

# Environmental Conservation and Management / Water and Sanitation / Disaster Risk Reduction

For the Termination of the Vicious Circle of Poverty and Environmental Destruction



Of the eight Millennium Development Goals (MDGs), relevant goals are shown in color.

The global environment, which nurtures our lives, is deteriorating year by year due to population growth, economic growth, and other factors. Ecological destruction, environmental pollution, water scarcity, and increasingly frequent natural disasters are significantly affecting our

lives.

JICA works with the international community to support developing countries, in various ways, in improving the global environment, protecting people's lives, and achieving healthier lives.

## Environmental Conservation and Management

### Natural Environment Conservation

#### ● Overview of the Issue

Excessive exploitation and large-scale land use changes have led to the rapid destruction of natural environment worldwide. Those include deforestation, reduction in wetland, deterioration of coastal ecosystems, soil degradation and the extinction of species, by logging, erection of infrastructure and other large-scale development and conversion to farmland. The world's forest are decreasing by about 13 million hectares annually,<sup>1</sup> the equivalent of one third of the land mass of Japan. Similarly, it is estimated that overfishing, tourism development and other factors have caused the loss of 19% of the world's coral reefs. In addition, 80% of the world's fishing resources are being overexploited.<sup>2</sup>

The natural environment supplies people with various resources essential to their lives, such as food, clothes and medicine; it also offers natural protection from disasters and other environmental risks. Degradation of ecosystem services<sup>3</sup> damages the foundations of human existence.

As members of the international community, we need to contribute to the creation of a society that conserves the natural environment, such as the disappearing forests and wetlands of the world, and maintains harmony between ecosystems and human activity.

#### ● JICA Activities

During the period from 2000 to 2014, JICA pursued natural conservation activities on 18.34 million hectares of land (12.12 million ha for forest conservation, and 6.22 million ha for conservation of other ecosystems). In addition to conducting activities such as collecting forest data, formulating management plans, and improving the livelihoods of local residents, JICA carried out afforestation activities for forest restoration on 3.05 million ha in various countries. These activities also contributed to the capacity building of 610,000 administrative officials and residents.

Nevertheless, land use changes along with development and the increased pressures on natural resources remain major issues in developing countries. To that end, JICA provides

cooperation on nature conservation in the following four areas, with the aim of facilitating harmony between the maintenance of the natural environment and human activities.

#### 1. Sustainable Forest Management to Counter Climate Change (REDD+)

Forests not only provide timber; they also have the function of retaining and providing stable supplies of water, conserving the fertility of soil while absorbing and accumulating greenhouse gas (GHG), i.e. CO<sub>2</sub> and mitigating natural disasters such as floods and landslides. Through support for institutional improvement for promoting REDD+<sup>4</sup> in developing countries, JICA supports the proper management of forests, which are a sink for CO<sub>2</sub> [→ see the Case Study on page 88].

#### 2. Ecosystem-Based Disaster Risk Reduction (Eco-DRR) Assistance through Utilizing Multilateral Functions of Forests

JICA provides assistance for disaster risk reduction (DRR) and watershed management utilizing multilateral functions of forests in key watersheds, disaster-prone areas, and so on. Such assistance is defined as ecosystem-based disaster risk reduction (Eco-DRR). The Eco-DRR approach has been reflected in the Sendai Framework for Disaster Risk Reduction 2015–2030, which was adopted at the Third UN World Conference on Disaster Risk Reduction in March 2015 [→ see the Case Study on page 93].

#### 3. Sustainable Use of Natural Resources to Improve Livelihoods of Vulnerable Communities

In developing countries, most people rely on local natural resources in daily life. However, there are many cases where

1. Global Forest Resources Assessment 2010

2. Global Biodiversity Outlook 3

3. Ecosystem services refer to the benefits that people receive from ecosystems. They include (1) provisioning services, such as food and water; (2) regulating services, such as flood and drought control and the prevention of land degradation and disease; (3) supporting services, such as soil formation and nutrient circulation; and (4) cultural services, such as recreation, spiritual enrichment, and other nonmaterial benefits.

