# LEARNING FROM DISASTER SIMULATION DRILLS IN JAPAN

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Global Facility for Disaster Reduction and Recovery

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# TABLE OF CONTENTS

# LIST OF FIGURES

# LIST OF TABLES

# ACKNOWLEDGEMENTS

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AED | Automated External Defibrillator |
| ADRC | Asian Disaster Reduction Center |
| CEP | Chubu Electric Power Co., Ltd. |
| CSO | Civil Society Organization |
| DMAT | Disaster Medical Assistance Team |
| DRR | Disaster Risk Reduction |
| DRM | Disaster Risk Management |
| FY | Fiscal Year |
| GDP | Gross Domestic Product |
| GSDF | Ground Self-Defense Force |
| GEJE | Great East Japan Earthquake |
| GFDRR | Global Facility for Disaster Reduction and Recovery |
| GSURR | Global Practice for Social, Urban, Rural & Resilience |
| JICA | Japan International Cooperation Agency |
| JMA | Japan Meteorological Agency |
| Mw | Moment Magnitude |
| NGO | Non-governmental organization |
| NHK | Nippon Hoso Kyokai |
| NPO | Non-profit organization |
| NTT | Nippon Telegraph and Telephone Corporation |
| SDF | Self-defense Force |
| TEC-FORCE | Emergency and Disaster Management Team of the Ministry of Land, Infrastructure, Transport and Tourism |
| US | United States |

# 1. INTRODUCTION

**This report was developed to introduce Japanese disaster simulation drills as a model to help other countries plan and implement disaster simulation drill exercises. The main objectives of this guideline are to:**

1. **Provide an overview of the institutional and legislative frameworks for Disaster Management which underpin the organization of disaster simulation drills in Japan;**

2. **Introduce disaster simulation drills conducted by various national and community level organizations, such as: the government, schools, non-governmental organizations (NGOs), and the private sector; and,**

3. **Introduce other tools for raising residents' disaster awareness and preparedness.**

Rather than provide a manual for planning a simulation drill, this report aims to introduce a menu of possible activities. The target audience of the report includes: national Disaster Risk Management (DRM) agencies, local governments, utility corporations, and NGO/Civil Society Organizations (CSOs) which plan to organize disaster simulation drills.

This report consists of four parts: Introduction (Chapter 1, 2, 3), Simulation drills (Chapter 4, 5, 6, 7), Community based activities for disaster awareness and risk communication (Chapter 8, 9), and Conclusion (Chapter 10). The introduction (Chapter 1) starts with an overview of the institutional and legislative frameworks for Disaster Management in Japan (Chapter 2), followed by an overview of disaster simulation drills in Japan, particularly focusing on the Comprehensive Disaster Management Drill Framework, which is an overarching framework for both national and local governments (Chapter 3). The following four chapters present examples of simulation drills organized at the national and regional level, including the National Scope (Chapter 4), and overviews of three prefectures: Hyogo (Chapter 5), Shizuoka (Chapter 6) and Tokyo (Chapter 7). The next part of the report introduces a number of community level activities aimed at increasing residents' disaster awareness and preparedness. These activities are led by various actors, including: a school, an NGO/CSO, and a learning center (Chapter 8). Risk communication activities in Kobe city are introduced (Chapter 9). Finally, the conclusion (Chapter 10) outlines common challenges and offers tips for the planning and implementation of disaster drills in addition to other disaster awareness/preparedness activities.

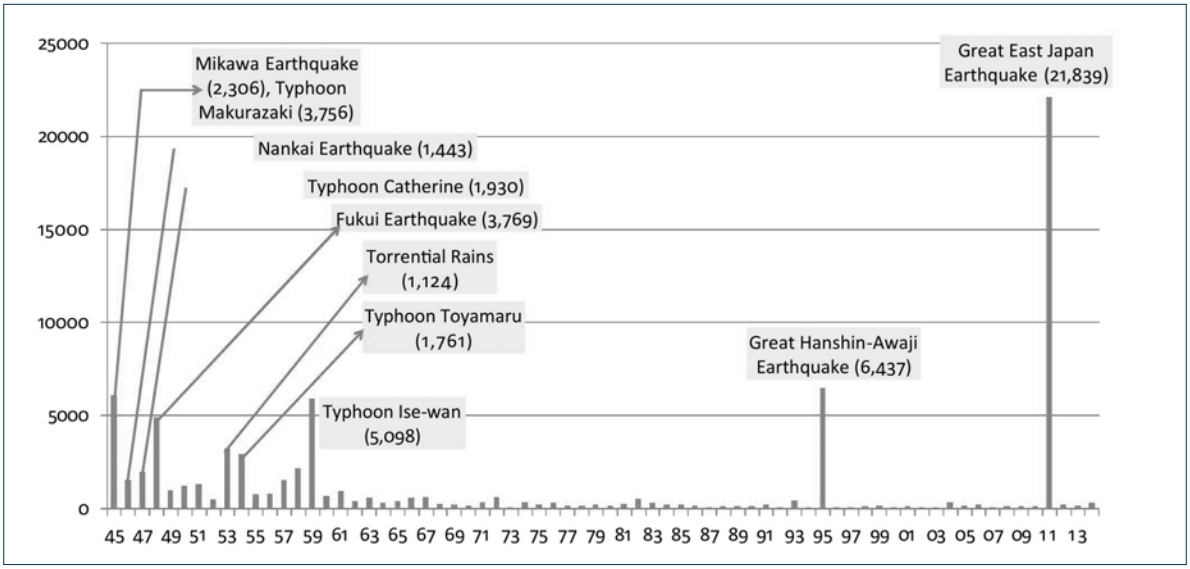
# 2. OVERVIEW OF THE INSTITUTIONAL AND LEGISLATIVE FRAMEWORKS FOR DISASTER MANAGEMENT IN JAPAN

## 2.1. Background

**Large-scale natural disasters are a frequent and common occurrence in Japan (Figure 1). Over the years, Japan has evolved its disaster management system to address all phases of a disaster: from disaster prevention, mitigation, and preparedness, to emergency response, recovery, and rehabilitation. The system clearly defines the roles and responsibilities of national and local government agencies while also enlisting the cooperation of relevant stakeholders in both the public and private sector. To achieve such a robust disaster risk management system, Japan continually assesses the capacity of its related systems in order to better prepare and react to anticipated large-scale disasters.**

*Figure 1: Number of Dead and Missing Persons Caused by Natural Disasters in Japan*

**Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*




## 2.2. The Disaster Countermeasures Basic Act

In the 1940s and 1950s, Japan was repeatedly ravaged by typhoons and earthquakes. In particular, the 1959 Ise-wan Typhoon caused tremendous damage, leaving 5,098 people either dead or missing. Two years later, in 1961, the Disaster Countermeasures Basic Act was passed, which established the following:

- A Central Disaster Management Council to formulate the national policy for Disaster Management. The Council was created to function as the national coordinating body for Disaster Management. The Council is chaired by the Prime Minister, and comprises the entire Cabinet including the Minister of State for Disaster Management, heads of designated public institutions (such as the Bank of Japan, the Japanese Red Cross, and companies in public broadcasting and telecommunications), as well as experts including representatives from academia.[1]

[1] Cabinet Secretariat website: http://japan.kantei.go.jp/policy/index/bousai/index_e.html

- Clearly defines roles and responsibilities related to disaster reduction at the national, prefectural, and municipal government levels, as well as the civil society level, including community organizations and citizens. This requires the three levels of government to draw up master disaster management plans. Additionally, all relevant ministries and semipublic organizations prepare disaster management plans for their sectors.

- A report is submitted annually by the Cabinet which defines the status of disaster management to the National Diet (or the parliament) and specifies their budgetary allocations for disaster management programs. The National Diet then forms special committees for Disaster Management in the House of Representatives and the House of Councilors, which continue to monitor governmental disaster management initiatives.

The Disaster Countermeasures Basic Act is continuously reviewed and revised based on lessons learned from large-scale natural disasters, as shown in *Figure 2*.

*Figure 2: Evolution of the Disaster Countermeasures Basic Act*

**Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*

**1959 - Typhoon Vera (Isewan)**

| Corresponding legislation | Key points |
|---|---|
| Disaster Countermeasures Basic Act:<br>• Central Disaster Management Council (1962)<br>• Basic Disaster Management Plan (1963) | Established fundamental disaster prevention laws which:<br>• Clearly assigned federal responsibilities<br>• Developed comprehensive and well-organized disaster governance etc. |

**1995 - The Great Hanshin Awaji Earthquake**

| Corresponding legislation | Key points |
|---|---|
| Amendment of Disaster Countermeasures Basic Act | • Established disaster management mechanisms through volunteer groups and private organizations<br>• Reduced requirements for establishing the Extreme Disaster Management Headquarters (headed by the Prime Minister)<br>• Cordified disaster relief requests for the Self-defense Force and other relavant organizations. |

**2011 - The Great East Japan Earthquake**

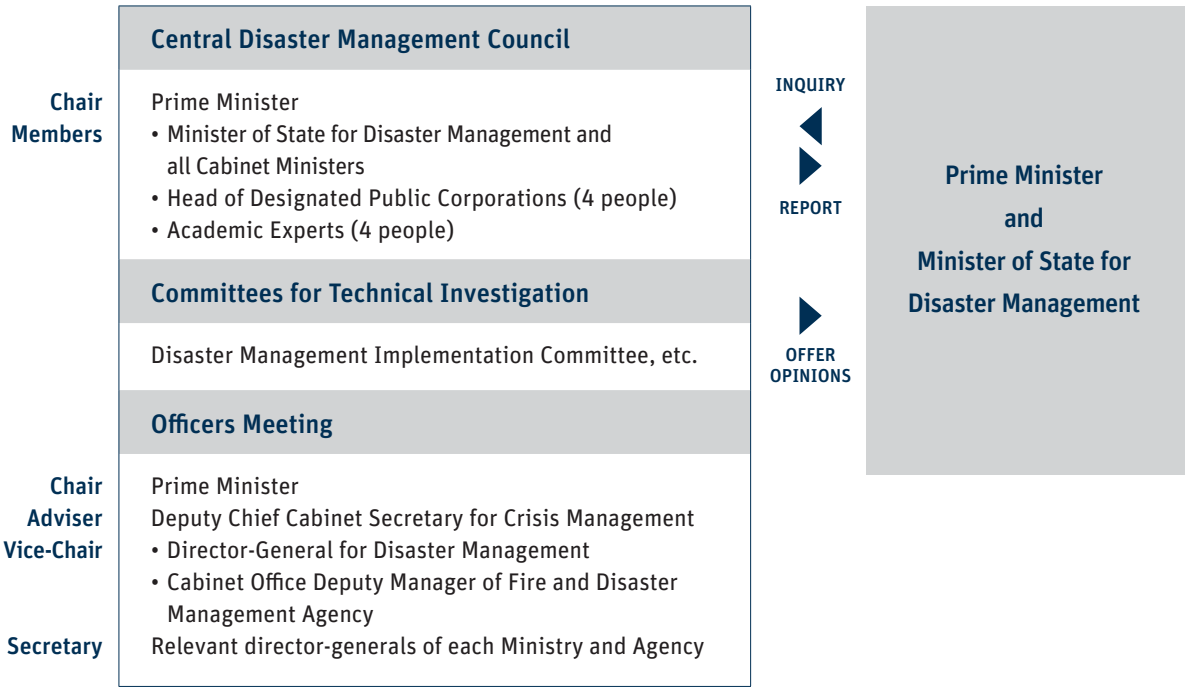
| Corresponding legislation | Key points |
|---|---|
| Amendment to Disaster Countermeasures Basic Act | First Amendment (2012)<br>• Established wide-area response for large-scale disaster<br>• Incorporated lessons from the disaster, improved disaster management education, and improved regional disaster management capabilities through participation of diverse entities in implementation |
| Amendment to Disaster Countermeasures Basic Act | Second Amendment (2013)<br>• Improves support for affected people<br>• Improves rapid response capabilities in the event of a large-scale and wide area disaster<br>• promotes smooth and safe evacuation of residents, etc.<br>• Improves disaster countermeasures in daily life, etc. |

## 2.3. The Central Disaster Management Council

The Central Disaster Management Council is one of the national level councils that directs, develops, and manages crucial disaster related Cabinet policies. The Council is established through the Cabinet office based on the Disaster Countermeasures Basic Act. It is comprised of the Prime Minister, who serves as chairperson, all Cabinet Ministers, heads of designated major public corporations, and other experts, as shown in *Figure 3*.

*Figure 3: Structural Arrangement for the Central Disaster Management Council*

**Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*




**The Council plays a leading role in conducting the following activities:**

- Formulating and coordinating the implementation of the Basic Disaster Management Plan – the master plan and basis for disaster reduction activities in Japan
- Formulating and coordinating the implementation of national contingency plans for emergencies
- Advising the Prime Minister and the Minister of State for Disaster Management on important issues relevant to disaster management
- Providing consultation on important issues surrounding disaster management, particularly in response to inquiries from the Prime Minister or the Minister of State for Disaster Management

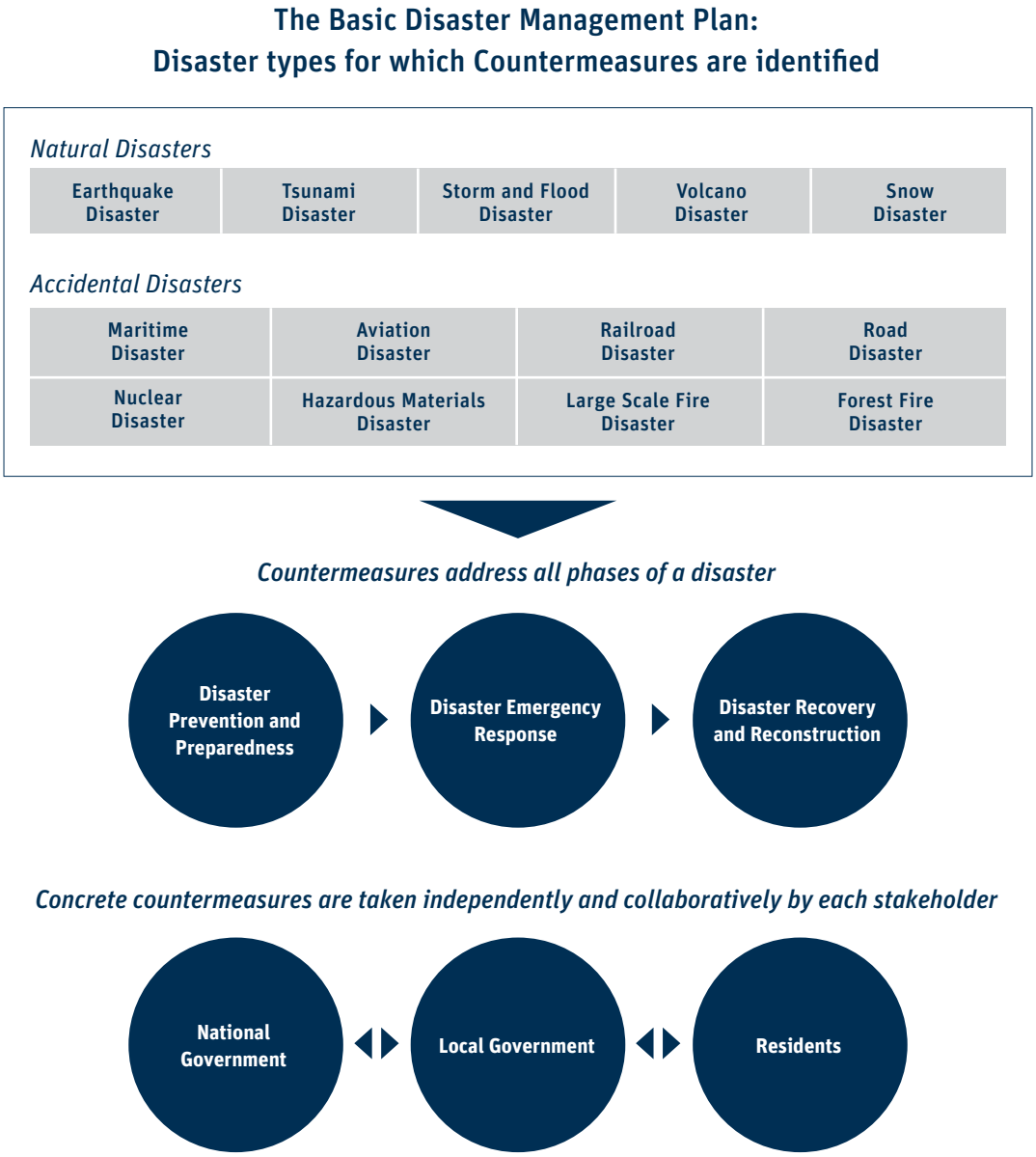
The Cabinet Office serves as the secretariat for the Council. The Minister of State for Disaster Management, who is assisted by Cabinet Office staff, has a mandate to oversee the planning and implementation of basic national disaster management policies as well as the central coordination of large-scale disaster countermeasures. In the face of disaster, the Minister of State is responsible for information gathering to understand the situation of the disaster and the disaster emergency measures required.

## 2.4. The Basic Disaster Management Plan

The Basic Disaster Management Plan underpins all disaster management activities in Japan. It is prepared by the Central Disaster Management Council in accordance with the Disaster Countermeasures Basic Act. The plan clarifies the duties of the central government, public corporations, and local governments with regard to implementing measures. The plan also describes the sequence of countermeasures (i.e. preparation, emergency response, recovery, and reconstruction) for various types of disasters. The Central Disaster Management Council revises the Basic Disaster Management Plan as necessary based on the latest circumstances.

*Figure 4: Structure of Basic Disaster Management Plan*

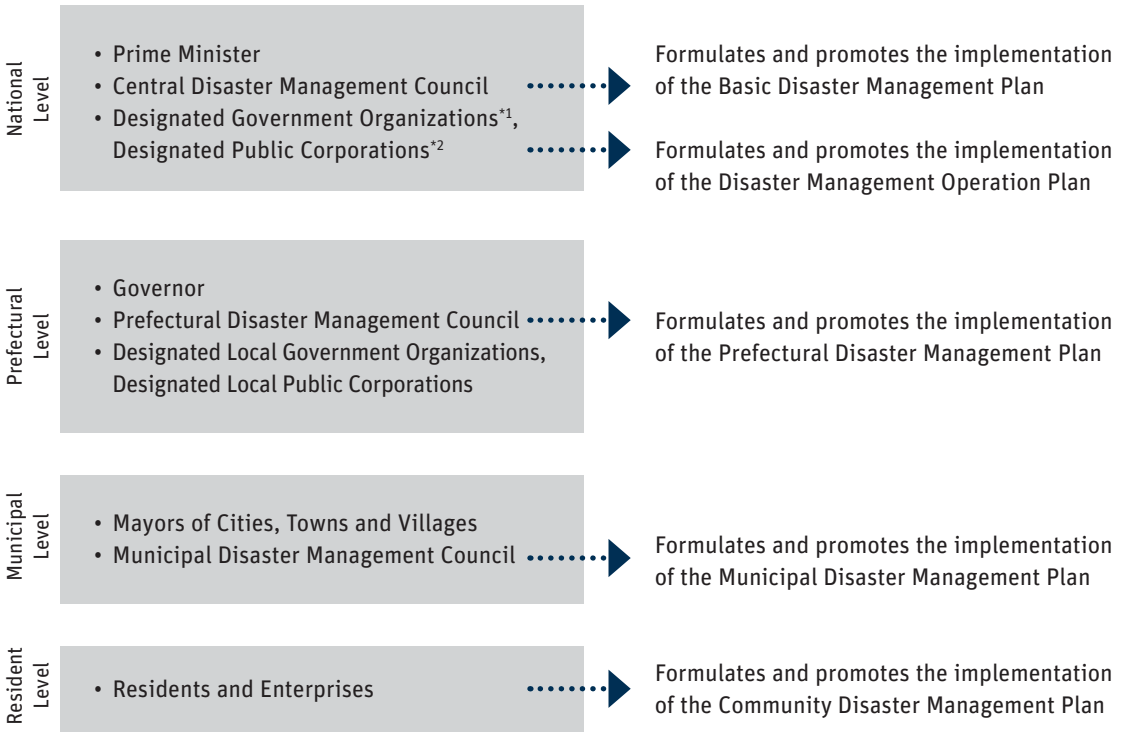
**Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*



The Basic Disaster Management Plan is used as a guide for designated government organizations and public corporations to build their Disaster Management Operation Plans, and for prefectural and municipal disaster management councils to prepare their Local Disaster Management Plans (respectively, the Prefectural Disaster Management Plan and the Municipal Disaster Management Plan).

