

Global Environment

Aiming at a Safe Living Environment and a Balance between the Environment and Development



Of the 17 Sustainable Development Goals (SDGs), strongly associated goals are shown in color.



Iran: Dalmatian Pelicans spend the winter at the Anzali Wetland (Anzali Wetland Ecological Management Project Phase 2) (Photo: Hitoshi Watanabe, Nippon Koei Co., Ltd.)

Sectoral Issues

- ➔ Achieving the Sustainable Development Goals (SDGs) requires further efforts to address global challenges, such as tackling climate change, building a recycling society, controlling water and air pollution, and providing safe water service.
- ➔ In the face of frequent natural disasters, disaster risk reduction (DRR) is not only a humanitarian issue but also a great concern related to sustainable development.

Fiscal 2016 Initiatives

- ➔ In climate change mitigation and adaptation, 1,600 people participated in JICA's training programs.
- ➔ JICA worked with the Japan Aerospace Exploration Agency (JAXA) and advanced the establishment of a satellite-based tropical forest monitoring system.
- ➔ JICA implemented cooperation for safe water supply for 3.01 million people, and sewerage systems and waste management covering 154 cities.
- ➔ In disaster risk reduction, JICA provided training to 23,000 people.

Future Cooperation

- ➔ JICA will support developing countries toward the implementation of the Paris Agreement, which was adopted at the 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change.
- ➔ JICA will provide cooperation for low-carbon growth, waste management and sewerage systems, water supply, and other cooperation using advanced Japanese technologies and systems.
- ➔ In disaster risk reduction, JICA will promote investment in disaster risk reduction, strengthened national disaster management agencies, and Build Back Better in recovery and reconstruction.

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. The world's forest are decreasing by about 3.3 million hectares annually, the equivalent of twice the area of Japan's Shikoku island. It has also been estimated that over 20,000 species of wildlife are at risk of extinction because of excessive use of natural resources, overhunting of wildlife, introduction of alien species, climate change and other factors.¹

● JICA Activities

To conserve the natural environment, which is the foundations of human existence, JICA provides cooperation on nature conservation in the following three areas, with the aim of facilitating harmony between the conservation of the natural environment and human activities, while contributing particularly toward attaining SDGs 13, 14 and 15.

1. Climate Change Measures through Sustainable Forestry Management and Ecosystems Conservation

Forests 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. CO₂ and mitigating natural disasters such as floods and landslides. In recent years, forest conservation has been particularly emphasized globally as a measure on climate change. JICA has been working on the initiative called REDD+ (Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries). In 2014, JICA established the Japan Public-Private Platform for REDD+ to promote industry-government-academia collaboration in this field.

2. 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 the foundation for local livelihoods has been exploited by excessive usage that destroys the function of nature to reproduce itself. Moreover, sometimes friction occurs between residents and public administrators over the usage and management of resources. JICA has launched the African Initiative for Combating Desertification to Strengthen Resilience to Climate Change for coping with mounting development challenges in the Sahel and the Horn of Africa, and is promoting activities for sustainable utilization of natural resources in surrounding communities and improvement of livelihoods while working cooperatively with partner countries, international organizations, and NGOs [→ see the Case Study on page 59].

3. Conservation of Biodiversity through Management of Protected Areas and Buffer Zones

In protected areas and surrounding buffer zones, JICA is providing various forms of support for the conservation of biodiversity to promote the harmonious coexistence of nature and humans: management and formulating of plans, implementation of surveys and monitoring, capacity building of persons concerned, introduction of ecotourism, and environmental education.

Environmental Management

● Overview of the Issue

Many developing countries are facing more serious environmental problems associated with economic development, population growth, and urbanization. These problems often give rise to health hazards and other menaces that threaten human security. Because many environmental issues involve complex factors in a multilayered manner and are spread over a wide area, it is difficult to find solutions in a short period of time. Moreover, in comparison with infrastructure development, etc., the response to environmental issues is apt to be slow in many cases as outcomes of efforts are hard to detect. The SDGs include many goals in the environmental management sector that concern issues such as water and sanitation, urban development, and sustainable consumption and production.

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 development stage of each developing country or region. Within that process, JICA gives priority to preventive measures and puts emphasis on capacity development with the recognition that building the capacity of organizations and individuals responsible for environmental management is essential.

