The Midterm Review of the Implementation of the
Sendai Framework for Disaster Risk Reduction 2015-2030

Voluntary National Report
Submission by Japan

September 2022

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I. HIGHLIGHTS AND INTRODUCTION

The Sendai Framework for Disaster Risk Reduction 2015-2030 is an international guideline for disaster risk reduction adopted at the Third UN World Conference on Disaster Risk Reduction held in Sendai City, Miyagi Prefecture, Japan, in 2015. Japan has played a central role in international cooperation for disaster risk reduction by supporting all three UN World Conferences on Disaster Risk Reduction as a host country, including the First UN World Conference on Natural Disaster Reduction in Yokohama City, Kanagawa Prefecture, in 1994 and the Second UN World Conference on Disaster Reduction in Kobe City, Hyogo Prefecture in 2005.

Japan is positioned to promote the Sendai Framework as one of the most disaster-prone countries in the world and as the host country of the UN World Conferences on Disaster Risk Reduction. Therefore, since the Sendai Framework was formulated, Japan has continued to share its knowledge and lessons with countries around the world and vigorously promote disaster risk reduction measures in Japan based on the Framework.

From such a standpoint, this report explains the status of disaster risk reduction efforts in Japan to the United Nations since the Sendai Framework was formulated and describes the issues and prospects for the second half of the Sendai Framework. Japan hopes that this report will serve as an important input for the midterm review to be compiled by the United Nations and contribute to the acceleration of national disaster risk reduction measures in each country in the second half of the Sendai Framework implementation period.

The highlights of this report are as follows. The structure of the report is as per the guidelines provided by the United Nations Office for Disaster Risk Reduction (UNDRR) on December 28, 2021. In addition, the measures discussed in this report are as of August 2022 unless otherwise noted.

Highlights of the Report

The Government of Japan steadily implements measures in line with the four priority actions set in the Sendai Framework for Disaster Risk Reduction 2015-2030, paying attention to the participation and collaboration of various stakeholders. It also monitors the global indicators for the global targets stipulated in the Sendai Framework annually.

On the other hand, we are faced with contextual shifts and emerging issues, including the need to strengthen measures against the increasingly severe and frequent occurrence of meteorological
disasters, to support affected people in a super-aged society, and to cope with complex disasters with infectious diseases.

Therefore, in the second half of the Sendai Framework implementation period, it will be more important to further strengthen national and local disaster management systems, promote cooperation between public and private sectors, and reflect "Build Back Better" from disasters and lessons learned from them in disaster risk reduction measures. It is also necessary to improve disaster prevention measures by utilizing the latest scientific knowledge and digital technologies and to further enhance international cooperation for disaster risk reduction.

In light of the above, Japan will continue to implement various initiatives to achieve the outcome and goal of the Sendai Framework.

II. MTR SF METHODOLOGY AND PROCESS

In response to the United Nations General Assembly Resolution of A/RES/76/204 of December 17, 2021, which recommends that each country prepare a midterm review report, the Government of Japan held a meeting of relevant ministries and agencies in January 2022 and decided to initiate the midterm review reporting process. The Cabinet Office led the work on preparing the report with the cooperation of all the relevant ministries and agencies. In parallel with the preparation of the main part of the report, the Japanese government also called for collaboration in the compilation of good practices by local governments, national organizations, private companies, academic and educational sectors, medical and welfare sectors, women's groups, civic groups, etc. to ensure the participation of diverse stakeholders during the process preparing the report. (See Annex II for details.)

III. RETROSPECTIVE REVIEW

A. Progress towards the Outcome and Goal

The Sendai Framework aims to achieve as an outcome of the "substantial reduction of disaster risk and losses in lives, livelihoods, and health and the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries" over the 15 years from 2015 to 2030. And to this end, it sets a goal to "prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience." The general status of measures that have been taken to achieve the outcome and the goal is as follows.

In Japan, until around 1960, although large typhoons and major earthquakes frequently caused thousands of fatalities, since then, the damage caused by natural hazards has been dramatically reduced due to the development and strengthening of disaster management systems, promotion of national land conservation, improvement of weather forecasting, enhancement of disaster information transmission methods and other measures.
However, the Great Hanshin-Awaji Earthquake in 1995 and the Great East Japan Earthquake in 2011 brought numerous victims and extensive damage. In addition, disasters caused by natural hazards remain a significant threat to the nation’s safety and security as the imminence of large-scale disasters such as the Nankai Trough Earthquake, and the Tokyo Inland Earthquake are pointed out.

In particular, after the Sendai Framework was formulated, the Kumamoto Earthquake occurred in 2016 and a series of large-scale weather disasters have occurred almost every year, such as the heavy rains in the Northern Kyushu in 2017 and in the Western Japan in 2018, Typhoon Faxai in 2019 (T1915), Typhoon Hagibis in 2019 (T1919), and the heavy rain in Kumamoto in 2020.

In light of the above, to prevent the occurrence of disasters and mitigate damage, the government has steadily invested in disaster risk reduction and national resilience. By utilizing digital technologies, the government has also strongly moved forward with ensuring appropriate evacuation actions in the event of a disaster, supporting affected people, strengthening cooperation among the national and local governments and other related entities, developing human resources, raising public awareness, and so on.

To achieve the outcomes and goals of the Sendai Framework, Japan will continue to vigorously promote the development of a resistant and resilient nation against disasters with the participation of all stakeholders based on the recognition that disaster reduction is a fundamental and essential mission of the nation. In addition, based on the lessons learned and knowledge gained in the country, the Japanese government will engage in international cooperation for disaster risk reduction.

B. Progress in Risk Assessment, Information and Understanding

To achieve the outcome and the goal above, the Sendai Framework identifies four priority areas and calls for action in each level, including the national and local levels. In Priority Action 1: “Understanding Disaster Risk,” efforts such as regular assessment and sharing disaster risks are requested. The main actions that have been taken under this priority action are as follows.

(i) Providing Easy-to-understand Evacuation Information to the Public

When a disaster has occurred or is likely to occur, the mayor of the municipality shall issue evacuation information following the Basic Act on Disaster Management. However, significant human losses due to failure or delay in evacuation occurred one after another in the heavy rain disasters in 2018 and the typhoon disasters in 2019.

