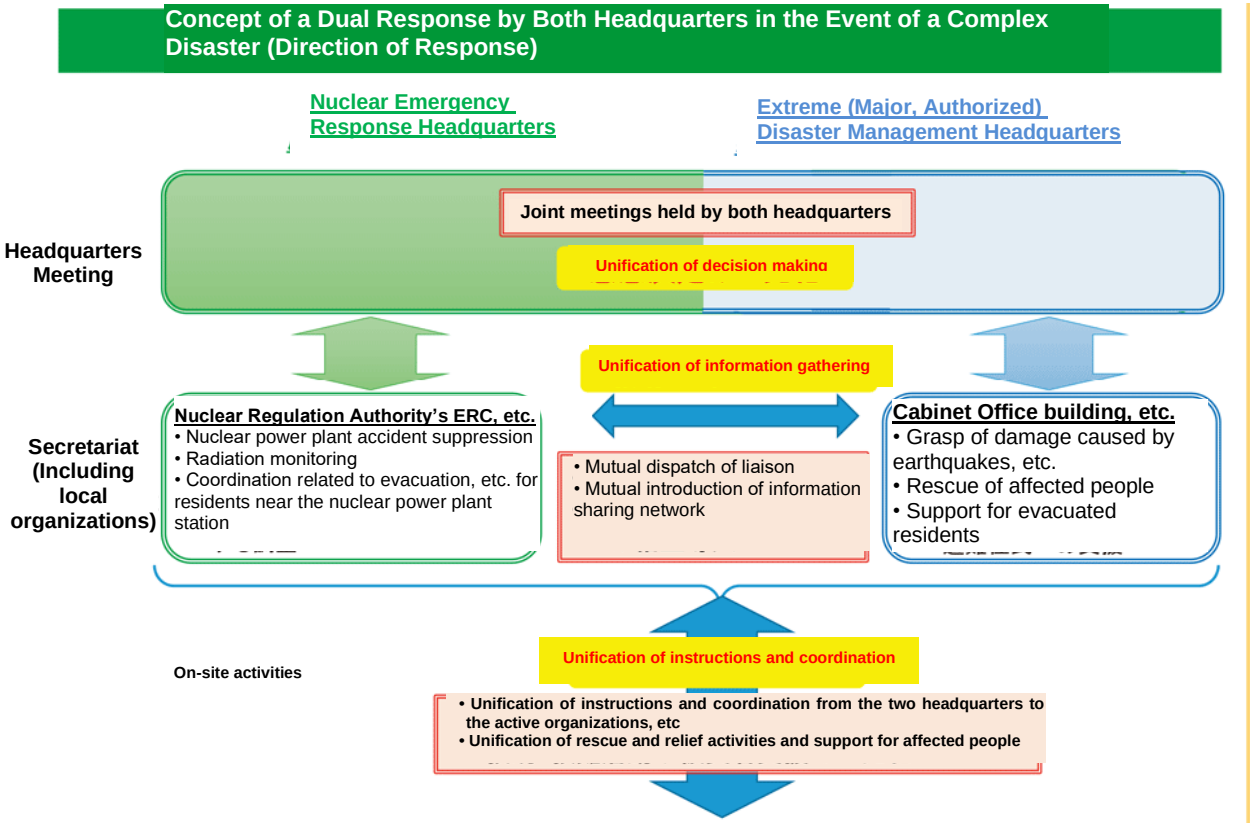
For situations of complex disasters, the Basic Disaster Management Plan was amended in July 2015 to establish a collaborative system to allow both the “Extreme Disaster Management Headquarters” and “Major Disaster Management Headquarters” (including the “Authorized Disaster Management Headquarters”, after the amendment of the Basic Act on Disaster Management in May 2021) dealing with natural disasters, and the “Nuclear Emergency Response Headquarters” dealing with nuclear disasters, to collect information, make decisions, give instructions and coordinate centrally, thereby strengthening the system for complex disaster situations (Fig. 1-2-1 and Fig. 1-2-2).

Fig. 1-2-1 Crisis management system during a nuclear emergency situation



Source: Cabinet Office data

Fig. 1-2-2 Response by both the Headquarters during situations of complex disasters (direction of response)



Source: Cabinet Office data

Section 2 Nuclear Emergency Measures at the Nuclear Regulation Authority (NRA)

In light of the lessons learned from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, it is extremely important to continue to work toward ensuring trust in nuclear regulatory administration. In order to fulfill its mission to protect the general public and the environment through rigorous and reliable regulations of nuclear activities, NRA is addressing various policy challenges under its guiding principles of "independent decision making", "effective actions", "open and transparent organization", "improvement and commitment", and "urgent response".

2-1 Efforts Related to Nuclear Emergency Measures

NRA is striving to improve the NRA EPR Guide to ensure that the criteria, etc., used in the formulation of disaster management plans are always the most appropriate, for example, by actively incorporating the latest international knowledge.

In consideration of the revision of the NRA Guide for Emergency Preparedness and Response on April 6, 2022, the secretariat of the NRA and the Cabinet Office jointly established the "Implementation Manual for Thyroid Exposure Dose Monitoring", compiling reference points for implementing thyroid exposure dose monitoring, and reported the manual at the 13th meeting of the Nuclear Regulation Authority in FY 2023 (May 31, 2023). In addition, a system was established with the help of six facilities, namely, Fukui University, which was newly designated as an Advanced Radiation Emergency Medical Support Center on April 1, 2023; National Institutes for Quantum Science and Technology, designated as Core Advanced Radiation Emergency Medical Support Center; Hirosaki University, designated as Advanced Radiation Emergency Medical Support Center and Comprehensive Support Centre for Nuclear Disaster Medicine; Fukushima Medical University; Hiroshima University; and Nagasaki University, thereby further strengthening the nuclear emergency medical system.

In addition, following discussions at the 59th FY 2023 NRA Commission Meeting (January 17, 2024) on the issue of indoor evacuation, based on the exchange of views with local authorities in the Onagawa region held on January 13, 2023, NRA decided to establish a study team and commence studies on the issues that the NRA Secretariat had compiled during the 64th FY 2023 NRA Commission Meeting (February 14, 2024) for effective indoor evacuation, which is one of the measures for protection from radiation. The establishment of the "Study Team on the Operation of Indoor Evacuation in the Event of a Nuclear Disaster" was approved at the 73rd FY 2023 NRA Commission Meeting (March 27, 2024).

2-2 Efforts for Emergency Response

NRA continues to strengthen the capabilities of personnel involved in nuclear emergency preparedness and identifies and improves issues in the nuclear emergency preparedness systems, etc., through the implementation of and participation in various drills in preparation for a nuclear disaster, etc. In FY 2023, in order to improve the emergency response capabilities, NRA implemented desk-based emergency response drills (twice), mainly with those in charge of decision-making during emergencies, such as the chairman of the Nuclear Regulation Authority, Commission members and senior officials of the Secretariat of NRA.

In addition, drills were conducted in conjunction with emergency drills by nuclear operators to pursue smoother information sharing between the Plant Team of the NRA's Emergency Response Center (ERC) and the nuclear operators' rapid response center at nuclear facilities. Two drills were conducted to confirm the offsite response procedures based on the scenarios of emergency drills conducted by operators and the course of action on the day.

In addition, the evaluation results of the emergency drills were reported at the Debriefing Session of Emergency Drills by Nuclear Operators, held on July 26, 2023. Before conducting the FY 2023 drills for commercial nuclear power reactor facilities, a decision was made to reflect the measures promoting more flexible and voluntary drills, such as drills based on diverse scenarios and utilization of results of peer reviews among operators for evaluation, and improving the effectiveness of drills in the drill implementation policy for FY 2023. In the future, NRA will continue to identify issues and make improvements.

Nuclear fuel facilities and other such facilities have multiple plants located in the same region. In the event of a large-scale natural disaster, it is assumed that multiple plants in the same region will experience the disaster at the same time. Therefore, in the FY 2023 emergency drill by nuclear operators, drills simulating a situation where a large-scale natural disaster simultaneously strikes multiple plants in the same region were conducted for the Rokkasho region and the Tokai and Oarai regions. In the future, NRA will continue to identify issues and make improvements.

2-3 Efforts Related to Emergency Monitoring

NRA has established "emergency monitoring centers" in all regions where nuclear facilities are located to conduct effective emergency monitoring based on the NRA EPR Guide. The emergency monitoring centers in each region are maintained and managed with the necessary equipment, etc., to ensure that they function reliably in the event of a nuclear disaster. Furthermore, the emergency monitoring system is being enhanced and strengthened by assigning staff in charge of radiation monitoring to the NRA Regional Office. NRA publishes monitoring information on a routine basis using the "Radiation Monitoring Information Sharing and Publication System" aimed at aggregating results of emergency monitoring in the event of a nuclear emergency, sharing them among the parties concerned, and disclosing relevant information promptly.

2-4 Accidents and Breakdowns, etc.

The "Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors" (Act No. 166 of 1957) requires nuclear operators, while the "Act on the Regulation of Radioisotopes, etc." (Act No. 167 of 1957) requires licensed or registered users to report any accidents or malfunctions, etc., to NRA. In FY 2023, four reports were received from nuclear operators based on the "Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors", and six reports were received from licensed or registered users based on the "Act on the Regulation of Radioisotopes, etc.".

Section 3 Enhancement and Strengthening of Local Nuclear Emergency Preparedness System

3-1 Development and Support of Local Disaster Management Plans and Evacuation Plans

Local governments, based on the “Basic Act on Disaster Management”, are required to formulate local disaster management plans (Nuclear Disaster Risk Management Part) (hereinafter referred to as “Local Disaster Management Plans” in this chapter), which specify the basic responses to be implemented by prefectures and municipalities in dealing with nuclear disasters.

Based on the Basic Disaster Management Plan and the NRA EPR Guide, relevant local governments are forming local disaster management plans within an approximate 30 km radius of nuclear power plants (Fig. 3-1-1). It is important to make the Local Disaster Management Plans more concrete and substantial, and the national government actively supports local governments in implementing more concrete evacuation plans and measures for persons requiring special care when it is difficult for local governments to work out the measures on their own.

Fig. 3-1-1 Status of Local Disaster Management Plans and evacuation plans (as of March 31, 2024)

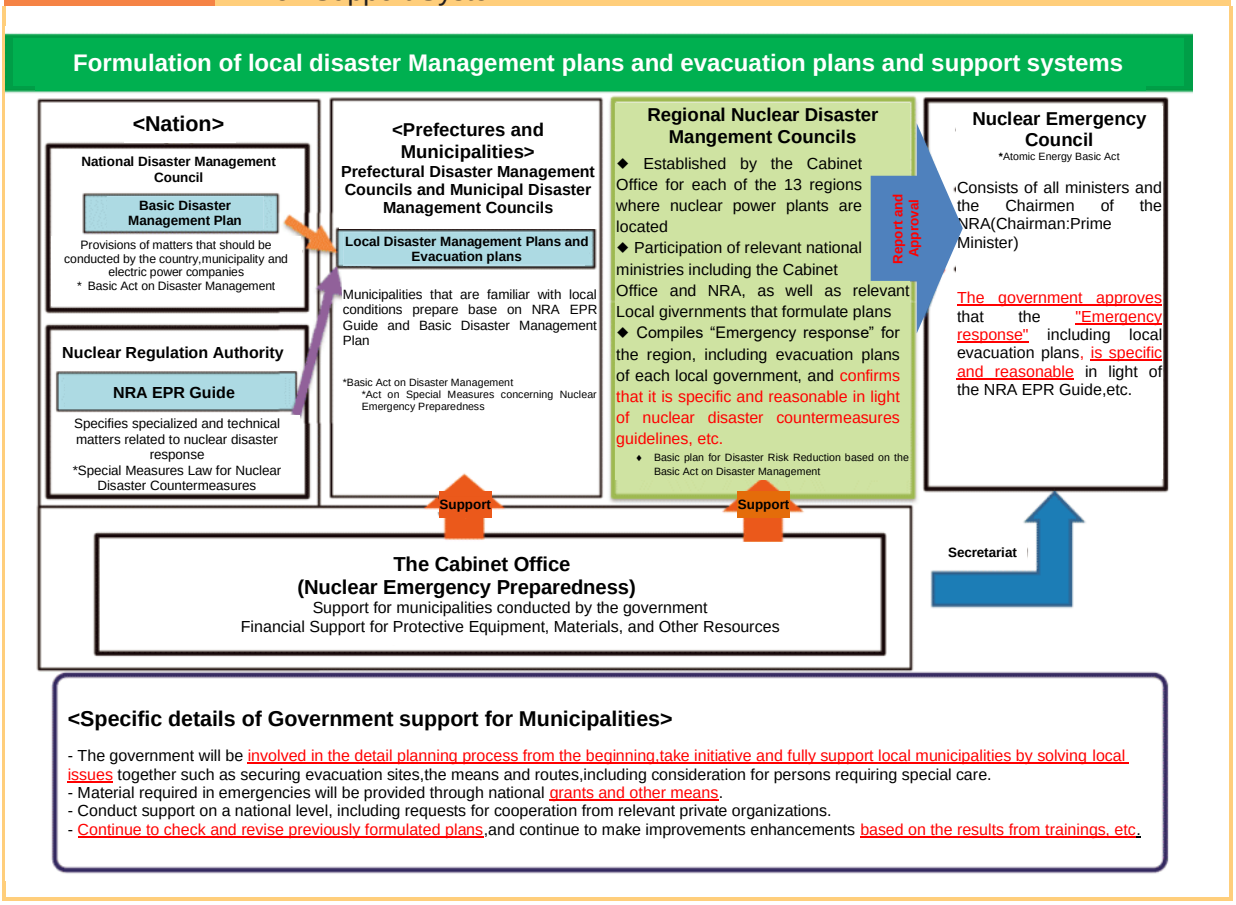
	Target municipalities	Number of disaster management plans formulated	Number of plans evacuation formulated
Tomari Area	13	13	13
Higashidori Area	5	5	5
Onagawa area	7	7	7
Kashiawazaki-Kariwa Area	13	13	12
Kashiwazaki Kariwa Area	9	9	9
Tokai Dai-ni Area	14	14	6
Hamaoka Area	11	11	11
Shiga Area	9	9	9
Fukui Area	23	23	23
Shimane Area	6	6	6
Ikata Area	8	8	8
Genkai Area	8	8	8
Kawauchi area	9	9	9
Total 13 Areas	135	135	126

Source: Cabinet Office data

The entire government has decided to promote the establishment and enhancement of the nuclear emergency preparedness system in an integrated manner, including the securing of evacuation routes through road construction and other measures.

