

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

As globalization advances, transboundary challenges facing humanity include environmental issues and climate change, water-related issues, major natural disasters, infectious diseases, food issues, and energy issues. These challenges 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. Against this backdrop, 2015 was an especially important milestone year for the international community's response

to global challenges. Major international conferences were held, including the UN Summit (September, New York), which adopted the 2030 Agenda for Sustainable Development 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.

Japan contributes to building a sustainable and resilient international community through these proactive efforts to address global challenges.

(1) Environment and Climate Change Actions

The environment emerged as a major topic of discussion in international fora in the 1970s. The importance of addressing environmental challenges has been increasingly recognized through discussions at the United Nations Conference on Environment and Development (UNCED, also known as the Earth Summit) in 1992, the World Summit on Sustainable Development (WSSD) in 2002, and the United Nations Conference on the Sustainable Development (Rio+20) in June 2012. Rio+20 was followed by a series of discussions on Sustainable Development

Goals (SDGs).^{*} Additionally, environment and climate change issues have been repeatedly taken up as one of the main themes at the G7/8 and the G20 Summits, where the leaders conduct candid and constructive discussions on these topics. Environmental issues are challenges that the entire international community must address in order to ensure the prosperity of humankind in the future. In order to address global issues and build a sustainable society, UNESCO plays a central role in promoting Education for Sustainable Development (ESD).^{*}

<Japan's Efforts>

● Environmental Pollution Control

Japan has accumulated an abundance of knowledge, experience and technology related to environmental pollution control, and has been utilizing them to resolve pollution issues as well as other issues that developing countries face. In particular, Japan implements initiatives to provide support for pollution control measures and for improving the living environment in urban areas, mainly in Asian countries, which are undergoing rapid economic growth. On October 9 to 11, 2013, the Diplomatic Conference for the adoption and signing of the Minamata Convention on Mercury was held in Kumamoto City and Minamata City, Kumamoto Prefecture. This convention sets out comprehensive regulations on the whole life cycle of mercury, from mining to disposal, in order to reduce the risks of mercury on human health and the environment.

Having learned hard lessons from the experience of Minamata Disease, and being firmly determined that similar health hazards and environmental pollution should never be repeated, Japan proactively participated in the negotiations on the convention and took on the role of host country for the Diplomatic Conference. At the conference, Japan pledged \$2 billion of ODA over three years to support developing countries to address the issues of air pollution, water contamination, and

waste management, and also announced the launch of the MOYAI Initiative to disseminate information on mercury technologies and environmental restoration from Minamata to the rest of the world.

In addition, to support activities in developing countries to reduce substances that deplete the ozone layer, Japan makes contributions to the Multilateral Fund for the Implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer.



A Japan Overseas Cooperation Volunteer, Mr. Ryo Tamaoki visits elementary schools in the area of the Chagres National Park, which is located in the Panama Canal Watershed, Panama, and conducts educational activities for pupils in order to convey the importance of environment conservation. (Photo: Maximo Novas)

● Climate Change

Climate change is an urgent issue that requires a cross-border approach. According to the Synthesis Report of the latest Fifth Assessment Report²⁴ published by the Intergovernmental Panel on Climate Change (IPCC) in November 2014, the global average air temperature increased 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 in accordance with the UN Framework Convention on Climate Change.

At COP 19 in 2013, to support the mitigation and adaptation measures²⁵ of developing countries, Japan pledged to provide ¥1.6 trillion (equivalent to approximately \$16 billion) during the three-year period from 2013 to 2015, making use of official and private flows. This pledge was achieved in just over one and a half years from 2013.

At COP 20 held in Lima, Peru in December 2014, Parties decided on the information that might be contained in the Intended Nationally Determined Contributions (INDC),* which Parties were invited to communicate well in advance of COP 21. Accordingly, in July 2015, Japan decided on and communicated its INDC to the secretariat of the UN Framework Convention on Climate Change. Japan's INDC will reduce greenhouse gas (GHG) emissions by 26% by FY2030 compared to the FY2013 level (25.4% reduction compared to the FY2005 level).

COP 21 (November 30–December 13, 2015, Paris), following on from COP 20, was a crucial international conference that established a new international framework for 2020 and beyond. To help reach this important agreement, Japan, in advance of COP 21, developed Actions for Cool Earth (ACE 2.0), a two-fold contribution composed of assistance to developing countries and innovation. Prime Minister Abe unveiled ACE 2.0 at the Leaders Event of COP 21 that he attended. Most notably, Prime Minister Abe announced that Japan would raise its annual public and private climate finance for developing countries to ¥1.3 trillion by 2020, 1.3 times the current level. The Prime Minister introduced that Japan would support Japanese companies' projects that utilize renewable energies such as geothermal and solar energies, share the experiences of Japanese cities with emerging Asian cities, and establish early warning systems for natural disasters in Pacific island countries.

Due in part to Japan's contributions, the Paris Agreement—an international framework that for the



Prime Minister Shinzo Abe delivers a speech at the COP21 Summit Meeting held in Paris, France, in November, 2015. (Photo: Cabinet Public Relations Office)

first time involves all countries—was adopted. Japan appreciates that agreement was reached on establishing a fair and effective legal framework that applies to all countries, as has long been advocated by Japan.

In other efforts to actively contribute to solving urgent challenges, Japan works steadily towards the achievement of its INDC, and proactively promotes the development of innovative technologies in the fields of environment and energy and supports climate change actions in developing countries.

As a part of this initiative, Japan has been promoting the Joint Crediting Mechanism (JCM)* through which leading low-carbon technologies have been globally utilized. JCM is a mechanism both to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner achieved through the diffusion of low-carbon technologies and other systems as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan's emission reduction target. Beginning with the signing of the first bilateral document pertaining to JCM implementation with Mongolia in January 2013, Japan has established JCMs with 16 countries, i.e., Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, and Thailand, as of December 2015 (in addition to these 16 countries, Japan and the Philippines have signed a memorandum to reach agreement on a bilateral document).

At the G20 Brisbane Summit in November 2014, Japan announced pledges to the Green Climate Fund (GCF)*, which supports developing countries in the field of climate change. Following the passage of the Act on Contributions to the Green Climate Fund and on Relevant Measures (Act No. 24 of 2015) on May 20, 2015, the Japanese government

Note 24: 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.

Note 25: Mitigation and adaptation measures refer to measures for reducing (mitigating) the emission of GHG that cause global warming, and measures for addressing (adapting to) the adverse impacts of climate change that are already occurring or could occur.

decided to contribute \$1.5 billion (approximately ¥154 billion) to the GCF. Japan's contribution brought the GCF over the threshold required to start providing finance to developing countries. Subsequently, at the 11th meeting of the GCF Board in November, eight projects, including projects in island countries, were approved for the GCF's first set of projects.