In response to such increasing severity and frequency of weather disasters, the government has organized evacuation information into five alert levels so that residents can intuitively understand the evacuation actions they should take in the event of a disaster and has made improvements to provide information in an easy-to-understand manner. At the same time, the Basic Act on Disaster Management has been amended to comprehensively review evacuation information to further promote smooth and prompt evacuation in the event of a disaster, for example, by consolidating evacuation recommendation and evacuation instruction into a single "evacuation instruction."
(ii) Considering Disaster Risk Reduction Response to Anomalous Phenomenon Related to Nankai Trough Earthquake

Along the "Nankai Trough," a trench-shaped area of the seafloor where the Philippine Sea Plate and Eurasian Plate meet at the south of the center of the Japanese Archipelago, earthquakes repeatedly occur at intervals of approximately 100 to 150 years. Now that more than 70 years have passed since the last occurrence, the probability of a magnitude 8-9 class earthquake is estimated to be 70% to 80% within the next 30 years, and there is a concern that one may occur in the near future.

To this end, the government established a working group of experts to study how to respond to disaster with appropriate measure in a case where an anomalous phenomenon is observed along the Nankai Trough. In March 2019, guidelines were formulated for each of the three possible cases regarding the direction of disaster preparedness and response in each sector. In May of the same year, the basic plan, including disaster preparedness and response to be taken by the national government, local governments, and other entities, was revised. In particular, in the "semi-cracked case," where an earthquake of magnitude 8 or greater occurs at the plate boundary within the assumed epicentral area and the possibility of a large-scale earthquake in the remaining area increases, the disaster preparedness and responses for one week after the occurrence of the earthquake were stipulated including evacuation of residents in areas where evacuation cannot conceivably be completed before tsunami hits.

(iii) Formulating and Promoting a Strategy for Enhancing the Synergy between "Climate Action and Disaster Risk Reduction"

The average temperature around the world is on an upward trend, and according to the IPCC Sixth Assessment Report, it has already increased by 1.09 degrees Celsius since pre-industrial times (difference of the global average temperature between 1850-1900 and 2011-2020), and according to the Japan Meteorological Agency (JMA), the average temperature in Japan has increased at a rate of 1.28 degrees per 100 years (1898-2021). The Paris Agreement states that the universal long-term goal is to keep the increase of global average temperature well below 2 degrees from pre-industrial times. For example, if the domestic average temperature increased by 2 degrees, it is estimated that precipitation would increase by a factor of 1.1, and the frequency of flooding would double. Thus, the risk of meteorological disasters may increase further in the future due to the effects of climate change, and it is necessary to raise the crisis awareness of all citizens regarding climate change and disaster risk reduction to a higher level than before.

To this end, the Strategy for Enhancing the Synergy between "Climate Action and Disaster Risk Reduction" (joint message from the Minister of the Environment and the Minister of State for Disaster Management, Cabinet Office) was released in June 2020 to show how disaster risk reduction that will adapt to climate change should be, the direction of drastic disaster prevention and mitigation measures and that of climate change adaptation. The strategy recommends mainstreaming "climate change x disaster prevention," promoting structural and non-structural measures, cooperation among individuals, companies, communities, and governments, and encouraging international cooperation. A manual for local governments is currently being prepared to promote measures on "climate change x disaster reduction."
(iv) Establishing "World Tsunami Awareness Day"
In Japan, November 5 is designated as "Tsunami Disaster Prevention Day" because of the anecdote of "Fire of Rice Sheaves," in which a villager saved the lives of villagers by setting fire to the rice fields he had harvested and quickly let them evacuate during the great tsunami that hit Wakayama Prefecture on November 5, 1854, and also contribute to “Build Back Better” with building a dike in the affected area.

In December 2015, the United Nations General Assembly Plenary Meeting unanimously adopted a resolution to designate November 5 as "World Tsunami Awareness Day." This resolution was proposed by Japan and 141 other countries together as a follow-up to the Third UN World Conference on Disaster Risk Reduction in March of the same year and the 2030 Agenda for Sustainable Development in September.

Based on the establishment of "World Tsunami Awareness Day," the government, together with local governments, continues to promote raising awareness and evacuation drills for tsunami disaster preparedness, mainly on November 5th and encourage other countries in the world to raise awareness by cooperating with international organizations such as the United Nations Office for Disaster Risk Reduction (UNDRR).

C. Progress in Risk Governance and Management

*Priority Action 2 of the Sendai Framework, "Strengthening Disaster Risk Governance to Manage Disaster Risk," calls for efforts such as developing and promoting disaster risk reduction strategies in the national and local sectors. The main actions that have been taken under this priority action are as follows.*

(i) Revising the Basic Disaster Management Plan

The Basic Disaster Management Plan is the primary plan in the field of disaster management established under the Basic Act on Disaster Management. It is prepared by the National Disaster Management Council, which the Prime Minister chairs. The Plan explicitly describes each entity’s roles and tasks, including the national government, designated public institutions, and local governments, in accordance with the structure of disaster prevention, disaster response measures, and recovery/reconstruction from disaster. Based on this plan, designated government organizations such as central ministries and agencies and designated public institutions such as the Japanese Red Cross Society prepare Disaster Management Operation Plan, and local governments prepare Local Disaster Management Plans.

The Basic Act on Disaster Management stipulates that the plan must be reviewed annually and revised if necessary. In practice, in recent years, annual revisions have been made based on lessons learned from disaster response and other factors. In light of these revisions, the development of disaster management measures taken by all relevant national and local agencies has been requested.

(ii) Reinforcing Measures for Large-scale Earthquakes

Japan is geographically vulnerable to damage from earthquakes at or near plate boundaries because it is located where four of a dozen or more plates that cover the entire earth concentrate together. Large earthquakes that have been pointed out as imminent in the near future include
the Nankai Trough Earthquake, Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches, and the Tokyo Inland Earthquake, which are expected to cause extensive human and property damage. For example, in the event of the Nankai Trough Earthquake, the maximum number of fatalities is estimated to be 323,000, and the economic damage to assets and other properties is estimated to be approximately 170 trillion yen.