In March 2015, the Cabinet Office established “Local Nuclear Disaster Management Councils” (hereinafter referred to as the “Councils”) as working teams to resolve issues in each region where nuclear power plants are located in order to support the concretization and enhancement of local disaster management plans and evacuation plans prepared by prefectures and municipalities, based on the “Future Measures on the Completion of Local Disaster Management Plans” (decided by the Nuclear Emergency Council in September 2013), and set up working groups under the Councils. Each local working group discusses support for the formulation of evacuation plans, wide-area coordination, and support for the national government’s operational organization, and the national government and relevant local governments work together to concretize and enhance local disaster management plans and evacuation plans (Fig. 3-1-2).

Fig. 3-1-2 Formulation of Local Disaster Management Plans and Evacuation Plans and Their Support System

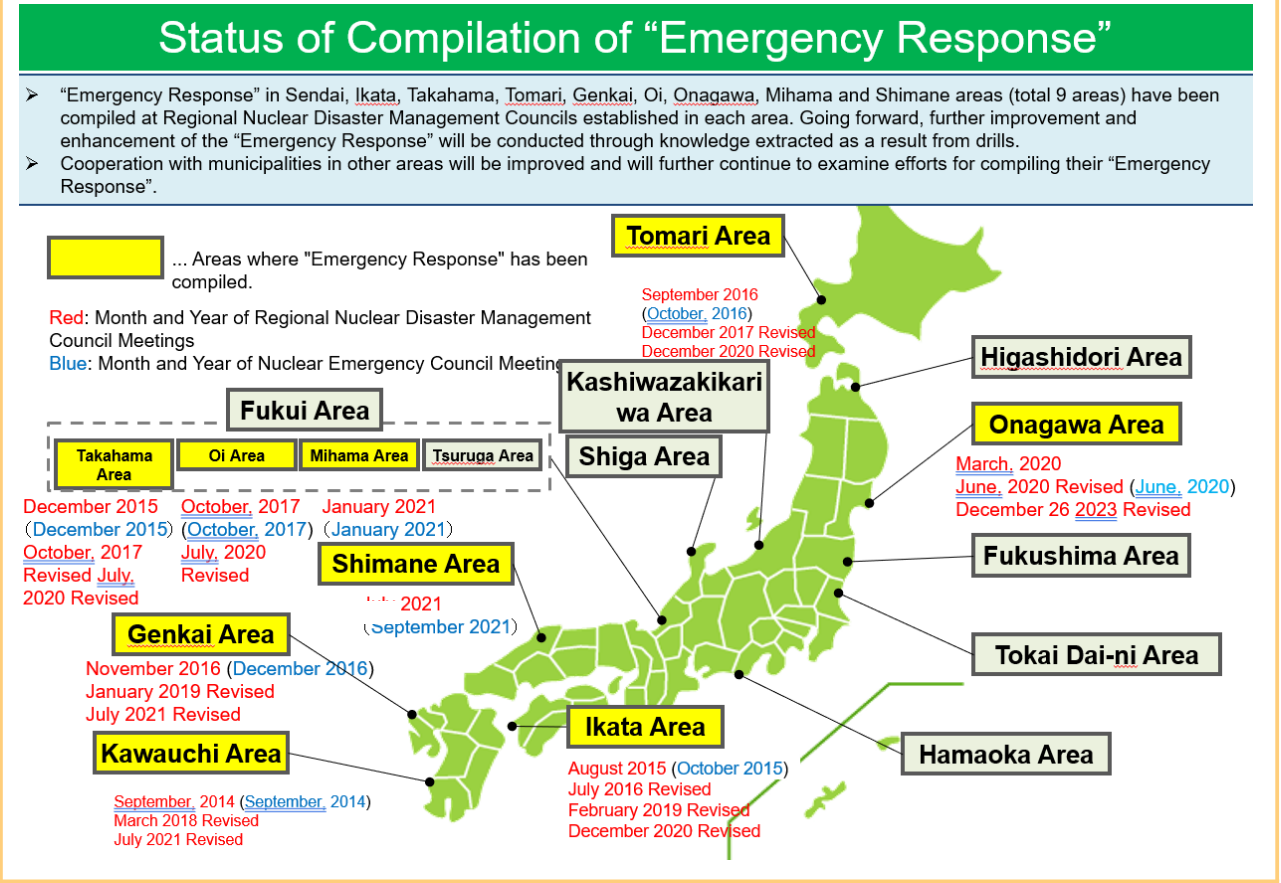


Source: Cabinet Office data

With regard to the concretization and enhancement of nuclear emergency preparedness systems, the Council established by the Cabinet Office for each region compiles the “emergency response” for each region, including the Local Disaster Management Plans and evacuation plans of the local governments concerned. The relevant ministries and agencies, local governments, and agencies participating in the Council confirm that the emergency response is specific and reasonable in light of the NRA EPR Guide. In addition, the emergency response plans confirmed by the Councils are reported to and approved by the Nuclear Emergency Council, which is chaired by the Prime Minister and consists of all ministers and the Chairman of NRA. In addition to confirming emergency responses and supporting the concretization and enhancement of each region’s nuclear disaster prevention system based on these plans (Plan), the PDCA cycle has been introduced, in which nuclear disaster prevention drills based on these plans are carried out (Do), points for reflection are extracted from the results of the nuclear emergency response exercise (Check), and then each region’s plans are improved based on these points of reflection (Action). The Cabinet Office and relevant local governments are continually working to enhance and strengthen the regional nuclear emergency preparedness system and improve its effectiveness.

Regarding the emergency response of each region, as of the end of FY 2023, the emergency response plans for 9 out of the 16 target regions have been compiled and confirmed (FIG. 3-1-3).

Fig. 3-1-3 Status of Compilation of “Emergency Response”



Source: Cabinet Office data

Note that for the Fukui area, subcommittees will be established in Tsuruga, Mihama, Ohi, and Takahama regions to specifically examine and address issues that need to be resolved in each region.

For the Onagawa area, the “Emergency Response for the Onagawa Area” was confirmed at the Onagawa Local Nuclear Disaster Management Council (1st meeting) in March 2020. Additionally, considering the basic approach to protective measures during an epidemic of infectious diseases due to the spread of COVID-19, the “Emergency Response for the Onagawa Area” was revised at the Onagawa Local Nuclear Disaster Management Council (2nd meeting) in June 2020.

The contents confirmed at the 1st meeting and revised at the 2nd meeting of the Onagawa Local Nuclear Disaster Management Council were reported and approved at the Nuclear Emergency Council in June 2020.

Subsequently, to enhance the effectiveness of the emergency response, a comprehensive nuclear disaster prevention drill led by the national government was conducted in February 2022 for the Onagawa Nuclear Power Plant. In December 2023, the Onagawa Nuclear Disaster Response Council (3rd meeting) revised the “Emergency Response for the Onagawa Region” to further specify and enhance “emergency responses” based on the lessons learned from the “Report on the Outcome of the Comprehensive Nuclear Emergency Response Exercise” compiled in July 2022, and the nuclear emergency response exercises held in Miyagi Prefecture in October 2022 and January 2023.

(Reference: https://www8.cao.go.jp/genshiryoku_bousai/kyougikai/02_onagawa.html)

The main points of the revision of the “Emergency Response in the Onagawa Area”

(1) Information dissemination to evacuate residents safely and smoothly
(2) Diversification of maritime evacuation routes
(3) Diversification of emergency transportation routes for national personnel, equipment, and materials
(4) Inspection system to ensure the safe and smooth evacuation of residents

Additionally, amendments were made regarding the strengthening of the transportation system during nuclear disasters, the review of the temporary assembly points due to facility consolidation, changes to evacuation routes based on the progress of recovery and reconstruction projects, and the clarification of responses related to Unit 1 of the Onagawa Nuclear Power Plant, which is subject to cooling notifications.

At the Onagawa Local Nuclear Disaster Management Council (third meeting), Miyagi Prefecture expressed its efforts to further promote residents’ understanding of nuclear disaster prevention by improving the nuclear disaster response skills of personnel in the 2023 Miyagi Prefecture nuclear emergency response exercises and further enhancing and strengthening the nuclear emergency preparedness system. The government stated that, regarding emergency response in the Onagawa region, it will continue to conduct drills through the Onagawa Local Nuclear Disaster Management Council, incorporate the results, and work together with local authorities as a united effort to concertize and enhance the emergency response system further. As a result, it was confirmed that this amendment aims to concertize and enhance the “Emergency Response” system further based on the lessons learned from the nuclear emergency response exercises conducted in FY 2022 and 2023.

3-2 Other Support and Measures for Related Prefectures

(1) Stockpiling and Distribution of Stable Iodine Tablets

Stable iodine tablets, which are taken to prevent or reduce internal exposure of the thyroid gland to radioactive iodine (I), are stockpiled and distributed in advance by local governments with financial support from the government in the PAZ (Precautionary Action Zone) and the UPZ (Urgent Protective Action Planning Zone). The Cabinet Office has been stockpiling stable iodine tablets for residents outside the UPZ.

With regard to advanced distribution, considering the burden of receiving stable iodine tablets through emergency distribution, local governments are given support to operate the advanced distribution appropriately for the residents in the UPZ, where advanced distribution is expected to facilitate evacuation. Additionally, the temporary and exceptional promotion of remotely conducted explanatory sessions by physicians, in line with the NRA EPR Guide and the “Distribution and Administration of Stable Iodine Agents”, is being implemented.

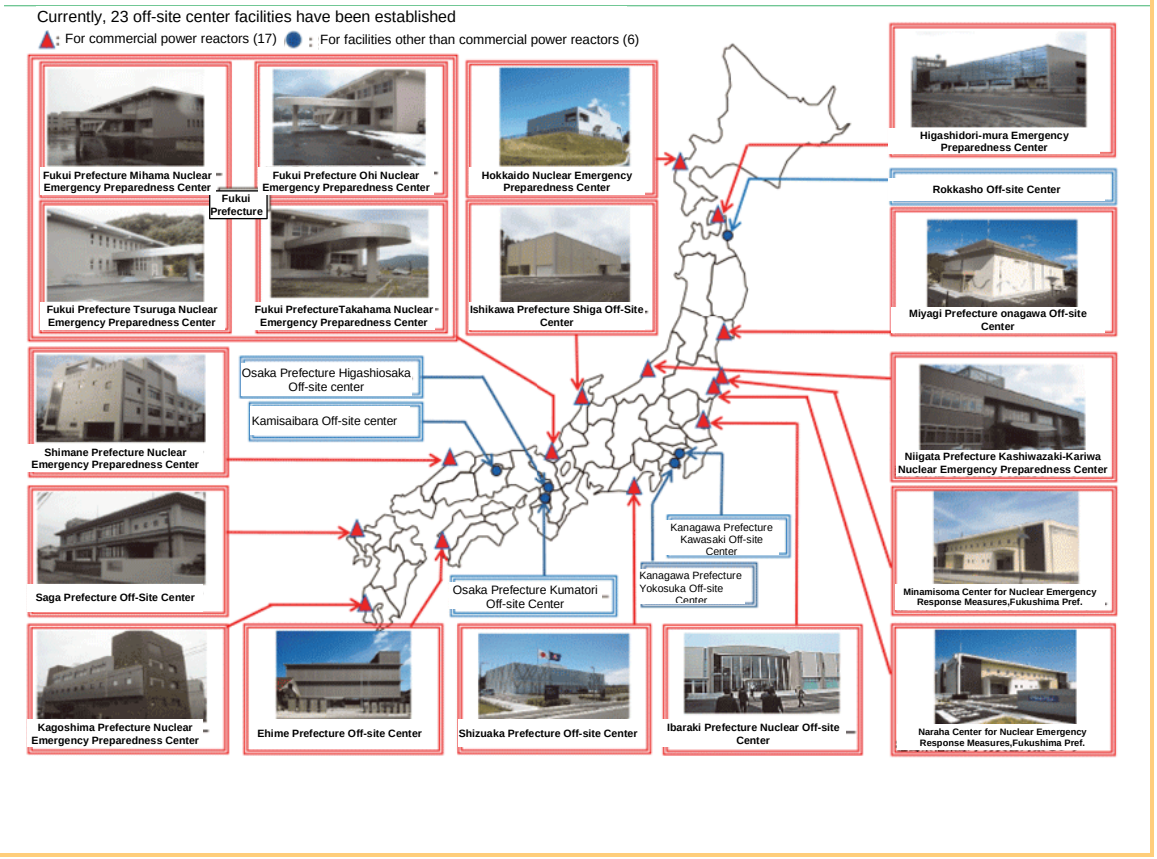
(2) Designation of an Offsite Center

According to Article 12, paragraph 1 (Act No. 156 of 1999) of the “Act on Special Measures Concerning Nuclear Emergency Preparedness,” the Prime Minister is required to designate an emergency response center (offsite center) for each nuclear power plant.

The requirement for offsite centers is set forth by a “Cabinet Office Ordinance on Offsite Centers Pursuant to the Act on Special Measures Concerning Nuclear Emergency Preparedness”. However, based on the lessons learned from the accident at the Tokyo Electric Power Company’s Fukushima Daiichi Nuclear Power Station, the location of offsite centers for commercial power reactors was revised to be within a 5 to 30 km radius (within the UPZ) in September 2012.

Subsequently, in March 2017, the Nuclear Regulation Authority (NRA) revised the NRA EPR Guide and defined the scope of priority areas for nuclear emergency preparedness for nuclear fuel facilities. In August 2019, the requirements to be met by offsite centers for nuclear fuel facilities were revised to be essentially the same as those for power generation reactor facilities. Currently, 23 Offsite Centers have been established (FIG. 3-2-1).

Fig. 3-2-1 Nationwide Offsite Centers



Source: Cabinet Office data

(3) Support for Facilitating Evacuation

Facilitating evacuation during a nuclear disaster, including securing evacuation routes through road maintenance and improvement, is important for ensuring the safety and security of residents. The relevant ministries and agencies and the government as a whole are committed to collaborating for this purpose.

The Cabinet Office (Nuclear Disaster Management Bureau) has selected model evacuation routes that are more effective and efficient without obstructive factors and has been providing assistance to prefectures in preparing their evacuation facilitation plans, demonstrating improved models, and disseminating the results of these efforts. Based on the results of this model demonstration, the Cabinet Office established a new emergency evacuation facilitation project in FY 2021 under the “system of grant for emergency safety measures for nuclear facilities” to support traffic guidance measures to ensure the smooth evacuation or temporary relocation of residents and to improve the evacuation routes designated in local disaster management plans.