*Figure 5: Outline of the Disaster Management System*[2]

**Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*




**1 Designated Government Organizations: 24 ministries and agencies*

**2 Designated Public Corporations: 64 organizations, including: independent administrative agencies, Bank of Japan, Red Cross Society, NHK, electric and gas companies and NTT*

The Central Disaster Management Council has the authority to establish technical committees to study technical matters. For example, the Expert Committee on Earthquake and Tsunami Disaster Management is the technical committee that prepared a report to document facts and findings from the Great East Japan Earthquake (GEJE) experience. In response to this report, the Japanese government amended the Basic Disaster Management Plan on December 27, 2011, with an aim to enhance its multi-hazard countermeasures. As a result, a new chapter was added to the Basic Disaster Management Plan on Tsunami Disaster Countermeasures.

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2 NHK (Nippon Hoso Kyokai): Japan's national public broadcasting organization

NTT (Nippon Telegraph and Telephone Corporation): One of major private telecommunications company

## 2.5. Local Disaster Management Plans

Local Disaster Management Plans are formulated by prefectural and municipal disaster management councils based on the Basic Disaster Management Plan. The Disaster Countermeasures Basic Act mentions the importance of the role played by municipalities, as they are responsible for establishing local disaster management plans, conducting emergency operations, activating warning systems, issuing evacuation recommendations and orders, fighting floods, and conducting relief activities. In cases where a municipality is so widely and heavily devastated that it cannot carry out many of its primary roles, the prefectural government shall issue evacuation recommendations and orders instead of the municipality.

**Local disaster management plans provide the following:**

- Specification of the roles of government organizations, designated public corporations (such as public utilities and the Red Cross), and other relevant public organizations
- Plans by category of activity, including: development or improvement of disaster management facilities, investigation and research, education, drills and other preventive measures, collection and dissemination of information, issuance and dissemination of forecasts and warnings, evacuation, fire fighting, flood fighting, rescue, hygiene management, and other emergency measures and rehabilitation efforts
- Plans for coordination, stockpiling, procurement, distribution, communication, facilities management, equipment, materials, funding, shipping of food and supplies, and so on

When a Prefectural Disaster Management Council wishes to formulate or revise a local disaster management plan for the prefecture, the Council is required to consult the Prime Minister in advance, who in turn shall consult the Central Disaster Management Council. When the Prefectural Disaster Management Council has formulated or revised its Local Prefectural Disaster Management Plan, the Council is required to release and disseminate a summary of the plan or revision to the public.


SAITAMA
Saitama City Fire Bureau
さいたま市消防局
KAWAGOE District
埼玉東部消防組合消防局
埼玉県警察
防衛省航空自衛隊
陸上自衛隊第３２普通科連隊
防衛省
防衛省
防衛省
防衛省
埼玉県
内閣府
東京消防庁
TOKYO FIRE DEPT.

# 3. OVERVIEW OF DISASTER SIMULATION DRILLS IN JAPAN

## 3.1. Background

In theory, in the event of a natural disaster, the national government, prefectural and local governments, public agencies and other institutions work in cooperation with residents to effectively respond to the disaster. For this to happen in practice, all actors involved in disaster management are expected to collaboratively conduct disaster management drills on a regular basis. The Disaster Countermeasure Basic Act, the Basic Disaster Management Plan, and other regulations provide the framework for different governmental organizations to organize and implement disaster drills.

The first Comprehensive Disaster Management Drill Framework was established after the Great Hanshin-Awaji Earthquake in 1995. Every year since, the Japanese government prepares an updated version of the Comprehensive Disaster Management Drill Framework (See Appendix-2), under the auspices of the Central Disaster Management Council, in order to update the basic policies governing disaster response drills. The drills are then conducted at the national and local government level (See Appendix-3 for List of Activities for the Disaster Simulation Drills (National and Prefectural) and Appendix-4 for Disaster Simulation Drills at Community Level). Ultimately, the goal of the Framework is to guide the comprehensive and systematic execution of disaster response drills while linking disaster management entities with one another.

## 3.2. The Laws and Regulations for Coordinating Disaster Simulation Drills Background

**On March 31, 2015, the Central Disaster Management Council established the following articles regarding the Comprehensive Disaster Management Drill Framework for 2015:**

1. A statement of purpose for the Comprehensive Disaster Management Drill Framework
2. The purpose of the drills (expanded below with more detail)
3. Basic policies for implementing disaster simulation drills
4. List of disaster simulation drills conducted at the national and regional level
5. Guidelines for disaster simulation drills conducted by local governments
6. Evaluation principles for disaster simulation drills by the national government
7. Procedures for revising the Comprehensive Disaster Management Drill Framework

**The purpose of the disaster simulation drill, discussed above in article 2, are as follows:**

1. To confirm, evaluate and examine the effectiveness of the organizational systems of disaster management organizations;
2. To confirm appropriate roles held and shared by various disaster management organizations, to ensure that they collaborate with one another, and to promote and reinforce collaboration during ordinary/non-emergency times;
3. To identify vulnerabilities and challenges in existing disaster management plans with the intent of continually improvement;
4. To raise awareness of the importance of disaster management and to improve local residents' knowledge of relevant topics;
5. To give disaster management representatives an opportunity to validate their daily disaster management efforts and to provide an opportunity to evaluate those efforts for possible improvement.

# 4. DISASTER SIMULATION DRILLS: NATIONAL SCOPE

**In addition to laying out basic policies governing disaster response drills held by both national and local governments, the Comprehensive Disaster Management Drill Framework also provides a list of drills carried out by different governmental agencies at the national and regional level. The drills listed in the 2015 Comprehensive Disaster Management Drill Framework are below** **(See Appendix-2)****:**

*Table 1: List of Disaster Simulation Drills at the National and Regional Level for 2015*

**Source: Comprehensive Disaster Management Drill Framework in 2015, Cabinet Office, Government of Japan*

## 1) Earthquake and Tsunami Drills

### A. "Disaster Prevention Day" Simulation Drill

"Disaster Prevention Day" is a drill that activates the Disaster Management Headquarters Meeting which is attended by all Cabinet Ministers, including the Prime Minister.

Consists of:

- The Prime Minister's inspection of a drill jointly conducted by the 9 prefectures and city governments, at a staged disaster-stricken site in Tokyo
- The participation of all Cabinet Ministers in an emergency walking assembly drill to the Prime Minister's office

### B. "Tsunami Preparedness Day" for earthquake and tsunami drills

Promotes the practice of drills and encourages local governments and private companies to participate.

Consists of:

- Earthquake Early Warning drill
- Earthquake and tsunami disaster management drills

### C. Government tabletop exercises[3]

Consists of:

- Government tabletop exercise for a Nankai Trough[4] earthquake
- Tabletop exercise for a Tokyo Inland Earthquake participated by staff of the Extreme Disaster Management Headquarters Secretariat
- Drill to practice managing the On-site Disaster Management Headquarters
- Joint disaster drills with Self-Defense Forces
- Drills to practice transmitting information based on a Tokai Earthquake[5]

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3 Tabletop exercises are discussion-based sessions where team members meet in an informal, classroom setting to discuss their roles during an emergency and their responses to a particular emergency situation. A facilitator guides participants through a discussion of one or more scenarios.

4 A Nankai Trough is a submarine trough located south of Japan's main island of Honshū, extending approximately 900 km offshore. The underlying fault, the Nankai megathrust, is the source of the devastating Nankai megathrust earthquakes. guides participants through a discussion of one or more scenarios.

5 The Tōkai earthquakes are major earthquakes that have occurred regularly with a return period of 100 to 150 years in the Tōkai region of Japan. The Tōkai region has been struck by earthquakes in 1605, 1707, 1854, 1944, and 1946.

**D. Regional block drills**

Regional practical and tabletop exercises implemented mainly by a council comprised of relevant ministries and local governments in regional blocks.

Consists of:

- Joint disaster drill by 9 local governments
- Regional disaster drills for the Tokai region
- Joint disaster drill among the Kinki prefectures
- Kyushu Block Council Joint Disaster Drill to prepare for a Nankai Trough Megaquake

**E. Practical drills in coordination with local governments**

Drills carried out by Police Disaster Response Units, Emergency Fire Fighting Assistance Corps, TEC-FORCE, Self-defense Forces, and Disaster Medical Assistance Team (DMAT) in coordination with relevant local governments.

Consists of:

- Joint defense drills with regional emergency assistance teams conducted by police bureaus in each jurisdiction
- Nationwide joint drills conducted by the emergency firefighting assistance corps & joint drills conducted by regional block
- Comprehensive disaster management drills in each prefecture

## 2) Flood Disaster Management Drills

- Comprehensive flood prevention exercises
- Landslide disaster & national disaster management drills
- Large-scale tabletop exercises for flooding

## 3) Volcanic Eruption Disaster Management Drills

- Drills based on evacuation plans formulated by Volcanic Disaster Management Councils

## 4) Drills for Disasters caused by Accidents

- Aviation disaster tabletop exercises
- Oil-spill control drills

## 5) Nuclear Power Comprehensive Disaster Management Drills

- Comprehensive disaster drills to address a hypothetical combined disaster involving a natural disaster and a nuclear power disaster

## 6) Drills to Verify Business Continuity Plans

- Tabletop exercises for information transmission and government office assembly
- Drills to confirm effectiveness of business continuity plans (staff safety confirmation drills and emergency assembly drills)
- Sector-specific (industry-based) drills

### 7) Emergency Medical Treatment Drills

- Drills for medical treatment activities following a large-scale earthquake
- Drills to verify medical treatment functions using ships

### 8) Drills to Ensure Emergency Transport

- Road clearance and abandoned vehicle removal drills for rapidly securing emergency transport routes
- Drills to verify medical treatment functions using ships

### 9) Drills for the Procurement and Supply of Goods

- Practical and tabletop exercises for fuel supply based on the Emergency Oil Supply Coordination Plan
- Regional transport drills at core regional disaster management bases

### 10) Disaster Drills in Coordination with United States (US) Forces Stationed in Japan

- Disaster Drills conducted with local governments in coordination with US Forces Stationed in Japan

## 4.1. Planning

To explain the different steps of conducting simulation drills, this report focuses on typical examples of the following drills: the Disaster Simulation Drill, held annually on September 1 ("Disaster Preparedness Day"), and the Disaster Simulation tabletop drill, held biannually by the government. Both drills are primarily organized by the Cabinet Office of Japan and are explained in more detail above, under Earthquake and Tsunami Drills in *Table 1*, and below.

**A. "Disaster Preparedness Day" Simulation Drill**

Annually, the Cabinet Office creates a plan and schedule based on the Comprehensive Disaster Management Drill Framework and suggests a disaster scenario in consultation with relevant organizations.

**B. Tabletop drills**

Annually, the Cabinet Office creates a plan and schedule based on the Comprehensive Disaster Management Drill Framework and suggests a disaster scenario in consultation with relevant organizations.

## 4.2. Preparation

**A. "Disaster Preparedness Day" Simulation Drill**

The Cabinet Office, other relevant ministries and responsible departments in local governments implement the Nine City and Prefecture Joint Disaster Simulation Drill[6]. They prepare and conduct the drills on the same day, after coordination and collaboration are made with the relevant organizations. The purpose of the disaster simulation drills is to confirm and verify the effectiveness of emergency measures by disaster-management-related organizations during a disaster, and to enhance disaster management awareness among residents.

**B. Tabletop Drills**

Led by the Cabinet Office, relevant ministries and local governments invite local government officials to participate in the drill, as shown below in *Table 2*. The purpose of the tabletop drill is to help all relevant personnel improve their disaster management capacity.

## 4.3. Execution

**A. "Disaster Preparedness Day" Simulation Drill**

In September 1, 2015, the Prime Minister and all the cabinet members participated in the Disaster Simulation Drill on "Disaster Preparedness Day." It was held in concert with the joint disaster drill held by nine cities and prefectures around the Kanto area. The Disaster Simulation Drill presumed the occurrence of a Tokyo Inland Earthquake. *Figure 6* outlines the scenario of the presumed disaster and the emergency conditions under which the drill was implemented. See *Figure 7* for a detailed program of the Disaster Simulation Drill.

*Figure 6: Fiscal Year (FY) 2015 "Disaster Preparedness Day" Simulation Drill Scenario*

**Source: internal material from Cabinet Office, Government of Japan*

| | Scenario |
|---|---|
| **Date and time of occurrence** | 7:10 AM on September 1 |
| **Epicenter** | Eastern Tama area of Tokyo |
| **Earthquake scale** | Magnitude 7.3 (Tokyo Inland Earthquake) |
| **Maximum seismic intensity** | 6 or greater |

6 Since 1980, the Tokyo Metropolitan Government has held a regional-area joint drill called the Nine City and Prefecture Joint Disaster Simulation Drill in cooperation with municipalities in the Kanto area. The drill executed on September 1, 2015 was the 35th drill in this series. The prefectures of Chiba, Saitama, and Kanagawa, and the cities of Yokohama, Kawasaki, Chiba, Saitama, and Sagamihara, as well as Tokyo, participated. The supervising municipality for this Joint Drill is elected each year. In 2015, the Tokyo Metropolitan Government was the supervising authority.

*Figure 7: FY 2015 Program for the Disaster Simulation Drill and Exercise*

**Source: internal material from Cabinet Office, Government of Japan*

TIME

**7:10 AM** — **Tokyo Inland Earthquake occurs** (the presumed disaster for the drill)

**8:20 AM** — **The Cabinet members convene at the Crisis Management Center in the Prime Minister's Official Residence**

▼

**8:25 AM** — **Operation drill at the governmental headquarters:**

- ▶ Extreme Disaster Management Headquarters conference (Head: Prime Minister)
- Learn the extend of damage and status of countermeasures from each ministry
- ▶ Extraordinary Cabinet meeting
- Determine basic policies and establish on-site disaster management headquarters

**8:55 AM**

◀▶ Video Conferencing

**Governmental Research Group**

▼

- **Tokyo Prefecture**
- **Disaster Management Headquarters** (Tokyo Governor, Vice-Ministers of Cabinet Officers)
- **Tokyo Government Office**

▼

**9:00 AM** — **Press Conference held by the Prime Minister (Broadcast by NHK)**

**9:05 AM** — Announcement and report of the status of the disaster emergency and request for the cooperation of the nation, etc.

▼

**The Prime Minister and the Minister of State for Disaster Management**

▼

**Inspection of the Joint Disaster in nine cities and prefectures (Tokyo)**

**Tachikawa City**

- Training to rescue passengers from a monorail car drill
- Learn how to use a fire extinguisher drill
- Mutual support between residents drill
- Prime Minister make a public address drill

*Figure 8: Extreme Disaster Management Headquarters Meeting (Training)*

** Source: Cabinet Office, Government of Japan*

*Figure 9: Drill Press Conference held by the Prime Minister*

** Source: Cabinet Office, Government of Japan*

**B. Tabletop Drills**

In FY 2015, led by the Cabinet Office, two Tabletop Drills were conducted at a central government building. The first table top drill presumed a Tokyo inland earthquake. The second table top drill presumed a Nankai Trough earthquake. Disaster simulation drills have two key purposes: to assess the effectiveness of emergency measures conducted by disaster-management-related organizations during a disaster and to make the nation generally aware of relevant issues. That said, tabletop drills are based on details from actual disasters and are realistically presented. They are intended to help all relevant personnel improve their disaster management abilities.

There are two types of participants in the central government's tabletop drill: Controllers, the staff who oversee the drill and know the scenario, and Players, the staff who participate in the drill and do not know the scenario. The Players ask the Controllers for information and updates on local conditions so that they may make appropriate decisions and issue instructions.

The outlines of the two drills implemented in FY 2015 are shown in *Table 2*.

*Table 2: FY 2015 Tabletop Drill Program*

**Source: internal material from Cabinet Office, Government of Japan*

| | Drill A: Tokyo inland earthquake | Drill B: Nankai Trough earthquake |
|---|---|---|
| **Objective** | To assess the effectiveness of emergency measures by disaster-management-related organizations and to make the nation generally aware of relevant issues | To assess the effectiveness of emergency measures by disaster-management-related organizations and to make the nation generally aware of relevant issues |
| **Date** | Friday, June 19, 2015 | Friday, February 5, 2016 |
| **Location** | Government's Extreme Disaster Management Headquarters Office and Prefectural Disaster Management Headquarters | Government's Extreme Disaster Management Headquarters Office and Prefectural Disaster Management Headquarters |
| **Scenario** | • Epicenter: Anywhere within Tokyo's 23 wards<br>• Earthquake size: Moment Magnitude (Mw) 7.3<br>• Maximum depth: Seismic intensity 7 | • Epicenter: Offshore south of Wakayama<br>• Earthquake size: Mw 9.1<br>• Maximum depth: Seismic intensity 7 |
| **Schedule** | 10:00 AM - 11:50 AM: General lecture related to disaster management<br>11:50 AM - 1:00 PM: Break<br>1:00 PM - 2:00 PM: Explanation of the drill, team meetings are held<br>2:00 PM- 4:00 PM: Central Government's tabletop drill is conducted<br>From 4:00 PM: Evaluation meeting and review by each team | 10:00 AM - 11:00 AM: Explanation of the drill team meetings are held<br>11:00 AM - 3:00 PM: Government's tabletop drill<br>3:00 PM – 4:00 PM: Break<br>From 4:00 PM: Evaluation meeting and review by each team |
| **Drill activities** | • Regional area support teams are deployed<br>• Regional area medical transportation system is established<br>• Routes and sections where transportation is available are established<br>• The reasons and locations of those who cannot return home are identified | • Regional area support teams are deployed<br>• Regional area medical transportation system is established<br>• Routes and sections where transportation is available are established<br>• Necessities, including fuel, are supplied |

| | Drill A: Tokyo inland earthquake | Drill B: Nankai Trough earthquake |
|---|---|---|
| **Participating Organizations (partial list)** | **Location 1:** Secretariat of Government's Extreme Disaster Management Headquarters Office<br>Approximately 220 people in charge of disaster response from relevant ministries, including: Cabinet Secretariat, Cabinet Offices, National Police Agency, Financial Services Agency, Ministry of Internal Affairs, and Fire and Disaster Management Agency.<br><br>**Location 2:** Prefectural Disaster Management Headquarters Approximately 10 people from prefectural governments of Saitama, Chiba, Tokyo, and Kanagawa. | **Location 1:** Bureau of Government's Extreme Disaster Management Headquarters Office.<br>Approximately 130 people in charge of disaster response from relevant ministries including Cabinet Secretariat, Cabinet Offices, National Police Agency, Financial Services Agency, Ministry of Internal Affairs, and Fire and Disaster Management Agency<br><br>**Location 2:** Preferential Disaster Management Headquarters<br>Approximately 20 people from prefectural governments of Shizuoka, Aichi, Mie, Wakayama, Tokushima, Kagawa, Ehime, Kochi, Oita and Miyazaki. |

## 4.4. Evaluation

**A. "Disaster Preparedness Day" Simulation Drill**

Staff members in the Cabinet Office review activities from the disaster simulation drill, including: actions taken by Participants and Controllers, program contents, and other details. An evaluation meeting is conducted a few days after the Disaster Simulation Drill.