On the other hand, it is considered that preventive and response measures can significantly reduce damage. In light of the Great East Japan Earthquake in 2011, a series of considerations is in the process of systematically and strategically implementing measures against these large-scale earthquakes, which require cooperation and coordination among various related organizations. Specifically, at first, as disaster prevention measures, on the back of the study of measures for the Nankai Trough Earthquake that has been conducted by 2014, in March 2015, in the basic plan to promote measures against the Tokyo Inland Earthquake, quantitative disaster mitigation targets with time limits and specific targets to achieve them were established. Furthermore, as a disaster response measure, in the same month of the same year, a plan was formulated that specifically stipulates activities related to emergency transportation routes, rescue and firefighting activities, medical activities, procurement of supplies, fuel supply, and disaster management bases in the event of the Nankai Trough Earthquake. In March 2016, a similar plan was also developed for the Tokyo Inland Earthquake.

In February 2015, a committee of experts was established in the Cabinet Office to study Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches, and the largest class of earthquakes which can be assumed based on scientific knowledge was considered. In light of the study’s results, a working group of experts established in April 2020 examined damage assumptions and disaster risk reduction measures and published a summary report in March 2022. The Act on Special Measures for promoting disaster management on Nankai Trough Earthquake was revised in June of the same year. Based on this revision, the government will implement specific measures, including changes to various plans, such as the national basic plan.

(iii) Strengthening Measures against Large-scale Volcanic Eruptions

Japan is one of the most volcanic countries in the world. In the eruption of Mt. Ontake in September 2014, located on the border of Nagano and Gifu Prefectures, a phreatic eruption suddenly occurred, which affected many climbers near the crater and raised awareness of issues related to volcano disaster risk management measures. In particular, in some cases, volcanoes can erupt suddenly and without clear warning beforehand, and it is necessary to provide information and shelter for residents and climbers promptly. Therefore, in July 2015, the Act on Special Measures for Active Volcanoes was amended for the government to designate areas where alert and evacuation systems should mainly be developed. It also stipulates the obligation to prepare evacuation plans for the organization of volcano disaster management councils in prefectures and municipalities designated in the area in conjunction with the owners of facilities that attract visitors and facilities for persons requiring special care.

In addition, to prepare for ash fall in the event of a large-scale eruption in metropolitan areas with a high concentration of urban functions, a working group was established in August 2018, and a report was compiled in April 2020. Based on this report, relevant ministries and agencies, relevant designated public corporations, and infrastructure business operators are to establish a study
system with the cooperation of experts and to promote the study of specific measures against wide-area ash fall in the event of a large-scale eruption.

(iv) Considering Large-scale and Wide-area Evacuation from Storm and Flood Disaster
With the effects of climate change, there is a need to prepare for severe flooding beyond past assumptions. Notably, in three major metropolitan areas in Japan, there are widespread "sea-level zones" where the surface elevation is lower than the mean sea level at high tide. In the event of large-scale flooding due to levee breaches, etc., it is expected that hundreds of thousands of residents will have to evacuate widely across administrative boundaries, resulting in large crowds. It is also likely that large numbers of isolated people will occur due to delayed evacuation.

Therefore, the government established a working group in June 2016 and compiled a report in March 2018 on items to be considered in the future. Furthermore, in December 2020, in a sub-working group report based on lessons learned from the typhoon disasters in 2019, the direction of response to facilitate large-scale wide-area evacuation was indicated as follows: (1) to allow a disaster management headquarters to be established at the "stage of threat of disaster" and (2) to let local governments discuss wide-area evacuation and request transportation of residents and others. Based on this, the Basic Act on Disaster Management was revised in May 2021.

D. Progress in Investment in Risk Reduction and Resilience

Priority Action 3 of the Sendai Framework, "Investing in Disaster Risk Reduction for Resilience," calls for efforts to promote public and private investment in disaster resilience by combining structural and non-structural measures. The main actions that have been taken under this priority action are as follow.

(i) Designed Investment for Disaster Risk Reduction and National Resilience
The Basic Act for National Resilience was enacted in 2013 because structures such as sea walls could not completely prevent the tsunami in the Great East Japan Earthquake in 2011, resulting in many deaths and missing persons. Based on the Act, the government has formulated the Fundamental Plan for National Resilience. It systematically promotes measures to secure national land, regions, and economic society with "strength and resilience" that will protect human lives to the maximum extent, prevent the economy and society from suffering fatal damage, minimize damage and recover quickly, always keeping the worst-case scenario in mind.

In particular, in 2018, in light of the impact of disasters that occurred in the same year, relevant ministries and agencies conducted emergency inspections to ensure the function of critical infrastructure, including electric power infrastructure and transportation infrastructure, and based on these emergency inspections, the Cabinet decided on a "Three-Year Emergency Countermeasures " to implement urgent measures that should be done particularly urgently. The Cabinet approved a budget of a project scale of approximately seven trillion yen, including the use of fiscal investment and loans and private sector expense. Furthermore, in December 2020, after the Three-Year Emergency Countermeasures ended, it approved the "Five-Year Acceleration Measures", which calls for intensive measures to be implemented over the five years from FY2021 to FY2025 with a target project scale of approximately 15 trillion yen.
In addition, each local government formulated regional plans, with all 47 prefectures having completed the formulation by FY2018. In further detail, 1,682 municipalities, or approximately 97%, have done so by the end of FY2021.

(ii) Promoting "River Basin Management" and Measures of Sediment Disaster (Landslide Disaster)

Meteorological disasters have gotten more severe and frequent throughout Japan. As mentioned earlier, there is some estimation where a 2 degrees Celsius increase in the average temperature in Japan due to climate change would increase precipitation by about 1.1 times and flood frequency by about twice on the national average.