In fiscal 2017, JICA will focus on the following four strategic areas:

1. Assistance in Solid Waste Management and Establishment of a Sound Material-Cycle Society

The amount and composition of solid waste depend largely on the level of economic development of each partner country. This highlights the need to extend assistance according to such stages. Assistance is provided in accordance with the conditions and needs of partner countries or regions. The first stage is to improve public health and sanitation; the second stage is reducing environmental impacts; and the third stage is to establish a sound material-cycle society.

2. Assistance in Addressing Pollution of the Water, Air, etc.

JICA assists regulatory and institutional development, as well as capacity development of organizations and human resources, together with assessment of the actual situation. Special priority will be given to (1) offering integrated assistance in both developing sewerage and building the capacity to operate and maintain it; (2) offering assistance in water environment management in urban areas; (3) addressing air pollution, including PM_{2.5}; and (4) addressing mercury pollution and managing chemical substances.

3. Assistance in Addressing Climate Change

JICA establishes a comprehensive framework to provide assistance at three different levels: policy, program, and project levels. JICA is also formulating projects related to prevention, mitigation, and adaptation for climate change.

4. Close Engagement with Stakeholders

In order to facilitate the formulation and implementation of effective projects in environmental management, JICA will work closer with local governments, private businesses, universities and other research institutions, and multilateral donors that have extensive experience and expertise.

Water Resources

● Overview of the Issue

Water supports human life not only as drinking water and domestic water but also as a vital resource for food production and economic activity. It is estimated, however, that as of 2015, over 2.9 billion people lack access to adequate water. Competition over water resources will likely intensify. In this light, the SDGs include Goal 6, a goal to “ensure availability and sustainable management of water and sanitation for all.”

Japan now boasts water service coverage of practically 100%.

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

It is also one of the most efficient nations in the world in terms of water use. On the other hand, Japan depends on imports for much of its food consumption. This means Japan is relying on water in other countries, including developing countries, in terms of the water necessary to produce such products. This makes Japan responsible for taking part in solving the water resources problems of developing countries.

● JICA Activities

1. Safe Water Supply

JICA combines technical cooperation and financial assistance

Case Study

Research Project:
“Japan’s Experiences on Water Supply Development”



Putting Japan’s Experiences in Water Services, Including Lessons Learned, to Good Use in Providing Assistance to Developing Countries

This research project has compiled past efforts to develop water services in Japan, lessons learned from the process, and many case studies into teaching material for waterworks engineers in developing countries and Japanese people engaged in international cooperation.

Since the establishment of its first modern water supply system in 1887, Japan has addressed the major issue of expanding service coverage and improving service quality, just as many developing countries are doing now. It has overcome a range of challenges, including polluted water sources and skyrocketing water demand in the periods of postwar reconstruction and subsequent rapid economic growth. Today, with water service coverage of virtually 100%, people in Japan enjoy 24-hour access to safe and affordable water services. Japan’s experiences in—and lessons learned from—this daunting process serve as useful references for developing countries.

This work was supported by some of the leading waterworks experts in Japan, who served as advisors and editors, as well as by many of the water utilities and other stakeholders in Japan, who provided useful materials and valuable insights based on their experiences.

This study is now publicly available.* JICA will make active use of it as a textbook in its training and technical cooperation for developing countries and as a medium for communicating Japan’s development experiences to trainees from developing countries.

* Search the Internet for “Report: Japan’s Experiences on Water Supply Development.”



A water leakage check by Nagoya City Waterworks and Sewerage Bureau in the aftermath of World War II, circa 1949.

to assist developing countries in providing safe water services through drafting master plans, building the operational and maintenance capacity, and developing facilities. In order to help achieve universal access to safe water as called for in the SDGs, JICA will intensify its cooperation designed to reduce water supply disparities and improve water supply service in its development programs and projects that accommodate the socioeconomic conditions of each partner country [→ see the Case Study on page 39].

One of the strengths of the Japan’s water supply system is its stable and safe water supply under the integrated management system, which covers components from the water source to the tap. In conducting its projects, JICA utilizes Japan’s water supply management skills by working with Japanese local governments, which are the water service providers in Japan. As part of its collaboration with Japanese local governments, JICA has compiled valuable information—including efforts to achieve world-class water services, lessons learned, and success factors—into teaching material titled *Japan’s Experiences on Water Supply Development*. JICA will make active use of this material for its programs and projects [→ see the Case Study at left].