In December 2015, the Fourth East Asia Low Carbon

Growth Partnership Dialogue was held as a side event of COP 21 to discuss the direction of East Asia low carbon growth. Coinciding with this event, a proposal that takes into account the findings gained up to the third dialogue was presented. At the event, Viet Nam, Cambodia, Malaysia, and Japan introduced best practices of low carbon growth.

● Biodiversity

In recent years, the expanding scope, scale, and type of human activities have given rise to serious concerns over the degradation of the habitats of living organisms and the destruction of the ecosystem. Since the existence of living organisms is borderless, the entire world should tackle biodiversity issues; therefore, the Convention on Biological Diversity (CBD) was adopted. The objectives of the CBD are: (i) conservation of biological diversity; (ii) sustainable use of its components,* and (iii) fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Developed countries are providing economic and technical assistance to developing countries in an effort to realize the conservation and sustainable use of biological diversity.

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 October 2014, the 12th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 12) was held in Pyeongchang, the Republic of Korea. A mid-term

review of the Aichi Biodiversity Targets* adopted at COP 10 was conducted, and Japan proactively contributed to the discussions in order to maintain the momentum for achieving the Aichi Biodiversity Targets.

At COP 12, it was decided that by 2015, total biodiversity-related international financial resource flows to developing countries would be doubled from the average level of 2006-2010, and that this level would be maintained until 2020.



An atoll reef near the Mecherchar Island in the state of Koror, Palau. (Photo: Kaku Suzuki / JICA)

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



A variation of environments such as forests, wetlands, rivers, coral reefs, etc.

Diversity between species



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)

Diversity within a species



A variation of differences within a species such as the existence of individuals that are resistant to dry or hot environment and to diseases

(Photo: All three by Ministry of the Environment. A green turtle and bigeye trevally (Palau): Yasuaki Kagii, Clams: Shin Fuwa)

● Promotion of the Education for Sustainable Development (ESD)

Japan puts emphasis on realizing sustainable development through education. To mark the end of the UN Decade of Education for Sustainable Development (DESD), which was originally proposed by Japan, Japan and UNESCO co-organized the UNESCO World Conference

on ESD in Okayama City and in Nagoya City, Aichi Prefecture in November 2014. Since 2005, the first year of DESD, Japan has actively promoted ESD through, inter alia, contributing Funds-In-Trust to UNESCO and implementing the ESD projects.

Glossary

Sustainable Development Goals (SDGs)

SDGs refer to development goals that were discussed at the UN Conference on Sustainable Development (Rio+20) held in Rio de Janeiro, Brazil in June 2012, at which an agreement was reached to launch an intergovernmental negotiation process. The SDGs apply to all countries based on the capacities of each country. The SDGs were integrated into the 2030 Agenda for Sustainable Development at the UN Summit in September 2015.

Education for Sustainable Development (ESD)

ESD refers to education to foster leaders of a sustainable society. In this context, “sustainable development” means the development of a society that “meets the needs of the present generation without compromising the ability of the future generation to meet their own needs.” This requires each of us to be aware of this concept in our daily lives and economic activities, and to make changes in our individual behavior. Educational activities to achieve such purposes are considered “Education for Sustainable Development.”

Intended Nationally Determined Contribution (INDC)

INDC refers to a target for tackling climate change that each country communicates well in advance of COP 21 for the purpose of establishing a new international framework for 2020 and beyond (Paris Agreement).

Joint Crediting Mechanism (JCM)

JCM refers to a mechanism in order both to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner achieved through the diffusion of low carbon technologies, products, systems, services, and infrastructure, as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan’s emission reduction target.

Green Climate Fund (GCF)

GCF refers to a fund whose establishment was decided by the Cancun Agreements adopted at COP 16 in 2010, in order to help developing countries reduce GHGs and adapt to climate change.

Sustainable Use of Biodiversity and Components

Humans subsist by making use of biological resources 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, and other factors. In order to utilize biological resources into 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 biological resources and their sustainable use.

Aichi Biodiversity Targets (The Strategic Plan for Biodiversity 2011–2020)

Aichi Biodiversity Targets refer to 20 individual targets, including a target to conserve at least 17% of terrestrial areas and 10% of marine areas. The Strategic Plan for Biodiversity 2011-2020 sets out a vision to achieve “Living in harmony with nature” by 2050, a mission to halt the loss of biodiversity by 2020, in addition to the individual targets.



A Japan Overseas Cooperation Volunteer (environmental education), Mr. Kazuki Shioya conducts environmental education classes at a school in the city of Grecia, Costa Rica. Waste generated at the school shop is separated and the raw waste is composted. (Photo: Kenshiro Imamura, JICA)

Thailand

Bangkok Master Plan on Climate Change 2013 – 2023
Technical Cooperation (March 2013 – September 2015)

Bangkok, the capital of Thailand, has a population of over 10 million. However, as the city's economy continues to grow, its greenhouse gas emissions do so as well.

The Bangkok Metropolitan Administration (BMA) drew up the Bangkok Global Warming Mitigation Action Plan (Bangkok Action Plan) in 2007. The Action Plan features five major initiatives; namely 1) Expand Mass System; 2) Promote Energy Saving and the Use of Renewable Energy; 3) Improve Building Electricity Consumption Efficiency; 4) Improve Solid Waste Management and Wastewater Treatment Efficiency; and 5) Expand Green Areas. While the BMA has been working on the realization of these initiatives, Japan has been sharing its knowledge and experience with Bangkok to help the city realize these initiatives and implement the Bangkok Action Plan.

The BMA subsequently formulated the Bangkok Master Plan on Climate Change 2013 – 2023. This plan presents a more comprehensive approach to climate change based on the results and assessments of the Bangkok Action Plan. The plan does not only seek to mitigate climate change through measures to reduce greenhouse gases, including energy saving, but it also tries to adapt to the impacts of climate change, such as flooding and other events.

Japan has been assisting the BMA to implement this new plan. Japan has focused on creating a plan that is consistent with Thailand's national policy, building cooperative relationships between the BMA and other organizations, and assisting with capacity building for the BMA officials who will be implementing the master plan.

Experts from many fields were dispatched to Thailand, such as transportation, energy, solid waste and wastewater treatment, urban greening, and adaptation. BMA officials also joined training in Japan. In addition, this project included city-to-city cooperation. The City of Yokohama participated in the project and shared its expertise on low-carbon cities with the BMA.

Japan's assistance is contributing to the development of Bangkok to become a more sustainable and environmentally-friendly city.