4. REDD (Reducing Emissions from Deforestation and Forest Degradation in developing countries) aims to reduce global greenhouse gas (GHG) emissions. REDD+ goes beyond deforestation and forest degradation to include the role of conservation, sustainable forest management, and enhancement of forest carbon stocks. Global discussions are now underway to allocate international funds according to GHG emission reductions and sequestrations in developing countries as a result of forest conservation, in order to provide an incentive for such conservation as a measure against climate change.

the foundation for local livelihoods has been exploited by excessive usage that destroys the ability of nature to reproduce itself. Moreover, sometimes friction occurs between residents and public administrators over the usage and management of resources. In these cases, it is important to take the views of the local residents into consideration in the decision-making process. While collaborating with public administrators is necessary, the issue is achieving natural resource management in which local residents play major roles.

To achieve proper conservation of forests and soils in vulnerable areas, such as the arid and semiarid lands in Sub-Saharan African countries, JICA is promoting activities for sustainable utilization of natural resources in surrounding communities and improvement of livelihoods. If the administrative system of the partner country is vulnerable, JICA actively pursues cooperation with international organizations and NGOs.

#### 4. Conservation of Biodiversity through Management of Protected Areas and Buffer Zones

It has been estimated that over 20,000 species of wildlife are at risk of extinction because of the loss of natural habitats, overhunting of wildlife, introduction of alien species, climate change and other factors.<sup>5</sup>

In important protected areas such as national parks and surrounding buffer zones, JICA is providing various forms of support: management and formulating of plans, implementation of surveys and monitoring, capacity building of administrative officials and researchers, introduction of ecotourism, and environmental education.

JICA is also considering the Aichi Target, which was adopted at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10), and assisting the

5. The International Union for Conservation of Nature (IUCN) Red List of Threatened Species 2015

efforts of developing countries to contribute to achieving it.

### Environmental Management

#### ● Overview of the Issue

Along with economic development, population growth and urbanization, inappropriate disposal of waste and water and air pollution have become serious problems in many developing countries. Because many environmental issues involve complex factors in a multilayered manner and are spread over a wide spatial area, it is difficult to find solutions in a short period of time. Moreover, in comparison with direct investments, such as in infrastructure, the response to environmental issues is slow in many cases as outcomes of efforts are hard to detect. Especially due to their tight national budgets, this trend can be seen frequently in developing countries.

Environmental problems are intertwined with people's lives. In urban and other areas with rapid economic development or population growth, environmental degradation may cause serious problems that threaten human security, including health hazards. In improving the living environment, it is important to make efforts to address increasing amounts of solid waste and secure a sanitary water environment from the perspective of public health. These efforts are important in terms of contributing to the achievement of international development goals as well. "Water and sanitation" is one of the central themes of the Sustainable Development Goals (SDGs), a post-2015 development framework that follows the Millennium Development Goals (MDGs) that expire in 2015.

In consideration of such circumstances, a cross-sectoral and comprehensive perspective is necessary for assistance in the field of environmental management.

#### ● JICA Activities

JICA provides various forms of aid in accordance with the

#### Case Study

### The Establishment of the Japan Public-Private Platform for REDD+ (JP3-REDD+)

#### Tackling Climate Change in a Public-Private Partnership

**JICA and the Forestry and Forest Products Research Institute (FFPRI) jointly launched the Japan Public-Private Platform for REDD+ (JP3-REDD+). This industry-government-academia partnership is aimed at promoting forest conservation in the developing world and expanding Japan's potential for earning CO<sub>2</sub> emission credits.**

#### Over 60 Organizations Have Already Joined

Scientists attribute about 30% of cumulative GHG emissions to changes in land use, including deforestation. The release of GHGs due to the reduction and degradation of tropical forests constitutes a major factor in accelerating global warming.

