

Creating a disaster-resilient nation, to protect the lives and livelihoods of you and your family

~What is meant by building national resilience?~



National Resilience Promotion Office,
Cabinet Secretariat

Examples of disasters that have occurred in Japan

Japan is a disaster-prone country.

What kind of disasters occur in Japan?

Earthquakes

Earthquakes seismic intensity 5 and over

18.6 times/year*1

Storm and flood damage

Hourly rainfall of 50 mm or more

334 times/year*2

Volcanic eruptions

Number of active volcanoes*3

111



It's scary to think things like this can happen. But how can we prevent it ...

What happens when a disaster occurs?

Many people die in earthquakes, tsunamis, fires, and house collapses



Electricity, water, food, and other supplies essential for daily life are cut off



Heavy rain, typhoons, landslides, etc. make houses uninhabitable



Farmland and businesses are damaged, the country is devastated, and ability to compete in world markets is undermined



*1 Japan Meteorological Agency. Number of earthquakes per month by maximum seismic intensity on the Japanese scale during the past 10 years (2011–2020) from the December 2020 Monthly Seismic and Volcanic Activity Report (Disaster Damage Prevention edition)

*2 Japan Meteorological Agency. Changes in Extreme Weather Phenomena (Heavy Rain, Extreme Heat, etc.) to Date | Average annual frequency of rainfall events in the last 10 years (2011–2020) from the nationwide (AMeDAS) annual frequency of hourly rainfall of 50 mm or more

*3 Japan Meteorological Agency. What is an Active Volcano? | From the definition of “active volcano and changes in the number of active volcanoes

What is meant by creating a disaster-resilient nation (building national resilience)?

Building national resilience refers to initiatives to make a nation and communities resilient to the effects of natural disasters such as earthquakes, tsunamis, and typhoons.

When a
disaster occurs

Unless we build national resilience...

Heavy damage is sustained



The recovery process is slow



When
reconstruction
takes place

If we build national resilience...

Damage is limited



Recovery is quick



Taking preventive measures in advance not only limits the damage but also ensures that reconstruction is quick!

Initiatives to build national resilience

Building national resilience is an extremely broad concept.

Building national resilience includes not only initiatives at government level but also at the corporate, regional, and individual level. And it includes not only structural but also non-structural measures.



I had thought that building national resilience is something the government does, but now I see that it includes efforts by individuals and non-structural initiatives.

Examples of initiatives to build national resilience (1)

Let's take a look at some examples of how local people have worked together to build national resilience.

Disaster Preparedness Guide for Parents and Kids

(Kawabe, Mabi-cho, Kurashiki City, Okayama Prefecture)

The Disaster Preparedness Guide for Parents and Kids was produced as part of the "Kawabe Reconstruction Project ARUKU" launched by residents of areas that sustained damage in the West Japan flood disaster out of a desire to ensure that children are protected from fear and that no-one has to suffer the pain of loss.

The Guide sets out in an accessible format what residents should know to prepare for disaster, such as (1) Dispersed evacuation other than evacuation shelter - Decide where to evacuate; (2) Timing for evacuation - Decide when to evacuate; (3) Think about what to take with you - Prepare what you will take with you.



* <https://aruku2018.org/oyako-notebook/>
(in Japanese)

* <https://aruku2018.org/english-version/>

Formulation of Disaster Prevention Plan for Sapporo Tokeidai (Sapporo Clock Tower) Building

(Chuo-ku, Sapporo)

Sapporo Tokeidai Building houses an FM radio station, eating establishments, and a childcare facility. An area for recharging batteries and a rest area have also been prepared to allow employees of tenants to stay in the building for three days in the event of a disaster, with relief supplies and information also being provided.



Also, a "Nursery School Response Team" comprised of representatives from each tenant company has been formed to protect the safety of the children being cared for in the facility.

These initiatives are helping to raise awareness of the importance of self-help and mutual assistance in times of disaster.

What a great opportunity to involve our children in preparing for an emergency!

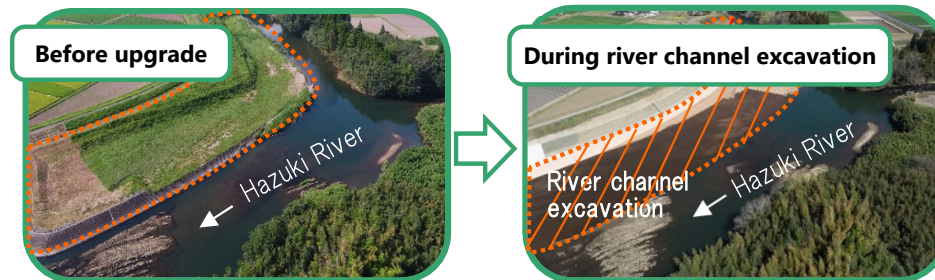


So disaster preparedness was motivated by having experienced an earthquake and an awareness of the need to keep the children in the nursery school safe.