**B. Tabletop Drills**

As shown in *Table 2*, the evaluation and review are held on the day of the drill. These activities are held immediately after the drill so that Participants and Controllers may receive real time feedback. Two weeks to one month after the drill, a review, conducted by appointed staff members in the Cabinet Office, is held to evaluate and analyze the questionnaires collected.

# 5. OVERVIEW OF DISASTER SIMULATION DRILLS: THE CASE OF HYOGO PREFECTURE

## 5.1. The 1995 Hanshin Awaji Earthquake

**The Great Hanshin Awaji Earthquake of 1995 has had a great impact on Hyogo Prefecture's disaster management system, particularly its disaster simulation drills. The Great Hanshin Awaji Earthquake struck in the early morning, at 5:46 AM on January 17, 1995, killing more than 6,400 people. Hyogo Prefecture, where the city of Kobe is located, was the most impacted area. There was extensive damage to buildings, railways, roads and to water, electricity and gas lines. Going forward, the delayed recovery of lifelines and problems with the operation of shelters, for people who had lost their homes, became important recovery issues.**

The Great Hansin Awaji Earthquake spurred a reevaluation of disaster management in Japan. As such, the recovery of lifelines is now recognized as one of the most important countermeasures after a disaster occurs. Accordingly, existing laws and regulations related to disaster management were reexamined.

*Table 3: The Hanshin Awaji Earthquake*

**Source: data from Hyogo Prefectural Government*

| | Data about the Hanshin Awaji Earthquake |
|---|---|
| **Scale** | Magnitude 7.3 (Japan Meteorological Agency (JMA)) <Mw 6.9> |
| **Max. Intensity** | Seismic Intensity of JMA 7 |
| **Epicenter** | South of Hyogo (North Awaji) |
| **Dead / Missing** | 6,437 |
| **Financial damage** | 9.9 trillion yen (2% of Gross Domestic Product (GDP)) |
| **Max. Refugees** | 316,678 |
| **Max. no. of shelters** | 1,153 |
| **Damaged buildings** | 256,754 |

*Table 4: Recovery of Lifelines Post Disaster*

**Source: data from Hyogo Prefectural Government*

| Lifeline | Days for Recovery |
|---|---|
| **Electricity** | 6 days *except completely collapsed homes |
| **Gas** | 84 days *except completely collapsed homes |
| **Running Water** | 90 days |
| **Sewerage** | 93 days |

## 5.2. Hyogo Prefecture's Disaster Simulation Drills

Hyogo Prefecture holds a disaster simulation drill every year, within the prefecture. Hyogo also holds a joint disaster simulation drill with various prefectures (typically seven, including: Osaka, Kyoto, Hyogo, Nara, Mie, Shiga, and Wakayama) in the Kansai region, south of Japan's main land, in collaboration with prefectures adjacent to the Kansai region. The joint Kansai disaster simulation drill aims to find ways to conduct recovery efforts appropriately if a large-scale disaster occurs.

This chapter will discuss the main activities of the Kansai regional joint disaster preparedness program, namely: the Kansai regional execution drill and its associated tabletop drill, as these are excellent examples of disaster simulation drills in Japan.

## 5.3. The Laws and Regulations For Coordinating The Disaster Simulation Drill

The Kansai prefectures' joint disaster simulation drill is regulated by the Disaster Countermeasures Basic Act, Fire Service Act, local disaster management plan, and a basic agreement among the nine prefectures in the Kansai region to provide mutual support when a crisis occurs.

The participants of the drill include: emergency fire support teams, police forces, the self-defense forces, as well as organizations, bodies and companies doing disaster management related work. The drill aims to foster a regional support system with the primary objectives being: to improve mutual interactions and enhance shared response capacities across the region.

## 5.4. 2015 Local Disaster Simulation Drill

See *Table 5* for an outline of the 2015 Kansai Regional Support Execution Drill and Tabletop Drill.

*Table 5: Kansai Regional Disaster Simulation Drill Scenarios*

**Source: data from Hyogo Prefectural Government*

| | Kansai Regional Execution Drill | Tabletop Drill |
|---|---|---|
| **Date and time** | Sunday, October 18, 2015<br>8:00 AM to 11:30 AM | Wednesday, February 3, 2016<br>9:30 AM to 5:00 PM |
| **Objective** | • Building capacity of disaster management organizations in Kansai Region | • Strengthening relationship of disaster management organizations in Kansai Region<br>• Confirming procedures regarding sending & receiving support |
| **Scenario** | A large-scale inland earthquake with its epicenter in the south of Kyoto Prefecture occurs at 6:30 AM | A large-scale inland earthquake with its epicenter in the south of Kyoto Prefecture occurs at 6:30 AM |
| **Drill location** | Kyoto Prefecture Government offices, cabinet-related facilities in Kyoto prefecture, and Yamashiro General Athletics Park | Kyoto Prefecture Government offices and Kyoto City Hall. A preliminary meeting was held in other local government offices |
| **Participating Organizations** | Fire and Police Departments, SDF[7], Japanese Red Cross Society, DMAT, lifeline companies, related volunteer organizations, local municipalities, and residents of nine Kinki prefectures[8] | Organization belonging to the Union of Kansai Governments, Kinki District Transport Bureau, the Warehouse Association, and logistics-related organizations |

[7] SDF (Japan Self-Defense Forces): Military forces of Japan controlled by the Ministry of Defense

[8] 9 Kinki prefectures: Fukui, Mie, Shiga, Kyoto, Osaka, Hyogo, Nara, Wakayama, and Tokushima

### 5.4.1. Planning

The prefectural governments that accept involvement in the drill take leadership roles in planning it. They create scenarios, make schedules and plans for the entire program which they disseminate among the participating prefectures in the Kansai region. The shared information is then closely reviewed through multiple meetings and the final plan for drill is determined.

### 5.4.2. Preparation

In addition to creating the plan, the participating prefectural governments consult with related organizations, confirm the equipment and materials needed, and give instructions to participating organizations.

### 5.4.3. Execution

One of activities of the 2015 Kansai Regional Execution Drill was a materials transportation drill, which aimed to rapidly distribute support materials throughout the Kansai area. An outline of the program is shown below in *Table 6*.

*Table 6: Excerpt from the 2015 Kansai Regional Execution Drill Program*

**Source: data from internal document "Local Disaster Simulation Drill in Hyogo", Disaster Reduction and Human Renovation Institution*

| Time | Materials Transportation Drill |
|---|---|
| **8:00 AM** | Orientation and preparation |
| **9:00 AM** | 1. Kyoto Prefecture gathers disaster information from affected area<br>2. Kyoto Prefecture asks transport company to prepare trucks *Transport company sends trucks to base where emergency supplies are stockpiled<br>3. Kyoto Prefecture asks warehouse company to dispatch experts *Warehouse company dispatches experts to base where emergency supplies are stockpiled<br>4. Emergency supplies are sent to target location from the base, supported by experts<br>5. A person in charge confirms receipt of emergency supplies at target location |
| **11:30 AM** | End of the drill |

Participants of the Tabletop Drill include a facilitator and delegates from different governmental agencies. Through the Tabletop Drill, participants learn how "response functions" work during a disaster. Participants collaboratively consider suitable actions and write suggested measures on a map. See *Table 7* for an outline of the 2015 Tabletop Drill Program.

*Table 7: Excerpt from the 2015 Tabletop Drill Program*

**Source: data from internal document "Local Disaster Simulation Drill in Hyogo", Disaster Reduction and Human Renovation Institution*

| Time | Tabletop Drill |
|---|---|
| **9:30 AM** | Orientation and preparation |
| **10:00 AM** | 1. Drill to set up a disaster countermeasures headquarters for Kyoto Prefecture and the city of Kyoto<br>2. Drill to set up a disaster countermeasures headquarters for the Union of Kansai Governments[9] Kyoto Prefecture gathers disaster information from affected area |
| **12:00 AM** | Break |
| **1:00 PM** | Orientation and preparation for the afternoon session |
| **1:10 PM** | Drill to hasten the supply of emergency goods<br>*Assumed to be 4 days or more after the disaster occurred |
| **4:30 PM** | Lecture meeting |

## 5.4.4. Evaluation

Both the Kansai Regional Execution Drill and the Tabletop Drill were evaluated at the end of their respective programs. Participants exchanged ideas regarding drill implementation activities for the year and discussed measures to be taken going forward. In 2015, the evaluation revealed the need for suitable headquarters management to facilitate the sharing of information between the fire department and hospitals. Through the evaluation process, participants pointed out the need to strengthen the management system for sending and receiving support for the following year.

[9] Union of Kansai Government: This is the first extended association in Japan and was inaugurated in December 2010. The Union was founded jointly by Kansai's seven prefectures (Shiga, Kyoto, Osaka, Hyogo, Wakayama, Tottori and Tokushima). The aim is to tackle inter-prefectural area-wide issues, making a breakthrough for greater decentralization.

### Special Attention to Vulnerable Groups for Emergency Preparedness and Response

In 2013, it became mandatory for municipalities to create a list of residents who require evacuation support (such as elderly people, people with disabilities, and patients with intractable diseases) during disasters and to distribute this information to relevant support groups in each municipality. To promote this initiative, the national government developed a guideline for municipalities. The guideline offers rules, principles and advice on: 1) incorporating special attention to vulnerable groups into municipality disaster management plans; 2) creating a list of people who require disaster evacuation support; 3) using this list in the wake of a disaster; 4) creating evacuation plans for each individual who requires evacuation support; and 5) building community support and capacity for the disaster evacuation of vulnerable people (See Appendix 5 for examples).

Special attention to vulnerable groups is one of the basic policies listed in the Comprehensive Disaster Management Drill Framework 2015. The Framework recommends local governments utilize drills to establish and improve systems that support vulnerable groups in the event of a disaster. The Framework advises that drills should be conducted with vulnerable people to confirm that risk communications, evacuation assistance, evacuation site support, evacuation site design, and so on are all working as they should.

## 5.5. Local Disaster Simulation Drills Conducted by Public Service Agencies

In Hyogo Prefecture, alongside the joint disaster simulation drills, sponsored by the Hyogo Prefectural Government, public service bodies hold their own drills. By holding these specialized drills for their particular fields, these bodies are able to enhance their disaster management capacities. This section of the report discusses the efforts made by the Kobe City Waterworks Bureau and the Kobe City Fire Department, both of which hold their own disaster simulation drills. An outline of these drills is shown below in *table 8*.

*Table 8: Public Service Disaster Simulation Drills*

**Source: data from internal document "Outline of Bosai Leader Training", Kobe City Fire Department and "Disaster Simulation Drill and Local Training", Kobe City Waterworks Bureau*

| | The Kobe City Waterworks Bureau | The Kobe City Fire Department |
|---|---|---|
| **Drill name** | Joint disaster response drill with other cities' and waterworks bureaus | Local general disaster preparedness drill |
| **Objective** | To confirm effectiveness of initial response and strengthen capacity building for officers | Develop community leadership |
| **Frequency held** | Once a year | Once a year |
| **Time preparations begin** | Six months prior | Six months prior |
| **Number of staff in charge** | 10 * If the host local government manages the drill | 3 |
| **Main activities** | • Practical exercises with other waterworks bureaus and water supply training with residents<br>• Contact self-governed communities and work with related organizations | • Training for moving an injured people, fire fighting exercise, lecture regarding community leadership during a disaster, etc.<br>• Contact self-governed communities and work with related organizations |
| **Related laws and ordinances** | A memorandum of mutual support among the waterworks bureaus across 19 metropolitan areas | Basic fire fighting plan |
| **Evaluation method** | Participants are invited to an evaluation meeting at the end of the drill | Participants and the chairmen of the self-governed communities are invited to a review meeting at the end of the drill |
| **Challenges identified** | Improve the disaster management capabilities of the local residents | Achieve positive participation of the local residents |

## 5.5.1. Kobe City Waterworks Bureau

Annually, the waterworks bureaus of 19 metropolitan areas hold and host a Joint Disaster Simulation Drill with other Metropolitan Waterworks Bureaus. This drill is in compliance with the Memorandum for Mutual Support among 19 Metropolitan Waterworks Bureaus[10] which was established by the waterworks bureaus of 19 metropolitan areas, of ordinance-designated cities in Japan. From among the 19 metoropolitan waterworks bureaus, groupings of three or four waterworks bureaus jointly hold simulation drills. This drill is an example of local self-government.

The 2015 Joint Disaster Simulation Drill with other Metropolitan Waterworks Bureaus was held on November 17-18. The aim of the drill was to provide the reliable transfer of support and information and to reinforce emergency recovery capacities when a disaster occurs involving the cities of Kobe, Osaka and Fukuoka. In the 2015 drill, approximately 60 residents and 50 waterworks staff members participated. The drill allowed waterworks bureaus to share information the about disaster management activities they undertake and to perform these activities with residents, who were selected by waterworks bureaus in each city. Among other activities, residents learned how to open public fire hydrants as part of this drill. The schedule for the drill is shown below in *table 9*.

*Table 9: Schedule for the Joint Disaster Response Drill with Waterworks Bureaus of other Metropolitan Areas*

**Source: data from internal documents "Disaster Simulation Drill and Local Training", Kobe City Waterworks Bureau*

| Time | 1st Day |
|---|---|
| 3:00 PM | Earthquake occurred in Osaka |
| 4:00 PM | Osaka Waterworks Bureau request assistance from Kobe and Fukuoka Waterworks Bureau |
| 5:00 PM | Kobe and Fukuoka Waterworks Bureaus reply to the request from Osaka Waterworks Bureau |

10 The Memorandum for Mutual Support among 19 Metropolitan Waterworks Bureaus was enacted on March 31, 2013. Its objective was to support the sharing of drinking water and recovery equipment in the event of a disaster.

| | 2nd Day |
|---|---|
| 9:00 AM | Kobe and Fukuoka Waterworks Bureau dispatch rescue team |
| 10:00 AM | Rescue team from Kobe Waterworks Bureau arrives at affected area |
| 10:30 AM | Rescue team from Fukuoka Waterworks Bureau arrives at affected area |
| 12:45 PM | Training activities in cooperation with Waterworks Bureaus, residents and students<br>• Water supply (training)<br>• Recovery water pipe (training) |
| 2:00 PM | Closing |

To improve the disaster management capabilities of the local residents, the Kobe City Waterworks Bureau holds local disaster simulation drills at sites in Kobe in addition to holding the joint disaster simulation drill with waterworks bureaus in other cities.

The Kobe City Waterworks Bureau installed 47 underground emergency water reserve system reservoirs to be able to provide domestic water to residents if a disaster occurs. See *Figure 10* for an image of one of the reservoirs. These storage installations are linked by pipes so that the water is always kept fresh. Keys to unlock these facilities are given to each community leader so that they can use the storage system at their discretion in the event of a disaster. The Kobe City Waterworks Bureau uses local disaster simulation drills to train community leaders and local residents so that they can open the water pipes quickly and by themselves.

*"The waterworks bureau has limited staff. In an actual disaster, residents will be required to self-support and share mutual support, as was the case during the Great Hanshin Awaji Earthquake. Therefore, we would like to include the voices of local residents as we develop local disaster reduction activities."* - Mr. Higashiyama, Kobe City Waterworks Bureau

*Figure 10: One of 47 Emergency Water Reserve Systems in Kobe City*

**Source: Kobe City Government*

## 5.5.2. Kobe Fire Department

The Kobe City Fire Department holds a general disaster simulation drill each year in the city of Kobe. Many residents attend these general disaster simulation drills, where they have the opportunity to learn transportation and fire fighting techniques they can employ when a disaster occurs. Before holding this drill, the Kobe City Fire Department holds a leadership training session, such as “Bousaisi” a Disaster Prevention Expert certification by the Japanense Bousaisi Organization, to educate disaster management community leaders who will lead residents when the time comes. In 2016, five instructors from the Fire Department and approximately 10 residents participated in the leadership training.
Community leaders were given lectures on important topics, including: details of the general disaster simulation drill to be held on March 13, a week after the lecture, and trainings for instructing people on how to use fire extinguishers and conduct simple methods of moving an injured person. Photos of the leadership training session held on March 6, 2016 are shown below in *Figure 11*.lation drills to train community leaders and local residents so that they can open the water pipes quickly and by themselves.