3-3 Drills and Training Related to Local Nuclear Emergency Preparedness Systems

(1) Support for Nuclear Emergency Drills in Local Governments

Local governments are required to conduct nuclear emergency response exercises on a regular basis based on the “Basic Act on Disaster Management” and other relevant laws. Local governments are required to conduct nuclear emergency response exercises regularly based on the “Basic Act on Disaster Management” and other relevant laws. In the drills organized by the prefectures, normally, prefectural governors, local governments, and relevant national and regional operational organizations such as the police, fire department, coast guard, and Self-Defense Forces will participate. There are some practical drills for evacuation and inspecting the evacuees (Fig. 3-3-1).

Each council provides the necessary support for regions where the local disaster management plan and evacuation plan have been concretized and enhanced, such as planning and implementation of drills, dissemination of evaluation methods, and implementation of the PDCA cycle through nuclear emergency response exercises, with the aim of verifying the concreteness and effectiveness of the local disaster management plan and evacuation plan.

In addition, in March 2018, the Cabinet Office formulated the “Guidance for Planning, Implementation and Evaluation of Nuclear Emergency Response Exercises”, which provides basic guidelines for all aspects of drills, from planning and implementation to evaluation of drills led by prefectures, and revised it in March 2019. Furthermore, the Cabinet Office has distributed the above-mentioned guidance to relevant prefectures along with the “Practical Drill Manual for Personnel in Charge of Nuclear Disaster Management”.

(Reference: https://www8.cao.go.jp/genshiryoku_bousai/kunren/kunren.html)

Fig. 3-3-1 Status of Nuclear Emergency Response Exercises in All Areas Conducted by Local Governments in FY 2023

Region	Execrise Name	Date
Tomari	Hokkaido Nuclear Disaster Management Drill	October 25, 2023, and February 14, 2024
Higashidori	Aomori Prefecture Nuclear Disaster Management Drill	November 7, 2023, November 17, 2023, December 20, 2023
Onagawa	Miyagi Prefecture Nuclear Disaster Management Drill	January 20, 2024
Fukushima	Fukushima Prefecture Nuclear Disaster Management Drill	November 16, 2023, and November 18, 2023
Kashiwazaki-Kariwa	Niigata Prefecture Nuclear Disaster Management Drill	October 26, 2023, October 27, 2023, October 28, 2023, October 29, 2023, October 31, 2023, November 1, 2023, November 8, 2023, November 9, 2023and February 12, 2024 (* Execrise from October 27 to 29, 2023, were conducted in coordination with the 2023 Comprehensive Nuclear Disaster Management Drill by the national government and others.)
Shiga	Ishikawa Prefecture Nuclear Disaster Management Drill	November 23, 2023
	Toyama Prefecture Nuclear Disaster Management Drill	November 23, 2023
Fukui	Fukui Prefecture Comprehensive Nuclear Disaster Management Drill	October 20, 2023, October 21, 2023
	Shiga Prefecture Nuclear Disaster Management Drill	October 20, 2023, November 7, 2023
	Gifu Prefecture Nuclear Disaster Management Drill	November 25, 2023
	Kyoto Prefecture Comprehensive Nuclear Disaster Management Drill	October 20, 2023, November 11, 2023, November 19, 2023
Shimane	Shimane Prefecture Nuclear Disaster Management Drill	September 30, 2023, October 19, 2023, November 5, 2023, November 7, 2023, November 8, 2023, November 9, 2023
	Tottori Prefecture Nuclear Disaster Management Drill	August 23, 2023, October 19, 2023, November 4, 2023, November 5, 2023, November 18, 2023, November 24, 2023, November 25, 2023
Ikata	Ehime Prefecture Nuclear Disaster Management Drill	October 12, 2023, October 21, 2023
	Yamaguchi Prefecture Nuclear Disaster Management Drill	October 12, 2023
Genkai	Saga Prefecture Nuclear Disaster Management Drill	October 14, 2023
	Nagasaki Prefecture Nuclear Disaster Management Drill	October 14, 2023, February 17, 2024
	Fukuoka Prefecture Nuclear Disaster Management Drill	October 14, 2023
Kawauchi	Kagoshima Prefecture Nuclear Disaster Management Drill	February 10, 2024

Source: Cabinet Office data

(2) Training for Employees of National and Local Governments, Operational Organizations, etc.

(Training program by the Government)

The Cabinet Office conducted a training course for nuclear disaster response personnel and tabletop exercises of on-site nuclear disaster management headquarters for those involved in disaster prevention work at the national and local governments. The aim was to help them understand the concept of protective measures in the NRA EPR Guide and improve their ability to respond to a nuclear disaster.

In addition, a training course for core personnel was conducted for those who play a central role in disaster management to promote their understanding of the operation of a national headquarters in response to the developments of a nuclear disaster. Also, a training course for practical personnel was conducted for those involved in disaster management in local governments to improve their ability to share the information on protective measures necessary for the smooth evacuation of residents in the event of a nuclear disaster.

Furthermore, a basic training course on nuclear disaster prevention was conducted for those involved in disaster prevention operations in the national government, with the aim of providing them with the basic knowledge necessary for radiation protection.

1. Training for nuclear disaster risk management personnel

Training for personnel involved in disaster prevention operations of the government and local governments who respond to nuclear disasters is conducted for the purpose of acquiring basic knowledge about nuclear disaster risk management measures based on laws and regulations, the NRA EPR Guide, and lessons learned from the accident at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station. In FY 2023, 40 sessions were held. The main content of the training is as follows.

- Overview of laws and regulations related to nuclear emergency preparedness (classroom lecture).
- Basic concept of radiation protection based on the NRA EPR Guide (classroom lecture).
- Lessons learned from the accident at the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station (classroom lecture), etc.

2. On-site nuclear disaster management headquarters tabletop exercises

For personnel involved in disaster prevention operations of the government and local governments who respond to nuclear disasters, these exercises are implemented for the purpose of acquiring the ability to respond to emergencies and to verify and improve local disaster management plans and evacuation plans formulated by local governments. In FY 2023, 13 sessions were held. The main content of the training is as follows.

- Activities at the emergency response base facility (classroom lecture)
- Functional group exercises
- Tabletop exercises based on scenarios, etc.

3. Core human resource development training

To develop human resources who can play a central role in responding to a nuclear disaster, conduct a training course for core human resources development for personnel who play a central role during nuclear disasters in the national government and local governments, with the aim of acquiring necessary knowledge and improving their abilities. In FY 2022, 8 sessions were held for national personnel, 4 sessions for prefectural personnel, and 2 sessions for municipal personnel. The main content of the training is as follows.

- Emergencies in power reactors (classroom lecture)
- Nuclear emergencies and health effects (classroom lecture)
- Protective measures in nuclear emergencies (classroom lecture)
- Response in accordance with the progress of a nuclear emergency (classroom lecture)
- Tabletop exercises

4. Practical human resource training

a. Response to inspecting the evacuees

This training is for local government personnel in charge of implementation plans for inspecting the evacuees and simple decontamination during evacuation. The purpose of this training is to develop personnel who will be in charge of preparing specific plans and manuals for contamination screening, as well as personnel who will be in charge of the screening sites. In FY 2023, 4 sessions were held.

The main content of the training is as follows.

- Basic concept of inspecting the evacuees (classroom lecture)
- Exercises in planning and operation of inspecting the evacuees

b. Evacuation by bus, etc.

Practical human resources training is conducted for local government officials in charge of bus evacuation plans with the aim of developing human resources who can prepare specific plans and manuals for bus evacuation. In FY 2023, 3 sessions were held. The main content of the training is as follows.

- Business procedures and preparations in advance for securing and arranging evacuation buses for residents (classroom lecture)
- Sharing of information on preparations for evacuation of residents by bus in each prefecture and municipality, identification of issues, and consideration of improvements

c. Sharing information regarding protective measures

This training is designed for local government officials who are in charge of compiling and sharing information on the “status of protective measures”, with the aim of helping them understand how to assess disaster situations and share information among related parties, which is necessary for the concrete implementation of protective measures in each situation. In FY 2023, 7 sessions were held. The main content of the training is as follows.

- Operation of compiling and sharing information necessary for “sharing the status of protective measures” (classroom lecture)
- Organization of items to be confirmed in each situation and examination of the confirmation method.

(Training programs by local governments)

Training courses for disaster prevention officials and basic training courses on nuclear disaster prevention were planned and implemented by prefectures, with support from the Cabinet Office as needed.

1. Training for disaster prevention workers

This training program for disaster prevention workers was conducted for private business operators who will be involved in resident protection activities during nuclear disasters. It aimed to provide them with the basic knowledge required for radiation protection, the basic principles of resident protection, and the flow of protection activities for residents.

2. Basic training in nuclear disaster prevention

Basic training on nuclear emergency preparedness was conducted for those involved in disaster prevention operations at local governments and other organizations that respond to nuclear disasters, with the aim of providing them with the basic knowledge necessary for radiation protection.

Lecture classroom (Training for nuclear emergency response personnel)

Simulation training (Tabletop exercises at the nuclear disaster on-site disaster management headquarters)

Scenario-based exercises (Core Human Resource Development Training)

Practical training (Operational Personnel Training)

3-4 Reinforcement of International Collaboration

International organizations such as the International Atomic Energy Agency (IAEA) and other countries have been making various efforts for offsite nuclear emergency preparedness, and it is necessary to incorporate their advanced knowledge in order to improve the level of nuclear emergency preparedness in Japan.

Cooperation has been strengthened with the departments in charge of nuclear emergency preparedness in various countries to achieve this goal. Opinions are exchanged regularly, and mutual invitations to drills and other events promote the sharing of international knowledge and experience on nuclear emergency response exercises.

(1) Bilateral Cooperation on Nuclear Emergency Preparedness System

1) Cooperation with the United States of America (USA)

Based on the framework of the Emergency Management Working Group (EMWG) established under the U.S.-Japan Bilateral Commission on Civil Nuclear Cooperation established in 2012, the U.S. Department of Energy (DOE), the Federal Emergency Management Agency (FEMA), the U.S. Nuclear Regulatory Commission (NRC), and other relevant U.S. agencies and Japan have been strengthening the cooperation regarding Nuclear Emergency Preparedness Systems through regular exchanges of views and mutual invitation to nuclear emergency response exercises. In FY 2022, an online technical workshop was held to exchange views on nuclear emergency response exercises and evacuation plans.

2) Cooperation with the French Republic (France)

Based on the “Memorandum of Understanding on Cooperation for Crisis Management in Case of Nuclear Accident” concluded in 2015 between the Parliamentary Vice-Minister for the Cabinet Office and the Director General of the Directorate-General for Civil Protection and Crisis Management of the French Ministry of the Interior, the two countries have deepened cooperation for their nuclear emergency response exercises through mutual invitations to drills and regular meetings of the “Cooperation Committee for Planning and Crisis Management in Case of Nuclear Accident”, launched in 2019. In FY 2023, we inspected France’s nuclear emergency response exercises and exchanged opinions on training plans and emergency systems.

3) Invitation to observe comprehensive nuclear disaster prevention drills

Regarding the Nuclear Energy Disaster Prevention Drill, the U.S., France, and other foreign countries and international organizations mentioned above are invited to observe the drill. The comprehensive nuclear disaster prevention drill, held from October 27 to 29, 2023, at the Kashiwazaki Kariwa Nuclear Power Plant of Tokyo Electric Power Company Holdings, Inc., welcomed 20 observers from 11 organizations, including nuclear disaster prevention organizations and embassies in Tokyo from four countries. The observers stayed for 3 days, including a preliminary briefing session. After the drill, participants exchanged opinions with observers from overseas nuclear emergency response exercises on the comprehensive nuclear disaster prevention drills and the evacuation of residents, including those from overseas.

(2) Cooperation with International Agencies and Investigation of Overseas Trends

There has also been active engagement in cooperation and information exchange with the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD/NEA). Regarding the IAEA, we regularly attend the Emergency Preparedness and Response Standards Committee (EPReSC) to cooperate in preparing standards for offsite nuclear disaster prevention and to collect information. We also cooperate in various information exchange and human resources development activities. At meetings related to nuclear emergency preparedness, such as the Working Party on Nuclear Emergency Matters (WPNEM) held by the OECD/NEA, information is exchanged on the systems and operations related to nuclear emergency preparedness in major nuclear power user countries.

Section 4 FY 2023 Nuclear Emergency Disaster Prevention Drill

4-1 Implementation Overview

(1) Definition and Purpose

The purpose of the Nuclear Emergency Disaster Prevention Drill is to evaluate the response system in the event of a nuclear disaster. Based on the Act on Special Measures Concerning Nuclear Emergency Preparedness, this is a joint exercise conducted by the national government, local governments, and nuclear operators to prepare for a nuclear emergency. In FY 2023, the Nuclear Emergency Disaster Prevention Drill was conducted for the following purposes.

(Reference: https://www8.cao.go.jp/genshiryoku_bousai/kunren/kunren.html)

- To confirm the effectiveness of the disaster prevention systems of the national government, local governments, and nuclear operators, and the cooperative systems of related organizations
- To confirm the central and local systems and the procedures stipulated in the manuals for nuclear emergencies.
- Review of local disaster management plans and consideration of emergency response measures.

Collection of lessons learned based on drill results and consideration of emergency response measures.

- Promoting the skills of personnel involved in nuclear disaster countermeasures and promoting public understanding of nuclear disaster risk management.

(2) Implementation Period and Subjected Power Plant

Exercises were conducted at the Kashiwazaki Kariwa Power Plant from October 27 to 29, 2023 (Fig. 4-1-1).

Fig. 4-1-1 Kashiwazaki Kariwa nuclear emergency response priority area

Source: Compiled by the Cabinet Office based on the Geospatial Information Authority of Japan website "Geospatial Information Authority Maps (Digital Land Web)" (https://cyberjapandata.gsi.go.jp)

(3) Participating Organizations

- Government agencies: Cabinet Secretariat, the Cabinet Office, Nuclear Regulation Authority, and other relevant ministries and agencies
- Local governments: Niigata Prefecture, Kashiwazaki City, Kariwa Village, Nagaoka City, Ojiya City, Tokamachi City, Mitsuke City, Tsubame City, Joetsu City, Izumozaki Town, and others.
- Operator: Tokyo Electric Power Company Holdings, Inc.
- Related organizations: National Institutes for Quantum Science and Technology, Japan Atomic Energy Agency, etc.