Public awareness event on traffic held at an elementary school. (Photo: JICA)

Brazil

Project for Biodiversity Conservation in Amazon Based on a New Concept of 'Field Museum'
SATREPS (Science and Technology Research Partnership for Sustainable Development)
(July 2014 – Ongoing)

Manaus is the capital of the State of Amazonas in Brazil. It is located along the Amazon River's largest tributary. The city has a diverse and precious natural environment with many national parks and conservation areas nearby. At the same time, the city has a population of around 2 million and a rapidly growing urban area, and this has led to environmental destruction.

As human activities continue to expand, they are destroying and degrading the tropical rainforest, and causing a significant loss of biodiversity. Addressing this loss of biodiversity to ensure the sustainable development of local communities is an urgent task.

Some progressive zoos and aquariums now serve as centers for environmental education, as well as ecosystem research and conservation. However, the Amazon region lacked such facilities in the past. In addition, it is difficult to continuously observe Amazonian organisms. Therefore, their habitats and ecosystems have remained largely unknown. Such a situation makes it difficult to formulate a suitable environmental policy for the region.

In light of this situation, Japan is providing assistance to the Amazon region in establishing a "field museum." Instead of an ordinary museum housed in a building, the field museum is an outdoor museum within the actual natural environment, preserving wild animals there, unlike a regular zoo which keeps and exhibits animals in artificial facilities.

The National Institute of Amazon Research (INPA) is working together with Japan on the field museum, and in the museum it helps care for Amazonian manatees that have been injured by poachers. The institute is located downtown so it enables many citizens to learn about rare Amazonian wildlife.

As part of this project, experts dispatched from Japan are recording the sounds of the endangered Amazon river dolphin to study where it lives and how it behaves. This data is then utilized to aid conservation efforts. In addition, Japan also plans to fund the construction of a research station along the river on the outskirts of Manaus.

This research station will help researchers to investigate the Amazon's rivers and rainforests. It could also be used to run eco tours and other efforts to deepen people's understanding of the importance of the surrounding environment.

This project is also assisting efforts to research and conserve the habitats of aquatic wildlife. For example, it cares for and protects injured Amazonian manatees partially in the wild, before helping them return to nature. Another objective of the project is to shed light on ecosystems using the latest technologies and equipment. In this way, steady progress is being made to achieve harmony between humans and nature, based on the concept of a field museum. (As of August 2015)



Sounds of the Amazon river dolphin, an endangered species, are recorded, and surveys are conducted on the species' distribution and behavior patterns. The collected data is used in preservation activities. (Photo: JICA)

(2) Promotion of Universal Health Coverage, and Infectious Diseases Control

Universal health coverage (UHC) ensures that all people obtain the health services they need without suffering from financial hardship when paying for them. Japan considers that UHC is vital to achieve the health-related targets of the SDGs in the 2030 Agenda for Sustainable Development, the succeeding framework to the MDGs, and to narrow the disparities in healthcare services, to meet the health needs of all people, and for aid recipient countries to review and respond to their health challenges. Japan thus sets UHC as the core concept of its international health cooperation and carries out relevant efforts.

<Japan's Efforts>

● Universal Health Coverage (UHC)

Based on Japan's Strategy on Global Health Diplomacy, Japan has taken steps to mainstream UHC as part of the "Japan Brand," shared Japan's expertise, supported the improvement of health and economic growth in developing countries, and aimed to increase Japan's global presence. Prime Minister Shinzo Abe announced Japan's commitment to promoting UHC in his address to the UN General Assembly and at a side event. Japan also steered the discussions to promote UHC at UN negotiation fora, including the negotiations on the 2030 Agenda for Sustainable Development. As a result of these efforts, UHC was included as the key target of the new 2030 Agenda for Sustainable Development. The importance of UHC gained a global consensus.

One of the actions listed in Japan's Strategy on Global Health Diplomacy is "Advance UHC in Africa," which consists of health systems, strengthening maternal and child health promotion, and effective infectious disease control. Based on this policy, Japan implements a range of projects towards UHC primarily in Africa through technical cooperation and ODA Loans. Japan extends similar cooperation in Asia as well. The Healthcare Policy

Infectious diseases, such as HIV/AIDS, tuberculosis, and malaria, as well as emerging and reemerging infectious diseases,* such as influenza and Ebola virus disease seriously affect the health of individuals and the socio-economic development of developing countries.

Moreover, since the spread of infectious diseases has impact that could extend beyond national borders, it requires the international community to work as one to address this. Japan engages in the implementation of countermeasures in close cooperation with the relevant countries and international organizations.

states that in light of Japan's Strategy on Global Health Diplomacy, Japan will position global health as a key area of Japan's diplomatic relations and promote UHC.

In September 2015, the Japanese government approved the Basic Design for Peace and Health under the Development Cooperation Charter. The Basic Design aims to mainstream UHC in the international community. It outlines that Japan would promote cooperation that capitalizes on its experience, technology, and expertise, including through physical assistance, such as building hospitals and supplying medicines and medical devices, and through non-physical assistance, such as human resources development and institution building. The Basic Design aims to achieve UHC that will "leave no one behind," including poor people, children, women, persons with disabilities, senior citizens, refugees and internally displaced persons (IDPs), and ethnic and indigenous people.

Basic health services under UHC comprise all services ranging from nutritional improvement, vaccination, maternal and child health, sexual and reproductive health, infectious disease control, non-communicable disease control, and comprehensive community care and nursing



Prime Minister Shinzo Abe delivers a statement at the International Conference on Universal Health Coverage in the New Development Era held in Tokyo in December, 2015. (Photo: Cabinet Public Relations Office)



A Senior Volunteer, Ms. Tamiko Umeki works as a nurse at the Maternal Child Health Center at Chilenje Clinic, Zambia. In addition to provision of mobile medical care, Ms. Umeki engages in medical examinations of young children under the age of six and guidance to medical interns at the Maternal Child Health Center. (Photo: Atsushi Shibuya / JICA)

care for senior citizens.

For nutritional improvement, Japan has provided bilateral assistance through the frameworks of maternal and child health and the training of healthcare professionals. Japan also extends multilateral assistance by way of cooperation through contributions to UNICEF and WFP. In other initiatives, Japan has contributed to the international nutritional improvement effort, Scaling Up Nutrition (SUN), since its launch in 2009 through contributions to the World Bank. In recent years, Japan has put efforts into implementing nutritional improvement programs in collaboration with private companies. In March 2015, the government established the study team for overseas promotion of Japanese nutrition-sensitive business under the Headquarters for Healthcare Policy. The team conducts studies to further promote private-public initiatives.