*“It is very difficult to keep residents mindful of disaster management principles in times of calm. But, I speak to residents during those ordinary times and I find that attending a disaster simulation drill contributes to people’s storage of knowledge, and as a result we will have less damage when a disaster occurs.“* - Mr. Shimomura, Fire Department

*Table 10: Partial List of Selected Disaster Prevention Certifications in Japan*

**Source: combination of the following: Red Cross Relief Volunteers: Japanese Red Cross Society; Disaster Relief Volunteers: Association for the Promotion of Disaster Prevention Volunteers; Bousaisi: Japan Bousaisi Organization; Disaster Prevention and Crisis Management: First and Disaster Management Agency*

| Certification Name | Organized by | Year (starting) | Days | Exercise/Lesson | Cost (JPY) per person | Number of certificates issued |
|---|---|---|---|---|---|---|
| Red Cross Relief Volunteers | Japan Red Cross | 1997 | 2days | Exercise: Relief activities, carrying people by stretcher, making tents, etc. | 2,000 | - |
| Disaster Relief Volunteers | Association for the Promotion of Disaster Prevention Volunteers | 1995 | 3days | Exercise and lesson: Learning basic disaster risk reduction, first aid, simulation game, etc. | 10,000-15,000 | 9,097 people were registered as of Apr 2016 |
| Bousaisi | Japan Bousaisi Organization | 2003 | 2days | Lesson: Lecture about disaster risk reduction, community activities, how to lead residents, etc. | 60,000 | 114,374 people were registered as of Aug 2016 |
| Disaster Prevention and Crisis Management | Fire and Disaster Management Agency | 2004 | several days | Lesson: Web e-learning | free | - |

*Figure 11: Leader Training, March 6, 2016*

**Source: photo by ADRC*

*Table 11: Local General Disaster Simulation Drill Details, March 13, 2016*

**Source: data from internal document "Outline of Bosai Leader Training", Kobe City Fire Department*

| Time | Headquarters | Area A | Area B | Area C |
|---|---|---|---|---|
| 10:00 AM | Set up a disaster management headquarters | Start the drill | Start the drill | Start the drill |
| | Collect information | Information collection and evacuation drill | Collect information | Leading an evacuation drill |
| 10:15 AM | | Initial fire extinguishing drill | Investigate damage | Information collection drill |
| | | | Helicopter supply drop | Helicopter supply drop |
| 10:30 AM | | Helicopter supply drop | Confirm amount of damage | Transport of injured drill |
| | | Automated External Defibrillator (AED) use drill | Simple stretcher transport drill | AED use drill |
| 10:45 AM | | | Initial fire extinguishing drill | |
| | | | AED use drill | Initial fire extinguishing drill |
| 11:00 AM | | | Water spraying drill | Emergency water procurement drill |
| | | Water spraying drill held by a fire-fighting party | | |
| 11:15 AM | | Fire hydrant handling drill | | |
| 11:30 AM | | | Emergency food distribution drill; Review | |
| | | | End of the drill | |
| 11:45 AM | | | | Review |
| 12:00 PM | | Emergency food distribution drill; End of the drill | | End of drill |

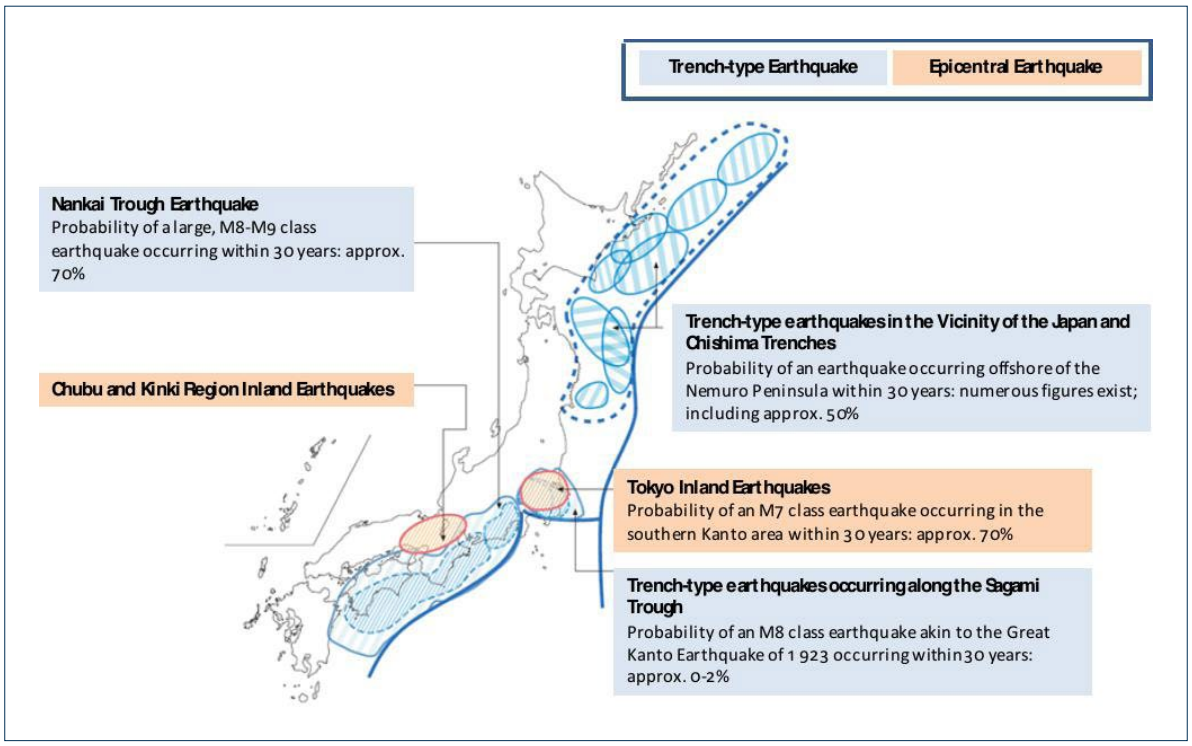
# 6. OVERVIEW OF DISASTER SIMULATION DRILLS: THE CASE OF SHIZUOKA PREFECTURE

## 6.1. The Nankai Trough Earthquake

**The anticipated Nankai Trough Earthquake is the greatest threat of natural disaster facing the Shizuoka Prefecture. A Nankai Trough Earthquake occurs along the Nankai megathrust fault which is divided into three zones - the "Tokai," "East Nankai," and "Nankai" - which will rupture separately or in combination resulting in a moment magnitude (Mw) of 9. It is anticipated that as many as 320,000 people could die in such an event. The areas along the Pacific Coast would likely be where most of the damage is concentrated. The Japanese government has prepared a support plan that will be executed promptly to these areas. Similarly, Shizuoka Prefecture promotes various measures within its territory to reduce damage. For example, the prefecture has created physical assets, such as breakwater structures, and knowledge assets, including the execution of evacuation drills.**

*Figure 12: Anticipated Large-scale Earthquakes in Japan*

** Source: data from "Disaster Management in Japan (2015), Cabinet Office, Government of Japan"*



## 6.2. Disaster Simulation Drills in Shizuoka Prefecture

Disaster simulation drills were first held in Shizuoka in 1979. Shizuoka Prefecture is one of the local governments that historically has cause for concern about the large-scale damage that can result from an earthquake arising from the Nankai Trough fault. Therefore, many of the various drills carried out by Shizuoka Prefecture are aimed at mitigating anticipated Nankai Trough earthquake damages and impacts. The "general disaster simulation drill", outlined below, is held annually at various sites within Shizuoka, presuming a large-scale earthquake, often the Nankai Trough Earthquake. The drill strengthens the functionality of the disaster countermeasures headquarters in the prefecture's cities and towns. Further, the drill establishes support systems, links them with disaster-management-related organizations, and improves local disaster management capabilities, in cooperation with voluntary disaster response organizations and volunteer fire services. The drills attract approximately one million participants every year.

## 6.3. The Laws and Regulations for Coordinating Disaster Simulation Drills

Shizuoka Prefecture's general disaster simulation drill is conducted in accordance with the Disaster Countermeasures Basic Act.

## 6.4. Shizuoka Prefecture: 2015 Local Disaster Simulation Drills

Various types of drills are held every year in Shizuoka Prefecture. A number of Shizuoka's drill activities are listed below:

1. Drill for emergency response
   Government officials assemble
2. General disaster simulation drill (to be expanded below in more detail: 6.4.1-6.4.4)
   Held in cooperation with officers, experts, residents, and others
3. Local disaster simulation drills
   Held at the community level and conducted by Local Voluntary Disaster Management Organizations
4. Tabletop drill: Earthquake countermeasures operation
   Operation drill for public officers only
5. Disaster simulation drill related to nuclear power
   Strengthens capacity for Nuclear Emergency Response Headquarters
6. Tsunami evacuation drill
   Disaster simulation drill for residents who are living in coastal areas conducted by Local Voluntary Disaster Management Organizations

This section will go on to outline the 2015 general disaster simulation drill held during Disaster Preparedness Week.

## 6.4.1. Planning

Every fiscal year, a different Shizuoka Prefecture municipality is appointed to conduct the general disaster simulation drill. The host of the drill may be a single city, a town municipality, or, alternatively, multiple municipalities can share hosting responsibilities.
The host municipality is responsible for preparing the basic plan and arranging the details for the drill, including the hypothetical disaster scenario. The disaster scenario is decided based on past natural disasters and regional characteristics, such as: geographical conditions, etc. The host municipality holds instructional meetings for relevant participants several times before the implementation date.

*Table 12: 2015 Coordination Meetings for the Disaster Simulation Drill and Exercises in Shizuoka Prefecture*

**Source: data from internal document "Disaster Simulation Drill and Exercises", Shizuoka Prefectural Government*

| Date | Contents | Purpose |
|---|---|---|
| January 27, 2015 | Orientation Meeting | Outline of the Disaster Simulation Drill and Exercises is explained |
| May 14, 2015 | First Steering Committee | Detailed discussion of the drill |
| August 7, 2015 | Second Steering Committee | Detailed discussion of the drill |
| August 24, 2015 | Press Conference | Media announcement |
| August 30, 2015 | **Disaster Simulation Drill and Exercises** | |

## 6.4.2. Preparation

The host municipality calls for the participation of relevant disaster management organizations and voluntary groups. It is responsible for selecting a venue and setting up tents for the drill. The participating organizations voluntarily bring useful materials in their possession to the drill venue site. As noted above, the general disaster simulation drill may be hosted by multiple municipalities. When this is the case, general requirements for the drill such as requesting a helicopter from the Self-defense Force (SDF) is fulfilled by the Shizuoka Prefectural Government.

## 6.4.3. Execution

The host municipality proposes and executes an appropriate disaster simulation drill program based on the outline of the general disaster simulation drill, shown below. There may be multiple venues for the general disaster simulation drill within the municipality or municipalities. In which case, the host will examine the program and execute the drills for each venue after coordinating with the relevant organizations.

*Table 13: Summary of the 2015 General Disaster Simulation Drill*

**Source: data from internal document "Disaster Simulation Drill and Exercises", Shizuoka Prefectural Government*

| | Basic Information about the Drill |
|---|---|
| **Date and time** | Sunday, August 30, 2015, 8:30 AM to 12:00 PM |
| **Sites** | Yaizu City, Fujieda City Mt. Fuji, and Shizuoka Airport |
| **Scenario** | 1. Around 8:30 AM on August 30, a Nankai Trough earthquake occurs<br>2. Seismic intensities of level 7 have been observed widely throughout the prefecture<br>3. Damage has occurred due to building collapses, tsunami inundation, disastrous landslides, and fires<br>4. The prefectures and the city governments immediately set up a disaster countermeasures headquarters and start to respond to the damage |
| **Participating organizations** | Shizuoka Prefecture, Yaizu City, Fujieda City, voluntary disaster management organizations, fire fighting groups, police, schools, the SDF, US Armed Forces in Japan, the Japan Coast Guard, hospitals, and lifeline-related private companies. |

**Activities of the General Disaster Simulation Drill**

1. Rescue of those swept away by a tsunami, rescue from accidents and collapsed buildings
   - Yaizu City, Fujieda City and police lead residents to tsunami evacuation tower
   - Japan Ground Self-Defense Force rescue residents by helicopter
   - Yaizu City, Fujieda City remove transportation obstacles made by traffic accidents
   - Fire and police departments rescue injured people under collapsed buildings
2. Set-up and operate aid stations, triage and transport the injured to this station
   - Yaizu City, Fujieda City and local hospitals set-up aid station and transport injured people to this station
   - Shizuoka Prefectural Government dispatches DMAT to this station, and they triage injured people

3. Guide aircraft on approach to an isolated village
    - Fujieda City transports emergency supplies to isolated village by helicopter
4. Open and operate evacuation centers
    - Local resident volunteers open evacuation centers. Japan's Self-Defense Forces prepare emergency food for residents
5. Account for the dead and missing
    - Both cities set-up a mortuary and police tally the death toll
6. Transport of maritime goods
    - Maritime Self-Defense Force transports emergency supplies to the appropriate port and distributes to each city accordingly
7. A base for supplying materials to the appropriate regional area is installed and operated
    - Shizuoka Prefectural Government prepares emergency supplies for the appropriate regional areas
8. Other drills are held by each voluntary disaster management organization and fire fighting group
    - Voluntary disaster management organizations and fire fighting groups check safety of residents and collect latest disaster information themselves

### 6.4.4. Evaluation

Currently, there are no evaluation activities for the disaster simulation drills presented above. However, evaluation activities will be considered in the future. Further, the current schedule of activities for executing general disaster simulation drills concludes before noon so that drills may be an inclusive exercise involving strong resident participation.
During the last general disaster simulation drill, in 2015, some program activities were halted due to weather. In an actual disaster, the effects of weather upon the countermeasures must be considered. The activities from the 2015 drill are seen as an opportunity to consider the effects of weather in future drills.

*"Approximately 890,000 people and over 5,200 staff members from related organizations participated in this general disaster simulation drill. Shizuoka Prefecture extends widely from east to west. Disaster simulation drills on such a large scale are held at sites inside the prefecture every year. Staff members from various organizations, including the SDF, police, fire departments, as well as civilians confirm the actual sites in advance of the day the drill is executed and become familiar with the locations. This study will contribute to their ability to take appropriate measures if a disaster actually occurs."*
- Mr. Sakakibara, Crisis Management Department, Shizuoka Prefecture Government

*Figure 13: Disaster Management Center of Shizuoka Prefectural Government*

**Source: photo by ADRC*

## 6.5. Disaster Simulation Drills Conducted By Private Companies

Many organizations participate in the general disaster simulation drill, sponsored by the Shizuoka Prefectural Government, such as the police, SDF, fire departments, medical institutions, volunteer disaster management organizations, and local municipalities. Some private companies also participate. Private companies from sectors, including: major infrastructure, gas, communications, and transportation, participate in the drill. This section discusses the participation and role of the Chubu Electric Power Co., Ltd. (CEP) in the general disaster simulation drill. To begin, CEP supplies electrical power to the prefectures of Shizuoka, Nagano, Gifu, Aichi, and Mies.

### 6.5.1. Chubu Electric Power

This section explains the steps that CEP and the Shizuoka Prefectural Government took to plan and prepare for the general disaster simulation drills held by two municipalities: Yaizu and Fujieda, at the end of August 2015. The general disaster simulation drill held by the Shizuoka Prefectural Government consists of two parts: (1) a general disaster simulation drill aimed at improving the operation of the headquarters, and (2) a general disaster simulation drill held by the appointed municipalities, on a later date. CEP sent employees to participate in each of these two 2015 drills.

Earlier in the year, the Shizuoka Prefectural Government invited CEP to participate in the drills. CEP staff attended three joint explanatory meetings in preparation for the general disaster simulation drills. In those meetings, the detailed roles of each company participating in the drill were explained. In the original drill plan, a large-scale power failure was presumed, and the staff from CEP were meant to demonstrate how emergency power would be supplied to general hospitals from their mobile power generators in the cities of Yaizu and Fujieda. In this scenario, the emergency power would be supplied upon request from the disaster management office of Yaizu and Fujieda city. CEP planned to exhibit materials to show how it would manage a disaster and to make the public aware of its disaster management activities.

About 20 employees from the CEP Shizuoka and Numazu branch offices, and an additional 10 employees from the Numazu branch office of Tokyo Electric Power, were scheduled to attend the activities for supplying power to the eastern part of the prefecture.

However, due to heavy rainfall, a number of activities planned for the disaster simulation drill were implemented on a much smaller scale. For the first time, weather conditions forced the Shizuoka Prefectural Government to implement remarkable changes to the execution of the drill plan.

In addition to participating in general disaster simulation drills, CEP annually holds its own, in-house, full-scale disaster management drill. In 2015, CEP implemented its drill on a real-time schedule for three consecutive days, from the occurrence of the disaster through to the power restoration measures. Ultimately, these drills help CEP improve its emergency response measures in order to respond effectively in the event of an actual disaster. A testament to this, is that drill participants sought technical improvements in providing an immediate power recovery response.

*"CEP strives to improve its employees' technical abilities by having its employees attend the general disaster simulation drills held by the municipalities and the general disaster management drill held by our headquarters. However, in the Chubu region of Japan, in addition to earthquakes, disasters, such as floods and landslides occur frequently. It is true that disaster response practice is effective experience for our employees. Power is an important factor in saving lives in medical situations, it's also needed to provide energy for recovery activities after the disaster. In the future, we would like to continue to participate in various activities during disaster simulation drills so that we can better respond to disasters."* - Mr. Shibata, Director, Disaster Management Group, General Affairs Department

*Figure 14: 2012 Transport of a Working Vehicle using an SDF Helicopter Drill*

**Source: photo by ADRC*

# 7. OVERVIEW OF DISASTER SIMULATION DRILLS: THE CASE OF TOKYO METROPOLITAN GOVERNMENT

## 7.1. Tokyo Inland Earthquake

**The Tokyo Inland Earthquake is similar to the Nankai Trough Earthquake, of the Shizuoka Prefecture, in that it is the greatest threat of natural disaster for the Tokyo Metropolitan Area. It is estimated that a massive epicentral earthquake with a magnitude of 9 or greater will occur at intervals of 200-400 years (See Figure 12: Anticipated Large-scale Earthquakes in Japan). According to a governmental report, an earthquake with an epicenter in the southern part of Tokyo (assumed scale of M7.3), which is one of the 19 types of possible M8-class earthquakes, would cause extensive damage, including a death toll of as many as 23,000 people. This would likely leave approximately 72,000 people in need of rescue, a total collapse of approximately 610,000 buildings, and a maximum possible economic loss of 47 trillion yen for assets and another 48 trillion yen for degradation of production and services.**

## 7.2. Disaster Simulation Drills in Tokyo

To better prepare for natural disasters, such as the anticipated Tokyo Inland Earthquake, a number of disaster simulation drills are conducted in the metropolitan area. Since 1980, the Tokyo Metropolitan Government has held a regional joint drill called, the Nine City and Prefecture Joint Disaster Simulation Drill,[11] in cooperation with municipalities in the Kanto area. The drill executed on September 1, 2015 was the 35th drill in the series. The prefectures of Chiba, Saitama, and Kanagawa, and the cities of Yokohama, Kawasaki, Chiba, Saitama, and Sagamihara, as well as Tokyo, participated. The host municipality for the Joint Drill is appointed each year. In 2015, the Tokyo Metropolitan Government was the supervising authority.

One aspect of the Joint Drill, that is different from drills executed by other local governments, is that it operates in close collaboration with the national government's general disaster simulation drill. As such, the Prime Minister visits the host municipality during the drill. Therefore, the host municipality must additionally prepare to receive the Prime Minister and their Cabinet members.

## 7.3. The Laws and Regulations for Coordinating The Disaster Simulation Drill

The Nine City and Prefecture Joint Disaster Simulation Drill is executed according to the Disaster Countermeasures Basic Act and the guidelines specific for the joint disaster simulation, which are updated every year by the nine cities and prefectures.

[11] Nine City and Prefecture Joint Disaster Simulation Drill: The first drill was conducted September 1, 1980.

## 7.4. 2015 Local Disaster Simulation Drill

**In order for the drill to generate appropriate countermeasures to problems arising from the GEJE and its presumed damage, the 35th Joint Disaster Simulation Drill was held with the following principles in mind:**

1. Establish self-support and mutual-support on the part of residents and improve disaster management awareness
2. Improve disaster response capabilities through practical drills held by each disaster management organization and government agency
3. Improve disaster response capabilities through mutual cooperation among relevant organizations
4. Verify regional disaster management plans
5. Support people who need special assistance during a disaster
6. Collaborate regionally, based on the agreement of the nine cities and prefectures
7. Support and cooperate with relevant overseas entities
8. Utilize regional support that takes advantage of the capabilities of local helicopters and machinery

### 7.4.1. Planning

The host municipality creates a scenario at the beginning of the year, examines the overall outline, and proposes it to the other participating municipalities. In parallel, each municipality holds disaster simulation drills based on their own detailed and developed plans.

The name “nine joint municipalities” is derived from the fact that some drill programs are held by each municipality and involve linking with other municipalities. By integrating the Nine Municipality Joint Disaster Simulation Drill into one program, which incorporates each municipality's drills, the municipalities can better cooperate with each other during an emergency. This is an important purpose of the nine municipalities joint disaster simulation drill.