(4) Assumed Accident Scenario

An earthquake occurs with its epicenter in the offshore area of Niigata Prefecture. As a result, Unit 7 of the Kashiwazaki Kariwa Power Plant, which is in operation, will be shut down in an emergency. Furthermore, equipment failures occur in succession, resulting in a loss of the reactor water injection function, leading to a facility site area emergency and a state of full emergency.

(5) Drill Details

Based on the objectives of the drill, the 3 items listed below were the main focus, which ranged from initial response drills to actual drills in response to a full-scale emergency situation, depending on the situational changes.

4-2 Overview of Drill Results

(1) Establishment of a Prompt Initial Response System

The national government, local governments, and nuclear operators gathered personnel and ascertained the current situation to establish their respective initial response systems, sharing information with relevant organizations using videoconferencing systems, etc. Additionally, the State Minister of the Cabinet Office, government officials, and experts were dispatched by relevant emergency transportation related ministries or private transport operators to emergency preparedness base facilities (Kashiwazaki Kariwa Nuclear Disaster Prevention Center, Niigata Prefecture) and rapid response center at nuclear facilities (the head office of Tokyo Electric Power Company Holdings).

Activity status reported by personnel at the site

(2) Decision-making on Protective Action Implementation Policies through Coordination between the Central and Local Organizations

An emergency response system was established at the Prime Minister's Office, the Cabinet Office, the NRA's Emergency Response Center, the Kashiwazaki Kariwa Nuclear Disaster Prevention Center, the offices of ministries utilizing nuclear power, the Niigata Prefectural Office, and other key locations. In preparation for a complex disaster involving both natural and nuclear elements, a central Nuclear Emergency Response Headquarters meeting was convened to address issues related to nuclear emergencies. Information sharing, decision-making, and the coordination of directives and measures, including those involving local organizations, were carried out in a unified manner. At the same time, decisions were made regarding the implementation of protective measures, and instructions based on these decisions were issued to the relevant local governments.

Exercise at the Joint Meeting of the Nuclear Emergency Response Headquarters with the participation of Prime Minister Kishida and related cabinet ministers (Prime Minister's Office)

(3) Evacuation of residents and sheltering indoors

In response to a site area emergency and a state of general emergency, evacuation of residents in the Precautionary Action Zone was conducted with support from private transportation. Also, residents in the Urgent Protective Action Planning Zone were evacuated indoors, and efforts were made to promote understanding of the significance of indoor evacuation and other related matters.

Emergency monitoring was conducted in accordance with the emergency monitoring implementation plan. Additionally, aerial monitoring was conducted using uncrewed aerial vehicles.

Assuming that radioactive materials were released and the OIL2 level was exceeded based on the Operational Intervention Level (OIL), a drill was conducted for the temporary relocation to shelters and contamination screening of the residents in some areas within the UPZ.

Resident evacuation drill

Monitoring by uncrewed helicopter

4-3 Efforts After the Drill

Based on the lessons learned from this drill, we will strive to continuously improve the nuclear emergency preparedness system by enhancing the content of future drills and improving various plans and manuals. These lessons will also be utilized in discussions within the Local Nuclear Disaster Management Council to formulate “Emergency Response in the Kashiwazaki Kariwa Region.”

Chapter 3 Major Disasters in FY 2023

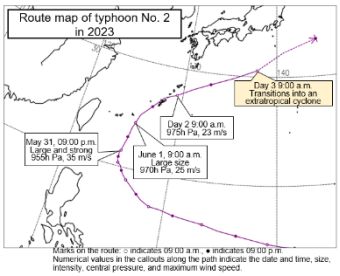
Due to its natural conditions, Japan is prone to various disasters, such as floods, landslides, earthquakes, tsunamis and other natural disasters occurring almost yearly. In recent years, large-scale disasters have occurred, including the 2011 off the Pacific coast of Tohoku Earthquake, the 2016 Kumamoto Earthquake, the July 2018 Heavy Rains, the 2019 East Japan Typhoon, the July 2020 Heavy Rains, the heavy rains that began on July 1, 2021, and Typhoon No. 14 in 2022. Even in FY 2023, damage occurred across Japan due to heavy rains caused by the 2023 rainy season front, Typhoon No. 6 of 2023, Typhoon No. 7 of 2023, Typhoon No. 13 of 2023, and the 2024 Noto Peninsula Earthquake. The 2024 Noto Peninsula Earthquake is summarized in Special Feature 2.

Section 1 Disasters Related to Heavy Rainfall, etc., Caused by the Baiu Rainy Season Front in 2023

(1) Overview

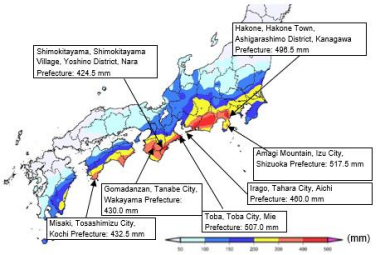
Between May 31 and June 2, 2023, Typhoon No. 2 approached the Okinawa region. The typhoon caused heavy rain in some areas of Okinawa and Amami, with very strong winds creating extremely rough seas. In addition, the rainy season front stagnated near Honshu from June 1 until the morning of June 3. The front became more active on June 2 as the typhoon's very warm and humid air flowed toward it. Heavy rain fell mainly on the Pacific side of Western and Eastern Japan, with stationary linear mesoscale convective systems occurring in Kochi, Wakayama, Nara, Mie, Aichi, and Shizuoka prefectures. Some locations recorded the highest one-hour rainfall ever observed. Additionally, the total rainfall from the start of the rain exceeded 500 mm in the Tokai region and 400 mm in the Shikoku, Kinki, and Kanto regions. Some locations experienced more than twice the average monthly rainfall for June.

Route map of typhoon No. 13 in 2023



Source: Japan Meteorological Agency document

Total rainfall distribution map for the period (June 1 to June 3)



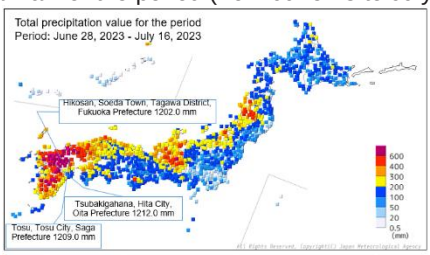
Source: Japan Meteorological Agency document

From June 28 to July 6, widespread heavy rainfall occurred across Japan, excluding the Okinawa region, due to the influence of the rainy season front and cold air aloft. From July 1 to July 3, a stationary linear mesoscale convective system to developed in Yamaguchi Prefecture, Kumamoto Prefecture, and Kagoshima Prefecture (Amami region). The total rainfall from June 28 to July 6 exceeded 700 mm in Kyushu, with some areas surpassing the average July rainfall for the region, particularly in the northern part of Kyushu. Additionally, from July 7 to 10, the rainy season front stalled from western Japan to around the Tohoku region, causing heavy rainfall, particularly in the northern part of Kyushu and the Chugoku region. On July 8, a stationary linear mesoscale convective system developed in Shimane Prefecture, while on July 10, it formed in Fukuoka, Saga, and Oita Prefectures. On the morning of July 10, the Japan Meteorological Agency issued a special emergency warning for heavy rain in Fukuoka and Oita Prefectures. Total rainfall exceeded 600 mm in the northern part of Kyushu. In some parts of northern Kyushu and the Chugoku region, rainfall over four days surpassed the average monthly rainfall for July.

From July 11 to 13, the rainy season front stalled near Honshu, while a low-pressure system passed near Hokkaido, causing heavy rainfall, particularly in the Sanin, Hokuriku, and Hokkaido regions. Late on the night of July 12, stationary linear mesoscale convective systems developed in Ishikawa and Toyama prefectures.

From July 14 to 16, the rainy season front stalled in the Tohoku region, and the influx of warm, moist air toward the front intensified its activity, leading to heavy rainfall, particularly in the northern part of the Tohoku region. In multiple locations in Akita Prefecture, the 24-hour rainfall recorded the highest amount ever observed. Additionally, total rainfall exceeded 400 mm in some areas. In Aomori and Akita Prefectures, the rainfall significantly exceeded the average monthly rainfall for July, resulting in a record-breaking heavy rain event. Furthermore, from July 18 to 19, the frontal activity intensified, causing heavy rainfall in Iwate and Akita Prefectures, with some areas receiving over 100 mm of rain in a single day.

Total rainfall for the period (from June 28 to July 16).



Ranking	Prefecture	Municipality	Location Name (Reading)	Precipitation Amount (mm)
1	Oita Prefecture	Hita City	Tsubakigahana	1212.0
2	Saga Prefecture	Tosu City	Tosu	1209.0
	Fukuoka Prefecture	Soeda Town, Tagawa District	Hikosan	1202.0

Source: Japan Meteorological Agency document

(2) State of Damage

Due to heavy rainfall from May 31 to June 3, 2023, landslides occurred in various areas. In Aichi Prefecture and other regions, 44 rivers managed by the national and prefectural governments overflowed, causing flood damage. As a result, there were 6 fatalities (2 in Shizuoka Prefecture, 1 in Aichi Prefecture, 2 in Wakayama Prefecture, including 1 disaster-related death, and 1 in Okinawa Prefecture), 2 missing persons, 5 seriously injured, and 44 slightly injured. The damage to residential buildings included 21 destroyed buildings, 733 partially destroyed or damaged buildings, and 9,359 buildings flooded above or below the floors (Fire and Disaster Management Agency information as of March 6, 2024). Additionally, lifelines were affected, and a maximum of 1,670 households experienced suspension of water supply and power outages, affecting approximately 17,000 households in the Tokyo Electric Power Company area and about 7,500 households in the Chubu Electric Power Company area. Damage also occurred to transportation infrastructure such as roads and railways.

Heavy rainfall from June 28 to July 13 caused flooding in 15 prefectures, with 119 rivers managed by the national and prefectural governments overflowing, leading to flood damage. In particular, landslides occurred in Kurume City, Fukuoka Prefecture, Karatsu City, Saga Prefecture, and Nanto City, Toyama Prefecture, causing casualties. Additionally, there were human casualties related to submerged vehicles. As a result, there were 13 fatalities (1 in Toyama Prefecture, 1 in Shimane Prefecture, 1 in Yamaguchi Prefecture, 5 in Fukuoka Prefecture, 3 in Saga Prefecture, and 2 in Oita Prefecture), 1 missing person, 10 seriously injured, and 9 slightly injured. The damage to residential buildings included 63 destroyed buildings, 1,592 partially destroyed or damaged buildings, and 6,255 buildings with flooding above or below the floors (Fire and Disaster Management Agency information as of March 6, 2024). Lifelines were also affected, and a maximum of 8,997 households experienced suspension of water supply and power outages, affecting approximately 5,000 households in the areas served by Chugoku Electric Power and Kyushu Electric Power.

Heavy rainfall from July 14 to 19 caused inland flooding and other damage, primarily in Akita City, Akita Prefecture. Additionally, 16 rivers under Akita Prefecture's control overflowed, causing flood damage. As a result, there was 1 fatality (in Akita Prefecture), 1 seriously injured person, and 4 people were slightly injured. The damage to residential buildings included 11 destroyed buildings, 2,912 partially destroyed or damaged buildings, and 4,097 buildings flooded above or below the floors (Fire and Disaster Management Agency information as of March 6, 2024).

Additionally, in Akita Prefecture, a maximum of 10,840 households experienced suspension of water supply, and the Self-Defense Forces and Japan Coast Guard provided water supply support. The Self-Defense Forces also transported patients and removed disaster waste in Akita City.

(3) Response by the Government

Regarding the heavy rainfall from May 31 to June 3, 2023, the government established an information contact office at the Prime Minister's Office at 3:30 p.m. on June 1. The office held an Inter-Agency Disaster Alert Meeting. An Inter-Agency Disaster Management Meeting was held at 4:00 p.m. on June 2. On June 9, Nakano, then Parliamentary Vice-Minister of the Cabinet Office, visited the disaster-affected areas in Ibaraki and Saitama Prefectures.

The "Disaster Relief Act" was applied to 6 cities and towns in 4 prefectures, and the "Act on Support for Reconstructing Livelihoods of Disaster Victims" was applied to 4 cities and towns in 2 prefectures.

Regarding the heavy rainfall from June 28 to July 13, the government established an information contact office at the Prime Minister's Office at 3:00 p.m. on June 29. The office held an Inter-Agency Disaster Alert Meeting. Subsequently, an Inter-Agency Disaster Management Meeting was held at 3:30 a.m. on July 3, and 5 such meetings were held by July 14. Additionally, the information contact office established on June 29 was reorganized into the Emergency Contact Office in the Prime Minister's Office at 6:40 a.m. on July 10. On July 13, then Minister of State for Disaster Management, Tani, visited the disaster-affected areas in Fukuoka and Saga Prefectures. On July 24, he visited the disaster site in Toyama Prefecture. Furthermore, on July 27, Prime Minister Kishida visited the disaster-affected areas in Fukuoka Prefecture.

Regarding the heavy rainfall from July 14 to 19, the government established an information contact office at the Prime Minister's Office at 3:45 p.m. on July 13. The office held an Inter-Agency Disaster Alert Meeting. Additionally, an Inter-Agency Disaster Management Meeting was held at 11:15 a.m. on July 18. On July 21, then Minister of State for Disaster Management Tani visited the disaster site in Akita Prefecture.

The "Disaster Relief Act" was applied to 39 municipalities in 9 prefectures, and the "Act on Support for Reconstructing Livelihoods of Disaster Victims" was applied to 9 municipalities in 5 prefectures.

Regarding the designation of a disaster of extreme severity, a cabinet decision was made on August 25, 2023, to designate the disasters caused by heavy rain and storms between May 28 and July 20, 2023, as severe disasters.

Inspection of the disaster site in Toyama Prefecture by then Minister of State for Disaster Management, Tani (Cabinet Office data)

Then Minister of State for Disaster Management, Mr. Tani, inspected the disaster site in Akita Prefecture (Cabinet Office data)

Section 2 Disaster Due to Typhoon No. 6 in 2023

(1) Overview

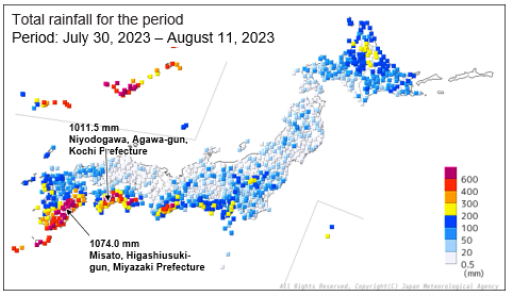
Typhoon No. 6, which formed east of the Philippines on July 28, 2023, approached the Okinawa region with a large size and very strong intensity between August 2 and 3. Afterward, the typhoon moved west, stalled almost completely in the East China Sea, and on August 4, it changed its course eastward. It then approached Okinawa and Amami again at a slow speed between August 5 and 6. On August 7, the typhoon changed its course to the north, moved northward over the sea west of Kyushu on August 9, and transformed into an extratropical cyclone over the Korean Peninsula on August 10.

