Japan's Adaptation Initiatives
—Concrete Examples—

November 2014

The Government of JAPAN

Content

1. Japan's assistance in the formulation of adaptation plans

- Japan assists developing countries in their plans to design and formulate adaptation plans in response to potential risks from climate change, including rising sea levels, coastal damage from high tides, and damage to urban areas from flooding.
- Japan assists developing countries to mainstream adaptation by supporting formulating adaptation plans.

Cases of Japan's support in the formulation of adaptation plans

Case Ⅰ : Project of Capacity Development for Climate Change Strategies (Indonesia)

・Japan supports Indonesia in its process of incorporating adaptation measures when it formulates the National Action Plan on Climate Change Adaptation (RAN-API) and the National Medium-Term Development Plan (PRJMN:2015-2019), utilizing knowledge of a wide range of local people concerned.

・Japan supports Indonesia in its formulation of RAN-API by providing technological assistance for evaluating the potential effects of climate change in land use plans, by helping it formulate an adaptation plan in the field of rice farming in North Sumatra Province and by strengthening the country's capability to forecast long-term weather and project climate change. (Implementation period: October 2010-October 2015)

Case Ⅱ : Support in the formulation of adaptation policies that are conducive to ensuring stable food production(Southeast Asia)

<Hardware measures> Adaptation of irrigation and drainage facilities

・To contribute to the formulation of adaptation policies through the compilation of manuals that show adaptation measures after research and analysis of damage caused by abnormal weather to irrigation facilities in Asia, as well as problems
(Implementation period: July 2012-March 2015)

<Software measures> Establishment of anti-disaster systems in farming villages

・To contribute to formulation of adaptation policies through the compilation of manuals that show methods used to devise disaster prevention plans adapted to climate change (such as hazard maps) in farming villages in developing countries, based on field research and workshops
(Implementation period: July 2013-March 2018)

Case Ⅲ : Support of developing countries in the formulation of adaptation plans (future efforts)

Assist the mainstreaming of adaptation through formulation of national and local plans in developing countries vulnerable to climate change, based on Japan's experience in formulating its National Adaptation Plan to be published in the summer of 2015.

Formulation of an adaptation plan of Japan

- Around February 2015: Summarize climate change impacts, risk assessment and future issues . (planned)
- Around summer of 2015 : Formulation of National Adaptation Plan as a government-wide integrated effort based on the impact assessment and discussion among relevant ministries. (planned)

Supports provided to developing countries

・Customizing detailed climate data of host countries and regions, climate change impact assessment, risk analysis etc.
・Support of cross –sectorial adaptation policy implementation to be mainstreamed in development plans of national and local governments of developing countries

2. Japan's assistance in the implementation of adaptation measures

- Japan assists developing countries to help them implement adaptation measures in various fields in response to expected abnormal weather conditions and moderately advancing climate phenomena, whose risks are expected to increase due to the effects of climate change.
  - ✓Fields of water resources and disaster prevention
  - ✓Fields of natural environment and ecology

Cases of Japan's support in the implementation of adaptation measures

Case Ⅰ : The project for rural water supply, sanitation and livelihood improvement through dissemination of rope pumps for drinking water (Ethiopia)

In Ethiopia, rope pumps for drinking water, affordable and manageable by local people, have been introduced.
Japan's support in this field is aimed at standardizing the specifications of the pumps, and promoting their diffusion and distribution. By extending such support, Japan will help spread rope pumps for drinking water and improve water supply conditions in Ethiopia.
(Implementation period: February 2013-December 2016)

Case Ⅱ : The project for capacity enhancement of groundwater and seawater intrusion management (Cuba)

The amount of water supplied from underground areas that serve as major water supply sources for Habana City has roughly halved in the past 10 years.
In addition, seawater intrusion into groundwater has been advancing due to the rising sea levels.
Japan's support in this field features evaluation of the potential effects of seawater intrusion into groundwater, the simulation of saline intrusion using a groundwater model, projection of such phenomena in the future, a compilation of measures against it, and the development of human resources.
(Implementation period: February 2013-January 2017)

Case Ⅲ : Project on development of drought tolerant trees for adaptation to climate change in drylands (Kenya)

In Kenya, tree-planting techniques are being disseminated among farmers by enhancement in forestry implementation system. However, trees cannot grow well in spite of forestation in harsh environment such as dried area, partly because of climate change.
(Implementation period: July 2012-June 2017)

Japan helps Kenya select drought tolerant trees that are superior in growth from native trees of Melia volkensii and Acacia tortilis, and develop a seed orchard to enhance the Kenya's capacity to supply trees adaptive to climate change. This project is designed to build a system to diffuse superior seedlings that are used by farmers for forestation.