## 7.4.2. Preparation

As noted above, disaster simulation drills are conducted separately in each municipality. Each municipality invites relevant organizations to participate in the drill and prepares the required items at the drill sites, including installing tents, *14* below, outlines the disaster simulation drill executed by the Tokyo Metropolitan Government.

*Table 14: Summary of the 2015 Disaster Simulation Drill and Exercises in Tokyo*

**Source: data from internal document, The 35th Nine "Prefectures City Joint Emergency Drill", Tokyo Metropolitan Government*

| Information about the Disaster Simulation Drill | |
|---|---|
| **Date and time** | Tuesday, September 1, 2015; 9:00 AM to 12:30 PM |
| **Drill sites** | Tachikawa City and other sites |
| **Scenario** | Presumes an inland Tokyo earthquake:<br>• Epicenter: Tokyo Tama area<br>• Earthquake scale: Mw 7.3<br>• Epicenter depth: approx. 12 km to 30 km<br>• Time: 8:00 AM in the summer<br>• Wind velocity: 8m |
| **Participating organizations** | Approximately 100 organizations, including: SDF, Agency for Natural Resources, Energy in the Ministry of Land, Japan Meteorological Agency, Japanese Red Cross Society, NTT (Nippon Telegraph and Telephone Corporation) Docomo Inc., Tokyo Gas Co., Ltd., Tokyo Electric Power, Tokyo Tracking Association, Tachikawa City, fire fighting groups, voluntary disaster management organizations, local junior high schools, and local residents |

*Figure 15: Disaster Management Center of the Tokyo Metropolitan Government*

**Source: photo by ADRC*

## 7.4.3. Execution

In Tokyo, various disaster simulation drills are held at five different sites. The 2015 drill details are shown below, in *table 15*.

*Table 15: List of the 2015 Disaster Simulation Drill and Exercises in Tokyo*

**Source: data from internal document, The 35th Nine "Prefectures City Joint Emergency Drill", Tokyo Metropolitan Government*

| The National Park |
| --- |
| • Rescue drill by the fire brigade<br>• Drill to send a rescue team using an aircraft<br>• Rescue drill by local residents<br>• Drill to temporarily recover lifelines such as electricity, gas, and communications<br>• Exhibitions by disaster management agencies<br>• Drill to test a victims' support system<br>• Injuries and triage drill |
| **Monorail Station** |
| • Rescue drills by the police, fire department and rail staff |
| **Gymnasium** |
| • Local government officials and junior high school students transport emergency support goods to an evacuation center |
| **Tokyo Metropolitan Park and Waterfront** |
| • Medical relief activity bases are installed<br>• Air control drill using a helicopter<br>• Medical drill using an escort ship |
| **Other Sites** |
| • Drill for tallying the death toll and verifying the identities of the dead<br>• Goods transport using a helicopter |

### 7.4.4. Evaluation

After each drill, evaluation meetings are held at each of the nine prefectures and city municipalities. A part of this evaluation is for key relevant officials, of the nine municipalities, to confirm the details of the joint disaster simulation drills for the next year. This evaluation is held the same the municipalities execute their disaster simulation drills, which helps maintain the concentration of the residents and reduce burdens on participants. In addition to the evaluation by respective municipalities, key relevant officials of the nine municipalities evaluate the details of the joint disaster simulation drills, particularly regarding collaborative works between municipalities in the drills, for the next year.

*"Past disaster simulation drills were focused on public support. However, in an actual disaster, self-support and mutual support are important. Therefore, the joint disaster drill is changing, year by year, to do more to promote the voluntary disaster management capabilities of the citizenry."*

- Mr. Kawashima, General Disaster Management Department, the Tokyo Metropolitan Government

# 8. RAISING RESIDENTS' DISASTER PREVENTION AWARENESS THROUGH SCHOOLS, NGOS AND LEARNING CENTER ACTIVITIES

## 8.1. Introduction

**Various organizations make up the fabric of a community. Schools, NGO/Non-profit organizations (NPOs), and learning centers play a significant role in raising public awareness about disaster prevention and risk reduction. This chapter features examples of disaster awareness activities performed by the aforementioned players (See Appendix-6, List of Featured Tools for Disaster Preparation Awareness).**

## 8.2. Schools

### 8.2.1. Nagisa Elementary School and Maiko High School[12]

Kobe suffered great damage during the Great Hanshin Awaji Earthquake that occurred in 1995. As of 2015, Kobe City had 169 elementary schools with about 77,600 pupils. In Kobe, and in many other areas of Japan, elementary schools employ various disaster management activities. This section describes how two schools are aggressively promoting disaster management activities: Kobe Municipal Nagisa Elementary School and Hyogo Prefectural Maiko High School.

Kobe Nagisa Elementary School is located near the coast in Chuo Ward, Kobe. There are 59 teachers and 914 pupils. The Nagisa Elementary School conducts three sets of disaster management activities every year.

The first type of activity, is: the execution of evacuation drills. The school holds three evacuation drills a year, in the spring, autumn and winter which is held on January 17, the anniversary of the Great Hanshin Awaji Earthquake. Almost the entire staff and all the pupils participate in the drills, which presume an earthquake and a resultant a fire. The emergency evacuation drill takes approximately one hour and a half. This span of time was chosen to take into account the limits of young children's attention spans.

First, the drill participants are presented with a simple disaster management education program. This is followed by evacuation drills, and finally, a review meeting is held with the students and teachers. The emergency evacuation drill is timed to see how long evacuation takes, but the school prioritizes safety above all else, so they do not encourage competition.

The second activity memorializes the Great Hanshin Awaji Earthquake of March 11, 2011. The principal and teacher, responsible for disaster management, talk to the students about the disaster and pray for the victims. They continue to hold these events annually in order to prevent the memories of earthquake disasters, particularly GEJE, from fading.

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12 Maiko High School website (English): http://www.hyogo-c.ed.jp/~maiko-hs/e/index.html

*Table 16: List of Disaster Education Activities in Nagisa Elementary School*

**Source: data from interview with Nagisa Elementary School*

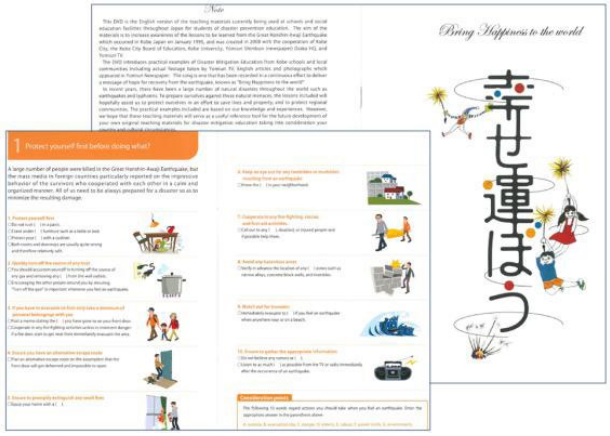
| Disaster Education Activity | Timing | Contents | Cooperation with Other Agencies | Contents |
|---|---|---|---|---|
| Evacuation Drill | • First Semester<br>• Second Semester<br>• Jan 17th | 90 minutes<br>• Lesson of disaster education<br>• Evacuation drill | Fire Department sometimes supports the evacuation drill | After drill, teachers and students |
| School Assembly | • Mar 11th | 60 minutes<br>• Silent prayer<br>• Sing a memorial song | None | None |
| Lesson of Disaster Education | • Several times per year | 60 minutes<br>• Disaster education using materials published by Kobe City | None | None |

The last type of activity, is the inclusion of disaster management education classes in the normal curricu-

lum. During these classes, teachers convey basic knowledge about disasters, provide updates on evacuation activities, instruct the children about preparations they can make during normal times, in anticipation of future emergencies, and stress the importance of communicating with family members about such matters. The city of Kobe developed a disaster management education booklet, “Shiawase Hakobo (Bring Happiness to the World),” which is shown in *Figure 16*. It is used for disaster management education at the elementary school level throughout the city. “Bring Happiness to the World” allows pupils to gain basic knowledge about various disasters, including: earthquakes, floods, tsunamis, and landslides. It also describes the preparations people can make for possible disasters, like stocking supplies.

*Figure 16: Disaster Education Material, “Bring Happiness to the World”*

** Source: Kobe City “Bring Happiness to the World”*




In 2006, an officer from the Kobe City Board of Education was dispatched to Armenia to help execute a disaster management education project using the “Bring Happiness to the World” booklet.

Hyogo Prefectural Maiko High School in Kobe has an Environmental Preservation and Disaster Mitigation Course. This course was established in April 2002, seven years after the Great Hanshin-Awaji Earthquake. In its curriculum, the course offers a number of subjects concerning disaster management and environmental preservation. For example, the students participate in activities of handing down the experience and lessons from the Great Hanshin-Awaji Earthquake to the younger generations. Additionally, Maiko High School collaborates with elementary schools on disaster mitigation education. High school students make a regional map together with third-grade pupils and talk about disaster mitigation and response. Maiko High School actively promote internationalization, by accepting foreign students, since the course was established. Moreover, the students get opportunities to exchange opinions with disaster management experts in other countries, who are invited to Japan through the training programs of Japan International Cooperation Agency (JICA).

There are many education programs providing advanced disaster management education in Kobe City, similar to those at Nagisa Elementary School and Maiko High School. In spite of this, an increasing number of students and even their parents do not remember the Great Hanshin Awaji Earthquake.

*"I believe it is important to keep practicing disaster management education activities to keep the memories of the Great Hanshin Earthquake alive."*

- Mr. Kawai, Head Teacher, Nagisa Elementary School

*Figure 17: JICA Training Course at Maiko High School*

**Source: photo by ADRC*

## 8.3. NGOS

### 8.3.1. Plus Arts[13]

Plus Arts, a nonprofit organization, was established in July 2006, 10 years after the 1995 Great Hanshin Awaji Earthquake occurred in the Chuo Ward of Kobe, Hyogo. Plus Arts promotes various activities inside and outside Japan in the fields of education, community development, disaster management, welfare, environmental awareness and international cooperation.

The "Iza Kaeru Caravan (a toy exchange caravan)" is a disaster management event typical of Plus Arts, which was created based on a study of the Great Hanshin Awaji Earthquake. At the caravan, children can learn fire extinguishing, rescue strategies and how to provide relief while enjoying the program in the form of game. This caravan is now held in 14 countries, including: Turkey, Thailand, Chile, Indonesia, the Philippines, and Myanmar. This is an effective program that allows residents and officials to learn about disaster management in a fun way while improving awareness of the subject.

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13 Plus Arts website: http://www.plus-arts.net/ (only Japanese)

“Iza Kaeru Caravan” has two major components. The first is a pre-briefing for local coordinators and responsible people. For example, Mr. Nagata, a representative of Plus Arts, will visit a group of people and tell them the general idea of the “Iza Kaeru Caravan.” He talks about disaster management issues in the community with participants and then demonstrates and discusses a menu of different activities in the “Iza Kaeru Caravan event. He also helps the group create a plan and examine the actual programs that will be implemented in that community.

The second step is the actual implementation of the program. Usually, there will be an interval between steps 1 and 2. However, when executed abroad, the 1st and 2nd steps may be conducted on consecutive days to save travel and flight expenses for Plus Arts staff. The actual implementation is carried out according to the pre-determined program, in step 1. Preparation of a venue, invitation of the residents, and preparation of the equipment will be carried by the local coordinators. This is because the project is intended to be locally continued and supported after Plus Arts leaves. “Iza Kaeru Caravan” is not a fixed program, rather its concept is localized based on conditions specific to an area. Originally, in Japan, a frog (“Kaeru” in Japanese) was used as the mascot. But abroad, an elephant or a bear, may be used, based on what is most appropriate to the local context. The seeds that have been sown are now flourishing locally at each site where the program has been run.

*"The Kaeru Caravan program is not difficult to understand. It is a program in which children and their families can learn disaster management in a fun way. We hope to expand our efforts widely, both in and outside of Japan, while respecting the opinions and feelings of the local people wherever we go."* - Mr. Iwane, Plus Arts

*Figure 18: Iza! Kaeru Caravan!*

**Source: photo by ADRC*

## 8.4. Learning Centers

### 8.4.1. The Great Hanshin-Awaji Earthquake Memorial Museum[14]

*Figure 19: Volunteers Describe Seismic Reinforcement Techniques*

**Source: photo by ADRC, the Great Hanshin-Awaji Earthquake Memorial Museum*

The Great Hanshin Awaji Earthquake Memorial Hall holds evidence of the experiences and lessons learned from the Great Hanshin Awaji Earthquake, and therefore contributes to reducing future damage caused by disasters. The facility is designed to teach about the dignity of life and the delight of sharing our lives together. There are approximately 150 registered volunteers who work at the facility. Storytellers convey the memories of the earthquake to visitors.
Approximately 500,000 people visit this facility annually. 60% of them are from schools and 40% of them are from overseas. The concept of passing on these lessons through learning centers is expanding overseas, and museums, similar to this facility, have been constructed in Indonesia and Turkey.

**Detailed information about the Memorial Hall, including photos are available online.[15]**
**The following is a list of museum exhibits:**

1. Theater
2. Streets immediately after the Quake
3. The Great Earthquake Hall
4. Memory Corner
5. Five dioramas, showing the road to recovery from the earthquake
6. Recital Corner
7. Station, providing the latest information on natural disasters
8. Disaster prevention and disaster mitigation workshop
9. Gallery of disaster prevention for the future

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[14] The Great Hanshin-Awaji Earthquake Memorial Museum Website: http://www.dri.ne.jp/en

[15] The Great Hanshin-Awaji Earthquake Memorial Museum, Tourist Info: http://www.dri.ne.jp/en/exhibition/course

# 9. RISK COMMUNICATION INITIATIVES: CASE OF KOBE CITY

## 9.1. Introduction

Risk communication is critically important to raising residents' awareness and preparedness for natural disasters. This chapter will introduce some examples of risk communication initiatives in Kobe City.

## 9.2. Information Sharing related to Evacuation

In Japan, various hazard maps are available to the public which give information about the conditions in each municipality which are prone to disaster. The hazard map is an effective tool for obtaining various information about disaster management at a glance. The map contains evacuation locations, routes to evacuate, areas where past disasters have occurred, and basic knowledge about disasters. This section describes a map developed by Kobe, the capital of Hyogo Prefecture.

Kobe City suffered severely during the Great Hanshin Earthquake of 1995. The city is also at risk to damage caused by other natural disasters, such as: floods, landslides, and tsunamis. As such, Kobe provides extensive disaster related information to residents using paper media and an internet-based map information system. Additionally, evacuation routes and shelter locations are made widely known to nearby residents and children through local disaster prevention drills and school activities.

In this way, the government shares information about evacuation and related matters to residents in more than one format. The following section, will introduce four communication methods used in Kobe.

### 9.2.1. Online Tsunami Information Service, "Kokokuru" [16]

Kobe's tsunami evacuation information is provided through "kokokuru", a website, published by the Kobe City Government for residents. Unfortunately, it is highly likely that in the near future an earthquake and tsunami will happen in the Nankai Trough. "Kokokuru" provides information such as where to evacuate if a tsunami alert is issued when you are in Kobe City. A tsunami hazard map shows predicted flooding levels and a range of other things you should know to prepare for a tsunami. You can also send your location using GPS to friends and family with "kokokuru." This services offers users access to real time information for evacuation.

16 "Kokokuru" website: http://kokokuru.jp/en/

## 9.2.2. Capacity Building Through Disaster Risk Reduction Booklets

Every year, Kobe City publishes a disaster education booklet for residents. This booklet includes a great amount of information including the latest news, public emergency alerts, basic disaster information (on landslides, earthquakes, typhoons, tsunamis, etc.), how to prepare an emergency kit, hazard maps (showing evacuation sites and routes), and more. Residents can learn to mitigate disaster risks by using this booklet before a disaster strikes.

## 9.2.3. Evacuation Information by Alarm System in City

In the event of a disaster, evacuation information will be provided by the government to residents through alarm systems installed throughout the city and through the mobile phones of each resident. Remote sites which are difficult to reach by alarm system have remote disaster management radio equipment provided to each household so that disaster evacuation information is available widely and equitably.

*Figure 20: Kobe Early Warning Siren*

**Source: photo by ADRC*

## 9.2.4. Activity of Voluntary Disaster Prevention Organizations (BOKOMI)

There are many disaster simulation drills coordinated by voluntary disaster prevention organizations in Kobe City. The purpose of a voluntary disaster prevention organizations is to enable residents to conduct disaster risk reduction activities in their own town. The Kobe City Fire Bureau has developed the “BOKOMI guidebook,” in cooperation with JICA, to support residents’ activities. Residents can learn their own roles and responsibilities in the event of a disaster from these voluntary disaster prevention organizations. Good examples of such organizations in Japan are shown in Appendix-6, List of Disaster Prevention Awareness Activities at the Community Level.

# 10. CONCLUSION

**This report was developed to introduce disaster simulation drills and other disaster awareness and preparedness activities in Japan, in order to help other countries plan and implement such activities. To develop this report, approximately 15 different organizations were interviewed about disaster simulation drills, from national and local governments to private sector infrastructure companies, schools, and NPOs. For the sake of the report, it was important that each organization was in a different field. In spite of this, we found three key similarities in the ways various sectors think about executing disaster simulation drills. Below is a summary of these findings:**

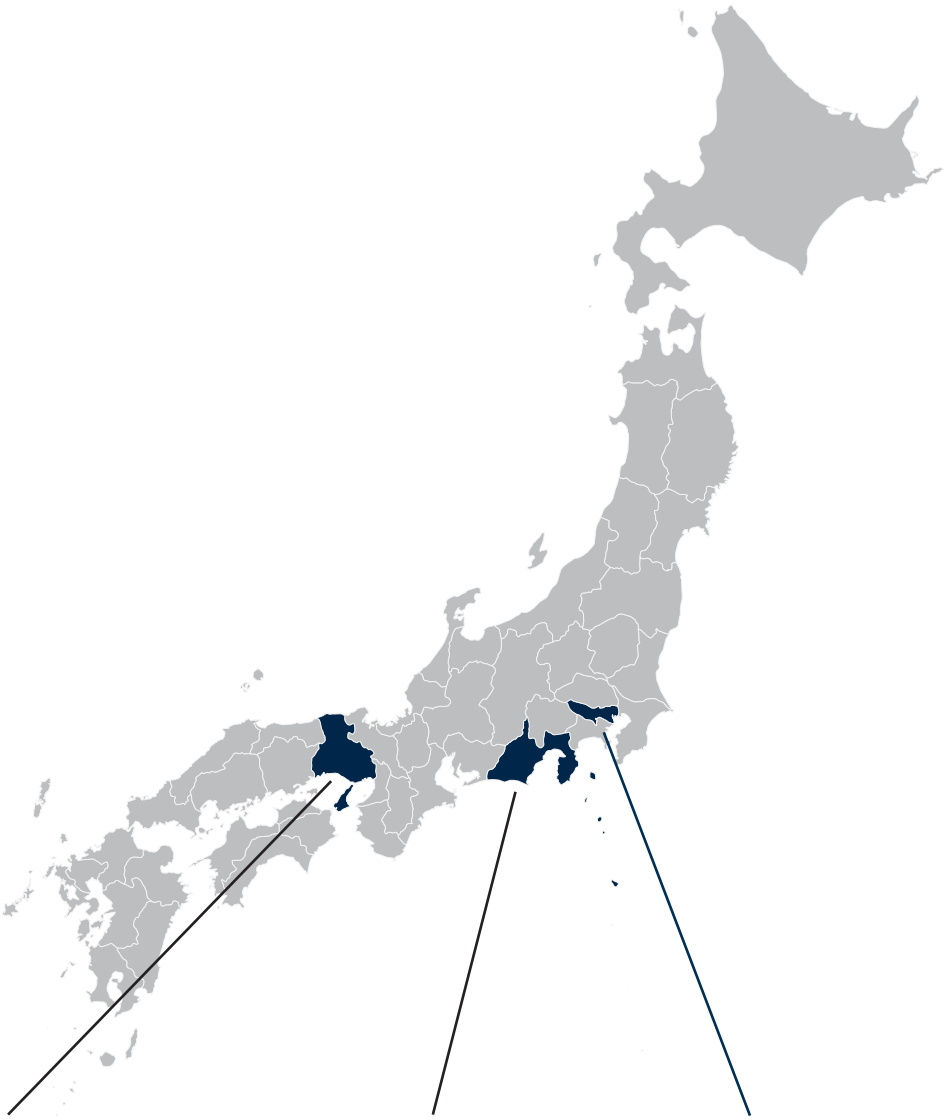
A. **Resident participation in disaster simulation drills helps residents strengthen their ability to self- and mutually support each other in the event of a disaster**
   - During an actual disaster, the energy and awareness of the residents will determine the initial response to the event. Therefore, the participation of individual residents is a crucial part of disaster simulation drills, as well as the participation of governmental and related organizations. vDisaster simulation drills help residents improve their disaster preparedness and reinforce their awareness of the importance of providing self- and mutual support in the event of a disaster.
   - Most of the people in the organizations interviewed create programs for disaster simulation drills that place residents at the center of the exercise.