From July 30 to August 11, the total rainfall in Okinawa and Amami exceeded 700 mm in some areas, more than 4 times the average rainfall for August. Additionally, in the southern part of Kyushu and Shikoku, where rain was falling even before the typhoon approached, some areas recorded over 1,000 mm of rainfall, exceeding twice the average August monthly rainfall.

Stationary linear mesoscale convective systems were formed in Okinawa, Kagoshima, Kumamoto, Miyazaki, Oita, Ehime, and Kochi prefectures.

In the Okinawa region, the maximum wind gust speed exceeded 50 m/s, breaking the all-time record for August in some areas. Strong winds persisted as they approached again, with their effects lasting for an extended period. After August 8h, as the typhoon moved north, strong winds intensified, particularly in the Kyushu and Shikoku regions. In southern Kyushu, some areas recorded maximum wind gust speed exceeding 40 m/s.

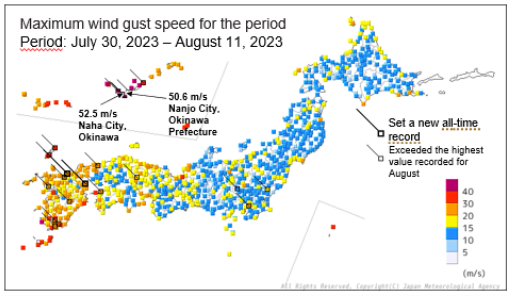
Total rainfall for the period (July 30 to August 11)



Ranking	Prefecture	Municipality	Location Name (Reading)	Precipitation Amount (mm)
1	Miyazaki Prefecture	Misato Town, Higashiusuki District	Mikado	1074.0
2	Agawa District, Kochi Prefecture	Niyodogawa Town	Torigatayama	1011.5

Source: Japan Meteorological Agency document

Maximum wind gust speed for the period (July 30 to August 11)



Ranking	Prefecture	Municipality	Location name (Reading)	Wind speed (m/s)	Wind direction	Date and time
1	Okinawa Prefecture	Naha City	Naha	52.5	ESE	Day 2, 4:14 p.m.
2	Okinawa Prefecture	Nanjo City	Itokazu	50.6	E	Day 2, 1:55 p.m.

Source: Japan Meteorological Agency document

(2) State of Damage

Typhoon No. 6 of 2023 caused landslides in 5 prefectures, including Okinawa, and flooding in nine rivers managed by prefectural governments in Kagoshima Prefecture and other areas. As a result, there was 1 fatality (in Okinawa), 7 serious injuries, and 96 minor injuries. Damages to residential buildings included 5 completely destroyed buildings, 273 buildings partially destroyed or damaged, and 145 buildings with flooding above or below the floor (The Fire and Disaster Management Agency data, as of March 6, 2024). Additionally, a maximum of 215,800 households experienced power outages in the Okinawa Electric Power service area. Due to the prolonged impact of the typhoon, power restoration took approximately one week.

(3) Response by the Government

The government established an information contact office at the Prime Minister's Office at 3:45 p.m. on July 31, 2023. The office held an Inter-Agency Disaster Alert Meeting. Additionally, on August 3 at 3:45 p.m., an Inter-Agency Disaster Management Meeting was held, and by August 7, two such meetings had been conducted. On August 4, then Minister of State for Disaster Management, Tani, held a disaster response consultation with Okinawa Governor Tamaki.

On August 7, the Japan Coast Guard and the Self-Defense Forces transported materials and personnel by aircraft to Tokashiki Island and Izena Island to restore power to the remote islands.

The "Disaster Relief Act" was applied to 34 cities, towns, and villages in Okinawa Prefecture.

Disaster response consultation between then Minister of State for Disaster Management, Tani, and Okinawa Governor Tamaki (Cabinet Office data)

Disaster relief activities (Air transport of personnel and relief supplies (Izenamura)) (August 7)
Source: Ministry of Defense Joint Staff Office website

Section 3 Disaster Due to Typhoon No. 7 in 2023

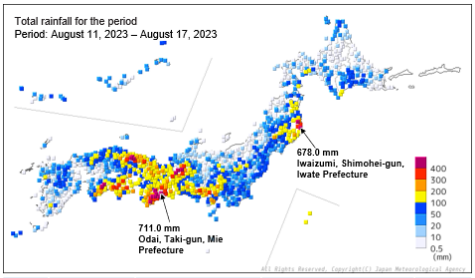
(1) Overview

Typhoon No. 7, which formed off the coast of Minamitorishima on August 8, 2023, moved westward and approached the Ogasawara Islands on August 11. From August 12 to 15, the typhoon moved northwest from the waters near the Ogasawara Islands to the south of Japan, resulting in landfall in Wakayama Prefecture before 5:00 a.m. on August 15. It then moved northward through the Kinki region and reached the Sea of Japan by the evening of August 15. It then moved north across the Sea of Japan and transitioned into an extratropical cyclone over the waters west of Hokkaido on August 17.

Heavy rainfall occurred primarily in the Tokai, Kinki, and Chugoku regions along the typhoon's path. From August 11 to 17, total rainfall exceeded 700 mm in some areas, and in parts of the Chugoku region, it surpassed three times the average monthly rainfall for August. Additionally, stationary linear mesoscale convective systems developed in Iwate Prefecture on August 12 and in Okayama and Tottori Prefectures on August 15.

Very strong winds were recorded in areas close to the typhoon's path. On August 11, a maximum wind gust speed exceeding 30m/s was recorded in Tokyo (Ogasawara Islands). Between August 14 and 15, Mie and Hyogo Prefectures recorded maximum instantaneous wind speeds over 30 m/s, setting new records for the highest values ever recorded in August. Furthermore, on August 15, tornadoes and other gusty winds caused damage in Aichi, Shizuoka, and Saitama Prefectures.

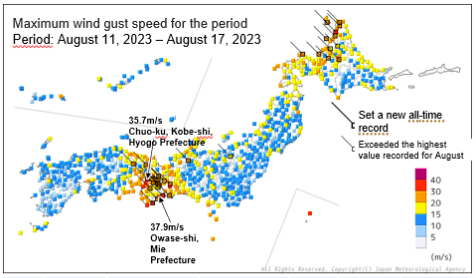
Total rainfall for the period (August 11 to August 17)



Ranking	Prefecture	Municipality	Location Name (Reading)	Precipitation Amount (mm)
1	Mie Prefecture	Odai Town, Taki District	Miyagawa	711.0
2	Iwate Prefecture	Iwaizumi Town, Shimohei District	Omoto	678.0

Source: Japan Meteorological Agency document

Maximum wind gust speed for the period (August 11 to August 17)



Ranking	Prefecture	Municipality	Location name (Reading)	Wind speed (m/s)	Wind direction	Date and time
1	Mie Prefecture	Owase City	Owase	37.9	East-northeast (ENE)	Day 15, 2:16 p.m.
2	Hyogo Prefecture	Chuo Ward, Kobe City	Kobe	35.7	North-northeast (NNE)	Day 15, 6:59 p.m.

Source: Japan Meteorological Agency document

(2) State of Damage

Typhoon No. 7 of 2023 caused 24 rivers under national and prefectural management to overflow in Kyoto Prefecture, Tottori Prefecture, and a total of one prefecture-level administrative division and nine prefectures, resulting in flood damage. The human casualties included 9 people severely injured and 59 people with minor injuries. Damages to residential buildings included 4 completely destroyed buildings, 258 buildings partially destroyed or damaged, and 692 buildings with flooding above or below the floor (The Fire and Disaster Management Agency data, as of March 6, 2024).

In addition, the impact on transportation was severe, including suspension of operations of highways, suspension of train services, and flight cancellations. Furthermore, landslides and other debris caused road closures on national highways and other routes, resulting in temporary isolation in one prefecture-level administrative division and two prefectures, including Tottori Prefecture.

(3) Response by the Government

The government established an information contact office at the Prime Minister's Office at 3:00 p.m. on August 10, 2023. The office held an Inter-Agency Disaster Alert Meeting. (a second meeting was held on August 14). Subsequently, at 4:40 p.m. on August 15, the information contact office was reorganized into the Emergency Contact Office in the Prime Minister's Office. Additionally, on August 19, then Minister of State for Disaster Management, Mr. Tani, visited the disaster-affected areas in Kyoto, Hyogo, and Tottori Prefectures.

The "Disaster Relief Act" was applied to 3 prefectures and 7 cities and towns.

Regarding the designation of a disaster of extreme severity, a cabinet order was passed on October 6, 2023, to designate the disaster caused by the storms and heavy rain from August 12 to August 17, 2023, as a severe disaster.

Then Minister of State for Disaster Management, Mr. Tani, inspected the disaster sites in Tottori Prefecture (Cabinet Office Data)

Then Minister of State for Disaster Management, Mr. Tani, inspected the disaster sites in Hyogo Prefecture (Cabinet Office Data)

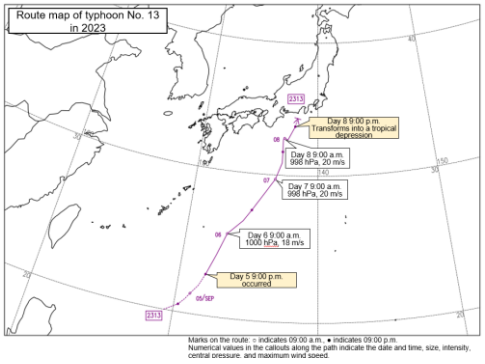
Section 4 Disaster Due to Typhoon No. 13 in 2023

(1) Overview

Typhoon No. 13, which formed south of Japan on September 5, 2023, moved northward south of Japan by September 7 and transitioned into a tropical depression off the coast of Tokaido on September 8. As the typhoon moved northward, warm and moist air from the south flowed in, leading to rain clouds away from the typhoon's center, resulting in heavy rainfall along the Pacific side of the Kanto-Koshin and Tohoku regions from September 8 to September 9.

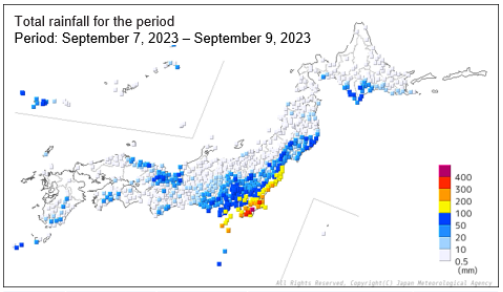
In Tokyo (Izu Islands), Chiba Prefecture, Ibaraki Prefecture, and Fukushima Prefecture, stationary linear mesoscale convective formed, resulting in intense rainfall exceeding 80 mm per hour in some areas. In these regions, some locations recorded the highest hourly rainfall ever observed, while others experienced total rainfall exceeding 400 mm from September 7 to September 9, surpassing the average September monthly rainfall.

Route map of typhoon No. 13 in 2023



Source: Japan Meteorological Agency document

Total rainfall for the period (September 7 to September 9)



Ranking	Prefecture	Municipality	Location Name (Reading)	Precipitation Amount (mm)
1	Chiba Prefecture	Mobara City	Mobara	405.0
2	Chiba Prefecture	Kimitsu City	Sakahata	387.5

Source: Japan Meteorological Agency document

(2) State of Damage

Typhoon No. 13 of 2023 caused 40 rivers managed by prefectural governments to overflow in Fukushima, Ibaraki, and Chiba prefectures, resulting in flood damage. Human casualties included 3 fatalities (1 in Fukushima Prefecture and 2 in Ibaraki Prefecture) and 21 people with minor injuries. The damage to residential buildings included 19 destroyed buildings, 2,257 partially destroyed or damaged buildings, and 4,125 buildings flooded above or below the floors (Fire and Disaster Management Agency information as of March 6, 2024). Furthermore, lifelines were also damaged; a maximum of 176 households experienced suspension of water supply, and approximately 10,000 households suffered power outages in areas serviced by Tokyo Electric Power Company and Chubu Electric Power Company. Additionally, there was damage to railroads, including the washing away of track beds.

(3) Response by the Government

On September 7, 2023, at 3:00 p.m., the government established an information contact office at the Prime Minister's Office. The office held an Inter-Agency Disaster Alert Meeting. Additionally, on September 20, the Minister of State for Disaster Management, Mr. Matsumura, visited the disaster-affected areas in Fukushima and Ibaraki Prefectures. On September 27, he visited the disaster-affected areas in Chiba Prefecture.

The "Disaster Relief Act" was applied to 13 cities and towns in 3 prefectures, and the "Act on Support for Reconstructing Livelihoods of Disaster Victims" was applied to 5 cities and towns in 3 prefectures.

Regarding the designation of a disaster of extreme severity, a cabinet order was passed on November 7, 2023, to designate the disaster caused by a rainstorm from September 4 to September 9, 2023, in areas such as Otaki Town, Isumi District, Chiba Prefecture, as a severe disaster.

Minister of State for Disaster Management, Mr. Matsumura, visited disaster-affected areas in Ibaraki Prefecture (Cabinet Office data)

Minister of State for Disaster Management, Matsumura, visits disaster-affected areas in Fukushima Prefecture (Cabinet Office data)

Minister of State for Disaster Management, Matsumura, visits disaster-affected areas in Chiba Prefecture (Cabinet Office data)

Section 5 Response by volunteers and NPOs

(1) Volunteer Response to Major Disasters in 2023

In the disasters caused by heavy rains associated with the 2023 rainy season front, Disaster Volunteer Centers (hereinafter referred to as "Disaster VCs") were established by social welfare councils in 13 cities and towns in Ibaraki, Saitama, Shizuoka, Aichi, and Wakayama Prefectures. Approximately 5,900 volunteers participated in activities through these Disaster VCs (as of November 13, 2023). In addition, Disaster VC was established in 23 cities and towns in Akita Prefecture, Toyama Prefecture, Ishikawa Prefecture, Shimane Prefecture, Yamaguchi Prefecture, Fukuoka Prefecture, Saga Prefecture, and Kumamoto Prefecture by social welfare councils. Approximately 25,000 volunteers participated in activities (as of November 30, 2023) through these Disaster VCs.

