3. Building a Sustainable and Resilient International Community through Efforts to Address Global Challenges

As globalization advances, transboundary challenges facing humanity such as environmental issues, climate change, water-related issues, major natural disasters, infectious diseases, food issues, and energy issues significantly affect not only developing countries but also the international community as a whole. These global challenges cannot be dealt with by a single country, and require united efforts by the international community. 2015 was an important milestone year for the international community's response to various global challenges for the holding of major international conferences, including the UN Summit (September, New York), which adopted the 2030 Agenda that succeeds the MDGs, and COP 21 (November-December, Paris), which adopted the Paris Agreement, a new international framework on climate change for 2020 and beyond. In 2016, as "the first year of implementation" in which we move to implement these efforts, specific activities were commenced in all fields. For example, in the health field at the fora of the G7 Ise-Shima Summit and TICAD VI, a series of discussions were held together with the international community regarding the importance of the achievement of UHC which is useful for responding to public health emergencies and also for prevention of and preparedness for health crises from times of peace.

Japan has contributed to building a sustainable and resilient international community through these proactive efforts to address global challenges and through the Third UN World Conference on Disaster Risk Reduction (March 2015, Sendai) at which the Sendai Framework for Disaster Risk Reduction 2015-2030, the international goal for disaster risk reduction by 2030, was adopted.

(1) Environment and Climate Change Actions

Environment and climate change issues have been repeatedly taken up as one of the main topics at the G7/8 and G20 Summits, and awareness of the importance of tackling these issues has grown internationally in recent years. For example, these topics were also brought up in the 2030 Agenda adopted at the United Nations General Assembly in September 2015. To date, Japan has been vigorously working on addressing these issues, and will continue to actively participate in discussions in the international community.

<Japan's Efforts>

● Environmental Pollution Control Measures

Japan has accumulated an abundance of knowledge, experience and technology related to environmental pollution control measures, and has been utilizing them to solve pollution and other problems in developing countries.

The Minamata Convention on Mercury adopted at the Conference of Plenipotentiaries held in Kumamoto in October 2013 has the objective of protecting the health of people and the environment from mercury. Having learned the lessons from Minamata disease, Japan actively participated in the formulation of the convention, and concluded it in February 2016. At the Conference of Plenipotentiaries Japan announced the implementation of and has actually been implementing $2 billion of ODA support to counter environmental contamination in developing countries, focusing on the three areas of air pollution, water pollution and waste management, and to contribute specifically to a capacity building program dedicated to the prevention of mercury pollution over the three years from 2014.

Foreign Minister Fumio Kishida attended the Conference of Plenipotentiaries on the Minamata Convention on Mercury held in Kumamoto and signed the Convention in October 2013.

Climate Change

Climate change is an urgent issue that requires a cross-border approach. According to the Synthesis Report of the latest Fifth Assessment Report[35] published by the Intergovernmental Panel on Climate Change (IPCC) in November 2014, the global average air temperature rose by 0.85°C from 1880 to 2012. Against this backdrop, the international community, including both developed and developing countries, must strengthen its united efforts to address climate change. Japan actively engages in the negotiations on international efforts to tackle climate change, which are conducted under the UN Framework Convention on Climate Change.

Due to the fact that the Kyoto Protocol adopted in 1997 imposed the obligations of reducing greenhouse gas (GHG) emissions only on developed countries, negotiations were held over many years in order to build a new framework under which all countries would tackle GHG emission reductions. As a result, at the 21st Session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP21) (from November 30 to December 13, 2015 in Paris), the Paris Agreement, a framework in which all countries participate, was adopted as a new framework starting from 2020. To boost the adoption of this important agreement, Prime Minister Abe announced Actions for Cool Earth 2.0 (ACE2.0) comprised of the two pillars of support to developing countries and innovation at COP21. In particular, he expressed that Japan would provide, in 2020, approximately ¥1.3 trillion of public and private climate finance, 1.3 times higher than the current level, to developing countries in order to facilitate the adoption of the Paris Agreement.

The Paris Agreement came into effect on November 4, 2016 with the ratification of major emitters including the United States, China, EU, India, and Brazil. (Japan also concluded the agreement on November 8). Subsequently, important progress towards steady implementation of the agreement has been made. For example, the decision to adopt the relevant guidelines for implementation of the agreement by 2018 was made at the 22nd Session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP22) (from November 7 to 18 in Marrakech, Morocco) and the 1st Session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) (November 15 to 18) were held, etc. In particular, at the COP22, the accomplishment of the international community on the effort to support developing countries in the area of climate change was revealed when some developing countries welcomed the "Roadmap to US$100 Billion" announced by the developed countries in advance. Furthermore, in conjunction with this meeting, Minister of the Environment, Koichi Yamamoto, announced Japan's Assistance Initiatives to address Climate Change

The 22nd Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 22) held in Marrakech, Morocco in November 2016 (Photo: (C) UNFCCC)

Responding to Needs of the Developing Countries which summarizes and clearly delivers Japan's major support for developing countries in the climate change field, including the Asia-Pacific Adaptation Information Platform.