B. **Programs to develop the additional capacities of officials are crucial for continual improvement**
   - General disaster simulation drills conducted by the government and municipalities are good opportunities for each organization to tell the local residents during ordinary times about the disaster management activities they will carry out during extraordinary times. However, it must be said that governmental officials and private company employees are not provided enough opportunities to improve their technical skills related to disaster management.
   - In order to improve their skills, each municipality and private enterprise should perform tabletop drills, in-company disaster management drills and execution drills, taking advantage of their own networks. These activities are a useful addition to comprehensive disaster simulation drills.

C. **The task of getting a budget is foundational.**
   - In order to perform a disaster simulation drill, sufficient time is required beforehand to fulfill foundational steps, like selecting a venue, in order to successfully get a budget for the drill itself. The municipalities interviewed for this report started contacting their target municipalities more than a year before the date of the scheduled drill, and made major adjustments to the drill plan before its official announcement. Additionally, it is important to understand the needs of local companies and organizations. Therefore, it is crucial to start making arrangements as early as possible for a successful implementation of the disaster simulation drill.

# Annexes

## Annex 1: Report Contributors by Prefecture



### Hyogo Prefecture

- Hyogo Prefectural Government
- Japanese Red Cross in Hyogo
- Kobe City Waterworks Bureau
- Kobe Fire Department
- Nagisa Elementary School
- Maiko High School
- NPO Plus Arts
- Great Hanshin-Awaji Earthquake Memorial & Disaster Reduction and Human Renovation Institution
- Residents in Kobe city

### Shizuoka Prefecture

- Shizuoka Prefectural Government

### Tokyo

- Cabinet Office
- Tokyo Metropolitan Government
- Tokyo Rinkai Disaster Prevention Park
- Association for the Promotion of Disaster Prevention Volunteers

# Annex 2: 2015 Comprehensive Disaster Management Drill Framework (Unofficial Translation)

*31 March 2015, Approved by the Central Disaster Management Council*

## 1. The Significance of the Comprehensive Disaster Management Drill Framework

In the event of a disaster, it is desirable that disaster-management-related organizations such as national government organizations, local governments, and semipublic organizations work as one to respond while coordinating with the citizenry. In relation to disaster countermeasures conducted by these disaster-management-related organizations, the implementation of disaster simulation drills has been established based on the Disaster Countermeasures Basic Act, the Basic Disaster Management Plan, and various other regulations. This Comprehensive Disaster Management Drill Framework presents guidelines for disaster-management-related organizations to work with each other and comprehensively and systematically implement disaster simulation drills in 2015. In addition, this Comprehensive Disaster Management Drill Framework also presents the fundamental ideology behind implementing drills in order to increase the awareness of as much of the citizenry as possible concerning disaster management through disaster simulation drills based on the 2011 Great East Japan Earthquake and the current state of society.

## 2. The Purpose of the Drills

The purpose of the disaster simulation drills is confirmation and verification concerning emergency measures by disaster-management-related organizations during a disaster, and the enhancement of disaster management awareness among residents. More specifically, the purposes of the drills are as follows.

**(1)** Through disaster simulation drills, to confirm and evaluate the functions of the organizational systems of the disaster management organizations, and examines their effectiveness.

**(2)** Through disaster simulation drills, to confirm disaster management policies are effective, have appropriate roles held and shared by the various disaster management organizations, and that these organizations collaborate with each other during disasters; as well as to promote and reinforce collaboration during ordinary, non-emergency times in preparation for disaster, including in particular the strengthening of relations between the national government and local governments.

**(3)** As concerns the implementation of disaster simulation drills, to emphasize the discovery of points of vulnerability, and the challenges faced by disaster management personnel, and to focus on continuous improvement of the disaster management plan.

**(4)** To serve as opportunities to raise awareness of the importance of disaster management and to improve local residents' knowledge about it so that each and every resident may think about what they themselves should do during everyday life and during disasters when participating in disaster simulation drills and make sufficient preparations for disasters.

**(5)** Bearing in mind that self-improvement and self-development by disaster management representatives during ordinary, non-emergency times through government organizations and private companies ties directly into the improvement of society's ability to manage disasters; to give disaster management representatives opportunities to validate the disaster management efforts related to everyday life and take opportunities to evaluate them for possible improvement.

## 3. Basic Policies for Implementing Disaster Simulation Drills

Disaster simulation drills shall be implemented according to the following basic policies.

**(1) Improvement of disaster management abilities based on the Great East Japan Earthquake**

In order to improve abilities needed to manage the many challenges concerning disaster management measures raised by the Great East Japan Earthquake, incorporate emergency management for various conceivable types of damage and injury and large-scale management extending across multiple local governments into drills.

**(2) The promotion of practical, effective drills**

A scenario, comprised of situation setting and damage presumption, along with emergency measure scenarios, is the most important part of drill implementation. Create drills based on the Great East Japan Earthquake which presume more practical and conceivable worst-case situations and avoid conducting drills which are occupied with necessities concerning the progress of drills or which are for show only. From the preparation stage of drills, confirm the roles of national government organizations, local governments, semipublic organizations, residents, and lifeline/infrastructure operators while cooperating with them, work to discover and detect problems concerning disaster management organizational systems and emergency measures, and verify effectiveness. As concerns drill methods, implement drills using methods which involve actual judgement and action, such as execution drills where people and things move and tabletop drills where participants must make judgements based on situation assignment.

**(3) The implementation of drills in which numerous agents participate and cooperate**

It is expected that drills will be held in each agent not only engages in its own individual drilling but also in which as many agents as possible cooperate together in drills in order to promote disaster management measures which span organizations – it is necessary to increase mutual complementation through the implementation of drills in which numerous agents participate and cooperate.
As such, strive to implement drills in which numerous agents participate via cooperation between various agents such as national and local governments, local governments in wide area blocks, the government and civilians, at the field (industry) level, regional level, and between execution teams, as well as via international cooperative frameworks with organizations such as the U.S. Armed Forces in Japan.

**(4) Strengthening of mutual cooperation between disaster-management-related organizations, etc.**

When a disaster occurs and particularly at the initial response stage, it is essential that disaster-management-related organizations such as national government organizations and public organizations in the disaster-stricken region work together in close cooperation to engage in the collection of accurate information and provide a fast and appropriate response based on the same. As such, implement periodic combined drills conducted by disaster management representatives, including the leaders of national and local governments. In addition, the national government will actively participate in disaster simulation drills conducted by various regions and industries and work to create extensive systems for cooperation and coordination, including during ordinary, non-emergency times, with disaster-management-related organizations such as local governments, semipublic organizations, and lifeline/infrastructure operators.

Local governments shall strive to promote drills which make use of extensive networks under close cooperation with fire departments, police, SDF, the Japan Coast Guard, government offices in charge of safety regulations, designated government organizations, local governments, and lifeline/infrastructure operators, as well as wide area support drills based on agreements concluded between local governments.

**(5) Designing and improving disaster simulation drills which contribute to citizen movements to reduce disaster damage**

Design and improve drill content together with working with the media and strive to improve publicity concerning disaster simulation drills so that residents are able to improve their preparations for disasters through active participation in disaster simulation drills and by watching reports on drills, as well as so that residents may participate in a broad array of layers, such as regions, schools, and workplaces. As concerns the content of disaster simulation drills, actively add preventative initiatives to reduce damages such as confirmation of hazard maps, securement of furniture and furnishings, and glass anti-scattering, as well as risk aversion actions via Earthquake Early Warnings. Together with this, equip each resident with correct knowledge concerning disaster management, call for the implementation of specific preparations and the encouragement of appropriate actions during a disaster, and create opportunities for them to think for themselves about how they should prepare in their daily lives and what they should do during a disaster.

**(6) The implementation of drills from the perspective of gender equality and persons who require special consideration**

In the implementation of drills, incorporate the perspective of gender equality and strive to achieve the active participation of women together with taking the perspective of persons who require special consideration such as senior citizens, the disabled, and persons with incurable diseases, gain the participation of actual persons who require special consideration, and conduct drills on leading evacuations to evacuation sites and shelters.

**(7) Implementing objective analysis and evaluation of drills**

After a drill has been completed, conduct objective analysis and evaluation of the drill through the analysis of problems identified during scenario creation, engaging in the exchange of opinions with participants, and listening to opinions from people observing the drill and outside experts. Once challenges have been revealed, review the state of drills, disaster management manuals, and disaster management cooperation agreements as necessary in order to maintain and establish effective disaster management organizational systems and to strengthen mutual disaster-management-related organization cooperation.

**(8) The promotion of planned drills throughout the year**

Disaster-management-related organizations and disaster management representatives should strive to implement a diverse variety of disaster simulation drills of the type presented in this Comprehensive Disaster Management Drill Framework in a planned and systematic manner in order to systematically improve disaster response abilities.

**(9) The promotion of disaster management training prior to drills**

The advance acquisition of the skills and abilities needed to respond to disasters is essential to conducting effective disaster simulation drills. Not only disaster management representatives but also top members and leaders of organizations which take command during disasters are expected to engage in habitual, repeated self-improvement and self-development. As such, strive to implement training in order to acquire the knowledge and abilities needed for disaster response prior to disaster simulation drills and to confirm and verify the results of the same via drills. In addition, as concerns the implementation of training, in addition to conventional "classroom" methods of acquiring knowledge and abilities, also strive to incorporate methods which present an accurate image of the conditions of disaster management representative staff during disasters so that trainees may engage in proper response during an actual disaster.

**(10) Support from the national government**

In order to improve training and drills at local governments, the national government shall strive to provide manuals and teaching materials.

## 4. A General Disaster Simulation Drill by the National Government

### (1) Disaster simulation drills concerning earthquake and tsunami damage

**I. Disaster Preparedness Day general disaster simulation drills**

Implement the following disaster drills on Disaster Preparedness Day (September 1).

a. Disaster Preparedness Day operational drill at governmental headquarters
Under the participation of all cabinet ministers, including the prime minister, presume an earthquake directly under Tokyo, cooperate with relevant local governments, and implement a drill to ensure a system for providing emergency response to an earthquake during a disaster. Note that this drill shall be implemented based on the Act on Special Measures against a Tokyo Inland Earthquake and the Basic Plan for the Promotion of Measures against a Tokyo Inland Earthquake.

b. Presume an earthquake directly under Tokyo, cooperate with the Joint Disaster Drill by Nine Cities and Prefectures, and implement field survey drills in the disaster area (Tokyo).

c. Presume an earthquake directly under Tokyo and implement a drill on assembling at the Prime Minister's Official Residence by having the cabinet ministers walk.

**II. Tsunami Preparedness Day earthquake/tsunami disaster management drills**

Implement the following drills with a focus on Tsunami Preparedness Day (November 5) together with calling on local governments and private companies and encouraging them to conduct earthquake/tsunami disaster simulation drills in order to deepen understanding and concerning regarding tsunami disaster management broadly among the citizenry.

a. Earthquake Early Warning drills
Cooperate with local governments on Tsunami Preparedness Day (November 5) and, under broad citizen participation, implement action drills after being alerted by an Earthquake Early Warning.

b. Earthquake/tsunami disaster management drills
- Cooperate with local governments and implement earthquake/tsunami disaster management drills targeted at local residents in various regions.
- Presume a tsunami caused by a large-scale earthquake and, under cooperation with relevant local governments and semipublic organizations, implement tsunami information communication and provision drills, resident evacuation and guidance drills, relief and rescue drills, TEC-FORCE (the Ministry of Land, Infrastructure, Transport and Tourism's emergency and disaster management dispatch team) wide area dispatch drills, road obstruction and harbor hazardous material removal drills, damaged facility restoration drills, and emergency material transport drills.

### III. Tabletop drills for government personnel

a. Tabletop drills for government personnel assuming a Nankai Trough earthquake
Presume a Nankai Trough earthquake, implement training concerning cooperation between operations at Bureau of the Government's Extreme Disaster Management Headquarters Office, relevant local governments, and designated government organizations, the Disaster Medical Assistance Team (DMAT), and volunteers, and improve operation execution abilities together with verifying the effectiveness of emergency measures.

b. The Bureau of the Government's Extreme Disaster Management Headquarters Office essential personnel tabletop drills
In order to improve the knowledge and skill of the Bureau of the Government's Extreme Disaster Management Headquarters Office essential personnel, provide classroom learning for Headquarters Office essential personnel and presume an earthquake directly under Tokyo and implement tabletop drills in cooperation with relevant local governments.

c. On-site Headquarters for Extreme Disaster Management operation training
Presume an earthquake directly under Tokyo and a Nankai Trough earthquake, cooperate with relevant local governments in various regions, and implement On-site Headquarters for Extreme Disaster Management operation training.

d. SDF integrated disaster management exercises
Presume that an earthquake has occurred directly under Tokyo, cooperate with relevant government ministries and agencies and relevant local governments, and implement integrated disaster simulation drills which include partial execution drills.

e. Tokai Earthquake information transmission drills
In November, based on the Act on Special Measures Concerning Countermeasures for Large-Scale Earthquakes, cooperate with relevant local governments and implement drills on transmitting information concerning a Tokai Earthquake.

### IV. Regional block wide area drills

Based on the Act on Special Measures against Tokyo Inland Earthquake and the Act on Special Measures for Promotion of Nankai Trough Earthquake Disaster Management, presume a large-scale earthquake and implement wide area execution and tabletop drills in regional blocks with a council, etc., serving as agent and comprised of relevant government ministries and agencies, the regional branch offices and bureaus of relevant government ministries and agencies, relevant local governments, semipublic organizations, lifeline/infrastructure operators, and the media.

a. Joint Disaster Drill by Nine Cities and Prefectures
b. Tokai Region Wide Area Cooperative Disaster Management Drill
c. Kinki Prefecture Joint Disaster Simulation Drill
d. Nankai Trough Massive Earthquake Countermeasure Kyushu Block Council Joint Disaster Simulation Drill

**V. Execution drills implemented in cooperation with local governments**

The National Police Agency (Disaster Response Units); Fire and Disaster Management Agency (Emergency Fire Rescue Team); the Ministry of Land, Infrastructure, Transport and Tourism (TEC-FORCE); the Japan Coast Guard; the Ministry of Defense (SDF); and the Disaster Medical Assistance Team (DMAT) shall cooperate with local governments and implement execution drills.

a. Wide area emergency aid unit joint defense drills in all Regional Police Bureaus
b. Emergency Fire Rescue Team nationwide joint drills and regional block joint drills
c. General disaster simulation drills in all prefectures

**(2) Disaster simulation drills concerning wind and flood damage**

**I. General flood management exercises**

Focusing on May (Flood Management Month), cooperate with relevant local governments and implement general exercises in each region which combine practical drills on flood management activities via flood management teams, evacuation drills in which residents participate, and information transmission drills.

**II. Landslide and national disaster simulation drills**

Focusing on June (Landslide Prevention Month), cooperate with relevant local governments and implement evacuation drills in which residents participate and information transmission drills in Landslide Prone Areas across the country.

**III. Tabletop drills for large-scale floods**

Presume that a typhoon has caused the banks of the Ara River to collapse and a large-scale flood has occurred and implement tabletop drills for large-scale floods.

**(3) Disaster simulation drills concerning volcano eruptions**

Based on the volcanic eruption of Mt. Ontake in 2014 and the evacuation plan drawn up by various Volcano Disaster Management Councils with the participation of relevant government ministries and agencies, implement evacuation drills conforming to volcano hazard maps and drills to verify systems for transmitting information to residents, mountain climbers, and travelers.

**(4) Drills for disasters caused by accidents**

Implement the following drills in order to provide quick and appropriate response to disasters caused by accidents such as aviation accidents, railroad accidents, and oil spills from ships.

**I. Tabletop drills for aviation disasters**

**II. Drills for the removal of spilled oil, etc.**

**(5) General disaster simulation drills for nuclear power**

Presume a complex disaster involving a natural disaster and nuclear power disaster, cooperate with relevant local governments, designated government organizations, and nuclear power operators, and implement general disaster simulation drills in order to contribute to ensuring the safety of residents living in the vicinity of nuclear power plants.

**(6) Drills to verify business continuity plans**

**I. Tabletop drills for transmitting information and assembling at the Prime Minister's Official Residence**

In order to ensure that cabinet ministers are able to gather quickly at the Prime Minister's Official Residence in the event of an earthquake directly under Tokyo, implement tabletop drills on confirming safety using available means of communication and securing means of assembly.

**II. Business continuity plan effectiveness confirmation drills**

Implement the following drills in order to confirm and verify the effectiveness of business continuity plans in various government ministries and agencies.

a. Presume an earthquake directly under Tokyo and implement personnel safety confirmation drills and emergency assembly drills
b. Disaster Management Headquarters establishment and operation drills
c. Information system continuity drills

**III. Drills by field (industry)**

In order to ensure the continuity of business of key economic institutions such as central banks and major financial institutions in the event of a large-scale disaster such as an earthquake directly under Tokyo, relevant organizations and lifeline/infrastructure operators shall strive to implement business continuity drills by field (industry) or emergency response theme, and the government ministries and agencies with jurisdiction over the operators of each field (industry) will actively work to implement drills at each operator together with striving to implement joint drills as necessary.

**(7) Drills concerning medical care during disasters**

**I. Drills for medical care activities during large-scale disasters**

Presume an earthquake directly under Tokyo, cooperate with the Joint Disaster Drill by Nine Cities and Prefectures, and implement tabletop and execution drills on the assembly of the Disaster Medical Assistance Team (DMAT), their activities, and wide area medical care transportation.