In the disaster caused by Typhoon No. 13 of 2023, Disaster VCs were established by social welfare councils in 7 cities and towns in Fukushima, Ibaraki, and Chiba Prefectures. Approximately 11,000 volunteers participated in activities through these Disaster VCs (as of November 30, 2023).

In the affected areas, disaster victim support activities were carried out based on local circumstances. These included cleaning and tidying up damaged houses, removing disaster debris, transporting sediment from inside houses and waterways, distributing supplies at evacuation centers, and assisting with relocation from shelters.

Furthermore, in addition to volunteering support provided through disaster VCs, specialized NPOs and other organizations carried out a wide range of support activities. These included assistance with evacuation center operations, technical support for damaged houses such as debris and rubble removal, handling of disaster waste in the affected areas, support for evacuees at home, creating safe spaces for children, and providing mental health care.


Disaster relief activities by volunteers (Material from Akita Prefecture Council of Social Welfare)


Volunteer activities by NPOs, etc., with expertise (JVOAD data)

(2) Collaboration among government, volunteers, NPOs, etc.

In the disaster-affected areas of Akita and Saga Prefectures, various disaster support organizations, including the government, social welfare councils, and NPOs, held “Information Sharing Meetings”. These served as platforms to share information about support activities and coordination efforts. Through these meetings, coordinated support from the government, volunteers, and NPOs was implemented to address the needs of disaster victims and assist evacuees at home.

Additionally, on a national level, the Cabinet Office, the Japan Voluntary Organizations Active in Disaster (JVOAD), the National Council of Social Welfare, and the Disaster Volunteer Support Project Meeting (Support P) held the “National Information Sharing Meeting (Core Meeting)” In these meetings, information about the affected areas held by each organization was shared and discussed methods for future disaster support.

Information sharing meeting in Akita prefecture (JVOAD data)

Information sharing meeting in Saga prefecture (Saga Disaster Relief Platform data)

APPENDIX

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Fig. A-1 Major Natural Disasters in Japan Since 1945

Date	Disaster Name	Main Affected Areas	Number of Fatalities and Missing Persons
January 13, 1945	Mikawa Earthquake (M6.8)	Southern Aichi Prefecture	2,306
September 17-18, 1945	Typhoon Makurazaki	Western Japan (Especially in Hiroshima Prefecture)	3,756
December 21, 1946	Nankai Earthquake (M8.0)	Various places in and to Western Chubu region	1,443
August 14, 1947	Mt. Asama Eruption	Around Mt. Asama	11
September 14-15, 1945	Typhoon Kathleen	In and north of Tokai area	1,930
June 28, 1948	Fukui Earthquake (M7.1)	In and around the Fukui Plains	3,769
September 15-17, 1945	Typhoon Ione	From Shikoku into Tohoku regions (Especially in Iwate Prefecture)	838
September 2-4, 1950	Typhoon Jane	In and north of Shikoku region (Especially in Osaka Prefecture)	539
October 13-15, 2004	Typhoon RUTH (5115)	Nationwide (Especially in Yamaguchi Prefecture)	943
March 4, 1952	Earthquake Off the Coast of Tokachi (M8.2)	Southern Hokkaido and Northern Tohoku region	33
June 25-29, 1953	Heavy Rains	Kyushu, Shikoku and Chugoku regions (Especially in Kitakyushu)	1,013
July 16-24, 1953	Nanki Torrential Rains	In and west of Tohoku region (Especially in Wakayama Prefecture)	1,124
May 8-12, 1954	Windstorm	Northern Japan, Kinki region	670
September 25-27, 1954	Typhoon Marie	Nationwide (Especially in Hokkaido and Shikoku region)	1,761
July 25-28, 1957	Isahaya Torrential Rains	Kyushu region (Especially around Isahaya area)	722
June 24, 1958	Mt. Aso Eruption	Around Mt. Aso	12
September 26-28, 1945	Typhoon Ida	In and east of Kinki region (Especially in Shizuoka Prefecture)	1,269
September 26-27, 1959	Typhoon Vera	Nationwide (Except for Kyushu region; especially in Aichi Prefecture)	5,098
May 23, 1960	Chile Earthquake and Tsunami	Southern Coast of Hokkaido, Sanriku and Shima Coasts	142
January 1963	Damage from snowfall in 1963	Hokuriku and San-in areas, and Yamagata, Shiga and Gifu Prefectures	231
June 16, 1964	Niigata Earthquake (M7.5)	Niigata, Akita and Yamagata Prefectures	26
September 10-18, 1965	Typhoons SHIRLEY (6523), TRIX (6524), VIRGINIA (6525)	Nationwide (Especially in Tokushima, Hyogo and Fukui Prefectures)	181
September 23-25, 1966	Typhoons HELEN (6624), IDA (6626)	Chubu, Kanto and Tohoku regions (Especially in Shizuoka and Yamanashi Prefectures)	317
July to August 1967	Torrential Rains of July and August	Western Chubu and Southern Tohoku regions	256
May 16, 1968	1968 Earthquake Off the Coast of Tokachi (M7.9)	Southern Hokkaido and Tohoku region, mainly in Aomori Prefecture	52
July 3-15, 1972	The Heavy Rain Event of July 1972	Nationwide (Especially in Kitakyushu area and Shimane and Hiroshima Prefectures)	447
May 9, 1974	Earthquake Off the Coast of Izu Peninsula (M6.9)	Southern Tip of Izu Peninsula	30
September 8-14, 1976	Typhoon FRAN (7617) and Torrential Rains of September	Nationwide (Especially in Kagawa and Okayama Prefectures)	171
January 1977	Damage from snowfall	Tohoku and Northern Kinki regions and the Hokuriku area	101
August 7, 1977- October 1978	1977 Mt. Usu Eruption	Hokkaido	3
January 14, 1978	1978 Earthquake Inshore of Izu-Oshima Island (M7.0)	Izu Peninsula	25
June 12, 1978	1978 Earthquake Off the Coast of Miyagi Prefecture (M7.4)	Miyagi Prefecture	28
October 17-20, 1979	Typhoon TIP (7920)	Nationwide (Especially in Tokai area, and Kanto and Tohoku regions)	115
December 1980 – March 1981	Damage from snowfall	Tohoku region and Hokuriku area	152
July to August 1982	Torrential Rains of July-August and Typhoon BESS (8210)	Nationwide (Especially in Nagasaki, Kumamoto and Mie Prefectures)	439
May 26, 1983	1983 Central Japan Sea Earthquake (M7.7)	Akita and Aomori Prefectures	104
July 20-29, 1953	Seasonal Torrential Rains	In and east of San-in area (Especially in Shimane Prefecture)	117
October 3, 1983	1983 Miyake Is. Eruption	Around Miyake-jima Island	–
December 1983 - March 1984	Damage from snowfall	Tohoku region and Hokuriku area (Especially in Niigata and Toyama Prefectures)	131

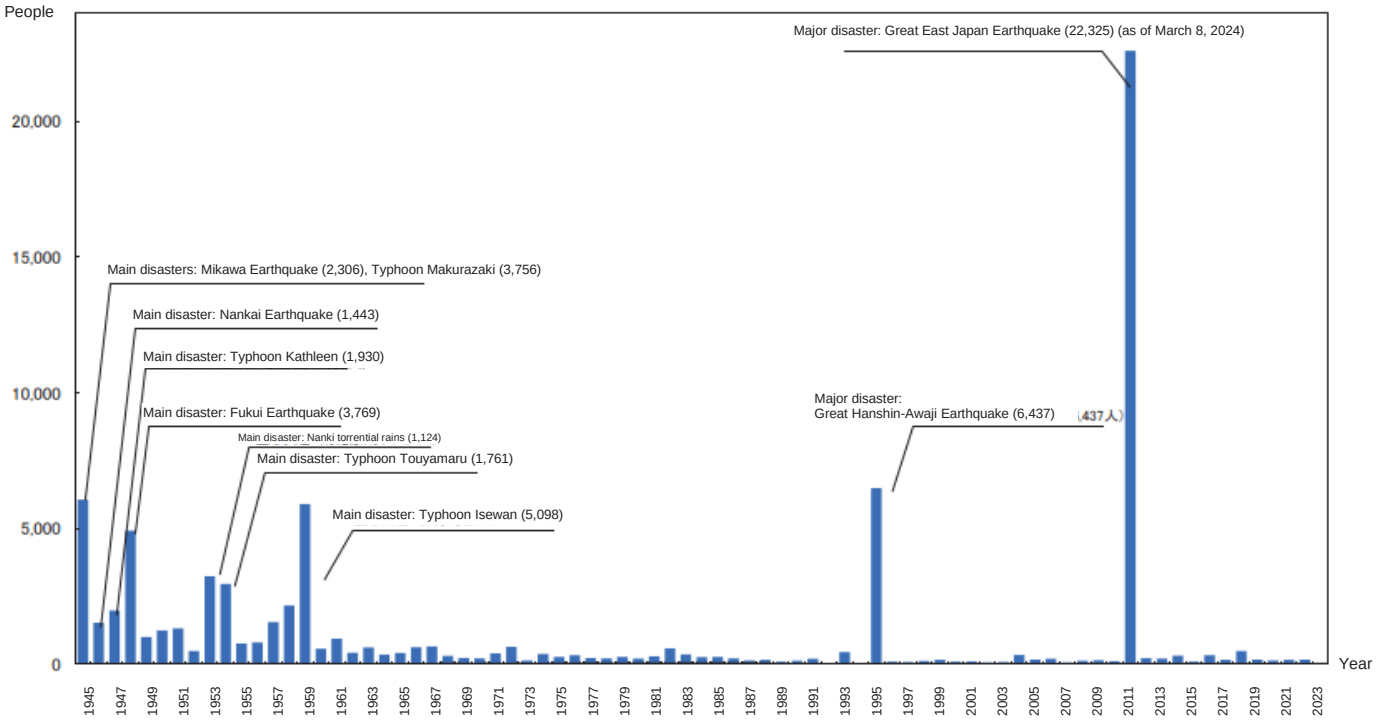
Date	Disaster Name	Main Affected Areas	Number of Fatalities and Missing Persons
September 14, 1984	1984 Western Nagano Prefecture Earthquake (M6.8)	Western Nagano Prefecture	29
November 15 – December 18, 1986	1986 Izu-Oshima Is. Eruption	Izu-Oshima Island	–
November 17, 1990 – June 3, 1995	1991 Mt. Unzen Eruption	Nagasaki Prefecture	44
July 12, 1993	1993 Earthquake Off the Coast of the Southwestern Part of Hokkaido (M7.8)	Hokkaido	230
July 31 – August 7, 1993	The Heavy Rain Event of August 1993	Nationwide	79
January 17, 1995	Great Hanshin-Awaji Earthquake (M7.3)	Hyogo Prefecture	6,437
March 31, 2000 - June 28, 2001	1977 Mt. Usu Eruption	Hokkaido	–
June 25, 2000 - March 31, 2005	2000 Miyake Is. Eruption and Niijima and Kozushima Is. Earthquake (M6.5)	Tokyo	1
October 20-21, 2004	2004 Typhoon TOKAGE (0423)	Nationwide	98
October 23, 2004	The mid-Niigata prefecture Earthquake in 2004 (M6.8)	Niigata Prefecture	68
December 2005 - March 2006	Damage from snowfall 2006	The Coast of the Japan Sea mainly in Hokuriku area	152
July 16, 2007	The Niigata-ken Chuetsu-oki Earthquake in 2007	Niigata Prefecture	15
June 14, 2008	The Iwate-Miyagi Nairiku Earthquake in 2008 (M7.2)	Tohoku region (Especially in Miyagi and Iwate Prefectures)	23
November 2010 - March 2011	Damage from snowfall	From Northern to Western Japan on the Japan Sea Coast	131
March 11, 2011	The 2011 off the Pacific coast of Tohoku Earthquake (Mw9.0)	Eastern Japan (Especially in Miyagi, Iwate and Fukushima Prefectures)	22,325
August 30 - September 5, 2011	Typhoon TALAS (1112)	Kinki and Shikoku regions	98
November 2011 - March 2012	Heavy Snowfall of 2011	From Northern to Western Japan on the Japan Sea Coast	133
November 2012 - March 2013	Heavy Snowfall of November 2012	From Northern to Western Japan on the Japan Sea Coast	104
November 2013 - May 2014	Heavy Snowfall of 2013	From Northern Japan to Kanto-Koshinetsu area (Especially in Yamanashi Prefecture)	95
August 20, 2014	The Heavy Rain Event of August 2014	Hiroshima Prefecture	77
September 27, 2014	2014 Eruption of Mt. Ontake	Nagano and Gifu Prefectures	63
April 14 and 16, 2016	The 2016 Kumamoto Earthquake (M7.3)	Kyushu area (Especially in Kumamoto Prefecture)	276
June 28 - July 8, 2018	The Heavy Rain Event of July 2018	Nationwide (Especially in Hiroshima, Okayama and Ehime Prefectures)	271
September 6, 2018	The 2018 Hokkaido Eastern Iburi Earthquake (M6.7)	Hokkaido	43
October 10 – 13, 2019	Typhoon Hagibis	Kanto and Tohoku regions	108
July 3-31, 2020	The Heavy Rain Event of July 2020	Nationwide (Especially in Kyushu region)	88
July 1 – July 14, 2021	Heavy Rain from July 1 of 2021	Nationwide (Especially in Shizuoka Prefecure)	29
August 7 – August 23, 2021	Heavy Rain of August 2021	Nationwide (Especially in Nagano, Hiroshima and Nagasaki Prefectures)	13
September 17 – September 20, 2022	Typhoon NANMADOL (2214)	Kyushu, Chugoku and Shikoku regions	5
January 1, 2024	2024 Noto Peninsula Earthquake (M7.6)	Ishikawa, Niigata and Toyama Prefectures	244

Note 1: The disasters listed resulted in fatalities and missing persons: 500 or more for storm and flood disasters, 100 or more for snowfall disasters, and 10 or more for earthquakes, tsunamis, and volcanic eruptions. It also includes disasters for which governmental Major Disaster Management Headquarters were established based on the Basic Act on Disaster Management. The number of fatalities and missing persons is the current figure as of end-March, 2023.

Note 2: The Noto Peninsula Earthquake of 2024 refers to the largest earthquake in a series of seismic events, specifically the earthquake that occurred in the Noto region of Ishikawa Prefecture at 4:10 PM on January 1, 2024.