Moreover, in order to actively contribute to addressing the urgent challenges of climate change, Japan is steadily working to achieve its Nationally Determined Contribution (NDC)* to reduce GHG emissions at a level of 26% compared to FY2013 (down by 25.4% compared to FY2005) to FY2030, and is proactively engaged in promoting the development of innovative technologies in the fields of environment and energy, and supporting climate change actions in developing countries.

As part of this initiative, Japan has been promoting the use of the Joint Crediting Mechanism (JCM)* which facilitated the global diffusion of advanced low-carbon technologies. The JCM is a mechanism to appropriately evaluate the contributions of Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan's emission reduction target through the diffusion of low-carbon technologies and implementation of climate change actions in developing countries. Beginning with the signing of the first bilateral document pertaining to JCM implementation with Mongolia in January 2013, Japan has established the JCM with 16 countries, including Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar and Thailand, as of the end of 2015 (in addition to these 16 countries, Japan and the Philippines have signed a memorandum aimed at signing a bilateral document). JCM credits were issued for the first time in May 2016 for energy-efficient refrigeration equipment installation in Indonesia and following this, in September JCM credits were also issued from projects to introduce high-efficiency boilers in Mongolia in September 2016. These efforts underscore the clear achievements of the JCM.

In addition to these efforts, Japan decided to contribute $1.5 billion (approximately ¥154 billion) to the Green

Note 35: The IPCC Fifth Assessment Report consists of the three assessment reports of Working Groups I, II, and III and the Synthesis Report, a report that integrates the findings of the three working group reports, published between 2013 and 2014.

Climate Fund (GCF)* in May 2015, to support developing countries' efforts to tackle climate change. Japan's contribution enabled GCF to start financing developing countries. A total of 17 projects have been approved for financing by GCF, since the 11th meeting of the GCF Board in November 2015, when eight projects were approved.

● Biodiversity

Expansion in the types, scope and scale of human activities in recent years has given rise to serious concerns about further degradation of habitats and the destruction of the ecosystem. The Convention on Biological Diversity (CBD) was adopted in 1992 based on the realization that issues related to living organisms are borderless, and that the entire world should be focusing on biodiversity issues. The objectives of the CBD are: (i) conservation of biological diversity; (ii) sustainable use of the components of biological diversity;* and (iii) fair and equitable sharing of the benefits arising from the utilization of genetic resources. Developed countries are providing economic and technical assistance to developing countries in order to facilitate the conservation and sustainable use of biological diversity worldwide.

Japan, which places importance on biodiversity, hosted the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10) in Nagoya City, Aichi Prefecture in October 2010. In December 2016, the 13th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 13) was held in Cancún, Mexico. With the major theme of "actions to integrate conservation and sustainable use of biodiversity in the forestry, fisheries, agriculture, and tourism sectors," discussions were held about a variety of issues, in particular the mainstreaming of biodiversity. In addition, the 2017 to 2020 Short-Term Action Plan for strengthening the capacities of developing countries was adopted. At the Ministerial Meeting held in advance of COP 13, nine countries and organizations including Japan announced an initiative aimed at achievement of the Aichi biodiversity targets* for 2020 and Japan announced support for efforts on a global scale through capacity development by the Japan Biodiversity Fund.

Children hold Linckia laevigate, the starfish indigenous to the tropical regions on the coast of Malu'u, Malaita Province in Solomon. (Photo: Yusuke Nishiyama)

Biodiversity

United Nations Decade on Biodiversity

"Biodiversity" refers to the abundance of life, including the many lives on the earth, the ecosystems that balance the life chain, and the genetic traits transmitted from the past to the future.

Diversity of ecosystems	Diversity between species	Diversity within a species
		
A variation of environments such as forests, wetlands, rivers, coral reefs, etc.	A variation of species such as the existence of animals, plants, and microbes such as bacteria (Estimated number of species of organism on the earth: 5 million to 30 million)	A variation of differences within a species such as the existence of individuals that are resistant to dry or hot environment and to diseases

(From the left: Coral (Ishigaki Island), Yasuaki Kagii; A bee pollinating a flower, Miharu Nishiguchi; Harlequin ladybird, Noboru Miki. All three photos taken from the Ministry of the Environment's Biodiversity website.)

● Promotion of Education for Sustainable Development (ESD)

Activities related to Education for Sustainable Development (ESD) are held worldwide under the Global Action Programme on ESD (GAP), adopted as a successor program to the UN Decade of Education for Sustainable Development (DESD), since the UNESCO World Conference on the Education for Sustainable Development (ESD)* held in Okayama City, Okayama Prefecture and in Nagoya City, Aichi Prefecture in November 2014. Japan supports the implementation of GAP through financial contribution to a trust fund at UNESCO, and is actively promoting ESD by establishing the UNESCO-Japan Prize on ESD.