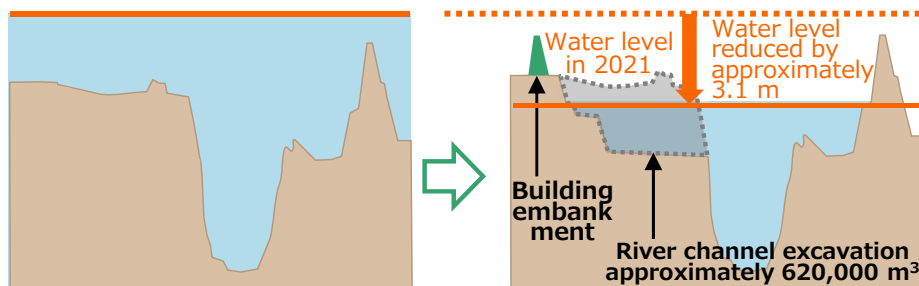
Let's take a look at some examples of how national and local governments have built national resilience.

Mitigating flood damage by upgrading river embankments (Satsuma, Isa City, Kagoshima Prefecture, etc.)

During the heavy rains that fell from July 1, 2020, the water level was reduced by approximately 3.1 m as a result of embankment improvement and river excavation. As a result, the mainstream Kawauchi river did not spill its banks, mitigating flood damage.



* Water level if river improvements not carried out



* Estimated water level at time of 2021 water outflow volume using cross-section of channel prior to 2006

Ensure safety of school facility through seismic reinforcement (Chikugo City, Fukuoka Prefecture)

The school gymnasium was at high risk of falling down so was earthquake-resistant. This measure ensured the safety of the school facility.

In the event of a disaster, it can be used as an evacuation site.

Before seismic reinforcement works



After seismic reinforcement works



It's great that the river no longer overflows its banks!



Now we can send our children to school with peace of mind!



Effectiveness of building national resilience

Let's take a look at the effectiveness of initiatives for building national resilience

Example (1) Odagawa River, part of the Takahashi River system, in the torrential rains of July 2018^{*1}

Post-disaster
damage and
recovery costs^{*2}

Approx.
269.5 billion
yen

Approx.
1/6

Cost if measures
had been taken
before disaster
occurred

Approx. 48
billion yen

Example (2) Abukuma River in Typhoon Hagibis (2019)^{*1}

Post-disaster
damage and
recovery costs^{*2}

Approx.
702 billion
yen

Approx.
1/5

Cost if measures
had been taken
before disaster
occurred

Approx. 130
billion yen

^{*1} Prepared by the National Resilience Promotion Office of the Cabinet Secretariat based on materials prepared by the Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism

^{*2} Present status of recovery costs for general damage, support for victims and affected areas, disaster waste disposal costs, etc.



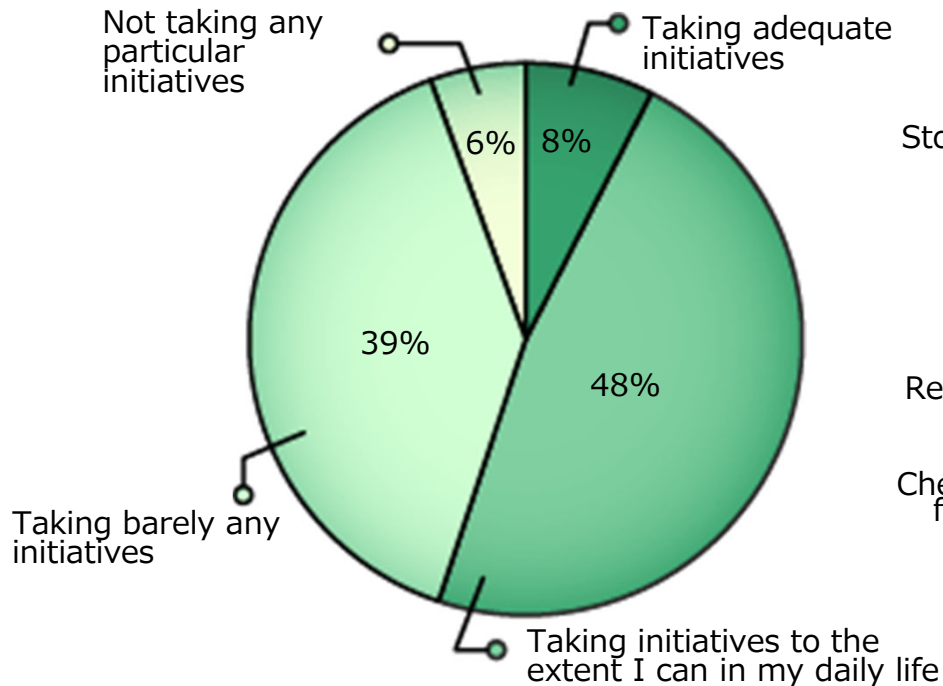
So taking proper precautions not only limits the damage, but also reduces recovery costs!