Selection of superior trees

Seedlings for grafting

Planting

3. Japan's assistance towards overcoming vulnerabilities particular to SIDS

➢ Japan shares its experience and know-how with SIDS, and provide comprehensive support to these countries through the provision of necessary equipment.

the Member States of Caribbean Community (CARICOM)

Case Ⅰ：The Project for Japan-Caribbean Climate Change Partnership

Japan will assist eight Caribbean countries in developing and implementing climate change policies, to promote the transfer of adaptation and mitigation technologies through various pilot projects ,and to build a regional platform for information sharing. Japan expects that this project(to be implemented by UNDP) will enable the entire Caribbean region to enhance its adaptive capacity to climate change and natural disasters.(Implementation period: September 2014-August 2017)

【Main activities of the Project】

- To assist Caribbean countries in developing and implementing climate change policies such as National Appropriate Mitigation Actions (NAMAs) and National Adaptation Plan (NAPs)
- To promote technology transfers related to adaptation and mitigation technologies through various pilot projects based on the formulated NAMA and NAPs
- To build a regional platform aimed at promoting south-south cooperation and south-north cooperation through the sharing of Japan's experience and expertise with Caribbean countries in the field of climate change

Case Ⅱ： Technical cooperation for enhancement of disaster risk reduction capacity of Caribbean countries

・Dispatch of an expert in the field of disaster management in the Caribbean Region

An expert will be dispatched to Jamaica and Saint Lucia in order to support different activities related to disaster management in Caribbean countries (ex. installation of a flood early warning system and hazard maps, community-based disaster risk reduction activities , disaster management workshops and regional seminars, etc.) (Implementation period: 2015-2016 (planned))

・Implementation of Technical Training in the field of disaster risk reduction

Technical training in Japan for participants from Caribbean countries in the field of disaster risk reduction (ex. community-based disaster risk management program, comprehensive disaster risk management program, etc.) with the aim of enhancing the disaster risk management capacity of the Caribbean region

Pacific Region

Case Ⅰ：Water Resources and Water Supply Services for Pacific Island Countries

The amount of fresh water available for drinking is limited in the Pacific region, which requires the adequate management of water resources.
This training program is designed for participants to acquire practical knowledge and expertise regarding the preservation and management of water resources from Okinawa Prefecture and Miyakojima City.
(Implementation period: 2013-2015)

Participants in the 2013 training program

Case Ⅱ：Project for Reinforcing Meteorological Training Function of Fiji Meteorological Service (Fiji)

Windstorms and floods caused by cyclones frequently occur in the Pacific region, with the extent of damage from natural phenomena increasing year by year. Countries in the region need to strengthen their weather forecasting services to prevent damage from windstorms and floods. However, it is hard for the Pacific countries, many of them being small, to develop human resources in the meteorological field. Under these circumstances, such countries need to devise a regional framework to address the issue. This project is intended to enhance the Fiji Meteorological Service's weather observation and forecasting abilities, and its function to develop human resources in the Pacific countries. By doing so, the project is anticipated to help the Fiji Meteorological Service to build a system in the future to foster human resources in the Pacific region.
(Implementation period: December 2014-December 2018 (planned))

4. Japan's assistance in disaster risk reduction

- Development of disaster risk reduction capacity in both structural and non-structural measures; support for prompt reconstruction of disaster affected areas
  - ✓ Disaster risk reduction measures ✓ Provision of stand-by yen loans for rebuilding of disaster affected areas
- Japan will host the Third UN World Conference on Disaster Risk Reduction (to be held in Sendai in March 2015), contributing to the formulation of a successor of the Hyogo Framework for Action.

Cases of disaster-prevention support

Case Ⅰ：Stand-by Emergency Credit for Urgent Recovery (SECURE) (The Philippines and Peru)

In order to realize swift lending to directly respond to financial needs at the disaster recovery stage, Japan concluded program type ODA loans (SECURE) with the Philippines and Peru, in which credit lines of the ODA loans are set up in advance to the occurring of natural disasters.

In the process of formulating these loans, Japan held policy dialogues with the possible recipient countries to set out policy actions necessary for the reinforcement of disaster prevention measures. At the same time, Japan extends technical cooperation to recipient countries for the implementation of the policy actions.

SECURE has been utilized in the Philippines for its recovery from the disasters caused by Typhoon Yolanda in November 2013.