Vaccines are a means for combating infectious diseases with proven effectiveness and low cost, and it is estimated that 2 to 3 million lives could be saved each year by vaccination.²⁶ However, as many as 21 million children are unable to receive the necessary vaccines. Since its first contribution in 2011 to Gavi, the Vaccine Alliance,* which was established in 2000 to improve the immunization rate in developing countries, Japan has provided a total of approximately \$53.8 million to this Vaccine Alliance. Gavi estimates that, in 15 years since its launch in 2000, 440 million children have been immunized with Gavi-supported vaccines and 6 million deaths have been averted. It aims to immunize a further 300 million children from 2016 to 2020 to save over 5 million lives. As for bilateral assistance, Japan will contribute to increasing the vaccination rates by

providing assistance such as for vaccine production and management, as well as for cold chain maintenance and management.

Maternal and child health, which is included in the MDGs (Goal 4: reduce the under-five mortality rate; Goal 5: improve maternal health), has made significant gains, including the reduction of the under-five mortality rate and the maternal mortality rate, and increase in the percentage of births assisted by skilled midwives. Nevertheless, the relevant MDGs were regrettably not achieved, and maternal and child health remains a significant challenge also in the SDGs. The Japanese government aims to strengthen the schemes for providing comprehensive and continuous maternal and child care. In this regard, the government aims to provide assistance focused on strengthening sustainable health systems* based on the principles of ensuring the ownership of developing countries and increasing their capabilities. In pursuit of these aims, the government implements efficient assistance in such countries as Ghana, Senegal, and Bangladesh. Through such assistance, Japan contributes to making the necessary services more accessible for women during pre-pregnancy (including adolescence and family planning), pregnancy, and delivery and for infants and children. In aid recipient countries, Japan works with other development partners, such as the United Nations Population Fund (UNFPA) and the International Planned Parenthood Federation (IPPF), to promote maternal and child health that includes sexual and reproductive health services such as family planning, and thereby improving the health of more women and children.

Note 26: Source: WHO, "Health topics, immunization" <http://www.who.int/topics/immunization/en>

● The Three Major Infectious Diseases (HIV/AIDS, Tuberculosis, and Malaria)

Japan attaches great importance to supporting activities to fight the three major infectious diseases (HIV/AIDS, tuberculosis, and malaria) through the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund). The Global Fund was established as an organization to provide funding to tackle these three major infectious diseases following the discussions on measures against infectious diseases at the G8 Kyushu-Okinawa Summit in 2000 under Japan's presidency. As one of its founders, Japan has provided financial assistance to the Global Fund since its establishment in 2002, and contributed approximately \$2.35 billion to the Global Fund by the end of March 2015. It is estimated that support by the Global Fund has saved more than 17 million lives. Furthermore, in December 2015, Japan hosted the Global Fund's Fifth Replenishment Preparatory Meeting in Tokyo, and contributed to the discussions on the future direction of the Global Fund's activities, including the 2017-2019 activities and financing demands. Additionally, Japan provides supplemental bilateral aid through its own program to developing countries receiving aid from the Global Fund, in order to ensure that measures against these three major

infectious diseases are implemented effectively in those recipient countries. Japan also strives to strengthen the linkage between the support from the Global Fund and the improvement of health care systems, community empowerment, and the policies for maternal and child health in those countries.

As bilateral assistance for HIV/AIDS countermeasures, Japan is providing assistance to spread knowledge to prevent new infections, raise awareness, widely provide testing and counseling, and enhance the distribution system of drugs to treat HIV/AIDS. In particular, JOCV on Infectious Disease and HIV/AIDS Control are vigorously engaged in activities such as the spreading of knowledge and understanding of prevention, as well as the care and support of people living with HIV/AIDS, mainly in Africa.

With regard to tuberculosis, Japan's assistance has been focusing on those priority countries needing action, as well as those countries where the spread of the disease is deemed to be serious, as designated and recognized by WHO in accordance with the Global Plan to Stop TB 2006-2015. In these countries, Japan has been promoting a series of measures to fight tuberculosis, including the aspects of prevention, early detection, diagnosis and continuing treatment, as well as those measures to address co-infection of HIV/AIDS and tuberculosis. In July 2008, the Ministry of Foreign Affairs (MOFA) and the Ministry of Health, Labour and Welfare (MHLW) announced the Stop TB Japan Action Plan, which was developed jointly with JICA, the Japan Anti-Tuberculosis Association, and the Stop TB Partnership Japan. Making use of the experience and technology fostered through its domestic tuberculosis countermeasures, and with the public and private sectors working closely together, Japan has strived to contribute to the reduction of the annual number of deaths from tuberculosis in developing countries, particularly in Asia and Africa, setting the target at 10% reduction of the number worldwide (160,000 people, based on 2006 figures). Based on the Global Plan to Stop TB 2011-2015 revised in 2010, Japan revised its own Stop TB Japan Action Plan in 2011. In addition, based on the new global strategy that WHO adopted in 2014 with the target years for achievement set between 2015 and 2035 (Global strategy and targets for tuberculosis prevention, care and control after 2015), Japan re-revised the Action Plan in July 2014 and confirmed that it would continue to work on measures against tuberculosis on a global level.

With regard to malaria, a major cause of infant mortality, Japan provides assistance for initiatives for anti-malaria measures involving the strengthening of local communities and assistance in cooperation with the United Nations Children's Fund (UNICEF).



Foreign Minister Fumio Kishida delivers the opening statement at the 5th Replenishment Preparatory Meeting of the Global Fund to Fight AIDS, Tuberculosis and Malaria held in Tokyo on December 17, 2015. (Photo: Yuki Kato)

● Infectious Diseases Other than the Three Major Infectious Diseases (e.g., Polio, Neglected Tropical Diseases)

Strengthening measures against new strains of influenza, tuberculosis, malaria, and other emerging and reemerging infectious diseases,* as well as ramping up for the final stage of initiatives to eradicate polio, continue to require international efforts. Furthermore, “Neglected Tropical Diseases”* such as Chagas disease, Filariasis, and Schistosomiasis affect approximately 1 billion people

worldwide, and cause major socio-economic loss in developing countries. Since infectious diseases spread and have impact beyond national borders, the international community must work as one to combat them. Japan is engaged in the implementation of countermeasures in close cooperation with the relevant countries and international organizations.