06 How well prepared are you for national resilience initiatives?

Let's take a look at the results of a survey to determine how others are faring in their attempts to build national resilience.

How well prepared are you for a disaster?

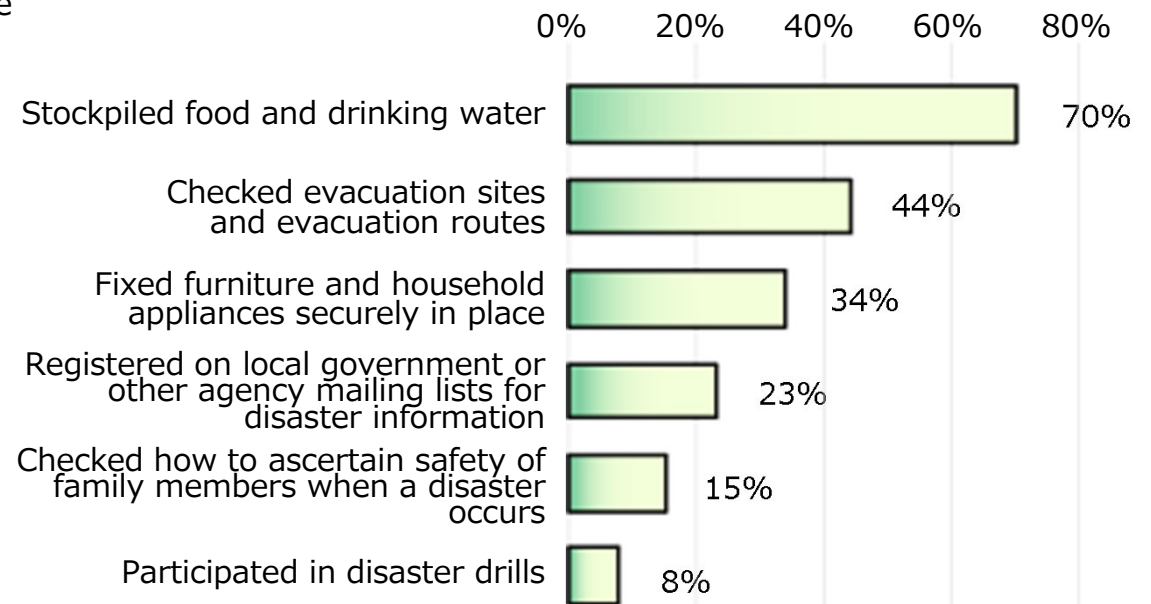
Status of initiatives to prepare for disaster*



So less than 1 in 10 people are taking adequate initiatives.

What specific actions are you taking?

Specific details of preparations for disaster*



So there are many different ways we need to prepare!

* Partial extract from results of Questionnaire Survey on Promotion and Raising Public Awareness of National Resilience conducted in 2021
Survey period: November 9–11, 2021
Survey method: Online questionnaire
Number of valid responses: 1,048

What specific preparations should I start with?

It is best not to overthink it - just start wherever you can.

Checklist

Action

Investigate

- ☐ Talk about disaster planning with your family and friends
- ☐ Investigate disasters that have occurred in the area where your house, workplace, or school is located
- ☐ Check hazard maps and evacuation sites
- ☐ Check the routes to evacuation sites and do a test run



Prepare

- ☐ Decide what you will do if a disaster occurs in various scenarios (while sleeping, on the way to school, at work)
- ☐ Decide with your family and friends how you will stay in touch in the event of a disaster (e.g., use the 171 Disaster Emergency Message Dial service)
- ☐ Register for disaster information email alerts and emergency apps
- ☐ Prepare emergency supplies and food reserves (preferably enough for one week)
- ☐ Earthquake-resistant your home by installing earthquake-sensitive circuit breakers and fixing furniture securely in place, earthquake-resistant your house



Work together

- ☐ Make an effort to greet and converse with people in the neighborhood on a daily basis
- ☐ Participate in disaster drills in your community, company, school, etc.
- ☐ Share information on disasters received from various authorities via SNS and other platforms
- ☐ Participate in voluntary disaster prevention organizations



So we too should just get started in whatever way we can! I think I'll start by having a conversation with the family about disaster planning.



Let's share what we know with everyone to keep everyone safe!

Use a worksheet (1) If an earthquake were to occur...

Begin by having a conversation with your family and friends about what damage you anticipate in the event of a disaster and what you should do to prevent it!

Talk about what happens when an earthquake strikes

Collapse



When a house collapses or a piece of furniture topples over, people may be pinned down or injured underneath it.