Source: Formulated by the Cabinet Office based on the meteorological almanac of Japan, Chronological Scientific Tables, National Police Agency materials, Fire and Disaster Management Agency materials, Extreme Disaster Management Headquarters materials, Major Disaster Management Headquarters materials, and Hyogo Prefecture materials

Fig. A-2 Number of Fatalities and Missing Persons Due to Natural Disasters

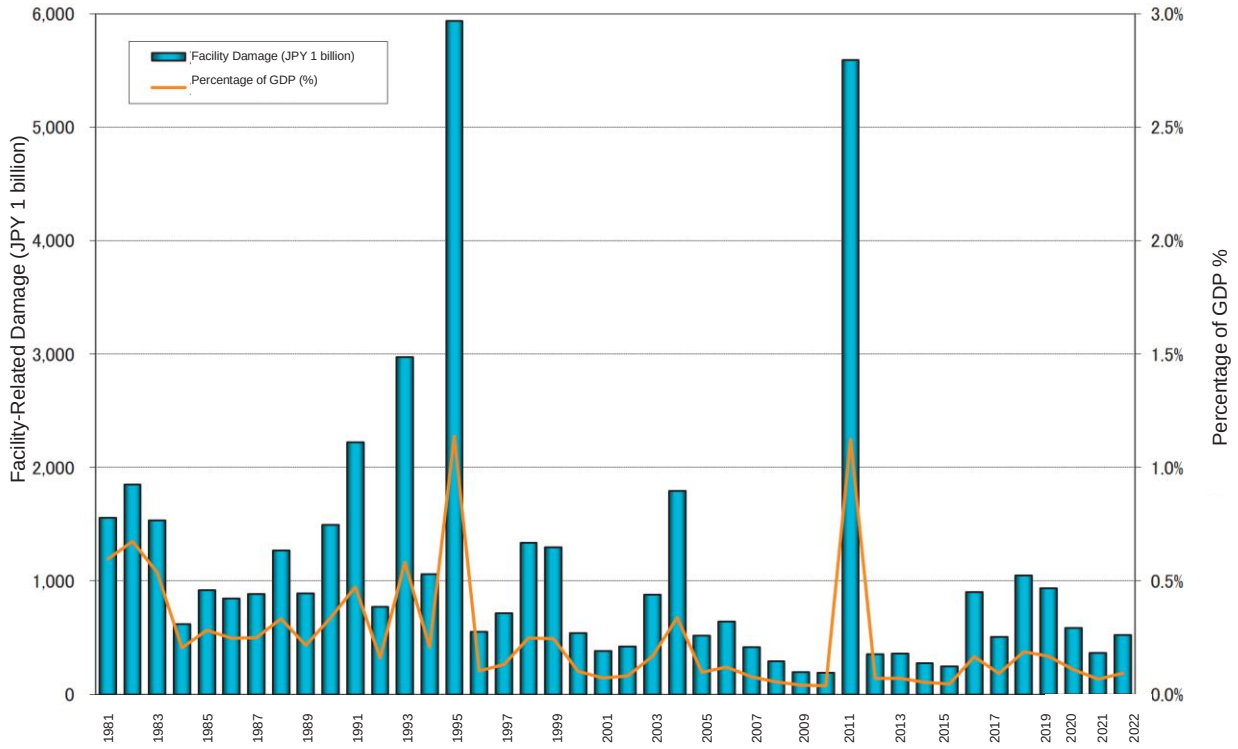


Note: The fatalities and missing persons in 2022 are based on flash bulletins from the Cabinet Office.

Year	Persons	Year	Persons	Year	Persons	Year	Persons	Year	Persons
1945	6,062	1962	381	1979	208	1996	84	2013	173
1946	1,504	1963	575	1980	148	1997	71	2014	280
1947	1,950	1964	307	1981	232	1998	109	2015	65
1948	4,897	1965	367	1982	524	1999	141	2016	297
1949	975	1966	578	1983	301	2000	78	2017	129
1950	1,210	1967	607	1984	199	2001	90	2018	452
1951	1,291	1968	259	1985	199	2002	48	2019	159
1952	449	1969	183	1986	148	2003	62	2020	128
1953	3,212	1970	163	1987	69	2004	318	2021	150
1954	2,926	1971	350	1988	93	2005	148	2022	159
1955	727	1972	587	1989	96	2006	177	2023	35
1956	765	1973	85	1990	123	2007	41		
1957	1,515	1974	324	1991	190	2008	101		
1958	2,120	1975	213	1992	19	2009	115		
1959	5,868	1976	273	1993	438	2010	89		
1960	528	1977	174	1994	39	2011	22,585		
1961	902	1978	153	1995	6,482	2012	192		

Source:
Fatalities and missing persons for the year 1945 came only from major disasters (source: Chronological Scientific Table). Years 1946–1952 use the Japanese Meteorological Disasters Annual Report; years 1953– 1962 use National Police Agency documents; years 1963 and after formulated by Cabinet Office based on Fire and Disaster Management Agency materials.

Fig. A-3 Trends in Facility Damage and the Amount and as a Percentage of Gross Domestic



Note: Gross domestic product (GDP) figures up to 1993 are based on the 2000 standard (SNA 1993), while those for 1994 onward are based on the 2015 standard (SNA 2008)

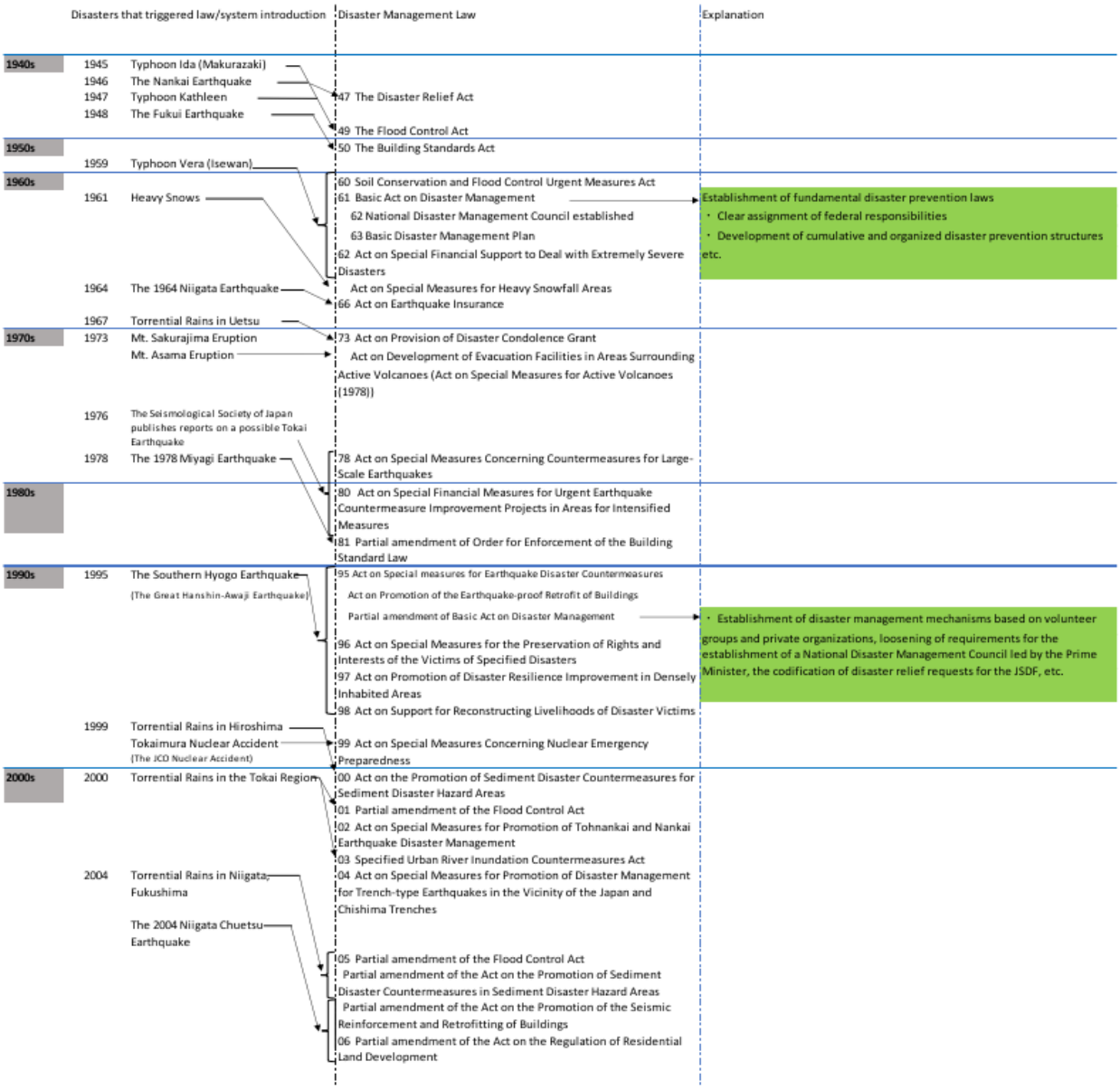
Source: Formulated by the Cabinet Office based on materials from various ministries and agencies

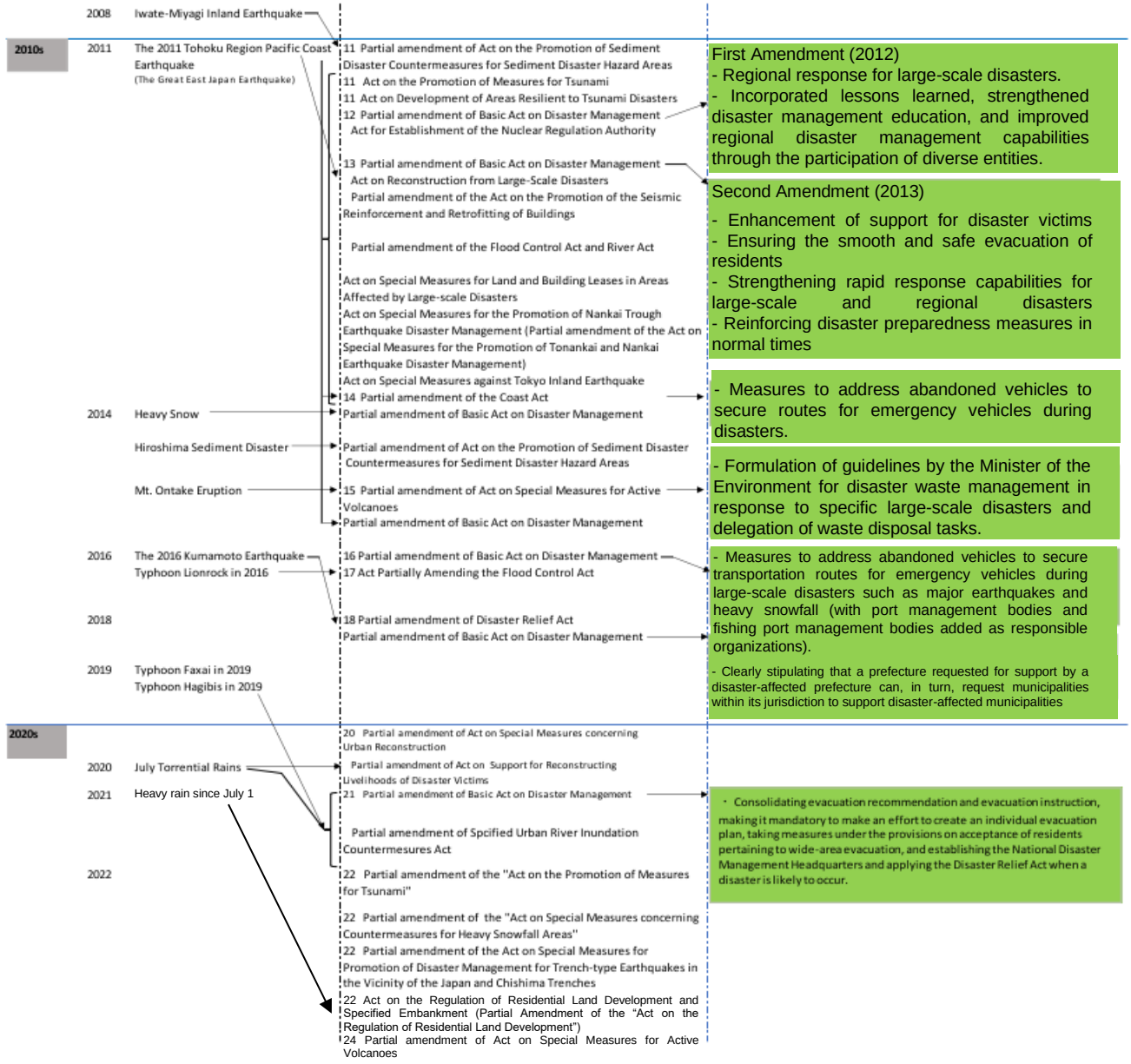
Fig. A-4 Facility Damage Due to Disasters in 2022, by Hazard

Classification	Typhoon (million yen)	Torrential rain (million yen)	Earth quake (million yen)	Heavy snowfall (million yen)	Others (million yen)	Total (million yen)	Notes
Public works	103,868	122,249	27,111	14	36,424	289,665	Rivers, forestry conservation facilities, ports, etc.
Agriculture, forestry and fisheries industry	61,710	103,644	6,969	1,459	7,538	181,320	Farmland, agricultural facilities, forestry roads, fishing facilities, etc.
Educational facilities	1,128	2,088	8,583	90	446	12,335	School facilities, cultural properties, etc.
Public welfare facilities	1,978	3,036	25,155	36	0	30,205	Social welfare facilities, waterworks facilities, etc.
Other facilities	3,668	2,514	1,036	229	58	7,506	Nature parks, telegraph/telephone, urban facilities, etc.
Total	172,353	233,531	68,854	1,827	44,467	521,032	

Note: Totals may not agree due to rounding. Source: Formulated by the Cabinet Office based on materials from various ministries and agencies