Under these circumstances, REDD+ has been devised as a new mechanism whereby both developed and developing countries work together to control forest reduction and degradation while gaining mutual benefits. Global discussions are underway to

incorporate REDD+ into a post-2020 international framework.

Implementing REDD+ requires developing various systems for such purposes as measuring carbon stored in forests, respecting biodiversity and local residents, and distributing benefits gained from the implementation. It therefore calls for a combination of government policies, the knowledge of research institutions, and private sector technologies and funds. This perception prompted JICA and FFPRI to establish the Japan Public-Private Platform for REDD+ (JP3-REDD+) in November 2014 as a forum for industry, government,



The inaugural meeting of the Platform

and academia to work together. More than 60 organizations — including private companies and organizations, research institutions, and government organizations — have already joined the platform.

These participating organizations aim to achieve 10 million CO<sub>2</sub>-equivalent tons in GHG emission reductions and removals by 2020. To this end, they share information on international trends in REDD+, work to increase their say in the international arena, and develop new business models. They also work to win a broader-based understanding of these activities.

development status of each developing country or region. Within that process, JICA gives priority to preventive measures and is emphasizing the establishment of environmental management systems through a capacity development approach. JICA puts emphasis on enhancing the capacity of the organizations and individuals to conduct environmental management.

In fiscal 2015, JICA will focus on the following six strategic areas while taking note of important considerations regarding specific environmental issues such as solid waste, water pollution, and air pollution.

### 1. Assisting in Regulatory and Institutional Development

JICA will assist with regulatory and institutional development, as well as capacity building for public authorities and citizens, together with assessment of the actual situation. Special priority will be given to (1) building a recycling system for electrical and electronic waste (e-waste); (2) addressing mercury pollution; (3) managing chemical substances; and (4) addressing air pollution, including PM2.5 [[see the Case Study below](#)].

### 2. Assisting in Developing Model “Eco-Future Cities”

JICA will take advantage of its past experience to implement projects designed to support the development of “Eco-Future Cities” or a system of such cities in Asia and elsewhere.

### 3. Assisting in Solid Waste Management According to the Development Stages of Partner Countries

The amount and composition of solid waste generated depend largely on the level of economic development of each partner country. This highlights the need to extend assistance according

to such stages. JICA has defined three developmental stages as shown below. Assistance will be extended according to the developmental stage of each partner country or region, as well as to their conditions and needs.

Stage I: Improving public health and sanitation

Stage II: Reducing environmental impacts and pollution control

Stage III: Using 3R (reduce, reuse, and recycle) initiatives to establish a sound material-cycle society

### 4. Offering Integrated Assistance in Both Developing Sewerage and Building the Capacity to Operate and Maintain It

Improving sewerage is still much in demand in major cities in Asia, and other regions. JICA is still planning and implementing sewerage development projects in many of these cities. JICA's integrated assistance addresses both the hard and soft aspects such as infrastructure development and capacity building for facility operation and maintenance.

### 5. Strengthening Partnerships with Local Governments

Local governments in Japan have accumulated expertise in solid waste management, sewerage development, and air pollution control. By strengthening partnership with such governments, JICA will make more effective use of Japanese experience in formulating projects in these sectors.

### 6. Strengthening Partnership with the Private Sector

The introduction of private sector technologies is important in strengthening initiatives toward environmental challenges. JICA will incorporate such technologies in its activities in the soft

#### Case Study

### Group and Region-Focused Training Course on “Capacity Building for Ratification of the Minamata Convention on Mercury”

## Not to Repeat “the Experience of Minamata”

In October 2013, the Minamata Convention on Mercury was adopted in Kumamoto Prefecture, Japan. The convention controls the use, export, and import of mercury and products using mercury.\* JICA has launched this course to disseminate the lessons learned in Japan from Minamata and encourage developing countries to ratify the convention and take measures against mercury pollution.