**II. Drills for verifying medical care abilities making use of ships**

Cooperate with the drills for medical care activities during large-scale disasters and implement verification drills in order to reveal challenges concerning the provision of medical care abilities via the sea using existing ships during a disaster.

**(8) Drills concerning the maintenance of traffic for emergency transportation**

In order to quickly secure emergency transport routes such as emergency vehicle transport during a disaster such as a large-scale earthquake or heavy snow, cooperate with local governments and implement drills on removing obstacles in roads, road restoration training, and training on the removal and movement of abandoned vehicles.

**(9) Drills concerning the supply and provisioning of material**

In order to quickly supply and provision material during a disaster, cooperate with relevant local governments and implement the following drills.

**I. Execution and tabletop drills for supplying fuel based on the Plan for Cooperation in the Provisioning of Oil during a Disaster.**

**II. Wide area transport drills at main wide area disaster-management bases**

**(10) Disaster simulation drills in cooperation with the U.S. Armed Forces in Japan**

Implement disaster simulation drills with relevant local governments together with the SDF and the U.S. Armed Forces in Japan.

## 5. Disaster Simulation Drills by Local Governments

**(1) The importance of general disaster simulation drills for local governments**

Local governments are directly responsible for initial response during a disaster and are required to strive to obtain the cooperation of disaster-management-related organizations such as the national government and of residents and offices, and local disaster management systems must strive to demonstrate sufficient ability. As such, they must clarify key themes in the implementation of drills each year such as initial response drills on establishing and operating disaster response headquarters and confirming cooperation with the national government, evacuation shelter establishment and operation drills, and drills on provisioning and transporting aid materials, and strive to implement periodic drills each year. In addition, local disaster-management-related organizations such as local governments and designated local semipublic organizations must strive to cooperate with national government organizations such as the SDF and Japan Coast Guard. Further, they must strive to improve local disaster management abilities through such means as properly dividing roles mutually with voluntary disaster management organizations, emergency communications councils, private companies, organizations for the disabled, and volunteers, together with residents; implementing unified and cooperative drills; sharing the results of objective drill analysis and evaluation with participating organizations; and, as necessary, reviewing the state of cooperative efforts. Particularly in regions where a large-scale earthquake might occur such as an earthquake directly under Tokyo or a Nankai Trough earthquake, they must strive to implement wide area simulation drills based on the Great East Japan Earthquake and agreements concluded mutually between local governments under drills which make use of wide area networks and close cooperation between local governments.

**(2) Drills in response to local conditions**

Due to the types of disasters for which drills are required differing depending on region, strive to implement drills which actively conform to local conditions and which presume those disasters for which drills are particularly necessary based on past disaster history such as earthquakes, tsunamis, heavy winds and floods, tornadoes, landslides, volcanoes, heavy snows, and nuclear power disasters.

**(3) Providing opportunities for residents to think about disaster management and take specific actions**

Based on the view that local residents are the primary players in disaster management countermeasures, strive to create drill plans based on the same and reflect the opinions and suggestions of local residents in the analyses and evaluations of drill results. When doing so, strive to incorporate the perspectives of both men and women equally and to obtain the active participation of women. In addition, disaster simulation drills serve as opportunities for thinking not just what actions to take during a disaster such as checking evacuation sites and shelters and checking means of contacting family and general outline of such contact, but also about preparations to make before disaster strikes. As such, actively add preventative initiatives to reduce damage such as hazard map confirmation, securing furniture and furnishing, and the prevention of glass shattering; strive to encourage a wide array of levels such as regions, schools, and workplaces to cooperate and participate, work on drill publicizing methods and forms, and strive to help improve the everyday preparations residents make for disasters.

**(4) The spread and promotion of autonomous disaster simulation drill jointly by local residents**

In order to improve local disaster management abilities, strive to spread disaster simulation drills implemented by residents themselves, such as drills based on community disaster management plans, and in which a broad array of levels cooperate and participate. In particular, promote the implementation of drills in which local residents participate as a unified whole at schools, which serve as local disaster management bases. In addition, strive to ensure that drills implemented by offices and volunteers contribute to the improvement of local disaster management abilities via the participation of local residents and relevant organizations.

**(5) Cooperation with volunteers**

Seek broad-based participation in drills from and strive for the greatest possible cooperation with volunteers and organizations involved in volunteer activities concerning extensive disaster relief.

**(6) Evacuation assistance drills for persons who require special consideration**

Presume all conceivable disasters and types of damage and injury, make use of registers of persons requiring assistance in the event of evacuation, announce and transmit information on evacuation preparations, provide guidance on evacuating to evacuation sites and shelters, provide assistance at evacuation shelters, and implement drills while attaining the participation of disaster-management-related organizations concerned with matters such as establishing welfare evacuation shelters, as well as persons who require special consideration such as senior citizens, the disabled, and persons with incurable diseases. Afterward, strive to establish and refine systems for supporting the evacuation of persons who require special consideration through the consideration of measures to resolve challenges discovered through the aforementioned drills.

**(7) Disaster simulation drills for unspecified large numbers of people**

Cooperate with large scale customer facilities such as department stores, inns and hotels, and tourist facilities, promote disaster simulation drills in which employees and regular customers participate, and strive to ensure local safety during disasters.

**6. Implementation of Follow-Ups**

Implement follow-ups on the state of implementation of government disaster simulation drills based on this Comprehensive Disaster Management Drill Framework toward the end of the fiscal year and reflect the results of the same in the following year's Comprehensive Disaster Management Drill Framework.

**7. Changes in the Comprehensive Disaster Management Drill Framework**

This Comprehensive Disaster Management Drill Framework may be changed at the discretion of the Central Disaster Management Council president when it becomes unavoidable.

The following table, part of the 2015 Comprehensive Disaster Management Drill Framework, provides examples of earthquake drills implemented by local governments:

## 2015 Comprehensive Disaster Management Drill Framework: Earthquake Drills

| Drill Type | Drill Objective and Activities |
|---|---|
| **1) To investigate crisis management systems, including initial response, information gathering and transmission** | • Objective: Disaster-management-related organizations should strive to ensure cooperation amongst themselves, to rapidly and accurately share disaster related information among themselves and to publicize it ensuring the accuracy of information. Drills should be designed based on participating organization's earthquake management enhancement plan, disaster management operation plan, and the local disaster management plan.<br>• Risk mitigation action drills take place when an Earthquake Early Warning is received; personnel assembly drills presume the interruption of transportation facilities; drills concerning the gathering, transmission, and analysis of information relating to damages are presumed to commence immediately after an earthquake; drills concerning the establishment of initial response systems verify the functionality of Disaster Management Headquarters among other activities<br>• Drills to gather and transmit information between disaster-management-related organizations use communications networks, such as: the Central Disaster Prevention Radio Network and satellite-based mobile phones<br>• Drills to gather and transmit information between disaster-management-related organizations and residents use diverse networks, such as: the internet, amateur radio, and satellite-based mobile phones<br>• Publicity drills promote the safety of residents by thoroughly disseminating information on resident evacuations and inspections meant to prevent secondary disasters (such as: post-disaster aftershocks, landslides and building collapse due to rain, and public facility damage) Lesson of disaster education |

| Drill Type | Drill Objective and Activities |
| --- | --- |
| **2) Emergency management** | • Objective: Disaster-management-related organizations should strive to jointly implement the following drills in cooperation with local regions to leverage local resources, including: regional aircrafts, ships, emergency vehicles, and equipment to respond to the disaster.<br>• Drills to deploy equipment and have disaster-prepared-personnel operate relevant devices<br>• Drills to extinguish and prevent the spread of multiple simultaneous fires, rescue injured people, perform triage, and transport disaster victims to medical facilities<br>• Drills to establish and operate evacuation shelters, manage food and water provision, and install emergency toilets<br>• Wide-area relief drills to inspect support systems based on wide-area relief agreements<br>• Drills to receive Emergency Fire Rescue Teams and Wide-Area Police Emergency Rescue Teams Silent prayer |

| Drill Type | Drill Objective and Activities |
|---|---|
| **3) Simulation with voluntary disaster management organizations** | • Objective: The following disaster simulation drills should be locally based and autonomously implemented. Conducted with and by local residents, while seeking the participation and cooperation of local offices, schools, disabled persons organizations, and volunteers from the community, with a focus on voluntary disaster management organizations<br>• Drills for: first-aid fire fighting; the rescue and provision of emergency aid to injured persons; food and water provision; and local residents to assist each other in gathering, transmitting, and publicizing information related to the disaster<br>• Drills to evacuate and provide indoor shelter to large numbers of residents, paying particular attention to persons registered to require special attention, such as: senior citizens, the disabled, persons with incurable diseases, foreigners, infants, and pregnant women<br>• Drills to receive and coordinate support between local residents and volunteers, and between volunteers, such as: relief and rescue activities<br>• Drill to assemble essential personnel at various offices during a disaster, first-aid fire fight, and evacuate employees<br>• Drills: to inspect production lines; to inspect and confirm restoration procedures for information systems are functioning; for disaster information gathering and transmission drills; for emergency restoration; and joint drills between disaster-management-related organizations, nearby offices, and local residents<br>• Drills involving the participation of local residents where schools serve as disaster management bases<br>• Inspection of disaster safety measures and disaster supplies in local areas, including: homes, workplaces, and schools; inspection of emergency bags and items<br>• Inspection of risk mitigation activities in response to receiving an Earthquake Early Warning, tsunami warning, or sudden gusts from a tornado, through: drills to confirm evacuation routes, evacuation site locations and familial contact methods; drills on disasters which occur at night alongside wide area drills; and concurrent disaster drills to evaluate long-term evacuation plans and support travelers having difficulty returning home |

| Drill Type | Drill Objective and Activities |
|---|---|
| **4) Securing emergency transportation** | • Objective: Disaster-management-related organizations collaboratively implements drills on securing emergency transportation, which are especially important because emergency transportation on land and at sea become more congested and complex due to damaged roads and wharfs, abandoned vehicles, and the influx of emergency vehicles and ships.<br>• Drills to remove obstacles from roads, remove abandoned vehicles, restore roads, and promote public awareness on appropriate driving methods during disasters<br>• Traffic drills to regulate the influx of vehicles, secure emergency transportation routes, manage fallen or damaged traffic signals, and restrict ships entering ports<br>• Emergency response transportation drills where emergency response personnel consider the abilities and characteristics of various transportation methods, such as: vehicles, ships, and airplanes; drills on wide area emergency transportation which crosses over prefectural boundaries and drills on transporting gravely injured persons |
| **5) Securing and managing lifelines** | • Objective: Disaster-management-related organizations should strive to work as one unit to secure lifelines and provide information.<br>• Drills to: secure lifelines, such as: communications, electricity, gas, water, and sewage services, particularly in affected regions and at company sites; and to inspect relevant equipment and ensure the skillful use of it<br>• Emergency restoration drills which include mutual assistance at lifeline facilities<br>• Emergency restoration drills to procure and use emergency equipment in the event of residential or office collapse<br>• Drills to inspect and operate information network system backups<br>• Drills to inspect safety measures and confirm that alternative measures exist for local government provided information systems which are used by residents; drills on provisioning and transporting aid materials via cooperation with material supply operators and transport operators |

| Drill Type | Drill Objective and Activities |
|---|---|
| **6) Preventing disorder and addressing travelers having difficulty returning home** | • Objective: Disaster-management-related organizations should work as one to transmit and publicize information, provide evacuation support, and offer guidance at locations, such as: terminal stations, shopping districts, underground malls, and skyscrapers, where unspecified large numbers of people can be expected to gather, which could contribute to widespread psychological instability.<br>• Drills to appropriately transmit information, evacuate an area, and provide guidance when an Earthquake Early Warning is received in cooperation with normal customers at department stores, inns and hotels, and tourist facilities<br>• Drills to transmit information to train and subway passengers, evacuate transportation stations, provide first aid guidance for the wounded, use Earthquake Early Warnings to apply appropriate train stopping and deceleration techniques, and restore derailed trains and subways<br>• Drills to appropriately transmit information and provide guidance to persons requiring special attention, and to evacuate hospitals and social welfare facilities after receiving an Earthquake Early Warning<br>• Drills in the greater Tokyo metropolitan area to support travelers who are having difficulty returning home, particularly persons staying at stations and walking home |
| **7) Regional drills for areas at risk of: tsunamis, floods, landslides, and volcano eruptions** | • Objective: The following drills should be implemented with the participation and cooperation of residents and tourists, based on regional characteristics and the lessons learned from the torrential rains and eruption of Mt. Ontake of August 2014.<br>• Drills to monitor coasts; publicize tsunami information and evacuation instructions; guide early evacuation and conduct air-sea rescue of residents and tourists in locations where there is a risk of tsunami<br>• Drills to publicize evacuation warnings in areas where there is a danger of floods, landslides, heavy snow, and volcano eruptions |

| Drill Type | Drill Objective and Activities |
|---|---|
| **8) Shakeout drills where anyone in the region can participate at respective locations** | • Objective: The following drills should improve the effectiveness of disaster management education by utilizing conventional methods to gather participants at drill venues and to unconventionally target large, unspecified numbers of people in the region.<br>• Drills to confirm one's own safety; gather large, unspecified numbers of people, who registered in advance, to implement the drill once a signal is issued at each location<br>• Drills to evacuate and maintain safety are conducted in a unified manner at schools, workplaces, and stores in the region<br>• Online education and awareness of damage estimations based on scientific evidence, most likely earthquake scenarios |

## 2015 Comprehensive Disaster Management Drill Framework Outline

**The objectives of disaster management drills:**

- Verify effectiveness of disaster risk management institutions
- Strengthen mutual coordination with institutions involved in disaster risk management during ordinary times
- Strengthen relations between national and local governments
- Continuously improve disaster management plans
- Raise awareness and improve knowledge of Disaster Risk Reduction (DRR) techniques among residents

**Comprehensive list of government-run disaster management drills:**

**(1) Earthquake and tsunami drills**

a. Comprehensive "Disaster Prevention Day" disaster management drills
   - Government headquarters management drill
   - Drill to activate the Disaster Management Headquarters Meeting attended by all Cabinet Ministers including the Prime Minister
   - Drill to survey a disaster-stricken site (Tokyo) in conjunction with the joint disaster drill by nine local governments (prefectures and cities)
   - Assembly drill in the prime minister's office, each Cabinet Minister walks over

b. Earthquake and tsunami drills on "Tsunami Preparedness Day" *Promotes drills and encourages local governments and private companies to participate in them, consisting of:*
   - Earthquake Early Warning drill
   - Earthquake and tsunami disaster management drills

c. Government tabletop exercises
   - Government tabletop exercise for a Nankai Trough earthquake
   - Tabletop exercise based on plans created by staff of the Extreme Disaster Management Headquarters Secretariat which presumes a Tokyo Inland Earthquake
   - Drill to practice managing On-site Disaster Management Headquarters
   - Joint disaster drills with Self-Defense Forces
   - Drills to practice transmitting information based on a Tokai Earthquake

d. Regional block drills
   *Regional practical and tabletop exercises implemented mainly by a council comprised of relevant ministries and local governments*
   - Joint disaster drill conducted by nine local governments
   - Regional disaster drills for the Tokai region
   - Joint disaster drill among the Kinki prefectures
   - Kyushu Block Council Joint Disaster Drill to prepare for a Nankai Trough Megaquake

e. Practical drills in coordination with local governments
   *Drills carried out by Police Disaster Response Units, Emergency Fire Fighting Assistance Corps, TEC-FORCE, Self-Defense Forces, and DMAT in coordination with relevant local governments*
   - Joint defense drills with regional emergency assistance teams conducted by police bureaus in each jurisdiction

- Nationwide joint drills by the emergency fire fighting assistance corps and joint drills by regional block
- Comprehensive disaster management drills in each prefecture

**(2) Flood disaster management drills**

- Comprehensive flood prevention exercises
- Landslide disaster/national disaster management drills
- Large-scale tabletop exercises for flooding

**(3) Volcanic eruption disaster management drills**

- Drills based on evacuation plans formulated by Volcanic Disaster Management Councils

**(4) Drills for disasters caused by accidents**

- Aviation disaster tabletop exercises
- Oil-spill control drills

**(5) Nuclear power comprehensive disaster management drills**

- Comprehensive disaster drills to address a hypothetical combined disaster involving a natural disaster and a nuclear power disaster

**(6) Drills to verify business continuity plans**

- Tabletop exercises for transmitting information and assembling the government office
- Drills to confirm effectiveness of business continuity plans, including confirming staff safety and emergency assembly
- Sector-specific, industry-based, drills

**(7) Emergency medical treatment drills**

- Drills for medical treatment activities following a large-scale earthquake
- Drills to verify medical treatment functions using ships

**(8) Drills to ensure emergency transport**

- Road clearance and abandoned vehicle removal drills for rapidly securing emergency transport routes

**(9) Drills for the procurement and supply of goods**

- Practical and tabletop exercises for fuel supply based on the Emergency Oil Supply Coordination Plan
- Regional transport drills at core regional disaster management bases