● Polio

Polio is in the final stage of eradication. Japan works mainly in cooperation with UNICEF to eradicate polio with a focus on three polio-endemic countries (countries where wild polio has never been eradicated and is still spreading)—Nigeria, Afghanistan and Pakistan. In Pakistan, Japan has provided assistance exceeding a cumulative total of more than ¥11 billion in coordination with UNICEF since 1996. In addition, in August 2011, Japan partnered with the Bill & Melinda Gates Foundation from the private sector to provide a nearly ¥5 billion ODA Loan. Loan Conversion was adopted as a new approach for this ODA Loan. Under this approach, the Gates Foundation repays the debt owed by the Pakistani government when targets are achieved. Following the confirmation of project outcomes including the attainment of a high vaccination rate, the Gates Foundation repaid the loan on behalf of the Pakistani Government in April 2014. With the same approach, in FY2014, Japan provided an approximately ¥8.3 billion ODA Loan for the “Polio Eradication Project” in Nigeria. Furthermore, in FY2014, Japan provided

approximately ¥1.45 billion and ¥560 million respectively to Afghanistan and Pakistan where polio is endemic. It also provided approximately ¥220 million to Zambia, a non-endemic country. As an emergency measure to counter polio in Somalia, in FY2013, Japan provided ¥110 million to the country.



The signing ceremony for the agreement to support the polio eradication campaign in Nigeria between JICA and the Bill & Melinda Gates Foundation held via a video conference system connecting JICA (Tokyo) with the Gates Foundation (the US). (Photo: JICA)

● Neglected Tropical Diseases (NTDs)

In 1991, Japan took the lead by launching a full-scale effort against Chagas disease, which is also known as a “disease of poverty,” in Central American countries. Japan provided assistance to establish a system for dealing with Chagas disease vectors and contributed to reducing the risk of infection. Regarding Filariasis, Japan supplies antiparasitic agents as well as educational materials to provide knowledge and understanding to a large number of people. Meanwhile, Japan also conducts preventive education through JOCV activities in order to reduce the number of new cases and maintain the non-epidemic status.

Furthermore, in April 2013, Japan launched the Global Health Innovative Technology Fund (GHIT Fund), the first public-private partnership in Japan with the purpose to facilitate the development of new drugs for treatment of infectious diseases in developing countries including NTDs. The GHIT Fund aims to control infectious diseases in developing countries through the research and development (R&D) of low-cost and effective therapeutic medicine, vaccines, and diagnostic products, while promoting global cooperation with research and development institutions both inside and outside Japan.

● Public Health Emergencies (Ebola Virus Disease)

In the current globalized world, infectious diseases spread across national borders easily and bring serious impacts to the entire international community. The epidemic of the Ebola virus disease (EVD) in 2014 took many lives in the three countries of Guinea, Liberia, and Sierra Leone, and resulted in the spread of infection to neighboring countries and the secondary infection of medical personnel. The epidemic led to WHO to declare a Public Health Emergency of International Concern (PHEIC) and the UN Security Council to adopt a resolution (Resolution 2177), which was the third resolution in the Security Council's history concerning infectious diseases. As these responses suggest, bringing an end to the EVD outbreak was a major humanitarian, economic, and political challenge for the international community.

In April 2014, Japan became one of the first countries to provide emergency grant aid to Guinea in response to the EVD outbreak. Since then, Japan has provided seamless assistance to the affected countries and international organizations. By June 2015, Japan provided financial assistance totaling approximately \$184 million as well as dispatched experts and provided relief goods. As regards human assistance, Japan dispatched experts on 20 occasions to WHO missions as of June 2015, and dispatched medically licensed MOFA staff to the UN Mission for Ebola Emergency Response (UNMEER). In regard to material assistance, Japan provided relief goods to affected countries, including personal protective equipment (PPE). Japan has also implemented public-private efforts against the Ebola crisis, including developing medicine, rapid test kits, and thermography cameras that leverage Japanese technologies. (For more information on Japan's efforts, see "ODA Topics" on pages 116-117.)

The weak health systems in the region are considered

to be one of the factors behind the EVD epidemic.

Building a sustainable and resilient health system is crucial to control infectious diseases. Based on this view, from before the EVD outbreak, Japan has prioritized development cooperation for health, an issue that is directly linked to human security, and has continuously striven to enhance health systems in West Africa under the banner of promoting UHC. Japan provides health assistance that includes assistance for the capacity enhancement of medical personnel and the development of healthcare facilities, in line with the recovery plan that the three affected countries newly formulated. In addition, Japan swiftly implements assistance that contributes to their social and economic recovery, including assistance for infrastructure development, agricultural productivity improvement, and food security enhancement. Japan continues to undertake medium- to long-term efforts, making use of the \$500 million assistance and training assistance for 120,000 human resources in the health sector in Africa announced at TICAD V in 2013.

Based on the Basic Design for Peace and Health, Japan, as a nation that proactively contributes to the peace and prosperity of the international community, and as a nation that leads the international health discussions including at the G7/8 summit and TICAD, aims to end and prevent the recurrence of EVD outbreaks. Furthermore, the Basic Design outlines Japan's commitment to working collectively with the international community to build a global response system against public health emergencies aimed at preventing, detecting, and responding to various infectious diseases. Japan has newly established a Japan Disaster Relief Infectious Disease Response Team to swiftly provide human assistance to the affected countries, as part of the efforts to provide effective assistance.



Training for medical professionals at Khartoum International Airport, the point of entry to Sudan, provided in order to support the country's efforts to prevent and control the spread of Ebola disease. In the photo, a Japanese expert provides instructions on how to put on Personal Protective Equipment. (Photo: Kunikazu Akao / JICA Sudan)

Emerging/reemerging infectious diseases

"Emerging diseases" are infectious diseases which were not previously known and have been newly recognized in recent years, such as SARS (Severe Acute Respiratory Syndrome), avian influenza, the Ebola virus disease, and others.

"Reemerging diseases" are infectious diseases that had spread throughout the world in the past and subsequently saw a decrease in the number of cases, but have been on an increasing trend again in recent years such as cholera and tuberculosis.

Gavi, the Vaccine Alliance

Gavi, the Vaccine Alliance is a public-private partnership, which was established with the aim to save children's lives and protect people's health by increasing access to immunization in developing countries. In addition to the governments of donor countries and developing countries as well as relevant international organizations, the pharmaceutical industry, private foundations and civil society participate in this partnership.

Health system

"Health system" refers to a framework for the delivery of health services that includes government systems, healthcare facilities, medicine supply, healthcare information, financial administration, and acquisition of financial resources, as well as personnel to operate these processes and provide services.

Neglected tropical diseases

"Neglected tropical diseases (NTDs)" include Chagas disease, dengue fever, Filariasis, and other diseases that are transmitted from parasites, bacteria, etc. The number of infected individuals has reached approximately one billion worldwide, with some cases resulting in death, notwithstanding that many of these diseases could either have been prevented or eradicated. In addition, as many of the cases are found among the poorest segment of the population in the affected countries, social awareness of this issue is relatively low. Therefore, the development of diagnostic methods, treatment and new drugs, and the process of making them available to those in need is lagging. The importance of NTD countermeasures was confirmed at the G7 Summit in Schloss Elmau, Germany in 2015.