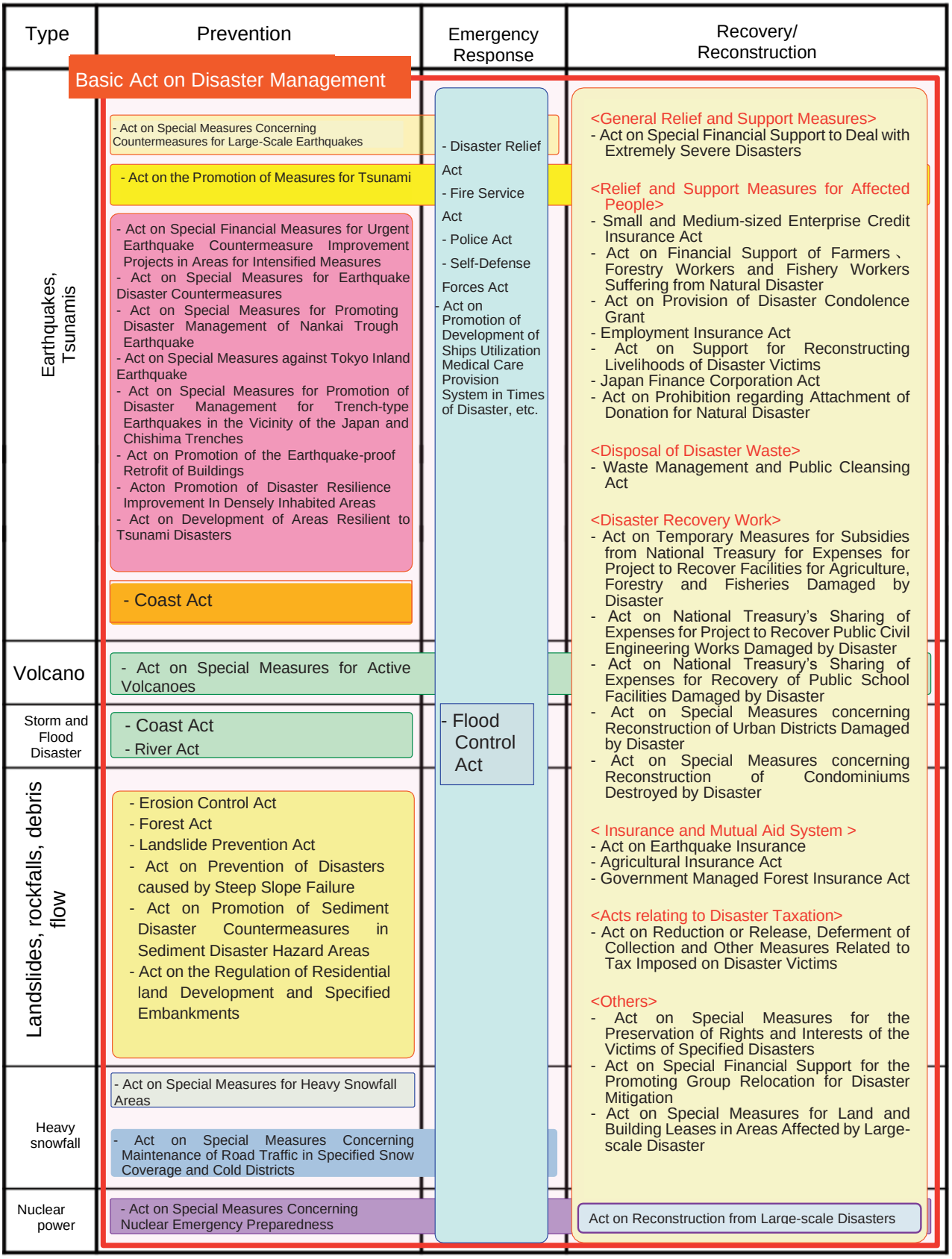
Fig. A-5 Evolution of Disaster Management Laws and Systems Since 1945





Source: Cabinet Office

Fig. A-6 Major Disaster Management Laws by Type of Disaster



Source: Cabinet Office data

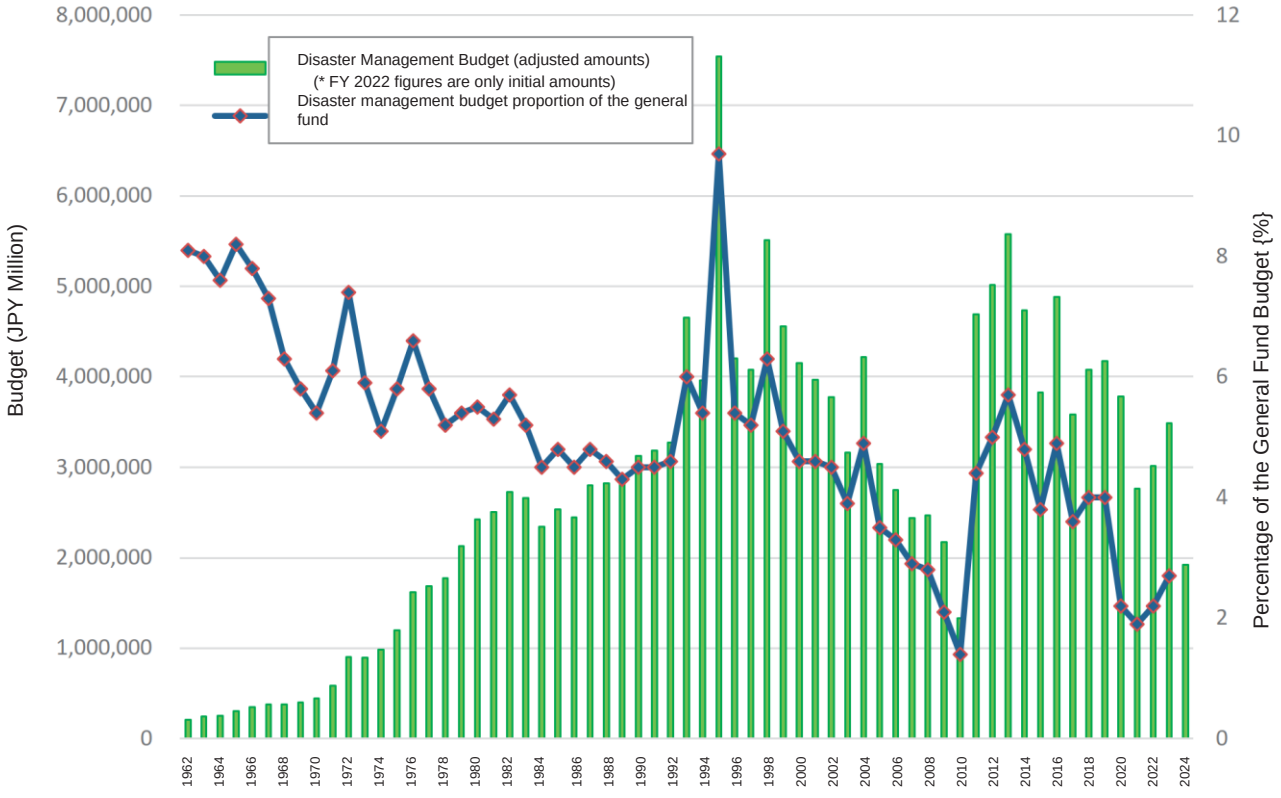
Fig. A-7 Disaster Risk Management Budgets by Year

Fiscal Year	Science and Technology Research		Disaster Prevention		Land Conservation		Disaster Reconstruction		Total (million yen)
	(million yen)	Share (%)	(million yen)	Share (%)	(million yen)	Share (%)	(million yen)	Share (%)	
1962	751	0.4	8,864	4.3	97,929	47.1	100,642	48.3	208,006
1963	1,021	0.4	8,906	3.7	116,131	47.7	117,473	48.2	243,522
1964	1,776	0.7	13,724	5.4	122,409	48.3	115,393	45.6	253,302
1965	1,605	0.5	17,143	5.6	147,858	48.3	139,424	45.6	306,030
1966	1,773	0.5	20,436	5.9	170,650	49.0	155,715	44.7	348,574
1967	2,115	0.6	23,152	6.1	197,833	52.3	154,855	41.0	377,955
1968	2,730	0.7	25,514	6.8	207,600	55.4	138,815	37.1	374,659
1969	2,747	0.7	30,177	7.5	236,209	59.0	131,270	32.8	400,403
1970	2,756	0.6	36,027	8.2	269,159	60.9	133,998	30.3	441,940
1971	3,078	0.5	50,464	8.6	352,686	60.3	178,209	30.5	584,437
1972	3,700	0.4	93,425	10.3	488,818	54.1	316,895	35.1	902,838
1973	6,287	0.7	111,321	12.4	493,580	54.9	287,082	32.0	898,270
1974	14,569	1.5	118,596	12.1	505,208	51.5	342,556	34.9	980,929
1975	17,795	1.5	159,595	13.3	615,457	51.3	405,771	33.9	1,198,618
1976	21,143	1.3	186,297	11.5	711,159	43.9	700,688	43.3	1,619,287
1977	22,836	1.4	234,409	13.9	904,302	53.6	525,886	31.2	1,687,433
1978	29,642	1.7	307,170	17.3	1,093,847	61.6	345,603	19.5	1,776,262
1979	35,145	1.6	435,963	20.4	1,229,401	57.6	432,759	20.3	2,133,268
1980	29,929	1.2	456,575	18.9	1,229,615	50.8	705,168	29.1	2,421,287
1981	29,621	1.2	474,926	18.9	1,240,788	49.5	761,950	30.4	2,507,285
1982	28,945	1.1	469,443	17.2	1,261,326	46.3	963,984	35.4	2,723,698
1983	29,825	1.1	489,918	18.4	1,268,712	47.6	875,851	32.9	2,664,306
1984	28,215	1.2	485,219	20.7	1,350,592	57.7	475,878	20.3	2,339,904
1985	27,680	1.1	512,837	20.2	1,355,917	53.5	640,225	25.2	2,536,659
1986	28,646	1.2	482,889	19.7	1,354,397	55.3	581,462	23.8	2,447,394
1987	38,296	1.4	612,505	21.9	1,603,599	57.2	548,337	19.6	2,802,737
1988	31,051	1.1	587,073	20.8	1,550,132	54.9	657,681	23.3	2,825,937
1989	34,542	1.2	588,354	20.7	1,638,104	57.5	587,819	20.6	2,848,819
1990	35,382	1.1	625,239	20.0	1,669,336	53.4	796,231	25.5	3,126,188
1991	35,791	1.1	628,596	19.8	1,729,332	54.3	788,603	24.8	3,182,322
1992	36,302	1.1	745,405	22.8	2,017,898	61.6	475,411	14.5	3,275,015
1993	43,152	0.9	866,170	18.6	2,462,800	52.9	1,280,569	27.5	4,652,691
1994	40,460	1.0	747,223	18.9	1,945,295	49.1	1,230,072	31.0	3,963,050
1995	105,845	1.4	1,208,134	16.0	2,529,386	33.5	3,696,010	49.0	7,539,375
1996	52,385	1.2	1,029,658	24.5	2,156,714	51.3	968,182	23.0	4,206,938
1997	49,128	1.2	1,147,102	28.2	2,014,695	49.4	864,370	21.2	4,075,295
1998	62,435	1.1	1,228,539	22.3	2,905,921	52.8	1,310,515	23.8	5,507,411
1999	78,134	1.7	1,142,199	25.0	2,400,534	52.6	941,886	20.6	4,562,752
2000	73,502	1.8	1,011,535	24.4	2,376,083	57.3	689,225	16.6	4,150,346
2001	49,310	1.2	1,060,445	26.7	2,238,816	56.4	618,427	15.6	3,966,998
2002	48,164	1.3	1,202,984	31.9	1,981,686	52.5	543,949	14.4	3,776,783
2003	35,133	1.1	814,101	25.7	1,625,670	51.4	689,255	21.8	3,164,159
2004	30,478	0.7	815,059	19.3	1,753,418	41.5	1,622,112	38.4	4,221,067
2005	11,097	0.4	866,290	28.6	1,426,745	47.0	728,606	24.0	3,032,738
2006	11,627	0.4	689,505	25.1	1,439,129	52.3	610,302	22.2	2,750,563
2007	9,687	0.4	706,853	29.0	1,332,222	54.6	391,637	16.0	2,440,399
2008	8,921	0.4	819,359	33.2	1,275,135	51.7	363,471	14.7	2,466,886
2009	8,761	0.4	498,397	23.0	1,383,254	63.7	279,789	12.9	2,170,201

Fiscal Year	Science and Technology Research		Disaster Prevention		Land Conservation		Disaster Reconstruction		Total
	(million yen)	Share (%)	(million yen)	Share (%)	(million yen)	Share (%)	(million yen)	Share (%)	(million yen)
2010	7,695	0.6	224,841	16.9	813,359	61.1	285,038	21.4	1,330,933
2011	28,072	0.6	383,384	8.2	743,936	15.9	3,534,830	75.4	4,690,222
2012	53,496	1.1	1,010,535	20.1	951,561	19.0	2,854,537	56.9	5,016,359
2013	15,339	0.3	786,046	14.1	879,932	15.8	3,881,875	69.6	5,573,470
2014	16,688	0.4	771,210	16.3	841,367	17.8	3,102,691	65.6	4,731,956
2015	14,961	0.4	701,843	18.4	155,239	4.1	2,951,923	77.2	3,823,966
2016	14,023	0.3	696,399	14.3	318,320	6.5	3,855,516	78.9	4,884,258
2017	10,123	0.3	790,361	22.1	267,629	7.5	2,515,384	70.2	3,583,497
2018	22,781	0.6	737,429	18.1	482,711	11.8	2,834,284	69.5	4,077,205
2019	14,390	0.3	814,471	19.5	512,324	12.3	2,835,790	67.9	4,176,975
2020	15,726	0.4	1,037,401	27.2	437,134	11.5	2,320,286	60.9	3,810,547
2021	26,756	0.5	1,108,485	33.3	404,554	7.5	1,226,931	58.2	2,766,726
2022	14,806	0.5	1,122,603	37.2	693,159	23.0	1,186,362	39.3	3,016,930
2023	37,291	1.1	1,321,461	37.9	738,664	21.2	1,389,623	39.9	3,487,039
2024	7,660	0.4	1,039,069	54.1	106,899	5.6	765,635	39.9	1,919,263

Note
1. These are adjusted budget (national expenditures) amounts. However, the FY2023 figures are preliminary figures reflecting the initial budget.
2. The reduced amount allocated to science and technology research in FY 2007 is largely due to the structural conversion of national labs and research institutions into independent administrative agencies (the budgets of independent administrative agencies are not included in this table).
3. The amount allocated to disaster prevention in FY2 009 is reduced because a portion of the revenue sources set aside for road construction were converted to general fund sources, making it impossible to allocate certain portions to the disaster management budget.
4. The reduced amount allocated to disaster prevention and land conservation in FY2010 is due to the fact that, following the creation of the Comprehensive Social Infrastructure Development Grant, some disaster prevention policies and many subsidy programs in land conservation were established using those grants.

Source: Formulated by the Cabinet Office based on materials from various ministries and agencies



Source: Formulated by the Cabinet Office based on materials from various ministries and agencies