In light of this situation, the Sediment Disaster Prevention Act and Flood Control Act was amended in May 2017 to require owners of facilities for persons requiring special care (social welfare facilities, etc.) located in dangerous areas to formulate plans for ensuring evacuation operations and to create a council system consisting of local governments and other organizations for each watershed. Subsequently, to increase the effectiveness of evacuation of facilities for persons requiring special care, the act was newly amended in July 2021 to make reporting of evacuation drills mandatory and to establish a system of advice and recommendations for ensuring evacuation operations and evacuation drills by mayors of the municipalities. Furthermore, in 2021, a comprehensive revision of relevant acts and regulations to promote "river basin management" was implemented. The revision requires, from a bird's-eye view of the entire basin of upstream and downstream and the main river and its branches: (1) strengthening of plans and systems to enhance the effectiveness of "river basin management" in cooperation with all parties concerned, including the national government, local governments, businesses and residents in the basin, (2) measures to prevent flooding, including the promotion of structural measures, and (3) measures to coordinate with regional development.

In addition, in July 2021, the heavy rain in Atami City, Shizuoka Prefecture, caused the collapse of an embankment, resulting in a massive debris flow disaster that brought about extensive damage. In response, the Act on Regulation of Residential Land Development was fundamentally revised in May 2022. It was renamed the "Act on the Regulation of Residential Land Development and Specified Embankment" to regulate dangerous embankments with uniform standards nationwide comprehensively.

(iii) Third-party Certification of Organizations Contributing to National Resilience

In promoting national resilience, it is necessary to promote efforts not only by governments but also by various entities, including in the private sector. To this end, in FY2016, the operation of a certification system of organizations contributing to national resilience, in which a third party certifies companies that are actively engaged in business continuity (self-help) as "organizations contributing to national resilience," was started. Furthermore, in 2018, the assessment of social contribution (mutual support) with social and local community activities was added, and as of the end of July 2022, 264 organizations have received certification. Through evaluations from experts and periodic updates every two years, further improvement of initiatives is promoted, and
incentives such as preferential interest rates for BCP loans from the Japan Finance Corporation are also provided.

(iv) Supporting Investment in Disaster Risk Reduction and Human Resource Development in Developing Countries

As the host country of the Third UN World Conference on Disaster Risk Reduction, Japan is in a position to promote the Sendai Framework actively. Therefore, at the same conference, then Prime Minister Abe announced the "Sendai Cooperation Initiative for Disaster Risk Reduction." The initiative aims to provide a total of 4 billion dollars in cooperation and human resource development for 40,000 people in disaster management-related fields over the four years from 2015 to 2018. Through bilateral cooperation by the Japan International Cooperation Agency (JICA) and other means, the initiative’s goals were achieved by the end of 2018.

In 2019, the "Sendai Cooperation Initiative for Disaster Risk Reduction Phase 2” was also announced and, based on the initiative, the contribution to the development of a disaster-resistant international society where everyone can live with peace of mind by utilizing Japanese advanced knowledge and technologies in disaster risk reduction, is continuously promoted. The initiative is to assist at least 5 million people over the four years of 2019-2022 through flood control and other measures. In addition, to achieve Global Target E of the Sendai Framework, it had supported the formulation and revision of disaster risk reduction plans in 80 countries over two years and has provided human resource development and disaster risk reduction education for a total of 85,000 administrative officials, local leaders, and children who will lead the next generation over four years. Of these, it was announced at the 7th Global Platform (GP) for Disaster Risk Reduction Meeting in May 2022 that the goal for formulating and revising the disaster management plan was achieved in the target year.

Based on the Sendai Framework, multilateral cooperation in Asian countries through the Asian Disaster Reduction Center (ADRC) has been strengthened. The ADRC was established in Kobe City, Hyogo Prefecture, in 1998 to promote international cooperation in disaster mitigation in the Asian region. Its activities are based on four pillars, together with 31 Member Countries, including Japan, and others: (1) sharing disaster information, (2) developing human resources in member countries, (3) improving disaster preparedness in communities, and (4) collaborating with member countries, international and regional organizations and NGOs. In particular, the program of inviting visiting researchers from member countries contributes to the development of human resources who will contribute to the planning and formulation of disaster risk reduction policies in their countries. The Cabinet Office jointly hosts the Asian Conference on Disaster Reduction every year with the ADRC.

In addition, the Japan International Public-Private Association for Disaster Risk Reduction (JIPAD) was established in August 2019 to take the lead in strengthening the disaster prevention and mitigation capacity of countries worldwide through public-private partnerships. Its members are companies and organizations interested in the global expansion of disaster prevention and mitigation technologies. The JIPAD is joined by over 200 companies and organizations from manufacturing, construction/engineering, survey/design, telecommunications, insurance, etc.,
participate in this association and organizes public-private disaster risk reduction seminars for various countries.

E. Progress in Disaster Preparedness, Response and 'Build Back Better'

The Priority Action 4 of the Sendai Framework, "Enhancing Disaster Preparedness for Effective Response and to 'Build Back Better' in Recovery, Rehabilitation, and Reconstruction," calls for measures on disaster risk reduction through "Build Back Better" after disasters occur as well as strengthening efforts at the time of the disaster, including response plans, drills, and evacuation measures. The main actions that have been taken under this priority action are as follows.

(i) Ensure Living Environment in Shelters

After the Great East Japan Earthquake in 2011, a significant issue was to improve the environment of shelters where evacuees temporarily stayed after the disaster. In light of this, in 2013, the Basic Act on Disaster Management was amended to stipulate the designation of designated shelters, etc., by local governments. However, since the progress in the designation remained unchanged, the government conducted a working group study and released three guidelines in April 2016: (1) "Shelter Management Guidelines," (2) "Guidelines for Securing and Managing Toilets at Shelters" and (3) "Guidelines for Securing and Managing Welfare Shelters." These guidelines have been revised from time to time based on subsequent studies.

In addition, based on the infection status of COVID-19, the government has issued a series of notices since April 2020 to inform of thoroughly dispersed evacuation, the establishment of many shelters, including utilization of hotels and other facilities, and thorough measures against infectious diseases at shelters in conjunction with providing various advice to local governments in cooperation with relevant ministries and agencies.