Case Ⅱ：The Project on Rehabilitation and Recovery from Typhoon Yolanda (The Philippines)

Typhoon Yolanda hit the Philippines in November 2013, dealing an unprecedented devastating blow to the country. This support program is intended for the swift rebuilding of the affected areas based on Japan's experience and the lesson it has learned from its past disasters. It also features comprehensive and seamless support for the affected areas in the process of building a community with strong resilience against disasters. (Implementation period: January 2014 – March 2016)

An elementary school on Samar Island, whose building was totally destroyed by windstorms

A JICA building at the school site was not greatly affected.

Case Ⅲ：Project for Building Disaster Resilient Societies in Vietnam (Phase 2) (Vietnam)

Central Vietnam is frequently hit by floods.
This project is designed to formulate and implement integrated flood control plans, and strengthen disaster alert and forecast systems, as well as disaster evacuation systems, targeting central Vietnam provinces regarded as particularly vulnerable to disasters.
(Implementation period: August 2013-August 2016)

5. Utilization of Japanese technologies in the field of adaptation

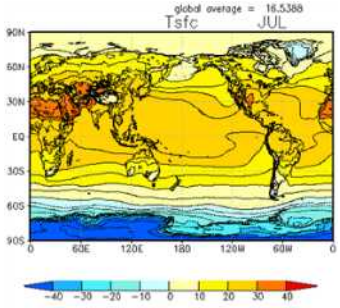
Cases of Japanese technologies utilized in the field of adaptation

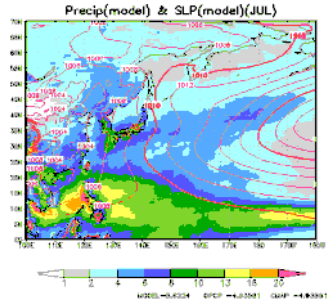
Case Ⅰ : Provision of data projecting climate change

Projections of present and future climate under the RCP scenarios used in the IPCC 5th assessment report are calculated by using a global climate model. Projected data are stored in the Data Integration and Analysis System (DIAS). Provision of data and instruction on use of data can be provided to developing countries.

【Outline of model】
Global climate model : MRI-AGCM60 (60 km mesh)
Projected calculation period: present climate September 1984 - August 2004
future climate September 2080 - August 2100

【Data calculated by a global climate model】
(Left: monthly average temperature in July under the present climate
Right: monthly average precipitation in July under the present climate





Case Ⅱ : Utilization of Earth observation technologies

Group on Earth Observations (GEO) (2005-2025)

Management of water resources in Asia and Africa

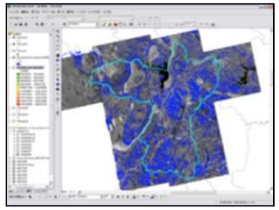
「Asian Water Cycle Initiative」
「African Water Cycle Coordination Initiative」

Earth observation data is utilized to provide solutions to floods and other water-related disasters traced to climate change. Under these initiatives, Japan has been supporting the management of water resources in Africa and other Asian countries by grasping water cycles in localized areas , for example, in Pakistan, Cambodia and Tunisia and analyzing the damage from floods there. Japan will also continue to help develop human resources in these countries in the field of water resources management.

Estimation of agricultural harvest

「Global Agricultural Monitoring Initiative/ Asia-Rice Crop Estimation and Monitoring」

Under this initiative, Earth observation data is utilized to provide information on harvests of major grains and other agricultural statistics. Japan will continue to provide information on rice planting maps in Asia and rice harvests in that region.



Estimation of planting area using satellite data

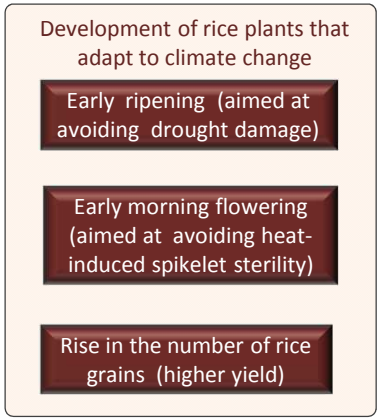
Sentinel Asia (2005-)

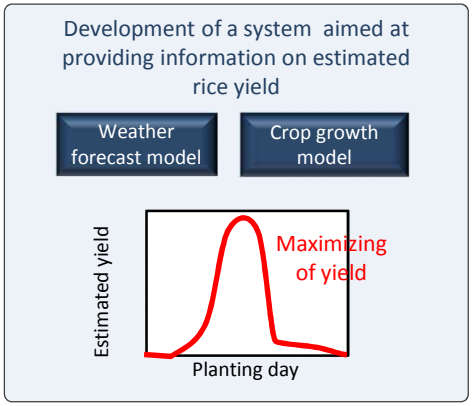
Disaster management in the Asia-Pacific region