Glossary

*** Nationally Determined Contribution (NDC)**
This refers to the GHG emission reduction target prepared by each country itself based on the Paris Agreement Article 4, Paragraph 2. The Paris Agreement stipulates that it should be communicated every five years and domestic mitigation measures should be taken by each country to achieve its objectives.

*** Joint Crediting Mechanism (JCM)**
JCM refers to a mechanism to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan's emission reduction target through the diffusion of low-carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries.

*** Green Climate Fund (GCF)**
GCF is a fund established by the decision of the Cancun Agreements adopted at COP 16 in 2010, in order to support low-emission (mitigation) and climate-resilient (adaptation) investments in developing countries.

*** Sustainable Use of the Components of Biodiversity**
Humans subsist by making use of the components of biodiversity in various forms, including food production by the agricultural, forestry, and fishery industries and the collection of industrial raw materials. However, biological diversity is being lost across the globe due to climate change, environmental degradation caused by development among other factors. In order to secure the utilization of biological resources towards the future, it is important to maintain the Earth's biodiversity at the levels of the ecosystem, species, and genes, and ensure the conservation of biodiversity and sustainable use of its components.

*** Aichi Biodiversity Targets (The Strategic Plan for Biodiversity 2011–2020)**
These are the targets set in the strategic plan for biodiversity 2011-2020 of the Convention on Biological Diversity adopted at COP10 in 2010. The strategic plan sets out a goal of "Living in harmony with nature" by 2050, as a mission to halt the loss of biodiversity by 2020, in addition to 20 individual targets called the "Aichi Biodiversity Targets."

*** Education for Sustainable Development (ESD)**
ESD refers to education to foster supporters of a sustainable society. In this context, "sustainable development" means the development that "meets the needs of the present generation while also meeting the needs of the future generation." To build a society that realizes this, it is necessary to recognize a variety of challenges in contemporary society such as the environment, poverty, human rights, peace, and development as one's own problem, and work to find solutions for them. For that purpose, creating new values and actions is important.

Malaysia

Project on Sustainable Development for Biodiversity and Ecosystems Conservation in Sabah

Technical cooperation project (July 2013 –)

Sabah State in Malaysia has diverse ecosystems and biota, from mangrove forests in which proboscis monkeys live and lowland tropical forests in which Asian elephants live, to Mount Kinabalu, the highest peak in Southeast Asia. However, since the 1970s large-scale developments such as oil palm plantations have progressed, and the forest area has declined to two-thirds of that of before. Environmental problems such as soil degradation and water pollution also have become obvious, which is a threat to the livelihoods of the local residents who are highly dependent on natural resources.

Under such conditions, responding to a request of the Government of Malaysia, Japan has implemented the Technical Cooperation Programme for Bornean Biodiversity and Ecosystems Conservation in Sabah, Malaysia[1] over ten years since 2002. Phase 1 of this program carried out human resources development in the areas of research, park management, and habitat management. Phase 2 offered support for the opening of the Sabah Biodiversity Centre, registration as a Ramsar Convention wetland, and the building of a policy framework including the establishment of the Sabah biodiversity strategy. As a result of this cooperation, a comprehensive strategy regarding biodiversity was established in Sabah State ahead of other states and an implementation structure for protected zone management was developed.

However, Malaysia believed that it was necessary to receive further technical cooperation in order to implement the biodiversity strategy, conduct integrated management including the buffer areas surrounding the protected zone, and disseminate the outcomes to date to the other states and outside the country. Thus it called on Japan to implement a successor technical cooperation project, the Project on Sustainable Development for Biodiversity and Ecosystems Conservation in Sabah (SDBEC).

In this project which commenced in July 2013, one of the activities was to support the improvement of the capabilities of the related people, including the residents living in the vicinity of the protected region, in order to realize a society in harmony with nature. For example, initiatives aiming at improving the livelihoods of the residents through beekeeping, the cultivation and processing of mulberries, and making organic compost were carried out at two pilot sites. Furthermore, in the villages located beside rivers environmental education regarding the conservation of rivers was also implemented.

Participants practice water quality survey techniques at the leader training of the river environmental education. (Photo: JICA)

It is expected that these initiatives will spread from Sabah State to other regions and also to other states and even outside the country as a model for a society in harmony with nature that contributes to the conservation of biodiversity and ecosystems, and will contribute to the promotion of sustainable development. (As of August 2016)

*1 Phase 1 was implemented from February 2002 to January 2007 and Phase 2 was implemented from October 2007 to September 2012.

Viet Nam

Support Program to Respond to Climate Change

ODA loan (FY2010 – FY2016)

Energy consumption in Viet Nam increased by approximately 2.8 times between 1995 and 2011 due to rapid economic growth, and the rate of increase in emissions of greenhouse gases (GHG) in Viet Nam (1995-2012) was the second highest among the major ASEAN countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam). Furthermore, Viet Nam has a long coast line of approximately 3,400 kilometers and an enormous delta area, so it is one of the countries that are most vulnerable to the effects of climate change. The increasing frequency and seriousness of the disasters resulting from climate change in future are considered to be serious risk factors for the sustainable development of Viet Nam.