### Assisting Developing Countries in Addressing Mercury Pollution

The first round of this course was given from November to December of 2014 with the participation of 10 people from South America, Africa, Asia, and the Pacific. First, the participants visited Minamata City, Kumamoto Prefecture, and learned about the history of Minamata disease and the environmental measures currently undertaken. Then, in Tokyo, they learned about the developments leading up to the adoption of the Minamata Convention and the preparation process for its ratification by Japan.

In Kumamoto, the participants heard lectures and made a field tour with the help of the host organization, Soshisha (the Supporting Center for Minamata Disease), which collects

and disseminates information on the history of the disease. Lectures on what the central and local governments did about the disease and the Minamata Convention were given by Kumamoto Prefecture and the Ministry of the Environment. Communicating the experience of Minamata disease from various standpoints allowed the participants to understand how complex and deep-rooted the problem of mercury pollution is and how a balance should be struck between economic development and environmental conservation.

The stories told by some patients, who still suffer health problems from the disease, were beyond what the participants might have imagined. Some of them shed tears listening to the stories. The sad experience at Minamata as told by the patients seemed to have convinced the



The participants at Eco Park Minamata, on reclaimed land in Minamata Bay, which once had colloidal sediments containing mercury at its bottom. At front left is a stone statue built to convey the Minamata experience to the generations to come over the next thousand years.

participants of the need for their governments to try to avoid the recurrence of this tragedy. They shared information and exchange views on the realities in their countries and what they can do back home before drawing up their action plans on what to do there.

Some of the participants reported that they had already begun to implement their action plans two months after the completion of the training, raising expectations that more participating countries will ratify the Minamata Convention.

\* The Convention was adopted at the Conference of Plenipotentiaries on the Minamata Convention on Mercury in Kumamoto, signed by 92 countries. The convention will take effect if it is ratified by 50 or more countries.

aspects, such as in developing regulations and establishing institutions, together with a view to drive forward overseas expansion of Japan's advanced expertise with comparative advantage.

## Water and Sanitation

### ● Overview of the Issue

Even though safe drinking water is essential for people to live, such water is still not available for 750 million people in the world, and about 760,000 children under age five die due to diarrhea every year (2013 estimates by the World Health Organization). Moreover, the labor of drawing water for long hours has prevented women from working and children from going to school. Therefore, stably securing safe drinking water has been the key to solve many social issues regarding health, education, labor, and poverty.

Another issue closely related to water is sanitation. Diarrhea in many cases is caused by drinking unsanitary water or infection with pathogenic bacteria discharged from feces transferred to people's mouths through water, food, fingers or other means. Therefore, building sanitation facilities (toilets) is extremely important to isolate human excreta from the living environment. In addition, the infection routes can be cut off by such hygienic practices as washing one's hands after defecation and keeping areas around water supply facilities clean. The simultaneous improvement of water supply and sanitation is extremely important to reduce water-related diseases.

Japan has experience in steadily developing water supply and sewerage systems to build sanitary society, while overcoming flooding and drought during postwar economic growth. On the other hand, Japan remains a major water-consuming country, importing large volumes of "virtual water" from other countries.

This makes Japan responsible for taking part in solving the water and sanitation problems of developing countries.

### ● JICA Activities

#### 1. Water Resources Management and the Efficient Use of Water

The appropriate management of water resources is essential in the situation where available water resources are limited against the growing demand for water. This refers to a need for coordinating water allocation to different sectors while preserving the water environment. Avoiding this coordination would increase the disorderly use of water, resulting in repeated environmental destruction such as "the Tragedy of the Aral Sea." Furthermore, it is anticipated that there will be frequent incidents of flooding and drought due to climate change. From the perspective of promoting integrated water resource management, evaluating the impact of climate change on water resources, JICA actively supports developing countries mainly in the formulation of water resources management plans.

To properly manage limited water resources, the efficient use of water becomes paramount. This includes the promotion of water-saving in agriculture and reuse of treated wastewater. JICA is proactively providing assistance in this area, particularly in the reduction of non-revenue water caused by leaks from pipes, etc., where Japan's experience and technology can be put to good use [ → see the Case Study on page 141].