The Philippines

The Project for Cordillera-wide Strengthening of the Local Health System for Effective and Efficient Delivery of Maternal and Child Health Services Technical Cooperation Project (February 2012 – Ongoing)

The Cordillera Administrative Region is located in the northern part of Luzon Island in the Philippines. Indigenous peoples make up 70% of Cordillera's population. They live in mountainous areas, and have their own languages and cultures. The region is also geographically isolated and has a high rate of poverty. Therefore, Cordillera urgently needs to develop a healthcare system to improve local residents' access to health services.

This region also had a high maternal and child mortality rate because many women gave birth at home. Only 55% of deliveries were made in medical facilities in 2009, prior to the implementation of this project.

In order to deal with these issues, the Government of Japan launched a project to strengthen the regional health system in 2012. This project has opened new hospitals, maternity homes, and healthcare centers, in order to improve maternal and child health services. It has also provided birthing tables and other medical equipment to existing medical facilities.

In addition, Japan supported the facilities in installing equipment and employing doctors, nurses and midwives. As a result, the facilities have obtained accreditation from Philippine health insurance companies to receive reimbursement for providing medical services.

Cordillera also aims to provide insurance coverage for all expectant mothers, and is helping these women enroll in national health insurance. As a result, expectant mothers no longer need to worry about birth-related medical expenses, and can give birth safely, and receive pre-natal and post-partum exams in medical facilities. Furthermore, women from the community health team work as volunteers to raise awareness among expectant and nursing mothers.

More people in Cordillera use medical facilities now, thanks to their convenience and reliability. As a result, the rate of births that take place in medical facilities has risen to 95%. In addition, nearly all mothers have enrolled in national health insurance. They have also received a notebook for recording maternal and child health. This has encouraged them to manage their own health and the health of their babies with greater interest.

Japan is promoting universal health coverage (UHC) throughout the international community. UHC ensures access to basic health services for all, when they are needed and at an affordable cost. UHC is a crucial concept also in the field of maternal and child health. UHC is spreading across the Cordillera Administrative Region in the Philippines. (As of August 2015)



Publicity materials to raise awareness regarding hospital delivery and prenatal and postnatal medical checkups. (Photo: JICA)



Consultations with the Department of Health Center for Health Development – CAR, which is JICA's main counterpart in the project. (Photo: JICA)

(3) Mainstreaming of Disaster Risk Reduction; Disaster Risk Reduction and Post-Disaster Recovery Measures

Disasters involving earthquakes, tsunamis, typhoons, floods, debris flows, and other natural events that occur frequently around the world do not merely take human lives and property. In developing countries that are vulnerable to disasters, the poor suffer from significant damage and become displaced in many cases. In addition, secondary damage such as the deterioration of sanitary conditions and food shortages may become protracted, making the problem more severe. In this

respect, disasters have a significant impact on the overall social and economic mechanisms of 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 superior knowledge and technology acquired through 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, 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 through ODA, which represents Japan's basic policy on disaster risk reduction cooperation. 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, the following aspects were affirmed and the necessity of “Disaster Reduction in the 21st Century” as a comprehensive way to promote these aspects was proposed to the world: the necessity of mainstreaming disaster risk reduction and building resilient societies; the importance of human security; the need to maximize combining both structural and nonstructural disaster risk reduction capabilities; the necessity of collaboration beyond the roles of various stakeholders; the importance of responding to newly emerging disaster risks such as climate change and urbanization. Participants in the conference also confirmed the positioning of disaster risk reduction in the 2030 Agenda for Sustainable Development, 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.” Japan also pledged to provide \$3 billion in three years from 2013 to 2015 to support initiatives in the disaster risk reduction field.

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 knowledge 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 representing 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. (See pages 120-121 “ODA Topics” for more information.)

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 knowledge 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 about 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 Shinzo Abe announced the Sendai Cooperation Initiative for Disaster Risk Reduction as Japan's new contribution plan that will 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 officials to play a leading role 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 knowledge and technology in the field of disaster risk reduction.

At the UN summit that adopted the 2030 Agenda for

Sustainable Development 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 General Assembly of the UN held on December 22, 2015 (local time) to establish November 5 as World Tsunami Awareness Day.

Peru

Project for Enhancement of Earthquake and Tsunami Disaster Mitigation Technology Technical Cooperation Project – Science and Technology (March 2010 – March 2015)

Peru is located in the seismically-active Pacific Rim, and susceptible to earthquakes and tsunami, like Japan. Natural disasters have seriously hindered Peru's social and economic development. For example, a magnitude 8.4 earthquake struck Peru's southern coast on June 23, 2001. It resulted in over 100 victims and more than 40,000 buildings destroyed.

A magnitude 8.0 earthquake also occurred off the coast of Pisco in the Ica Region in Central Peru on August 15, 2007, causing more than 500 victims and destroying over 80,000 buildings. Many poor people in the region live in houses made of adobe, and they suffered the most because their houses could not withstand such a major earthquake.

Both of these were trench-type earthquakes, which occur regularly. This means that similar earthquakes and tsunami will occur in the future. Therefore, damage mitigation is very important. To that end, Peru needs to be able to scientifically predict the risk of an earthquake or tsunami occurring and the potential damage, and then implement specific measures based on the findings. This would also help Peru mitigate the damages.

The Government of Japan helped establish the Japan-Peru Center for Earthquake Engineering and Disaster Mitigation (CISMID) as part of the Japan-Peru Center for Earthquake Engineering and Disaster Mitigation Project implemented from 1986 to 1991. CISMID has worked with JICA, and Japanese universities and research institutions, for nearly three decades since.

Japan and Peru launched the Project for Enhancement of Earthquake and Tsunami Disaster Mitigation Technology in 2010. This project promoted the research and development of technologies for accurately predicting and mitigating the risk of damages caused by future earthquakes and tsunami, and also was conducted by CISMID on the Peruvian side and Chiba University on the Japanese side. Through this project, they established scenarios of future earthquakes that could result in catastrophic damages, and conducted simulations and damage predictions based on these scenarios. They also analyzed these scenarios using the latest methods and data on anti-seismic technologies. These results were then used to raise awareness about disaster preparedness.

The Peruvian researchers are now working with the government to utilize the new knowledge and technologies from this project, to create hazard maps and revise building standards. They are also working on capacity building initiatives with related institutions. In future, this project is thus expected to contribute to human resource development in the disaster mitigation field in Central and South America. (As of August 2015)



Disaster risk reduction educational materials for children. (Photo: JICA)

Mauritius

The Project for Landslide Management Technical Cooperation for Development Planning (April 2012 – April 2015)

Mauritius is a small volcanic island that is about the size of Tokyo Prefecture. There are many steep slopes on the island that pose a very high risk of landslides. An increasing number of people and houses have shifted onto these slopes, as Mauritius' population and urban centers have continued to grow. The communities on these slopes are especially at risk, and serious damages are caused every time a landslide occurs.