In response to this situation, the Government of Viet Nam announced the National Target Program to Respond to Climate Change in 2008 and spelled out measures to combat climate change in the areas under the jurisdiction of each government ministry and agency, with 2020 as the target year for achieving them. Furthermore, in 2011 it announced the National Strategy on Climate Change, a policy regarding mitigation of climate change through removal and reduction of emissions of GHGs and strengthening adaptation capabilities with respect to the impact of climate change. In 2012 the Green Growth Strategy was announced which has the objective of simultaneous realization of sustainable development and social and economic development in the medium- to long-term.

Viet Nam flood damage (Photo: JICA)

In order to boost these initiatives by the Government of Viet Nam for measures to combat climate change, Japan has started support for these measures through financial support and policy dialogue since 2009. Specifically, Viet Nam carried out policy and system development regarding forest management and energy saving. After evaluating the status of achievement of that development through policy dialogue, Japan provided financial support through ODA loans. Through the support to date, Japan has played an important role in the development of national laws and systems pertaining to measures to combat climate change in Viet Nam, namely the establishment of the Law on Water Resources and formation of a framework for the introduction of renewable energy.

Nepal

Improving Living Environment of Communities through Prevention and Pollution Control of the Bagmati River by the Local Community People in Kathmandu

Grant assistance for Japanese NGO projects (February 2014 –)

The Bagmati River flowing through the Kathmandu Valley is a water source supporting the lives of the people living in Kathmandu.

While the population has grown rapidly in Kathmandu over the last 20 years and many houses have been constructed, development of garbage collection and sewage treatment systems cannot keep pace with such environmental changes. Uncollected garbage has been discarded on the banks of the river and untreated wastewater has been released into the river. In this way, the contamination of the Bagmati River has become serious and especially in the lower stream it has deteriorated to the point where no creatures can live, so the river has been given the name of "dead river." The people of Kathmandu are now threatened with a worsening living environment.

For that reason, since February 2014 Japan had provided grant assistance for Japanese NGO projects to build Decentralized Wastewater Treatment Systems (DEWATS) in every village in the midstream areas of the Bagmati River where the contamination was anticipated to worsen. The residents by themselves can manage and keep maintenance of the systems. These systems are intended to prevent the worsening of the living environment caused by the contamination of the river, but systems alone cannot work without proper management and maintenance by the residents.

Accordingly, the project has been designed not only to build the systems, but also to provide the residents who use the systems with such training sessions in order for them to understand how the river will be contaminated, how DEWATS works and how much it costs to build the systems. These sessions can allow them to think about implementing specific and feasible plans about who does what, when and where and how much of the cost to maintain the systems they bear.

A survey for the current conditions of the Bagmati River by conducting creatures observations from its upper to lower stream and performing water quality tests (Photo: Mura no Mirai)

The assistance activity at two places (Deshe village and Basnet village) in the midstream area of the Bagmati River has been completed so far. In Deshe village, a DEWATS was built that can treat household wastewater for 177 households, and in Basnet village, a DEWATS for 66 households that can also treat wastewater from a neighboring national park. In these villages, the management and maintenance and use of the systems by the residents have already begun. The residents have started not only management and maintenance of the systems but also voluntary activities such as the installation of garbage boxes in the villages and cleaning once a week.

Furthermore, 18 residents have been trained as instructors in order to spread environmental conservation efforts to other regions. Preparations have been made to ensure that the residents will be able to disseminate such activities by themselves after the project ends. (As of August 2016)

(2) Mainstreaming of Disaster Risk Reduction, Disaster Risk Reduction and Post-Disaster Recovery Measures

Disasters including earthquakes, tsunamis, typhoons, floods, droughts, debris flows, etc. that occur frequently around the world do not merely take human lives and property. In developing countries that are vulnerable to disasters, the poor are more likely to be significantly affected and displaced. In addition, protracted secondary damage, such as the deterioration of sanitary conditions and food shortages increases the severity of the issue, having a significant impact on the overall social and economic systems in developing countries.

Against this backdrop, it is necessary to build a disaster-resilient society to protect human lives from disasters, as well as to promote the "mainstreaming of disaster risk reduction," aiming at sustainable development, by incorporating disaster risk reduction measures into every phase of every sector of development, based on assumptions of disasters of various scales.

<Japan's Efforts>

● Cooperation in disaster risk reduction

Japan utilizes its enriched knowledge and technology acquired through the past experiences of responding to natural disasters such as earthquakes and typhoons to provide proactive support for disaster risk reduction and post-disaster recovery measures, alongside emergency assistance.

In 2005, at the Second UN World Conference on Disaster Reduction in Kobe City, Hyogo prefecture, the Hyogo Framework for Action 2005-2015 was adopted as a basic guideline for disaster risk reduction activities in the international community, which affirmed the importance of effectively incorporating disaster risk reduction aspects into initiatives for sustainable development.