(ii) Improving Evacuation Support for the Elderly and Persons with Special Care

A series of storm and flood disasters since 2015 has drawn attention to issues related to damage to facilities for the elderly and evacuation of the elderly and persons with special care. To this end, the Flood Control Act was revised in May 2017, making it mandatory for owners of facilities for persons requiring special care (social welfare facilities, etc.) located in dangerous areas to prepare for "ensuring evacuation operation" and deliver evacuation drills. In addition, formulating "extreme disaster management plans" and "business continuity plans" for social welfare facilities and implementing evacuation drills became mandatory. In July 2021, the Flood Control Act was revised again to make reporting of evacuation drills mandatory and to establish a system of advice and recommendations for ensuring evacuation operations and drills by the mayors of the municipalities. Furthermore, in May 2021, the Basic Act on Disaster Management was revised to oblige municipalities to make efforts to create "individual evacuation plans," which are plans to implement evacuation support, etc., for those who require assistance evacuating that have difficulty in evacuating by themselves such as the elderly and persons with disabilities. In response to these, support measures, including the preparation of the guidance and the implementation of model projects, are taken for municipalities.
(iii) Reinforcing Systems for Supporting and Support-Receiving between National and Local Governments

In principle, responses at the time of disaster were to be carried out by municipalities or prefectures. The relief supplies and other assistance were also to be delivered from the national government to affected people upon the request of the affected prefectures. However, experiences from the Great East Japan Earthquake in 2011 and other disasters have shown that it is difficult for local governments in the initial stage of a large-scale disaster to quickly procure the necessary amount of supplies in the chaos of a disaster. To this end, the “push-mode supply support” system was introduced by amendment to the Basic Act on Disaster Management in 2012 and was applied for the first time during the Kumamoto Earthquake in April 2016. In addition, a system to better facilitate information sharing on relief supplies between the government and prefectures became operational in December 2016, and municipalities were added in April 2020.

In the event of a large-scale disaster, since it will be difficult for the affected municipalities to carry out a vast amount of disaster response work on their own, it is also essential to establish a support receiving system in ordinary times so that the affected municipalities can smoothly receive human and material support from the national government, local governments, private companies, and volunteer groups. For this reason, in March 2017, the Cabinet Office formulated the “Guidelines for Support-Receiving Systems at Disaster for Local Governments,” based on lessons learned from the Kumamoto Earthquake in April 2016. In April 2020, a “Guide to Formulate Aid Acceptance Plans Regarding the Receipt of Human Support for Municipalities” was also developed so that they can prepare it with as little burden as possible.

(iv) Making Use of Digital Technologies for Disaster Response

Based on lessons learned from the Great East Japan Earthquake in 2011 and the Kumamoto Earthquake in 2016, the necessities to establish rules for utilizing and sharing the information which the national government, local governments, private companies, and organizations own that contributes to disaster response; and to promote mutual cooperation between the public and private sectors were recognized.

In addition, since compiling the information (data) owned by each agency on a single map is effective in understanding the situation, a disaster information sharing system (SIP4D) has been developed to collect, organize, and map information at the disaster site. To help agencies understand the situation by using this system, the Cabinet Office formed the Information Sharing Unit Team at Disaster (ISUT) in April 2018 and has begun full-scale operations nationwide since 2019.

In 2021, the “Cloud System for Supporting Affected People” was developed. This system enables municipal offices to support in formulating individual evacuation plans in ordinary times and create a registry of affected people based on Resident Registration data during a disaster. The system also allows affected people to apply for a Disaster Affected Certificate and other governmental documents online and receive them at convenience stores, contributing to their convenience.
(v) Preparedness for Reconstruction Planning by Cities

In recovering from a disaster, the affected local governments must prepare a recovery plan as soon as possible to facilitate reconstruction planning by cities. To this end, it would be effective to have the relevant parties discuss on policies for formulating recovery plans related to anticipated disasters in advance and conduct preparatory works such as preparation drills for formulating it, even before the disaster strikes. To this end, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) formulated a guideline for imagery rehearsal about reconstruction planning by cities in May 2017 to promote efforts of preparedness for reconstruction by municipalities based on the assumption that a disaster will occur from ordinal times. In July 2018, the Ministry also did a guideline for preparedness for reconstruction planning by cities.

In addition, local governments, for example, the Tokyo Metropolitan Government, revised the "Tokyo Metropolitan Government Earthquake Disaster Recovery Manual" in March 2016 in preparation for a Tokyo Inland Earthquake which is likely to occur, and presents a basic concept of reconstruction with the participation of a wide range of entities and a mechanism for residents to promote reconstruction actively.

(vi) Sharing International Knowledge through the International Recovery Platform (IRP)

The International Recovery Platform (IRP) was established in 2005 as an international mechanism to promote "Build Back Better." Its secretariat office is located in Kobe City, Hyogo Prefecture. Japan leads the establishment and supports its activities as co-chair of the steering committee to apply Japanese experience of recovery from past catastrophes to the world. The IRP was clearly positioned in the Sendai Framework for Disaster Risk Reduction in 2015. In addition to holding the International Recovery Forum annually, the IRP widens its sphere of activities through the expansion of member institutions and participation in regional platform meetings of UNDRR in each region.

F. Collaboration, Partnership and Cooperation

In promoting the Sendai Framework, the roles of all public and private stakeholders, including civil society and volunteer organizations, academic institutions, corporations, and the media, are essential, and their contributions should be encouraged. It is also stated that disaster risk reduction measures should reflect diverse perspectives, such as gender. The main actions that have been taken, based on this provision, are as follows.

(i) Establishment of the National Council for Promoting Disaster Risk Reduction and Holding of the National Conference on Promoting Disaster Risk Reduction

The "National Council for Promoting Disaster Risk Reduction" was established with experts from various sectors as members at the call of then Prime Minister Abe, Chairman of the National Disaster Management Council, to raise awareness of disaster risk reduction among a wide range of citizens by utilizing the network of organizations from various sectors. The first meeting was held on September 17, 2015. The meetings have been held annually since then with the attendance of the Prime Minister, calling on all sectors of the nation to participate in disaster risk reduction activities.
Moreover, the first "National Conference on Promoting Disaster Risk Reduction" was held in August 2016, which is a comprehensive event for organizations and institutions from each field and sector to meet together and hold symposiums, exhibitions, and other projects related to disaster risk reduction, together with the said council and the "Association for Promoting Disaster Risk Reduction," mainly consisting of industry organizations related to disaster risk reduction. Since then, it has been held annually on a larger scale (approximately 6,000 people attended the 2021 conference) and has taken root as a place for various organizations involved in disaster risk reduction activities to disseminate and interchange information mutually.