#### 2. Improving Access to Safe Drinking Water and Sanitation Facilities

The access to safe drinking water and basic sanitation facilities (toilets) is included in the MDGs and is one of the major development challenges of the international community. The access to safe water and sanitation was declared a "human

#### Case Study

#### Senegal: Project for Sanitation and Hygiene Improvement in Rural Areas of the Tambacounda, Kedougou and Matam Regions

### The Challenge of Improving Sanitation and Hygiene in Sub-Saharan Africa

**In Sub-Saharan Africa, only 30% of the population has access to basic sanitation. Infant mortality due to diarrhea is high, highlighting the urgent need for improved sanitation. To rectify the situation, JICA has recently launched this project, which is dedicated to building toilets in Senegal.**

#### Toward Improving and Consolidating Sanitation Practices

To ensure that residents who practice open defecation will use toilets, it is important for them to understand the need and convenience of the facility and undergo a behavioral change.

With this in mind, this project has adopted the approach called Community-Led Total Sanitation (CLTS). Rather than depending on external physical assistance, CLTS aims for community members themselves to understand the effects that open defecation has on the environment and community health, and to recognize the importance of using toilets. With this approach, the project aims to build toilets

and eliminate open defecation.

A major concern, however, is that some of the community members, after abandoning the practice of open defecation, may return to this traditional practice after a time.

To avoid such regression, the project employs social marketing in the communities that have successfully eliminated open defecation

to remind them of the significance of sanitary toilets and promote more comfortable toilets — such as those with a vent pipe and those that use a small quantity of water to make a water seal, both to suppress odor and flies. The idea is to encourage them to build more advanced toilets.

**An improved ventilated toilet. The toilet, neatly painted to match the color of the nearby house, is properly maintained by local residents.**





right” at the United Nations’ General Assembly held in July 2010.

Nevertheless, 750 million people around the world still do not have access to safe drinking water and 2.5 billion are without access to basic sanitation facilities (2013 estimates by the World Health Organization).

As a member of the international community, JICA is working proactively to accelerate the progress towards improving the situation. Specifically, JICA is promoting construction of water supply facilities through financial assistance while strengthening operation and maintenance of the facilities through technical assistance both in urban and rural areas. Particularly in urban water supplies, JICA deals with the improvement of water supply corporation management, mobilizing private sector financing to meet the huge needs for developing water supply facilities.

With regard to the stagnant progress toward improving access to sanitation facilities, JICA will gradually expand efforts to establish sanitation facilities and conduct health education, primarily in Sub-Saharan Africa [ → see the Case Study on page 90].

## Disaster Risk Reduction

### ● Overview of the Issue

In recent years, natural disasters have been increasing in both consequence and frequency in many parts of the world. Related economic losses due to disasters are on the rise. Amidst the rapid progress in social and economic development and population concentration in urban areas, developing countries are especially vulnerable to natural disasters, because of inadequate prior investment in Disaster Risk Reduction (DRR)

measures, including disaster prevention plans, city planning and infrastructure development that incorporates DRR perspectives. For this reason, once a large-scale disaster strikes a developing country, the outcomes of development and opportunities for sustainable growth for the country will be lost, making it difficult for the country to untangle itself from the downward spiral of disaster and poverty.

The Third UN World Conference on Disaster Risk Reduction, held in Sendai City, Miyagi Prefecture, in March 2015, adopted the Sendai Framework for Disaster Risk Reduction 2015–2030 (the Sendai Framework), which provides DRR guidelines for the international community going forward. The Sendai Framework sets out prior investment in DRR, “Build Back Better,” risk assessment, and governance as the priorities for action. It underscores considerations for those vulnerable to disaster and gender issues, the participation of the vulnerable and women, the utilization of science and technology, and the importance of DRR in health care systems. The framework also refers to the importance of the involvement of various stakeholders in DRR. Going forward, the international community is required to seek the implementation of the Sendai Framework [ → see the Case Study on page 93].