At this conference, Japan also announced the Initiative for Disaster Reduction, which represents Japan's basic policy on disaster risk reduction cooperation through ODA. In this policy, Japan expressed its intention to continue proactively supporting the self-help efforts by developing countries towards "building a disaster-resilient society" through the building of systems, human resources development, development of socio-economic infrastructure, and other measures.

In July 2012, Japan hosted the World Ministerial Conference on Disaster Reduction in Tohoku in three prefectures affected by the Great East Japan Earthquake. During the conference, Japan affirmed the following aspects: the necessity of mainstreaming disaster risk reduction and building resilient societies; the importance of human security; the need to maximize disaster risk reduction capabilities combining both physical and non-physical aspects; the necessity of collaboration beyond the roles of various stakeholders; and the importance of responding to newly emerging disaster risks such as climate change and urbanization. At the same time, Japan proposed to the world the necessity of "Disaster Reduction in the 21st Century" which comprehensively promotes aforesaid aspects. Participants in the conference also confirmed the position of disaster risk reduction in the 2030 Agenda, as well as the need for formulating the post-Hyogo Framework for Action that incorporates the results of this conference, in order to actually promote "Disaster Reduction in the 21st Century."

Participants of the training program for "Enhancement of Earthquake-resistant Technology for Buildings in Latin American Countries" conduct an earthquake resistance experiment using the experiment facility at the José Simeón Cañas Central American University (UCA) installed as a part of the "Enhancement of the Construction Technology and Dissemination System of the Earthquake-Resistant 'Vivienda Social'." (Photo: Ernesto Manzano / JICA)

A Japan Overseas Cooperation Volunteer, Mr. Koji Yamamoto teaches children to hide under desks as part of Japanese-style earthquake drill at an elementary school in Syangja District in the central region of Nepal. (Photo: Marie Konari)

The Third UN World Conference on Disaster Risk Reduction was held in Sendai City from March 14 to 18, 2015. This conference organized by the UN is held in order to discuss international disaster risk reduction strategies. Since Japan proactively promotes international disaster risk reduction cooperation utilizing its expertise and experiences in disaster risk reduction, Japan was once again the host country for the third conference, following its hosting of the first conference in 1994 in Yokohama and the second conference in 2005 in Kobe. The third conference was attended by more than 6,500 people and 185 UN member states. When including related events a total of more than 150,000 people from Japan and other countries took part, making it one of the largest-ever international conferences held in Japan.

In hosting this conference, Japan aimed to achieve the

following three goals; (i) To introduce the perspective of disaster risk reduction in the planning and implementation of various policies (mainstreaming of disaster risk reduction) (ii) To transmit Japan's expertise and technology concerning disaster risk reduction, and (iii) To provide information regarding the reconstruction from the Great East Japan Earthquake and to contribute to the recovery of the disaster-affected areas.

The conference resulted in the adoption of the Sendai Declaration as well as the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework), which is the successor to the Hyogo Framework for Action, the international guiding principle for disaster risk reduction adopted at the second conference. The Sendai Framework incorporated Japan's declarations on the importance of investment in disaster risk reduction, the involvement of diverse stakeholders, the concept of "Build Back Better," the importance of women's leadership, etc.

Prime Minister Abe announced the Sendai Cooperation Initiative for Disaster Risk Reduction as Japan's new contribution plan that would become Japan's future basic policy for cooperation in the field of disaster risk reduction. Japan announced that in the four years from 2015 to 2018, it will provide $4 billion in total to the area related to disaster risk reduction and train 40,000 people to play the leading roles in national efforts for disaster risk reduction and post-disaster reconstruction. Through this initiative, Japan demonstrated its attitude to further contribute to the international community by utilizing its advanced expertise and technology in the field of disaster risk reduction.

The banner of the UN World Conference on Disaster Risk Reduction held in Sendai in March 2015 (Photo: UNISDR)

At the UN summit that adopted the 2030 Agenda in September 2015, Prime Minister Abe expressed Japan's commitment to lead the implementation of the Sendai Framework, and encouraged other countries to adopt the resolution on the UN's World Tsunami Awareness Day as a means of raising awareness about tsunami. As a result, a resolution was adopted at the UN General Assembly held on December 23, 2015 (local time) to establish November 5 as World Tsunami Awareness Day. Accordingly, Japan implemented educational activities to raise awareness of tsunamis and strengthen tsunami countermeasures, etc. around the world, including the "High School Students Summit on 'World Tsunami Awareness Day' in Kuroshio" and evacuation drills held in 2016.

Chile

Research Project on Enhancement of Technology to Develop Tsunami-Resilient Community

Scientific and technical cooperation (January 2012 – March 2016)

Chile, like Japan, is a country located on the circum-Pacific orogenic belt where many earthquakes and tsunamis occur. In 1960 and 2010 huge earthquakes and tsunamis occurred, causing enormous damage in Chile, and the tsunami even crossed the Pacific and caused damage in Japan. In the 2010 Chile earthquake the damage caused by the tsunami in particular was severe, which revealed issues such as delays in the issuing of warnings and delays in securing marine support routes due to the damage to the port.