(ii) Improvement of the Activity Environment for Civil Society and Volunteer Organizations

In the event of a large-scale disaster, there is a risk that national and local government officials may not be able to respond to the disaster on their own adequately. To be close to each affected people and react appropriately to their diverse needs, it is necessary for not only national and local governments but also various actors in and outside the disaster area, such as volunteers, non-profit organizations (NPOs), private companies, and other organizations, to cooperate and collaborate with each other.

In particular, after the Great East Japan Earthquake in 2011, not only individual volunteers but various NPOs worked in the affected areas. However, there were inefficiencies in establishing a system of mutual collaboration among them. For this reason, in the discussion at the public forum in the Third UN World Conference on Disaster Risk Reduction, the need for coordinating organizations that share information on the activities of NPOs and other organizations and provide necessary coordination was advocated. This move led to the establishment of the Japan Voluntary Organizations Active in Disaster (JVOAD), the only coordinating organization nationwide, and it received its corporate status in November 2016. The Cabinet Office and the JVOAD made a "tie-up declaration" in 2019. Since then, "information sharing meetings" have been held smoothly to bring together affected local governments, volunteers, NPOs, etc., at the time of the disaster.

In addition, in April 2018, the Cabinet Office prepared a guidebook to demonstrate the need for cooperation among the three parties, including administrations, the Council of Social Welfare that sets up disaster volunteer centers, and NPOs and conducted training for local governments to promote understanding among prefectural and municipal governments and building systems.

(iii) Strengthening Partnerships with Private Sector and Academia

To improve the disaster risk management capabilities of society as a whole, there is a need for each business operator to improve its advanced preparedness for large-scale disasters. As an occasion to exchange opinions and to interchange for this need, the "Disaster Risk Management Economic Consortium" was established in March 2018 by 13 economic organizations under the support of the Cabinet Office, and the "Principles of Disaster Management Economic Action" were formulated as a common philosophy.

In addition, for disaster response, it is essential for local governments to actively utilize advanced technologies, including digital technologies. However, since many local governments have not yet
introduced such technologies due to limited opportunities to collect information on advanced technologies and introduce them, the "Disaster Risk Reduction x Technology Public-Private Partnership Platform" was designed in July 2021 as a forum for matching the needs of local governments in disaster response and private companies with advanced technologies and for the horizontal deployment of examples of effective use of such technologies by local governments.

In academia, particularly in the wake of the Great East Japan Earthquake, with a recognition that research on disaster prevention and mitigation from a comprehensive and multidisciplinary perspective in these fields is essential, the “Japan Academic Network for Disaster Reduction” was established in January 2016 as a network of academic societies to promote information sharing and interchanging with different disciplines beyond the boundaries of specialized fields and engage in interdisciplinary collaboration. Currently, 62 academic societies participate in this academic network to collaborate with the relevant ministries and agencies.

(iv) Strengthening Disaster Preparedness and Recovery from a Gender Perspective

The Fourth Basic Plan for Gender Equality formulated in December 2015, based on the lessons learned from the Great East Japan Earthquake, promotes the introduction of gender equality perspective into disaster preparedness and recovery measures, emphasizes the importance of women's engagement and leadership in disaster preparedness and recovery again and also sets specific outcome targets. Also, in the Fifth Basic Plan for Gender Equality formulated in December 2020, it was stated that the government would continue to cooperate and collaborate with local governments and other related organizations from normal times and promote initiatives incorporating gender equality perspective.

In May 2020, the Gender Equality Bureau of the Cabinet of Japan developed the guideline for local governments to promote disaster preparedness and recovery efforts incorporate with gender equality perspective at each stage of preparedness from normal times, initial response, evacuation life and recovery and reconstruction phase. In addition, in March 2022, a collection of know-how and good practices was compiled with hints on initiatives for women to play important roles in local disaster management activities.

In December 2020, the "Women's Association for Disaster Management" was launched by female officials in charge of the Disaster Management Bureau and the Gender Equality Bureau of the Cabinet Office of Japan, and submitted a proposal to the Minister of State for Disaster Management in May 2021 to realize disaster risk reduction from the perspective of women. In response, the Basic Disaster Management Plan was amended to include that the percentage of female officials of local disaster management councils. Moreover, the percentage of female members of the National Disaster Management Council has been raised.

In international cooperation, the "Training on Promoting Women's Leadership in Disaster Management" was launched in 2015, and the training program by issue, the "Disaster Risk Reduction from Gender and Diversity," in 2016. Since 2016, in collaboration with the United Nations Institute for Training and Research (UNITAR), training programs have been promoted for female administrators and other government officials in developing countries vulnerable to disasters.
(v) Collaboration with the United Nations Office for Disaster Risk Reduction (UNDRR)

To promote the Sendai Framework, Japan has made voluntary contributions and has shared our knowledge as a disaster-prone country to support the activities of the United Nations Office for Disaster Risk Reduction (UNDRR), which is monitoring, coordinating, and assisting regions and countries in implementing the Framework.

In particular, the Open-Ended Intergovernmental Expert Working Group (OIEWG) was established by the UN General Assembly in June 2015 to develop a set of indicators and terminology to measure progress on Global Targets. During the development process, Japan made a substantial contribution to the discussions of the OIEWG by conducting a preliminary survey to determine whether each country had data on proposed indicators. As a result of this, in February 2017, the UN General Assembly adopted the "Recommendations of the Open-ended Intergovernmental Expert Working Group (OIEWG) on Global Indicators, and the Follow-up and Operationalization of the Indicators for the Global Targets of the Sendai Framework for Disaster Risk Reduction 2015-2030," which is a cornerstone of the current Sendai Framework Monitoring.

Japan also actively participates in UN-sponsored events. For example, the State Minister of the Cabinet Office attended the 7th Global Platform (GP) for Disaster Risk Reduction Meeting held in May 2022 and presented key issues on the second half implementation period for the mid-term review of the Sendai Framework.