2. Water Resources Management

In order to contribute to one of the targets of Goal 6 of the SDGs, that is, to “implement integrated water resources management at all levels,” JICA is assisting in developing scientific information on water resources and strengthening the capacity to formulate and implement plans needed for water resources management. Amid growing concerns about the impact of climate change on water resources, JICA is actively promoting science and technology cooperation in assessing climate change impacts and devising adaptation measures through partnerships with universities, among other means.

Disaster Risk Reduction

● Overview of the Issue

In recent years, 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 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 Sendai Framework for Disaster Risk Reduction 2015–2030, adopted at the Third UN World Conference on Disaster Risk Reduction in 2015, sets out understanding disaster risk, disaster risk governance, investment in DRR and Build Back Better as the priorities for action, which Japan called for based on its experience. Some of the 17 Goals of the SDGs embrace the perspective of DRR, such as “no poverty” and “infrastructure.” This bears witness to the fact that the international community has recognized DRR as a condition for addressing any development

challenge.

● JICA Activities

It is important for national governments in developing countries to understand the negative effects and impacts disasters have on development and economic growth and to promote prior investment in DRR as a risk reduction measure. Thus, JICA places importance on prevention, mitigation, and preparedness phases in extending assistance in DRR. This is aligned with the Sendai Framework for Disaster Risk Reduction 2015–2030. For appropriate implementation of DRR policies and measures, JICA promotes the mainstreaming of DRR in every development project and supports the development of a framework for coordination with stakeholders. If a disaster occurs in a developing country, JICA will assist that country in building a society that is more disaster-resilient than before.

1. Implementation of Risk Reduction Measures for Sustainable Development

In order to reduce casualties and property damage by natural disasters, JICA provides the best mix of structural and nonstructural measures. 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.

2. 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 national and local governments by developing plans, standards, and frameworks for DRR; (3) reinforcing organizations and human resources responsible for DRR and promoting relevant studies.

3. Correct Understanding of Natural Disaster Risk and Promotion of Common Understanding

Appropriate disaster risk assessment and analysis are essential for studying DRR measures. Furthermore, 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.

4. Speedy and Effective Preparedness 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 [→ see the Case Study on page 63]. JICA also dispatches Japan Disaster Relief teams to disaster-affected areas for prompt rescue and relief operations [→ see Emergency Disaster Relief on pages 94–95].

5. Seamless Recovery and Reconstruction for a Disaster-Resilient Society

To build a society that is more disaster-resilient than before, based on the concept of Build Back Better, 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 pursues seamless cooperation that accommodates needs that change over time in different phases, from response to recovery and reconstruction.

Case Study

Mainstreaming DRR in the SDGs: Incorporating the DRR Indicators of the Sendai Framework

Shifting the Characterization of DRR from a Humanitarian Issue to a Development Issue

Over the years, in international forums, JICA and the Japanese government continued to stress the relevance of disaster risk reduction (DRR) as a development issue. As a result, some of the insights and indicators of the Sendai Framework for Disaster Risk Reduction 2015–2030 have been incorporated into several of the Sustainable Development Goals (SDGs).

JICA and the Japanese government jointly played a part in drafting the Sendai Framework, which was agreed on at the UN World Conference on Disaster Risk Reduction in March 2015. The Priorities for Action in the Sendai Framework incorporated three concepts drawn from Japan's experience and knowledge: (1) investment in disaster risk reduction, (2) strengthened national disaster management agencies, and (3) Build Back Better. This was when the international community recognized a shift in the focus of DRR from the humanitarian issue, which stresses postdisaster emergency response, to the development aspect, which emphasizes that DRR is vital for sustainable development. In other words, the international community underscored the importance of reducing disaster losses—which constitute a major impediment to economic development—through DRR.

In September 2015, the United Nations agreed on the 2030 Agenda for Sustainable Development. Several goals of the SDGs set out in the 2030 Agenda incorporated the DRR perspective and adopted indicators identified in the Sendai Framework. DRR is now recognized as an essential component of development.



A Japanese government delegation makes specific suggestions on indicators related to the Sendai Framework in intergovernmental negotiations.