Large-scale landslides occurred in the western part of Port Louis, the capital of Mauritius, causing massive damage from 1986 to 1987. In response, the Government of Japan began providing assistance for various landslide countermeasures in 1989, which has helped to prevent landslides in this district. However, large-scale landslides once again occurred in the northern part of Port Louis in March 2005.

The Government of Mauritius set up the National Disaster Risk Reduction and Management Council in order to improve its preparations for landslide disasters, and established the Landslide Management Unit (LMU) and Repair and Rehabilitation Unit (RRU) within the Ministry of Public Infrastructure and Land Transport (MPI) in 2009. Despite these efforts, Mauritius was only able to implement limited countermeasures given its limited human resources.

Furthermore, Mauritius had very few experts on geological engineering. Therefore it did not have the necessary expertise to identify or monitor the risk of landslides, nor improve land usage in high risk areas. Given this background, Mauritius asked Japan to assist in creating fundamental landslide countermeasures for disaster mitigation. Japan conducted a survey on the state of landslide-prone areas and on damages to houses in Port Louis.

Japan also provided instructions on how and where to install the extensometers and pipe strain gauges donated by the project. A technical transfer seminar was subsequently held in Mauritius. It was attended not only by members of the MPI, but also members of landslide-related institutions and universities. The seminar featured very active discussions. In addition, this project donated and installed various landslide observation equipment, such as inclinometers and ground extensometers. This made it possible to gather specialized data. Five MPI officials were invited to attend training in Japan in 2012, which included a visit to the monitoring office of the Kanto Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism.

This cooperation is expected to improve the landslide management capabilities of RRU and LMU, and assist the formulation of a landslide management plan.



Participants in the project on a training program in Japan visit the Control and Monitoring Center in the Kanto Regional Development Bureau, the Ministry of Land, Infrastructure, Transport and Tourism. (Photo: Kokusai Kogyo Co., Ltd.)

(4) Food Security and Nutrition

According to “The State of Food Insecurity in the World 2015 (SOFI2015),” a report which has been 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 2014-2016 estimates indicate that about 800 million people remain undernourished.

This report expresses the view that the goal to halve the proportion of undernourished people by 2015, which is one of the MDGs, has been reached from a developmental

perspective. However, statistically speaking the goal remains unmet. In addition, there is a need for international coordination and multifaceted measures to establish food security (a state where all people, at all times, have access to sufficient, safe and nutritious food), such as establishing a social safety net (a mechanism in which people can live safely and with peace of mind), improving nutrition, providing necessary food assistance, and implementing measures against infectious diseases of livestock.

Furthermore, initiatives to improve nutrition during the first 1,000 days from a mother's pregnancy to her child's second birthday, which is particularly effective in addressing the issue of malnutrition, are being promoted.

<Japan's Efforts>

In light of these circumstances, Japan provides food assistance based on requests from developing countries confronting food shortages. In FY2014, Japan contributed a total of ¥5.57 billion through bilateral food assistance projects in 14 countries.

Japan also provides assistance in this field through international organizations, mainly through WFP. These include emergency food assistance, support for school feeding programs to increase access to education, and food assistance that promotes participation in the development of agricultural land and of social infrastructure and supports the self-reliance of local communities. In 2014, Japan contributed a total of \$156.55 million to WFP projects being implemented around the world.

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, as well as promoting 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 the Scaling Up Nutrition (SUN) Movement, which internationally leads initiatives to improve the condition of malnutrition, and has pledged to strengthen its assistance.



Pupils receive lunch at the Bulungu Primary and Secondary School in Zambia. (Photo: Atsushi Shibuya / JICA)

Madagascar is roughly 1.6 times the size of Japan, and is the fourth largest island in the world. Rice is the staple food in Madagascar and the country consumes 120 kilograms per capita annually, twice that of Japan. Some 1.4 million hectares of land are used for rice cultivation and the country produces around 3 million tons of rice each year. However, annual yields differ widely depending on cyclones and other weather-related factors. This means that about 10% of the rice consumed in Madagascar is imported.

Madagascar formulated the Madagascar Action Plan (MAP: 2007 to 2012), which is the country's national development plan. The plan includes the target of doubling 2005 rice production (3.42 million tons) by 2012, which is one of Madagascar's most important reform initiatives.

The Government of Japan started supporting the development and dissemination of primary rice cultivation methods for the country's central highland, and improvement of coordination among the country's rice cultivation institutions.

However, Japan and Madagascar faced a critical challenge. To double rice production, they would have to boost production in the highly populated central highland, which is home to Antananarivo, Madagascar's capital, and Antsirabe, Madagascar's third largest city.

This project targets five provinces in the central highland. These provinces are located at elevations between around 600 meters and 1500 meters, and have diverse natural environments and ecosystems. The primary forms of rice cultivation there are irrigated cultivation, rain-fed rice cultivation in paddy fields in the bottom of valleys, and cultivation at cooler high altitudes.

Many different steps are needed to improve rice productivity. First, recommended rice varieties should be chosen based on the cultivation method, and an evaluation of the market and farmers should be conducted. The seeds should then be disseminated, and suitable cultivation techniques should also be established and spread.

This project created three basic technical packages. Each is ideally suited to the typical cultivation conditions of a particular province. Specifically, these are irrigation cultivation in Alaotra-Mangoro Province, rain-fed cultivation in Bongolava Province, and cultivation at cool highland regions in Vakinankaratra Province. The project then worked on technical development and dissemination locally.

Activities were held to educate local farmers, mainly at model sites set up in each province. Afterwards, full-fledged technology dissemination began at non-model sites from 2013 and 2014. In addition, the project selected rice varieties, propagated seeds, and created a distribution system.

The lack of agricultural technology instructors was a major problem in Madagascar. Only 104 of the 119 instructors (87.5%) in these primary provinces had technical teaching experience using the technology package in June 2013. However, this increased to 217 of 228 (95.2%) at the time of a survey in February 2015.

The project aimed to increase the average yield of rice farmers at model sites by 1 ton per hectare. The actual increase per hectare during the 2011/12 growing season was 0.67 tons. This increase then rose to 1.5 tons in the 2013/2014 season, indicating a major improvement in yield per unit area. This increase shows that the target indicator was fulfilled.