Sentinel Asia is an international project in which Japan plays a leading role to promote disaster management in the Asia-Pacific region using satellite-based Earth observation data and sharing Net information on natural disasters.
Covered under Sentinel Asia are not only emergency response actions in the event of disasters but also pre-disaster preparations for disaster prevention and reduction, and the rehabilitation of disaster-hit areas. In addition, Sentinel Asia will sponsor educational seminars to develop human resources in the field of disaster management.

Case Ⅲ : Development of a paddy-rice cultivation system that adapts to climate change

Through financial contribution to the International Rice Research Institute (IRRI), Japan helps to develop rice plants that adapt to climate change in rain-fed rice areas of Indonesia and Laos .
Japan helps building a system aimed at avoiding drought damage in these countries through the provision of forecast data relating to rainy seasons and precipitation, obtained via a seasonal weather forecast model developed by a Japanese research institute, and through the provision of information on estimated yields of different rice plants and rice plants that are seeded or transplanted at different times. The system will be released early next year.
(Implementation period : August 2010 - September 2015)





Case Ⅳ : Disaster Management Collaboration Dialogue (DMCD)

This dialogue is intended to promote collaboration, from peacetime as well as during disaster events, between Japan and newly emerging countries suffering from disasters. It aims at identifying and sharing issues on disaster management and seek solutions. Government, business and academic sectors from both Japan and the counterpart countries participate in the dialogue.
Japan had signed documents such as memorandum with six countries as of November 2014.

<Example of the themes of the dialogues>

✓How to collect and share information just after the disaster occurs

✓How to manage and operate large dams appropriately in the flood situation.

Signing of a memorandum on DMCD

Holding of a workshop

<Expected outcomes of the dialogues>

- Maintenance of human connections and technological knowledge and wisdom sharing through continuous dialogues
- Adequate provision of technologies and solutions from both public and private sectors in response to each other's needs and challenges, through collaboration among the government, business and academic sectors
- Timely and adequate response to each other's needs in the event of disasters, which is made possible through the establishment of a collaborative relationship in peace time

6. Human resources development

Human resources development of 5,000 people in the field of adaptation in the next 3 years to share Japan's experience, knowledge and wisdom with recipient countries through international networks.

Cases of programs for human resources development

Case Ⅰ : Training for strengthening capacities of climate change adaptation

Central government officials tasked with formulating national, regional or sector-level policies on adaptation to climate change, and officials in charge of compiling adaptation plans will be invited to Japan to receive training aimed at enhancing their capabilities.
The training is designed to provide participants with opportunities to share Japan's experience on climate change and take a first-hand look at relevant Japanese technologies, with the aim of developing human resources who are to become key persons in each country when it promotes adaptation measures in the future in response to climate change. Fields covered under this training program include introduction to adaptation measures, international frameworks, the wisdom and knowledge deemed necessary for national-level policy formulation, climate change projection, the evaluation of expected effects from climate change, the evaluation of vulnerability, and efforts under way at municipalities.
(Implementation period: 2014-2016)

Case Ⅱ : Analysis and Mapping of Impacts under Climate Change for Adaptation and Food Security through South-South Cooperation (AMICAF-SSC)

Target countries: One Asian and one Latin American Country
This Japan-FAO project will assist target countries in;

1) Assessing the impacts and mapping vulnerability to food insecurity under climate change; and
2) Strengthening household food security with livelihoods' adaptation approaches, such as through holding workshops for policy and planning support for climate change adaptation.

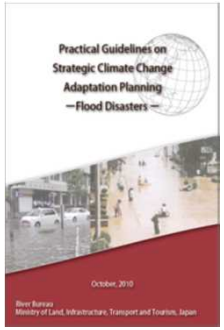
National capacities will be developed throughout the project to continuously improve and utilize this AMICAF approach.
(Implementation period: 2015-2017)

Case Ⅲ : Practical Guidelines on Strategic Climate Change Adaptation Planning – Flood Disasters -

Practical guidelines have been compiled to work out adaptation measures against floods, whose damage to the international community has been increasing due to climate change, based on the experience and strategies Japan has accumulated over many years. Japan's activities in this field focus on bilateral cooperation, aimed at enabling developing countries to implement effective climate change adaptation measures.