### ● JICA Activities

#### 1. Activity Policy

Among the four phases of the disaster management cycle, i.e. “prevention and mitigation,” “preparedness,” “response,” and “recovery and reconstruction,” Japan’s experience shows that investment in DRR at the “prevention and mitigation” and “preparedness” phases are the most important and effective.

#### Case Study

### Supporting the Development of an Area Business Continuity Plan (BCP) / Business Continuity Management (BCM) in the ASEAN Region

## Supporting the Involvement of the Private Sector in DRR

**JICA supports both the development of an Area BCP that involves the private sector and the implementation of BCM, which builds on BCP, in the ASEAN region. Area BCP/BCM is a new initiative aimed at improving area-wide disaster management capacity with the public and private sectors working together to address and manage disaster risks.**

### Improving Disaster Management Capacity of Stakeholders

The Great East Japan Earthquake and the Chao Phraya River flooding in Thailand, both in 2011, inflicted major damage on the operations of many companies, causing huge losses to national and local economies.

A large-scale disaster can result in the suspension of the functioning of key infrastructure. In such cases, there is a limit to what each company can do. Resultant losses to local key industries constitute a serious problem for central and local governments as well, in terms of employment, tax revenue, and trust in these governments. It is therefore necessary for the private sector, the government, and infrastructure operators to address and manage disaster

risks before a disaster strikes.

Area BCP provides a framework for local stakeholders to understand and share information on natural disaster risks and their roles in addressing them. The idea is to minimize the stagnation of local business activity in the case of a large-scale natural disaster and achieve early post-disaster recovery. The framework allows local governments, infrastructure administrators, companies, and other stakeholders in the area to share common understanding and carry out their respective DRR measures and BCP.

Area BCM allows the local community, including governments and the private sector, to cope with the changing environment and risks



An industrial park inundated after the Chao Phraya River overflowed

through such means as continuously analyzing, implementing, and reviewing emergency-response measures based on the Area BCP they have formulated. It is a system for improving their disaster management capacity.

With the guidebook on Area BCP/BCM that it compiled, JICA is supporting the development of an Area BCP in the Philippines, Indonesia, and Viet Nam. JICA is now planning to offer similar assistance to Thailand and is promoting the involvement of the private sector in DRR.

In extending assistance in DRR, JICA places importance on these two preventive phases for promoting the investment. Developing countries, however, often fail to mobilize adequate human and financial resources at the preventive phases for various reasons. It is important for central governments to understand the negative effects and impacts disasters have on development and economic growth and to show leadership in promoting the “mainstreaming of DRR” in every development project. To that end, governments need to assess disaster risks, estimate expected losses, promote prior investment in DRR to reduce such losses, and take measures to reduce such disaster risks. To ensure that these measures are taken appropriately, JICA supports the development of a framework for coordination among the central government, local governments, private sector and other stakeholders.

If a disaster unfortunately occurs to a developing country, JICA will assist that country in making continuous efforts from recovery to reconstruction for building more disaster-resilient society than before, based on the concept of “Build Back Better.” Under the concept described above, JICA has set out five strategic goals:

#### **Strategic Goal 1: Establishment and Strengthening of DRR Governance**

Toward building disaster-resilient countries and communities, JICA supports to establish and strengthen DRR governance through the three priorities: (1) Legislating a basic law on DRR and establishing an organizational structure responsible for DRR; (2) Strengthening the institutional DRR capabilities of the central and local governments by developing plans, standards, and frameworks for DRR; (3) Reinforcing organizations and human resources responsible for DRR and promoting relevant studies through public-private-academia collaboration as well as cooperation among concerned organizations.

#### **Strategic Goal 2: Correct Understanding of Natural Disaster Risk and Promotion of Common Understanding**

Appropriate disaster risk assessment and analysis are essential for promoting DRR through such means as studying DRR measures and incorporating preparedness into socioeconomic development programs and projects. A common understanding of disaster risks among all the stakeholders will make DRR more effective. For this reason, JICA assists risk assessment and analysis in the policymaking process as well as hazard mapping for better understanding of disaster risks. JICA also assists to promote DRR education and capacity building of communities to carry out DRR activities.