In order to solve the issues that came to the surface due to the damage from the Chile earthquake and to avoid repetition of the tragedy due to the tsunami, Chile called on Japan for support for strengthening disaster risk reduction capabilities with respect to tsunamis. Research into tsunamis along the coast of Chile is an important theme for the tsunami disaster risk reduction in Japan too, so the two countries cooperated to implement the Research Project on Enhancement of Technology to Develop Tsunami-Resilient Community which conducts tsunami research in Chile.

Under this project Japan and Chile carried out (i) development of a numerical simulation model for estimating tsunami damage, (ii) preparation of guidelines pertaining to tsunami damage forecast and damage alleviation, (iii) development of a high-precision Integrated System of Tsunami Prediction and Warning (SIPAT) and (iv) proposal and dissemination of an evacuation plan, and collaboratively worked together to strengthen the disaster risk reduction capabilities of Chile with respect to tsunami disasters.

Dissemination of the project outcomes has contributed to alleviating earthquake and tsunami damage in Chile in recent years. At the time of the Iquique earthquake off the coast of Chile in 2014, the project made a large contribution to the speedy evacuation of the residents, and at the time of the September 2015 earthquake information provided from SIPAT was utilized in the tsunami warning of the Government of Chile.


An inspection by the mayor, researchers and others at Talcahuano Port (Photo: JICA)

Furthermore, the Chilean researchers who worked together with Japan in this project participated as lecturers in the training for a technical cooperation project currently being implemented in Chile, the Disaster Risk Reduction Training Program for Latin America and the Caribbean (commonly known as the KIZUNA project), and communicated the research outcomes and technologies to people involved in disaster risk reduction in other Latin American countries. The objectives of this technical cooperation project are to disseminate the disaster risk reduction technologies and knowledge of Chile within the Latin America region and support the centralization of fostering the disaster risk reduction experts in Chile.

Strengthening disaster risk reduction capabilities with respect to tsunamis is necessary not only for Japan and Chile but also for the other Latin American countries located on the Pacific coast. In December 2015 the World Tsunami Awareness Day (November 5) jointly proposed by 142 countries including Japan and Chile was established by the United Nations General Assembly. Japan will cooperate with Chile to promote the building of a tsunami-resilient region in Latin America.

The Philippines

The Project on Rehabilitation and Recovery from Typhoon Yolanda

Grant aid (May 2014 –)

In November 2013, Typhoon Yolanda, described as having "unprecedented scale in recorded history," caused enormous damage throughout the Philippines. In the Eastern Visayas region where the damage was the greatest, 5,895 valuable lives were lost, which is more than 90% of the victims in the Philippines overall, due to the high tide and windstorms with a maximum instantaneous wind speed of 87.5m/s. Furthermore, many public facilities such as hospitals and schools became unusable, and the fishing industry and agriculture, the bread and butter job of the people, suffered devastating blows.

Japan implemented emergency assistance such as first aid and medical care for the victims immediately after the disaster occurred, and in order to implement seamless cooperation covering everything from the emergency response to reconstruction, built a reconstruction support project for the Leyte Gulf in the Eastern Visayas region and implemented this project quickly.

In line with the goal of "Build Back Better (aiming to not merely restore but also reconstruct local communities with better disaster-resilience)," this grant aid adopts a design that strengthens wind-resistance and quake resistance capabilities, and supports the reconstruction of facilities such as the Eastern Visayas Regional Medical Center, regional dispensaries, elementary schools.

Specifically, Japan has taken measures such as relocating buildings to land where there is no danger from high tides, designing buildings with a high floor structure which enables high tides to pass through the ground floor of the building and installation of large central corridors that will serve as evacuation sites for people at the time of disasters.

Japan also granted equipment to governmental organizations and institutions for restoring their respective normal operations after disaster. The organizations and institutions include: Department of Public Works and Highways, which is responsible for disposing of debris and implementing reconstruction projects; the National Maritime Polytechnic, which is responsible for training of the sailors of the Philippines — a country which produces many sailors for the world; the Fisheries Development Center, which produces young fish for the aquaculture of the region; the Tacloban airport — the hub airport for the Eastern Visayas region; the National Power Corporation, which will restore the fallen utility poles and power lines that were cut in the windstorms; and the Philippines Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA), which manages the Guiuan Meteorological Radar damaged by the typhoon.

Chemical firefighting trucks provided to Daniel Z. Romualdez Airport which is also known as the Tacloban City Airport (Photo: JICA)

In September 2016 all the equipment was handed over to the Philippines. The National Maritime Polytechnic resumed all of the training programs that were in place before the disaster and the Fisheries Development Center resumed the production of young fish.