G. Progress in achieving the Targets of the Sendai Framework

As stated above, Japan was actively involved in the OIEWG established in June 2015 in response to the development of the Sendai Framework and substantially contributed to the adoption of the "Recommendations of the Open-ended Intergovernmental Expert Working Group (OIEWG) on Global Indicators, and the Follow-up and Operationalization of the Indicators for the Global Targets of the Sendai Framework for Disaster Risk Reduction 2015-2030" in the UN General Assembly in February 2017.

In Japan, an indicator calculation system consisting of nine relevant ministries and agencies, led by the Cabinet Office, has been established to calculate global indicators related to the Sendai Framework and the SDGs annually and report them to the UNDRR. The achievement status of the global indicators is shown in the Annex I.

In Japan, based on the Basic Act on Disaster Management enacted in 1962, the government compiles a summary of updated plans and measures on disaster management for the "White Paper on Disaster Management" and reports it annually to the Diet. This includes the annual disaster damage condition, including the number of fatalities, and the implementation of various disaster prevention measures. Japan has 60 years of experience in disaster management and prevention measures and monitoring indicators. As mentioned above, through this process, Japan has been effective in steadily promoting disaster reduction measures, including a significant decrease in the number of fatalities due to disasters compared to the 1960s.
IV. CONTEXTUAL SHIFTS, NEW AND EMERGING ISSUES AND CHALLENGES

(i) Strengthening Measures to Cope with Increasingly Severe and Frequent Meteorological Disasters

In recent years, meteorological disasters have frequently occurred worldwide. In Japan, since the Sendai Framework was formulated, large-scale weather disasters have been brought about almost every year, including the heavy rains in the Northern Kyushu in 2017 and in the Western Japan in 2018, Typhoon Faxai (T1915) and Typhoon Hagibis (T1919) in 2019, and the heavy rain in Kumamoto in 2020. As climate change is considered to cause more severe and frequent meteorological disasters in the future, it is necessary to strengthen disaster prevention and mitigation measures against such disasters further.

Specifically, as mentioned earlier, the government is working on emergency preparedness, including providing easy-to-understand evacuation information to the public and large-scale and wide-area evacuation in anticipation of widespread storms and flood disasters. In addition, with all hands, the relevant ministries and agencies are implementing preventive measures that integrate structural and non-structural measures, including "river basin management," and they are steadily working on designed investments for disaster risk reduction and national resilience. Also, as Japan fully faces a depopulating society, it is necessary to consider directing the population to land with lower risk of meteorological disaster through compact city policies and relocating settlements to safer locations in farming, mountain, and fishing villages where the population is declining and aging rapidly.

(ii) Supporting Affected People in a Super-aged Society

Because the Kumamoto Earthquake in 2016 caused widespread house collapses and prolonged evacuation, there was a series of disaster-related deaths. The percentage of deaths directly due to the house collapses stayed at approximately 20% out of the 273 people killed in the disaster. Still, on the other hand, the remaining approximately 80% were deaths identified as so-called "disaster-related deaths" that occurred after the disaster. In addition, 14 nursing home residents died from inundation in the heavy rain in Kumamoto in July 2020, which was a painful situation.

Japan is a super-aged society where 28.8% of the population is 65 years old or older (as of October 1, 2020), and there is a concern on delays in evacuation following a large-scale disaster and/or a succession of disaster-related deaths due to prolonged evacuation life after the occurrence of a disaster. It is, therefore, necessary to further strengthen measures to support affected people for the vulnerable groups, such as the elderly.

Specifically, as mentioned earlier, the government is working to secure the living environment in shelters and enhance evacuation support for the elderly and persons with special care, along with strengthening regulations such as obliging facilities used by those who need special consideration during disasters such as social welfare facilities to form evacuation plans that ensure evacuation.
(iii) Response to Complex Disasters with Infectious Diseases

As for COVID-19, which has had a significant impact worldwide since its first report in December 2019, has also influenced disaster risk management measures in Japan. After April 2020, in preparation for the summer season, when meteorological disasters occur more frequently, local governments were presented with notices and guidelines to inform them about opening as many shelters as possible and using hotels and other facilities as shelters. In subsequent disasters, such as the Heavy Rain Event of July 2020, appropriate infection control measures have been taken, including ensuring adequate spaces for evacuees through partitions and other measures.

It is vital to continue to deal appropriately with COVID-19 and prepare for the next infectious disease crisis because risks from such diseases will not disappear amid global environmental changes. Therefore, in June 2022, the government decided on the direction of response to prepare for the next infectious disease crisis, including the establishment of the "Cabinet Agency for Infectious Disease Crisis Management (tentative name)," a body to ensure that the Prime Minister, who is the command tower, gives orders to the government ministries and institutions.

V. PROSPECTIVE REVIEW AND RECOMMENDATIONS

(i) Further Strengthening National and Local Disaster Management Systems and Promoting Cooperation between Public and Private Sectors

In Japan, it is necessary to deal with increasingly severe and frequent meteorological disasters and to strengthen preparedness for massive earthquakes such as the Nankai Trough Earthquake and Tokyo Inland Earthquake, which are feared to occur in the future. To this end, it is necessary to strengthen further the disaster management systems of the national and local governments, to enhance the capacity of local governments more through developing training and drills, and to tighten the coordination systems between the national and local governments in preparation for the occurrence of large-scale disasters.

In addition, since the human resources of national and local governments alone will not be sufficient for response to emergencies, especially in the event of a large-scale disaster, or for provision of long-term support for affected people after a disaster strikes, it is vital to build up cooperation with the private sector such as volunteer organizations and business entities. Also, in areas with little disaster experience, it is necessary to develop a system to accept support from experienced volunteer groups and other organizations.

Therefore, it is important to further promote disaster support activities by private organizations, incorporate their support into the disaster management policies of the national and local governments, and develop a system to encourage public-private partnerships more and more.