A farmer participating in the experiment collects harvest at experimental cultivated fields under the project in the Bongolava Region. The happy faces of the farmers are a source of inspiration and courage for the Japanese who provide cooperation. (Photo: JICA)

Japan's diplomatic efforts for Food Security

<p>Enhance global food production</p>	<ul style="list-style-type: none"> ● Promote investment For promotion of responsible agricultural investment, advancement of the "Principles for Responsible Investment in Agriculture and Food Systems" established by the Committee on World Food Security (CFS); support for studies by the Food and Agriculture Organization of the United Nations (FAO), the World Bank and others; bilateral dialogues and public-private missions for developing food value chains through PPP, etc. ● Promoting agricultural/rural development, R&D and technology dissemination Coalition for African Rice Development (CARD), etc. ● Response to climate change Construction of a system for prevention and early warning of droughts and other natural disasters
<p>From a stable market and trade system of agricultural products</p>	<ul style="list-style-type: none"> ● Efforts to maintain and strengthen the free trade system; surveillance of market functions Ban on export restriction under WTO in principle, strengthened rules on export restriction in EPAs, monitoring of price trends (Agricultural Market Information System [AMIS], etc.), measures against price fluctuations, etc.
<p>Support and safety net for the vulnerable</p>	<ul style="list-style-type: none"> ● Food aid Provision of grains, etc. ● Nutritional support Nutrition guidance, provision of supplements ● Support for building of social safety net Provision of means of livelihood to the poorest
<p>Constructing a structure for emergencies and food crises</p>	<ul style="list-style-type: none"> ● International framework for cooperation ASEAN + 3 Emergency Rice Reserve (APTERR) G20 Rapid Response Forum (RRF)

(*There are Emergency Food Security Guidelines for domestic system development)

(5) Securing Access to Resources and Energy

The number of people who have no 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 two-thirds of the population (approximately 620 million people) in Sub-Saharan Africa. Meanwhile, in Sub-Saharan Africa, nearly four-fifths of the population (approximately 730 million people) rely on fuelwood (e.g., charcoal, firewood) for cooking, which causes indoor air pollution and is a leading cause of

death among young people.²⁷ 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 Asian countries as well as other emerging and developing countries. Thus, a consistent 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 environmentally-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 Elmau Summit held in Germany in June 2015, the Initiative for Renewable Energy in Africa, aimed at improving energy access in Africa, was announced as part of the annex to the Leaders' Declaration.

Meanwhile, Japan provides resource-rich countries with support according to their needs, such as establishing infrastructure in the mine area, 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 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, at the G7 Brussels Summit held in June 2014, a new initiative on Strengthening Assistance for Complex Contract Negotiations (CONNEX) was launched, aiming at improving

the capacity of developing countries to negotiate contracts on natural resources.

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 received money. Thus, the flow of money increases the transparency. Participants in EITI include 48 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.



State Minister for Foreign Affairs Yoichi Muto meets with International Energy Agency (IEA) Executive Director Fatih Birol in November 2015.

Note 27: Sources: IEA, "World Energy Outlook 2014" (estimates as of 2012) IEA, "Africa Energy Outlook 2014"

Kenya

The Project for the Installation of Solar Electric Facilities for Improvement of Life Standard in Nkama Area

Grant Assistance for Grassroots Human Security Projects - Public-Private Partnership
(March 2014 – November 2014)

Kenya has enhanced its power distribution network in recent years. By expanding this network, Kenya is now able to also power households that were once off the grid. However, many households still have not joined the grid, even in areas where new distribution lines have been laid. This is because joining the grid is very expensive, while the electricity supply is unstable. These households use kerosene lamps for lighting. However, these lamps have caused serious eye and respiratory issues in children who study at home at night.

As part of its ODA, the Government of Japan also conducts public-private partnership projects. Japan receives proposals from Japanese NGOs or private sector companies, and together they provide support to developing countries.

The Project for the Installation of Solar Electric Facilities for Improvement of Life Standard in Nkama Area was one such public-private partnership project in Kenya. The project was proposed by Kyocera Corporation, a Japanese company, as part of its Corporate Social Responsibility (CSR) activities and Base of Pyramid (BOP) business.

Kyocera and the Government of Japan are working together to introduce solar power systems in Nkama Area, to improve standards of education and living among local residents.

Kenya is an ideal place to generate solar power because it is located along the equator and receives intense sunlight. A solar power system was installed at the local elementary school in Nkama Area and will be able to operate for more than 20 years. This will provide the school with a stable source of energy for many years to come. In addition, small solar lamps for night-time use have been distributed to children who study at home. These lamps can also be used to recharge mobile phones, which has helped to improve the lives of local residents.

This public-private partnership for solar power in Nkama Area has produced results. It is hoped that the initiative can be expanded throughout Kenya and other neighboring African countries, and produce similar results. This will help to significantly improve peoples' living conditions and children's learning environments. (As of August 2015)



Ambassador of Japan to Kenya Tatsushi Terada is welcomed by pupils of South Mount Nkama Academy. (Photo: Embassy of Japan in Kenya)

Moldova

The Project for Effective Use of Biomass Fuel

Grant Aid for Environment and Climate Change (June 2013 – Ongoing)

Moldova lacks mineral resources and imports almost all of its energy resources, including natural gas and coal, from Russia, Ukraine and other neighboring countries. Moldova was able to import fuel from the former Soviet Union at a low price when it was a part of it. However, Moldova has had to purchase fuel at international market prices since its independence. This has placed pressure on Moldova's national finances. Moldova's local governments also face financial difficulties and have been unable to purchase sufficient quantities of fuel to keep warm during the harsh winter. As a result, community schools and other public facilities in these regions cannot receive sufficient heating, and sometimes schools are closed temporarily during the winter. Thus, Moldova needs to take measures to secure a stable supply of heat.

At the request of the Government of Moldova, the Government of Japan concluded an agreement in 2013 to implement the Project for Effective Use of Biomass Fuel. This is funded by Grant Aid for Environment and Climate Change up to a maximum of ¥1.154 billion.

This project seeks to introduce a system for manufacturing fuel pellets from straw, wheat stalks and fruit tree branches in Moldova. These pellets are used in highly efficient biomass boilers that are installed in schools and other public facilities.

This project is being implemented as part of Japan's assistance to developing countries for climate change measures since 2013. It also aims to support the international contribution of Japanese SMEs and other companies that possess excellent technologies. This is done by promoting the utilization of Japanese technologies and products, such as pellet manufacturing machines and boilers.

Japan's assistance will help Moldova introduce new heating systems at public facilities and reduce the cost of fuel they consume. As a result, Moldova is also expected to lower its carbon dioxide emissions. Furthermore, Moldova will also be able to improve its energy security, once these fuel pellets become a widely-used alternative fuel source.

Japan will continue to work closely with Moldova to establish fair and effective international mechanism, which includes all countries, in the field of climate change. (As of August 2015)



Pellet manufacturing equipment. Material drying equipment. (Photo: JICA)