Reconstruction work for the facilities has proceeded at a very fast pace at the sites and the facilities are expected to be handed over to the Philippines by 2017. (As of September 2016)

Viet Nam

Project for Building Disaster Resilient Societies in Viet Nam (Phase 2)

Technical cooperation project (August 2013 – August 2016)

Viet Nam is one of the Southeast Asian countries suffering from big storm and flood damage. In particular the coastal areas of the central region are greatly affected by tropical cyclones including typhoons. In this region heavy rain frequently occurs due to the effect of the mountain range running along the border with Laos. Due to these meteorological and terrain conditions, the central region of Viet Nam suffers from damage such as flooding, virtually every year. Improving disaster response capacity in the central region, and in particular measures to combat flooding, is an important issue.

From 2009 to 2012 through implementation of the Project for Building Disaster Resilient Societies in Viet Nam (Phase 1) Japan supported the establishment of comprehensive flood management plans, the strengthening of disaster risk reduction structures at the local government and community level, and the countermeasures for riverbank erosion primarily in Hue province in the central region of Viet Nam.

As a result, there were outcomes such as establishment of comprehensive flood management plans and the development of various manuals in Hue province.

Since 2013 Japan has provided support under the Project for Building Disaster Resilient Societies in Viet Nam (Phase 2) for the provinces in the central region (Nghe An province, Ha Tinh province, Quang Binh province and Hue province included in Phase 1) and the central government where the flood damage had been serious in order to strengthen comprehensive flood management structures as conducted in Phase 1.

Specifically, Japanese experts in flood management were dispatched to Viet Nam to give instruction in technologies for analyzing flooding to the related people in Viet Nam, and to work together with them to create comprehensive flood management plans. As a result, comprehensive flood management plans were prepared in Quang Binh province. Furthermore, in Nghe An province and Ha Tinh province, instruction in inundation analysis technologies was given as planned, and studies are being advanced in each province aimed at the preparation of comprehensive flood management plans.

Experts and officials of Hue Province discuss a comprehensive flood management plan for Hue Province. (Photo: JICA)

Through such support, Viet Nam is progressing towards creating a disaster-resilient society by preparing comprehensive flood management plans that take into account disaster risk.

(3) Food Security and Nutrition

According to "The State of Food Insecurity in the World 2015 (SOFI2015)" jointly prepared by the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP), positive trends were found – the number of undernourished people in the world has decreased by more than 160 million over the last decade and by more than 200 million since 1990-92. However, the report also indicates that an estimated 800 million people still remain undernourished between 2014 and 2016.

According to the report, the goal to halve the proportion of undernourished people by 2015, which was one of the MDGs, was regarded as reached from a perspective of development, although it was not reached in terms of statistics. In the 2030 Agenda, launched as a follow-up to the MDGs, Goal 2 of the SDGs is set as "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" and efforts towards achievement of this goal are under way.

In order to achieve food security (a state where all people, at all times, can access sufficient, safe and nutritious food), there is a need for multifaceted measures based on international coordination, including not only a sustainable increase in the production of food, but also improvement of nutrition (improvement of nutrition during the first 1,000 days from a mother's pregnancy to her child's second birthday is particularly effective for children), establishment of a social safety net (a mechanism in which people can live safely and with peace of mind), provision of necessary food assistance, and implementation of infectious disease control in domestic animals.

<Japan's Efforts>

In light of these circumstances, Japan provides food assistance based on requests from developing countries confronting food shortages. In FY2015, Japan contributed a total of ¥4.03 billion through bilateral food assistance projects in 10 countries.

Moreover, Japan provides further assistance under cooperation with international organizations, mainly with WFP. These include emergency food assistance, support for school feeding programs to improve access to education, and food assistance that promotes participation of people on agricultural land and infrastructure development to support the self-reliance of local communities. In 2016 Japan contributed a total of $207.12 million to WFP projects being implemented around the world. Furthermore, through FAO, Japan provides support to technical cooperation for the agricultural and rural development of developing countries, establishment of international standards and norms in the food and agriculture fields, and the development of statistics among others.

Meanwhile, Japan provides support for research on the development of varieties conducted by the Consultative Group on International Agricultural Research (CGIAR), which is comprised of 15 agricultural research centers. Japan also promotes cooperation through exchanges among researchers.

In addition, Japan also supports the efforts of developing countries to enhance their own food safety. Concerning animal infectious diseases that spread beyond national borders such as foot-and-mouth disease, Japan is reinforcing countermeasures in the Asia-Pacific region, in cooperation with the World Organisation for Animal Health (OIE) and FAO, including the Global Framework for Progressive Control of Transboundary Animal Diseases (GF-TADs). Furthermore, Japan is deeply involved in

A child receives vitamin A at a mobile clinic at a Community Health Center in Dili, the capital of Timor-Leste. A concentrated distribution of vitamin A to children is conducted during a month-long period every year.
(Photo: Soichiro Osakabe)

Scaling Up Nutrition (SUN), which internationally leads initiatives to improve the condition of malnutrition.