(ii) "Build Back Better" from Disasters and Reflecting Lessons from Them in Disaster Prevention Measures

Cases where the same area is hit again within a short time come to be seen frequently due to increasing severity and frequency of meteorological disasters, which are thought to be caused by
climate change. For example, in Saga Prefecture, where record-breaking heavy rain occurred in August 2019, causing rivers to overflow, another bout of record-breaking rain brought inundation damage in August 2021. In addition, the scope of affected areas has expanded with flooding and sediment disasters (landslide disasters) occurring in areas that had previously been less affected.

Thus, as disasters occur repeatedly and the affected areas expand, the "Build-Back Better" defined in the Sendai Framework is getting more critical. In other words, the idea is to mitigate the damage that would occur in the next disaster by strengthening disaster risk reduction measures to prepare for it at the time of recovery and reconstruction from disaster. It is also necessary to be aware that disasters can occur anywhere and to have a viewpoint of making use of disaster experiences in other affected areas for preventive measures and emergency preparedness in own community.

(iii) Enhancement of Disaster Prevention Measures Using the Latest Scientific Findings and Digital Technologies

The history of Japan's progress in disaster response can be seen as the history of introducing digital technologies. There are countless examples that the introduction of digital technologies has advanced disaster risk management measures, from the use of supercomputers to predict the arrival of giant typhoons and the launch of weather satellites to the simultaneous transmission of earthquake early warning via personal smartphones. The frequent occurrence of various disasters in Japan also means that there are many times to acquire disaster-related data. Further utilization of digital technologies will not only reduce disaster damage but also contribute to strengthening disaster prevention worldwide by exporting them to the rest of the world.

To this end, it is necessary to strengthen systems for collecting, analyzing, processing, and sharing information used by disaster response agencies, automating information collection by using drones, sensors, etc., and promoting efforts such as education to improve literacy in digital technologies.

(iv) Further Enhancement of International Cooperation on Disaster Risk Reduction

As mentioned at the outset, Japan is positioned to take the lead in promoting the Sendai Framework as one of the world's most disaster-prone countries and as the host country of the Third UN World Conference on Disaster Risk Reduction. In particular, global society expects Japan to play a central role in international cooperation on disaster risk reduction by drawing on its knowledge and lessons learned.

In light of this, the Japan International Cooperation Agency (JICA) keeps on vigorously promoting bilateral cooperation and other measures to implement the aforementioned "Sendai Cooperation Initiative for Disaster Risk Reduction" and "Sendai Cooperation Initiative for Disaster Risk Reduction Phase 2." Moreover, the Asian Disaster Reduction Center (ADRC) continues to work on cooperation with Asian countries.

Last October 2021, the Cabinet Office hosted the first ASEAN-Japan Ministerial Meeting on Disaster Management. An agreement was made at the ministerial level to strengthen cooperation with ASEAN countries in disaster risk reduction. In August 2019, the Japan International Public-
Private Association for Disaster Risk Reduction (JIPAD) was launched to promote a global expansion of disaster risk reduction technologies through public-private partnerships.

In addition, based on the 4th Asia-Pacific Water Summit held in Kumamoto City in April 2022, the importance of water disaster prevention measures will be delivered again at various forums, including the UN Water Conference to be held in March 2023 for the first time in 46 years.

By utilizing these frameworks, international cooperation on disaster risk reduction will be further enhanced to promote the implementation of the Sendai Framework in its second period and realize the global targets set by the Sendai Framework henceforward.
### VI. ANNEXES

**Annex I: Sendai Framework for Disaster Risk Reduction, Progress in Achieving Global Targets, Japan**

The below was extracted from the Analytics of Sendai Monitor website and the reporting year is 2020.

**GLOBAL TARGETS**

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<td><strong>MORTALITY</strong></td>
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<td>B-1: Number of directly affected people attributed to disasters, per 100,000 population</td>
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<td>C-1: Direct economic loss attributed to disasters in relation to global gross domestic product</td>
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Annex II: Sendai Framework for Disaster Risk Reduction, Good Practices by Stakeholders

As a part of the voluntary national reporting process, the Cabinet Office called for submissions by private companies, non-profit organizations, academic institutes, local governments and other public institutions to capture good practices in implementing the Sendai Framework at different levels and in various sectors.

Two categories for nominees have been set up: (1) "Build Back Better" practices and (2) general practices. For each category, the following submissions were made. The selected good practices will be exhibited in the Cabinet Office's web site.

Submissions for "Build Back Better" Category

- 3.11 Densho Road Promotion Organization
- 3.11 Memorial Network
- Aichi Prefecture Center for Supporting Disaster Affected People
- Japanese Red Cross Society
- Kariya Kensetsu Co., Ltd.
- Kyoto Sport Association
- Miyagi Prefecture Real Estate Transaction Association
- Sendai City, Miyagi Prefecture
- Soka Gakkai

Submissions for the General Category

- Business Continuity Advancement Organization
- Chiiki Mirainet for Gender Equality
- Civil Engineering Research Institute for Cold Region, Public Works Research Institute
- Council on Artificial Intelligence for Disaster Resilience
- Crisis Management Education & Exercise Center
- Disaster Prevention Research Institute, Kyoto University
- General Insurance Association of Japan
- Global Youth Bosai Summit Organizing Committee
- Green Goals Initiative, Tohoku University
- International Center for Water Hard and Risk Management ICHARM
- International Research Institute of Disaster Science IRiDeS, Tohoku University
- Japan Academic Network for Disaster Reduction
- Japan Conservation Engineers & Co., Ltd.
- Japanese Association for Disaster Medicine
- Japan Hub of Disaster Resilience Partners JHoP
- Japan Society of Civil Engineers JSCE
- Japan Society of Disaster Nursing
- Japan Voluntary Organizations Active in Disaster JVOAD
- Japanese Red Cross Society
- Konan City, Kochi Prefecture
- Miyagi Prefectural Special Support High School Onagawa Koto Gakuen
- Nagano University of Health and Medicine
- National Research Institute for Earth Science and Disaster Resilience NIED
- Sagawa Express Co., Ltd.
- Sendai City, Miyagi Prefecture
- Shirahama Town, Wakayama Prefecture
- Shizuoka Prefecture
- SYNC, Inc.
- Tasukeai Japan
- Tokushima Prefecture
- Utoro Neighborhood Association, Shari Town, Hokkaido