**(10) Disaster drills in coordination with US forces stationed in Japan**

## Annex 3: List of Activities for the Disaster Simulation Drills

(National and Prefectural)

| Government | Name of Drill | Date of Event *preparation | Main Activities | Partial List of Participating Organizations |
|---|---|---|---|---|
| National, **Cabinet Office** | **2015 Disaster Preparedness Day Drill** | **1-Sep-15 (AM)** **6 months prior* | (1) Set up "Extreme Disaster Management Headquarters"<br>(2) Conduct extraordinary cabinet meeting<br>(3) Hold press conference to announce and report on the status of the disaster<br>(4) Inspection of "the Joint Disaster Drill in Nine Cities and Prefectures" | Relevant ministries, including: Cabinet Secretariat, Cabinet Offices, National Police Agency, Fire and Disaster Management Agency, Prefectures in Kanto Region, and residents<br><br>*Target participants: Prime minister, all cabinet ministers, and high level officials, such as: the Director General and Counselor, etc.* |
| | **Tabletop Drill (presuming an inland Tokyo earthquake)** | **19-Jun-15 (2 hours)** | (1) Conduct classroom study and provide descriptions of the drill<br>(2) Team meeting<br>(3) Conduct central government's tabletop drill<br>(4) Evaluation meeting and review | Relevant ministries, including: Cabinet Secretariat, Cabinet Offices, National Police Agency, Financial Services Agency, Ministry of Internal Affairs, and Fire and Disaster Management Agency, and Prefectural Disaster Management Headquarters from Saitama, Chiba, Tokyo, and Kanagawa<br><br>*Target participants: government officials and staff in charge of practical work for disaster management, etc.* |

| Government | Name of Drill | Date of Event *preparation | Main Activities | Partial List of Participating Organizations |
|---|---|---|---|---|
| National, **Cabinet Office** | **Tabletop Drill (presuming a Nankai Trough earthquake)** | **5-Feb-16 (4 hours)** | (1) Drill descriptions are provided<br>(2) Team meetings<br>(3) Conduct central government's tabletop drill<br>(4) Evaluation meeting and review | Relevant ministries, including: Cabinet Secretariat, Cabinet Offices, National Police Agency, Financial Services Agency, Ministry of Internal Affairs, and Fire and Disaster Management Agency, and Preferential Disaster Management Headquarters from Shizuoka, Aichi, Mie, Wakayama, Tokushima, Kagawa, Ehime, Kochi, Oita and Miyazaki<br><br>*Target participants: government officials and staff in charge of practical work for disaster management, etc.* |
| Prefecture, **Hyogo** | **Kansai wide-area support execution drill** | **18-Oct-15 (AM)** **5-6 months prior* | (1) Gather disaster information from affected area<br>(2) Ask transport company to send trucks to base<br>(3) Ask warehouse company to dispatch experts to base<br>(4) Transport emergency supplies from base to site<br>(5) Confirm and distribute emergency supplies at site | Fire, police, SDF, Japanese Red Cross Society, DMAT, lifeline related companies, related volunteer organizations, local municipalities and residents of nine Kinki prefectures<br><br>*Target participants: relevant prefectural Governors, relevant city Mayors, Councilors, SDF officials in charge of practical work related to the drill, etc.* |

| Government | Name of Drill | Date of Event *preparation | Main Activities | Partial List of Participating Organizations |
|---|---|---|---|---|
| Prefecture, **Hyogo** | **Tabletop Drill** | **3-Feb-16 (1 day)** **5-6 months prior* | (1) Orientation and preparation<br>(2) Set up "Disaster Countermeasures Headquarters" for Kyoto Prefecture and the City of Kyoto<br>(3) Set up "Disaster Countermeasures Headquarters" for the Union of Kansai Governments<br>(4) Tabletop drill | Governmental organizations and agencies belonging to the Union of Kansai Governments, Kinki District Transport Bureau, the Warehouse Association, and logistics-related organizations<br><br>*Target participants: government staff, including prefectural and city governmental officials and staff in charge of practical work for disaster management, etc.* |

| Govern-ment | Name of Drill | Date of Event *preparation | Main Activities | Partial List of Participating Organizations |
|---|---|---|---|---|
| Prefecture, **Shizuoka** | **2015 Disaster Reduction Drill and Exercise** | **30-Aug-15 (AM)** **11 months prior* | (1) Rescue those swept away by tsunami, and those injured from accidents and collapsed buildings<br>(2) Set up and operate aid stations, perform triage and transport the injured<br>(3) Guide aircraft on approach to an isolated village<br>(4) Open and operate evacuation centers<br>(5) Verification and recording of dead and missing people<br>(6) Maritime goods transport<br>(7) Install and operate a base for supplying materials to a wide area inside the prefecture<br>(8) Other drills held by each of the voluntary disaster management organizations and fire fighting groups | Shizuoka Prefecture, Yaizu City, Fujieda City, voluntary disaster management organizations, fire fighting groups, police, schools, the SDF, US Armed Forces in Japan, the Japan Coast Guard, medical institutions, and lifeline-related companies.<br><br>*Target Participants: Governor and vice-governor of Shizuoka Prefecture, Mayor of Yaizu City, Mayor of Fujieda City and prefectural and city government officials and staff in charge of practical work for disaster management, SDF, police, Japan Coast Guard.* |

| Govern-ment | Name of Drill | Date of Event *preparation | Main Activities | Partial List of Participating Organizations |
|---|---|---|---|---|
| Prefecture, **Tokyo** | **35th Joint Emergency Disaster Simulation Drill in Nine Prefectures and Cities** | **1-Sep-15 (AM)** ** 5 months prior* | (1) Establish self-support and mutual aid, on the part of residents, and improve disaster management awareness<br>(2) Improve disaster response capabilities in general<br>(3) Improve disaster response capabilities through mutual cooperation among related organizations<br>(4) Verify regional disaster management plans<br>(5) Support people who need assistance during a disaster<br>(6) Wide-area collaboration based of the agreement of the nine cities and prefectures<br>(7) Receive support and cooperate with overseas entities<br>(8) Wide-area support that takes advantage of the capabilities of helicopters | Approximately 100 organizations, including: Ground Self-Defense Force (GSDF), Agency for Natural Resources and Energy in the Ministry of Land, Japan Meteorological Agency, Japanese Red Cross Society, NTT Docomo Inc., Tokyo Gas Co., Ltd., Tokyo Electric Power, Tokyo Tracking Association, Tachikawa City, Fire-fighting groups, voluntary disaster management organizations, local junior high schools and regional residents<br><br>*Target Participants: Governor and Mayor from nine prefectures and cities, prefectural and city governmental officials and staff in charge of practical work from ministries, private sectors, etc.* |

## Annex 4: List of Disaster Simulation Drills at Community Level

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 1 | **Kochi City**<br>*Local Government* | **Kochi City, Kochi Prefecture** | The city of Kochi has experienced numerous flood disasters and attaches high importance to cooperating with residents as part of community development. Accordingly, the city held a Citizen's Meeting to formulate a Community Plan and created a comprehensive Community Plan with residents for regional community building. | Creation of a Community Plan |
| 2 | **Kokubunji City**<br>*Local Government* | **Kokubunji City, Tokyo** | A major disaster risk in the city of Kokubunji is a fire being magnified during a large scale earthquake. Accordingly, the city actively provides awareness raising education and information on disaster management to residents with the purpose of improving locally-rooted disaster management abilities. | Development of disaster management information maps; community development classes in schools |
| 3 | **Chigasaki City**<br>*Local Government* | **Chigasaki City, Kanagawa Prefecture** | In the city of Chigasaki, workshops, in which experts participate, are held with citizens. The goal of the workshops is to promote the creation of a city resistant to disasters. Workshops provide information on the challenges and initiatives in each area while implementing fire spread simulations and town walks. | Disaster management city workshops |

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 4 | **Sapporo City**<br>*Local Government* | **Sapporo City, Hokkaido Prefecture** | Sapporo City prepared a city plan with information provision services on the city homepage and a site where one can view city plan information such as zoning and disaster risk information, such as: disaster risk areas and landslide hazard areas. | Development of Sapporo City Plan with information provision services |
| 5 | **Okinawa Prefecture**<br>*Local Government* | **Okinawa Prefecture** | Virtually all of Okinawa municipalities are along the coast. As such, there is a danger of damage due to a large scale tsunami caused by a Nankai Trough earthquake. Accordingly, the prefecture has developed a map which includes the elevations of primary roads and the locations of parks, schools, public facilities, and tall buildings. All this information is publicly available to residents. | Development of super disaster reduction map |
| 6 | **Voluntary Disaster Management Organizations in Yokohama City**<br>*Local Government* | **Yokohama City, Kanagawa Prefecture** | In the city of Yokohama, community building plans are being prepared as an initiative aimed at resolving challenges relating to disaster management activities implemented by various communities in the city. The mayor of the city has approved and supports these activities. | The development of community development plans for each area |

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 7 | **Kakogawa Green City Disaster Prevention Association** *Voluntary Disaster Management Organization* | **Kakogawa City, Hyogo Prefecture** | The Kakogawa Green City Disaster Prevention Association is an independent disaster management association established in 1998 after the Great Hanshin Awaji Earthquake. The Association's goals are to improve disaster management abilities and to strengthen neighborhood ties prone to being diluted by the influx of apartment complexes. The Association implements disaster management activities, including assessing resident abilities and conducting tabletop drills. | Disaster management education guidebook |
| 8 | **Yagi-Minami Independent Disaster Management Association** *Voluntary Disaster Management Organization* | **Hirono City, Iwate Prefecture** | Hirono-cho, a municipality located in the northernmost Iwate Prefecture, experienced damage during the Great East Japan Earthquake. The Yagi Minami Independent Disaster Management Association is experiencing significant aging of its members and community. The Association therefore attaches great importance on mutual aid during disasters. To support these efforts, the Association gathers information on family physicians and emergency contact information of senior citizens. | Development of a map for persons requiring aid; creation of lists with detailed information on senior citizens |

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 9 | **Shirogane District Independent Disaster Management Association** *Voluntary Disaster Management Organization* | **Hachinohe City, Aomori Prefecture** | The Shiragane District Independent Disaster Management Association engages in various disaster management activities with the goal of working to improve each resident's disaster management awareness. The Association implements a diverse array of drills, for: fire fighting, evacuee guidance, and transport. | Disaster simulation drill implementation |
| 10 | **Kagitori New Town Neighborhood Association** *Voluntary Disaster Management Organization* | **Sendai City, Miyagi Prefecture** | Kagitori New Town Neighborhood Association implements various disaster management activities based on the idea of individuals taking ownership of protecting their town. During the Great East Japan Earthquake, the association effectively implemented the yellow handkerchief exercise practiced during disaster simulation drills (attaching a yellow handkerchief to the entranceways to buildings where everyone was safe). | Implementation of disaster simulation drills; enhancement of the publication of a neighborhood association newsletter |

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 11 | **Nishizome-cho**<br>*Voluntary Disaster Management Organization* | **Hitachiota City, Ibaraki Prefecture** | Many of the residents of Nishizome-cho, located in the center of the city of Hitachiota, are part-time farmers. Much agricultural land was damaged during the Great East Japan Earthquake. Since the disaster, the neighborhood is actively implementing activities such as disaster management drills which focus on independent disaster management organizations. | Creation of an emergency contact network; enhancement of emergency stores |
| 12 | **Coop-Minamisuna**<br>*Voluntary Disaster Management Organization* | **Koto Ward, Tokyo** | Coop Minamisuna is a residential area located in the center of Koto, Tokyo and contains many high-rise apartment complexes which poses the risk of fire during a large scale earthquake. Disaster management activities are actively promoted in the neighborhood such as registering people that require special assistance, the implementation of disaster simulation drills, and the creation of a disaster management plan. | Creation of a registered list of persons requiring assistance; implementation of disaster drills |
| 13 | **Kozu Elementary School**<br>*School* | **Shimanto City, Kochi Prefecture** | Kozu Elementary School is at risk of damage due to a Nankai Trough Earthquake. The school has an initiative, in close cooperation with regional and neighborhood governments, to practice evacuation drills, offer disaster management education classes, and implement drills. | Publication of a disaster management newsletter; development of a disaster management map |

| | Organization | Location | Overview | Outputs |
|---|---|---|---|---|
| 14 | **NPO "Anzen-Kaiteki machi zukuri"**<br>*NPO* | **Katsushika Ward, Tokyo** | Much of Katsushika, Tokyo stands zero meters above sea level and based on past experience is at risk of large scale flooding. Accordingly, with the purpose of improving disaster management abilities among residents, activities are being held, such as tours of super levees, and the development of educational materials on disaster management. | Installation of water level indicators; booklets on flooding |
| 15 | **Yamaji Building**<br>*Private Sector* | **Chigasaki City, Kanagawa Prefecture** | During the Great East Japan Earthquake, the deck area of JR Chigasaki Station was overwhelmed with persons having difficulty returning home. Accordingly, the owner of the private Yamaji Bldg. established an agreement with the city of Chigasaki concerning disaster management with the goal of making effective use of the building during a disaster. The building is now used as a base for information gathering during disasters. | Disaster management manual creation; evacuation drill implementation |

## Annex 5: Examples of Special Attention to Vulnerable Groups for Emergency Preparedness and Response in Japan

### Example 1: Considerations for people with physical challenges to evacuate Fukuoka City

Fukuoka City has a policy on evacuation assistance for those who need special care, including the elderly living alone and people with physical challenges. First, local CSOs apply to the city for evacuation assistance projects to support those requiring special care. The City shares the list of those who need special assistance with the CSOs. The CSOs then work with those requiring special care for evacuation to develop an evacuation assistance plan for each individual, in close coordination with social workers, healthcare facilities, etc. Special assistance during evacuation may include immediate confirmation of their safety after disasters, guidance to evacuation areas, contacting fire/rescue services, transportation to hospitals, etc.

**Source: Fukuoka City website:*
**http://www.city.fukuoka.lg.jp/data/open/cnt/3/15445/1/keikaku.pdf**

### Example 2: Example 2: Gender considerations in evacuation centers in Oita Prefecture

The Oita Prefecture proposed the following principles to reduce the social and psychological impacts in evacuation centers after a disaster, particularly for women:

- Use partitions to provide privacy, as needed, for those who need special care: single women, people with physical challenges, mothers with infants, etc.
- Consider the safety and security of routes to bathrooms in evacuation areas for women and young children. Provide separate bathrooms for men and women.
- Provide separate spaces for mothers with infants or young children for feeding and nursing.
- Organize help desks for women and children who have suffered from violence.

**Source: Oita Prefecture Brochure:*
**www.againstgfb.com/05-0d.pdf**

## Annex 6: List of Featured Tools for Raising Disaster Prevention Awareness

| | Name of Tool | Organizer | Outline of Tool | More Information |
|---|---|---|---|---|
| 1 | **Tools for developing "Community Disaster Management Plan"**<br>*Planning & Developing* | **Cabinet Office** | A tool which provides information on how to create disaster management plans and procedures at the community level (e.g. shopping districts, schools, buildings). | http://www.bousai.go.jp/kyoiku/chikubousai/ |
| 2 | **1.17 Memorial Application**<br>*Software* | **Hyogo Earthquake Memorial 21st Century Research Institute** | An application for learning through videos, photographs, audio, and text about townscapes and how disaster events have changed them. Participants can learn about the recovery process before and immediately after the Hanshin Awaji Earthquake, as well as what is being done today. | https://itunes.apple.com/jp/app/1.17memoriaruapuri/id956464954?mt=8 |
| 3 | **Nagoya City Bosai Application for Earthquake**<br>*Software* | **Nagoya City** | An application for checking natural hazard information concerning Nagoya, such as: estimated seismic intensities, liquefaction potential, tsunami flood depth, and evacuation sites. | http://www.city.nagoya.jp/kurashi/category/20-2-5-15-0-0-0-0-0-0.html |
| 4 | **Evacuation Simulation Game**<br>*Experience-based study facilities* | **White Base Tokushima, NPO** | A type of disaster simulation drill in which actual obstacles are placed along evacuation routes. For example, practice evacuations in groups of five presuming injured members. | http://anshin.pref.tokushima.jp/ docs/2013050200052/files/manual.pdf |

| | Name of Tool | Organizer | Outline of Tool | More Information |
|---|---|---|---|---|
| 5 | **BOUSAI Playing Card**<br>*Experience-based study facilities* | **Zenrousai, Insurance Institution** | A tool for learning about important preparations children should know, such as: disaster management and traffic safety taught through the Japanese game called "karuta." | http://www.zenrosai.coop/stories/bousaicarta.html |
| 6 | **BURURU**<br>*Experience-based study facilities* | **OYO Seismic Instrumentation Corp, Private Company** | A tool which makes it possible to learn about reinforcing buildings against earthquakes. A simple series using paper models is also available, making it possible to easily learn about the importance of earthquake resistance. | http://www.oyosi.co.jp/ProACate09-B.htm |
| 7 | **BOUSAI Card Game "Cross-Road"**<br>*Experience-based study facilities* | **Cabinet Office** | A card game where participants consider disasters as a problem which faces them and determine the optimal countermeasure one should take against a variety of disaster situations displayed on cards. | http://www.bousai.go.jp/kyoiku/keigen/torikumi/kth19005.html |
| 8 | **Tokyo BOSAI (English)**<br>*Disaster Education Material* | **Tokyo Metropolitan Government** | Publications which make it possible to learn about disaster management focused activities in Tokyo, particularly what would happen if an earthquake occurred directly under Tokyo, including information on what to do immediately after the occurrence of a disaster. | http://www.metro.tokyo.jp/ENGLISH/GUIDE/BOSAI/ |

| | Name of Tool | Organizer | Outline of Tool | More Information |
|---|---|---|---|---|
| 9 | **Minna de Gensai (Disaster Mitigation for Everyone)** *Disaster Education Material* | **Cabinet Office** | Publications which make it easy to learn about disaster preparations for earthquakes, tsunamis, strong winds and floods, and volcanic eruptions using many illustrations. | http://www.bousai.go.jp/kyoiku/keigen/gensai/gensai.html |
| 10 | **Bring Happiness to the world** *Disaster Education Material* | **Kobe City** | Educational materials on disaster management developed by the city of Kobe based on experiences during the Great Hanshin Awaji Earthquake. These have been distributed to many schools in the city and English versions have been developed. | http://www.city.kobe.lg.jp/information/oshirase/bakno/2008/img/20080908ed03.pdf |
| 11 | **BOKOMI Guidebook** *Disaster Education Material* | **Kobe Fire Department** | Disaster simulation drills able to be implemented domestically and overseas and a guidebook containing an array of disaster education information. English versions have also been developed. | http://www.city.kobe.lg.jp/safety/fire/information/bokomi6.html |
| 12 | **Implementation Handbook for Disaster Resilience Education at the Regional Level (English)** *Disaster Education Material* | **Cabinet Office** | This handbook is used to understand the objectives and flow of disaster resilience education, and to offer valuable hints for resolving matters of concern that arise when trying to implement disaster resilience education. | http://www.bousai.go.jp/kyoiku/pdf/h27bousaikyoiku_guidline_en.pdf |

| | Name of Tool | Organizer | Outline of Tool | More Information |
|---|---|---|---|---|
| 13 | **BOUSAI Poster Competition**<br>*Competitions* | **Cabinet Office** | In order to improve disaster management awareness among the citizenry, each year the Cabinet Office accepts posters on disaster management. 2015 marked the 31st year of the event, with 12,649 submissions from across the country. The categories for the posters are "1st year elementary school students and younger," "2nd year to 4th year elementary school students," "5th and 6th year elementary school students," "junior high school and high school students," and "general." Excellent posters are awarded prizes, such as the Minister of State for Disaster Management Prize. | http://www.bousai.go.jp/kyoiku/poster/31prize/31_1.html |
| 14 | **BOSAI Kyoiku Education Challenge Plan**<br>*Competitions* | **Executive Committee Sponsorship by Cabinet Office and other ministries** | Provide support for one year of disaster management activities implemented by schools, regions, and NPOs nationwide. Specifically, this includes expert advice on disaster management activities and financial support. In FY 2015, activities were conducted in various areas such as disaster management education at schools for the blind by 20 domestic organizations. Awards, such as the Disaster Management Education Grand Prize will be awarded to excellent activities. | http://www.bosai-study.net/top.html |

| | Name of Tool | Organizer | Outline of Tool | More Information |
|---|---|---|---|---|
| 15 | **BOUSAI Koshien**<br>*Competitions* | **Mainichi Newspaper, Hyogo Prefecture and the Hyogo Earthquake Memorial 21st Century Research Institute** | There are initiatives to support students engaged in disaster management education in their schools and regions. For example, reports are conducted on activities with a focus on students, such as: the implementation of disaster management courses, and local independent disaster management organizations, and fire corps. Submissions are accepted for students in four categories – "elementary school students," "junior high school students," "high school students," and "university students." Excellent activities are awarded prizes, such as the Disaster Management Grand Prize. | http://npo-sakura.net/bousai-koushien/ |
| 16 | **BOUSAI Tankentai Expedition Mapping Competition**<br>*Competitions* | **General Insurance Association of Japan Asahi Newspaper, UNESCO, etc.** | Children learn about disaster prevention, crime prevention, and traffic safety in their region and present what they have learned in a map. The purpose is to cooperate with schools and local people to increase disaster management awareness. In FY 2014, 2,267 maps were submitted from 511 schools. Excellent maps are awarded prizes such as the Minister of Education, Culture, Sports, Science and Technology Prize. | http://www.sonpo.or.jp/protection/bousai/pdf/archive/sakuhin_11.pdf |

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