#### **Strategic Goal 3: Implementation of Risk Reduction Measures for Sustainable Development**

In order to reduce casualties and social, economic and environmental damages by natural disasters, JICA provides the best mix of structural and nonstructural measures. In flood control, for instance, a structural measure may mean flood prevention works, while a nonstructural measure may mean a land-use plan based on the inundation area so that the hazard areas will not be measured off as residential areas. Issues to

be addressed include public-private-academia collaboration, initiatives involving stakeholders at all levels, ranging from the national to community levels and incorporating disaster prevention and mitigation measures into all development projects.

#### **Strategic Goal 4: Speedy and Effective Preparation and Response**

In order to forecast natural disasters and issue early warnings in a timely manner, JICA assists in (1) improving the forecasting and warning capabilities of government agencies responsible for meteorological observation; and (2) developing evacuation and response systems for appropriate alert and evacuation orders based on the information thus obtained. JICA also dispatches Japan Disaster Relief teams to disaster-affected areas for prompt rescue and relief operations.

#### **Strategic Goal 5: Seamless Recovery and Reconstruction for a Disaster Resilient Society**

“Build Back Better” is a concept that post-disaster recovery and reconstruction should do more than just restoring the pre-disaster conditions. In other words, reconstruction from disaster is an opportunity to build more disaster-resilient society than before, while learning the lessons drawn from past disaster experiences. To this end, JICA addresses not only the structural aspect such as infrastructure development, but also regulatory and institutional improvements as well as assisting livelihoods. In the process, JICA conducts seamless approach from response to recovery and reconstruction, with no gaps between programs in terms of time, sectors or project components.

### **2. Seeking the Participation of Various Stakeholders**

JICA’s achievements and policies became widely known at the Third UN World Conference on Disaster Risk Reduction and its side events, which contributed to the widespread perception of the importance of the participation and role of various stakeholders, such as civil society organizations, science and academic research institutions, private companies, and the mass media. Accurate assessment of disaster risks calls for scientifically verified data from academic research institutions. Development assistance needs to positively take into account women and the vulnerable, such as children and people with disabilities; it should be designed to encourage them to actively participate in DRR.

In order to promote the international DRR framework adopted at the conference, JICA will actively address these new challenges based on Japan’s Sendai Cooperation Initiative for Disaster Risk Reduction.<sup>6</sup>

6. In order to contribute in building resilient society for the international community through sharing Japan’s accumulated knowledge and expertise in DRR, Japan pledged to extend assistance that combines three approaches: (1) nonstructural measures that include assistance for establishing DRR governance systems, as well as human resources development; (2) structural measures that center on the development of high-quality infrastructure; and (3) global and region-wide cooperation. To implement these approaches, Japan pledged to provide \$4 billion in aid and train a total of 40,000 people from 2015 to 2018.

**Case Study** **The Third UN World Conference on Disaster Risk Reduction in Sendai****Sharing Japan's Experiences and Lessons to the World**

In March 2015, four years after the Great East Japan Earthquake struck Japan, the Third UN World Conference on Disaster Risk Reduction was held in Sendai City, Miyagi Prefecture, and surrounding areas. The conference adopted “the Sendai Framework for Disaster Risk Reduction 2015–2030.” As the host nation, Japan showcased the reconstruction of the areas hit by the 2011 disaster to the world and shared its experience and knowledge about disaster risk reduction with the international community.

**Many National Leaders and Ministers from Around the World in Attendance**

The conference was attended by about 6,500 representatives from 187 UN member states, UN organizations, private companies and NGOs. The number of participants, including those in the open events, amounted to some 160,000. The conference participants included not only officials in charge of DRR but also many national leaders, deputy leaders, and ministers as well as the heads of many international organizations, including the UN Secretary-General. This made the conference one of the largest international meetings ever held in Japan.