Tsunami



People may be swept away by a tsunami and go missing, or lose their lives to drowning.

Outages of essential utilities



When outages of essential utilities occur, living conditions deteriorate and people are more likely to become sick. Living in a shelter for a prolonged period also causes significant mental stress.

Fire



Fires can be caused by things like damage to electrical wiring or flammable materials coming into contact with heating equipment. Efforts to evacuate may be hampered by a fire and people may perish.

Talk about other ways in which your surroundings will be affected.

Talk about what you can do to prevent damage

How to reduce damage from collapse



Will your house collapse or your furniture topple over in an earthquake? Think about how to earthquake-resistant your house, fix furniture securely in place, etc.!

How to mitigate damage from tsunami



How many minutes after an earthquake will a tsunami wave arrive and how high will it be? Check the evacuation sites on the hazard map!

How to prepare for outages of essential utilities



What would you need in order to be able to manage if the electricity, water, or gas were shut off? Prepare the things you will need such as stockpiles of food and a portable toilet!

How to mitigate against fire damage



Have you taken the necessary precautions to prevent electrical appliances and furniture from tipping over and causing damage to electrical wiring? Make a habit of keeping the area around the stove and electrical wiring tidy and free of clutter! Have fire extinguishers ready!

Talk about what else you can do.



So an earthquake can cause all kinds of damage.

It's important to be prepared for an emergency at all times!



Use a worksheet (2) - If heavy rains or a typhoon were to occur...

Begin by having a conversation with your family and friends about what damage you anticipate in the event of a disaster and what you should do to prevent it!

Talk about what happens when heavy rains and typhoons come

Flooding, inland flooding



The volume of water in rivers can suddenly increase and flow into towns and farmland. Also, the rain that falls on towns may not drain, resulting in sewage overflows.

Mudflows, landslides, cliff failures



Sediment carried by rainwater can wash away homes and damage transportation networks such as roads and railroad tracks.

Tidal wave



Houses may be flooded and/or damage and outages to essential utilities may occur. The entire city could also be inundated, with people being trapped in underground spaces a particular risk.

Storm



People may be struck by objects blown by strong winds, causing them to fall over and sustain injuries. Power lines may also be cut, causing power outages.

Talk about what you can do to prevent damage

How to mitigate against flood damage



Is there a possibility of flooding in the area where you live? Check flood damage hazard maps to see which places are dangerous and where the evacuation routes are!

How to mitigate against damage from landslide disaster



Check landslide disaster hazard maps to see which places in the surrounding area are at risk of landslide disasters! When heavy rains fall, be sure to evacuate early.

How to mitigate against tidal wave damage



Pay close attention to weather information such as approaching typhoons and times of high tide! Check hazard maps to see where evacuation sites are!

How to mitigate against storm damage



Are the shutters and windows sturdy? Also ensure they can be locked tight! Check for unsecured items outside the house that could be carried away on the wind, and that there are no trees that could get caught in power lines!

Talk about other ways in which your surroundings will be affected.

Talk about what else you can do.



So even the typhoons and heavy rains we see every year can cause major damage...

Make sure you're prepared for disaster!



The Cabinet Secretariat provides the following information. We recommend that you consult these reference sources.

- **Pamphlet: “Building National Resilience!” Workbook: “learning how to reduce disaster risks at the national and community levels”**

Pamphlet and educational materials summarizing the concept of building national resilience in an accessible format.

https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/about.html (in Japanese)

https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/index_en.html

- **Examples of effectiveness of disaster prevention and mitigation to build national resilience**

This document summarizes examples of the effectiveness of disaster prevention and mitigation in recent disasters that have occurred.

https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/kouhou/koukahakkijirei.html (in Japanese)

- **Collection of initiative examples from three-year emergency response plan for disaster prevention, disaster mitigation and building national resilience**

This document summarizes examples of the effectiveness of all 160 three-year emergency measures when disasters have occurred.

https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/kouhou/3kanenjirei.html (in Japanese)

- **Examples of private sector initiatives for building national resilience (April 2022)**

This document summarizes examples of private-sector initiatives spearheading efforts to build national resilience.

https://www.cas.go.jp/jp/seisaku/kokudo_kyoujinka/r4_minkan/index.html (in Japanese)



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Creating a disaster-resilient nation, to protect the lives and livelihoods of you and your family:

Evacuation sites in the event of a disaster

How to stay in touch with your family in the event of a disaster

Names and contact details of family members and others who you would want to know were safe

Name: _____

Telephone number: _____

Email: _____

Address: _____

Name: _____

Telephone number: _____

Email: _____

Address: _____

Name: _____

Telephone number: _____

Email: _____

Address: _____

Name: _____

Telephone number: _____

Email: _____

Address: _____



Print this out and carry it with you wherever you go!