Countries covered under the guidelines:

1) Countries and regions where socio-economic development, population growth and urbanization are expected
2) Countries and regions where alluvial plains are production bases and centers of people's livelihoods
3) Countries and regions where flood-control measures have yet to be established



Use of guidelines in various development processes

- Use in places where knowledge of climate change and adaptation is concentrated
- Use under bilateral cooperation activities involving JICA, etc.

Contribution to implementation of effective adaptation measures in the Asia-Pacific region

http://www.mlit.go.jp/river/basic_info/english/pdf/guidelines_eng.pdf

Case Ⅳ ： Support using international networks

Japan contributes to the human resources development of adaptation by utilizing international networks it supports, by sharing knowledge and by providing financial support to these countries.

「Global Adaptation Network (GAN)」

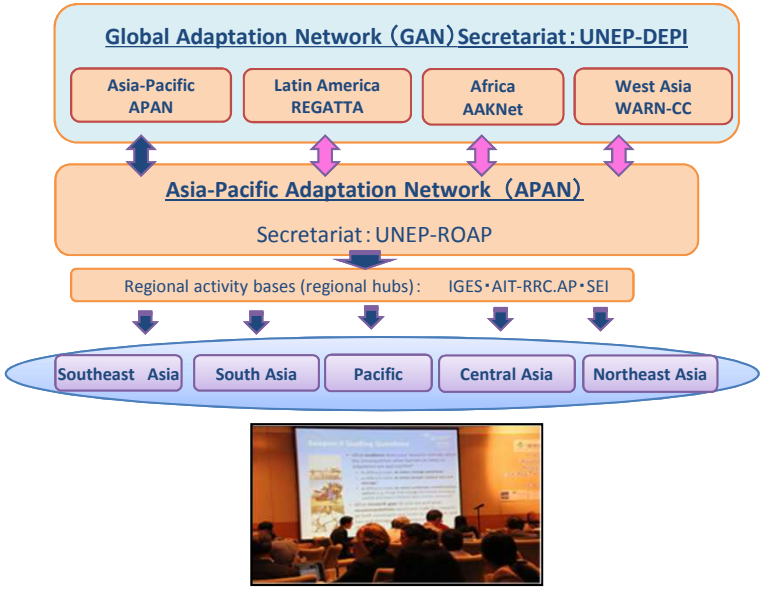
The GAN is a global network proposed by UNEP. Japan supports inter-regional knowledge sharing activities in order to build climate resilience of vulnerable communities, ecosystems and economies through the mobilization of knowledge for adaptation.

「Asia-Pacific Adaptation Network (APAN)」

The APAN is a network under GAN in the Asia-Pacific region, to which Japan has provided support since its inception.
APAN has been instrumental in strengthening the adaptive capability of countries in the region by identifying adaptation needs through forums and sub-regional meetings, and by providing capacity building workshops.

「Asia-Pacific Network for Global Change Research (APN)」

The APN is an inter-governmental network consisting of 22 Asia-Pacific countries.
The APN is meant to provide competitive funds for regional joint researches and capacity building projects to enhance scientific capacity with priority given to climate change adaptation.



Case Ⅴ ： Development of human resources capable of formulating adaptation measures through climate change studies, and support for adaptation measures

Under the Program for Risk Information on Climate Change (FY2012-2016), Japan is helping universities and meteorological agencies in the Philippines, Vietnam, India, Indonesia, and other countries to build systems for calculating data of climate change projection that is useful for formulating regional adaptation measures.
Human resources will be also developed to foster people who can build such a systems.

The Data Integration and Analysis System Program (DIAS-P) (FY2011-2015) will be upgraded, expanded and diffused. Under the program, human resources will be developed to foster people who are capable of formulating adaptation measures based on climate change projection data obtained around rivers in the countries such as Philippines, Vietnam and Tunisia.

Under the Science and Technology Research Partnership for Sustainable Development (SATREPS*) (FY2010-2014), Japan and Bolivia are studying on the impact of glacier retreat on water resource availability in Bolivia on its project. Japan is also assisting Cambodia and other countries in the development of climate change adaptation technologies under the Green Network of Excellence (GRENE) (FY2011-2015), a program aimed at proposing adaptation measures for water resources. Japan and these countries are working so that the results of their collaborative work will be reflected in the society of each country. A human resources development project under GRENE is designed to foster people who can devise climate change adaptation measures in local areas.

***SATREPS**: promoting international joint research & development to resolve of global issues in collaboration with science & technology in Japan and official development aid (ODA)