The large attendance at the conference signified a high level of interest in DRR around the world amid two growing perceptions. One is that natural disasters are closely associated with climate change; scientists say climate change is resulting in more meteorological disasters. The other perception is that DRR is an essential part of sustainable development and poverty reduction; a disaster can wipe out all development efforts and fruits in an instant.

**Seeking More Contributions Based on the Sendai Framework and the Sendai Cooperation Initiative for Disaster Risk Reduction**

The conference adopted the Sendai Framework for Disaster Risk Reduction 2015–2030 (the Sendai Framework), which provides a set of guidelines on DRR for the next 15 years. The new framework comes after the Hyogo Framework for Action 2005–2015, which was adopted at the Second UN World Conference on Disaster Reduction in 2005. At the 2015 conference, in light of Japan's experience in this field, the Japanese government announced the Sendai Cooperation Initiative for Disaster Risk Reduction to bolster DRR efforts by the international community.

JICA believes that it is important to design its development assistance to reduce casualties and economic loss, and promote the “mainstreaming of DRR” based on the expertise and experience Japan has accumulated as a disaster-prone country and a major bilateral donor. Post-disaster assistance tends to outstrip pre-disaster assistance; although it is widely understood every dollar invested in disaster preparedness can save four to seven dollars in the cost of post-disaster recovery. If this trend

continues, a huge amount of money will be needed for reconstruction every time a disaster occurs. The resultant delay in development and economic growth in the afflicted countries will make it difficult to break out of poverty. JICA had been working to incorporate into the Sendai Framework four requirements for DRR mainstreaming: (1) disaster risk assessment, (2) the strengthening of government capacity for DRR, (3) prior investment in DRR, and (4) the promotion of the “Build Back Better” concept. To this end, JICA took many opportunities — including preparatory committees and consultations with other donors — to advocate this policy. The conference participants eventually agreed to incorporate these requirements in the Sendai Framework as the priorities for action.

For the past 20 years, JICA has been the largest bilateral donor agency as far as DRR is concerned and has drawn on Japan's experience and expertise in this field. Based on its experience and track record to date, JICA took part in high-level sessions of the



JICA organized a symposium entitled “Disaster Risk Reduction and International Cooperation.”

conference, including ministerial round tables and working sessions as well as some of the official events of the conference, including the Great East Japan Earthquake Forum, a public forum JICA co-organized with international and developing-country organizations, and an open booth exhibition. Taking these opportunities, JICA reported on its activities and their outcomes, and above all, stressed the importance of mainstreaming DRR.\*

During the period of the conference, JICA and the UN Office for Disaster Risk Reduction (UNISDR) signed a Memorandum of Cooperation (MOC). They agreed to work together to implement the Sendai Framework and promote prior investment in DRR, capacity and knowledge building for developing countries, and promote the “Build Back Better” concept.

While incorporating the principles agreed in the Sendai Framework, such as considerations for gender and disaster-vulnerable groups as well their participation in DRR, and industry-government-academia collaboration, JICA will steadily endorse and implement the Sendai Framework and the Sendai Cooperation Initiative for Disaster Risk Reduction to mainstream DRR in its DRR assistance for partner countries.

**Sendai Framework for Disaster Risk Reduction 2015-2030****Targeted Period: 2015-2030 (15 years)****Expected Outcome**

To achieve the following outcome over the next 15 years: The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

**Goal**

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

**Priorities for Action**

- 1 Understanding disaster risk
- 2 Strengthening disaster risk governance to manage disaster risk
- 3 Investing in disaster risk reduction for resilience
- 4 Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction.

**Global Targets**

- (a) Substantially reduce global disaster mortality by 2030.
- (b) Substantially reduce the number of affected people globally by 2030.
- (c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.
- (d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities by 2030.
- (e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.
- (f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030.
- (g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

\* [http://www.jica.go.jp/english/news/field/2015/150406\\_02.html](http://www.jica.go.jp/english/news/field/2015/150406_02.html)