In May 2016, the G7 Ise-Shima Summit was held under the presidency of Japan and formulated the G7 Vision for Action on Food Security and Nutrition which stated the concrete actions the G7 should take in the three prioritized areas for achievement of the G7 goal to "lift 500 million people in developing countries out of hunger and malnutrition by 2030." The three areas are: empowering women within agriculture and food systems; improving nutrition through a people-centered approach; and ensuring sustainability and resilience within agriculture and food systems. Based on this, Japan held the International Symposium in Tokyo in October where diverse stakeholders participated in discussions about food security and nutrition.

A Japan Overseas Cooperation Volunteer, Ms. Atsuko Mori (nutritionist) works at the National Food and Nutrition Centre in Suva, Fiji. She visits schools as a part of nutrition education and teaches the importance of a balanced diet to children. (Photo: Asaeli Naika)

(4) Securing Access to Resources and Energy

The number of people without access to electricity in the world is estimated at around 1.3 billion (equivalent to 18% of the world's population). In particular, this number is estimated to reach 60% of the population (approximately 630 million people) in Sub-Saharan Africa. Meanwhile, in Sub-Saharan Africa, over 70% of the population rely on fuelwood (e.g., charcoal, firewood) for energy for cooking.[36] The indoor air pollution resulting from this is one of the causes of death among young people.[37] The lack of electricity, gas and other energy services leads to the delay in industrial development, a loss of employment opportunities, a further increase in poverty, and restricted access to medical services and education. Going forward, global energy demand is expected to increase further, mainly in emerging and developing countries, particularly in Asia. Thus, a stable energy supply and appropriate consideration to the environment are essential.

<Japan's Efforts>

In order to realize sustainable development and secure energy in developing countries, Japan works on the provision of services, which enables modern energy supply, and the stable supply of power for industrial development. In addition, Japan provides support for the establishment of an environment-friendly infrastructure, such as construction of energy-saving equipment and power generation facilities that utilize renewable energy (hydropower, solar power, wind power, geothermal power, etc.).

At the G7 Ise-Shima Summit in May 2016 under the presidency of Japan, the leaders made commitments in the Ise-Shima Leaders' Declaration to support innovation in energy technologies make further investments to encourage clean energy and energy efficiency, and play a leading role in facilitating energy investments. Furthermore, the Tokyo Declaration on the Energy Charter was issued at the 27th Meeting of the Energy Charter Conference held in Tokyo with Japan as the chair country in November the same year. It confirmed the importance of promoting appropriate and continued investment in the energy sector and promoting quality infrastructure investment.

Meanwhile, Japan provides resource-rich countries with support according to their needs, such as establishing infrastructure around mines, aiming to enable them to acquire foreign currency through the development of their resources and to develop in a self-sustained way. Through these supports, Japan will enhance mutually beneficial relationships with developing countries with rich resources, while striving to ensure the stable supply of energy and mineral resources, by promoting the

An expert, Dr. Nobukazu Kameyama (center) explains about the facility and equipment at a solar power generation facility to teachers of the Faculty of Engineering, Science and Technology at the National University of Timor-Leste on the outskirts of Dili.(Photo: Atsushi Takahashi)

Note 36: Source: *"World Energy Outlook Special Report 2016"*
Note 37: Sources: IEA, *"World Energy Outlook 2015"* (estimates as of 2012) IEA, *"Africa Energy Outlook 2015"*

development of resources, production, and transportation by private companies. It is important to proactively use Japan's ODA in the resource and energy sectors alongside support from the Japan Bank for International Cooperation (JBIC), Nippon Export and Investment Insurance (NEXI) and Japan Oil, Gas and Metals National Corporation (JOGMEC). Additionally, as an international effort, the G7 initiative on Strengthening Assistance for Complex Contract Negotiations (CONNEX) launched in 2014, aims at improving the capacity to negotiate contracts on natural resources in developing countries and also to contribute to the achievement of the SDGs. In the G7 Ise-Shima Summit in May 2016, under the presidency of Japan, the G7 formulated the CONNEX Guiding Principles towards Sustainable Development as a guideline for G7 members to provide support to resource-rich countries. Based on these efforts, in September an international conference was held in Tokyo, and discussions were held on the potential of CONNEX efforts going forward, mainly on capacity building and improving transparency.

Japan also proactively supports the Extractive Industries Transparency Initiative (EITI). EITI is a multinational cooperative framework to increase the transparency of the flow of money in development of oil, gas, mineral and other resources. Under this framework, extracting corporations report the amount of payment to the governments of resource-producing countries and the governments report the amount of revenue to ensure transparency of the flow of money. Participants in EITI include 51 resource-producing countries, many supporting countries including Japan, extractive companies and NGOs. EITI participants are working together to prevent corruption and conflict, as well as to encourage responsible resource development that leads to growth and poverty reduction.

Then Parliamentary Vice-Minister for Foreign Affairs Miki Yamada chairs the Sixth Session of the Assembly of the International Renewable Energy Agency (IRENA) held in Abu Dhabi, the United Arab Emirates in January 2016.