

Japan's submission on adaptation approaches, strategies, practices and technologies for adaptation

This submission is made in response to paragraph 56 of the document (FCCC/SBSTA/2006/11). Japan welcomes the opportunity to submit its information and views on adaptation approaches, strategies, practices and technologies for adaptation at the regional, national and local levels in different sectors, as well as on experiences, needs and concerns by following the structure provided from secretariat last January.

This submission of Japan is mainly based on two latest outputs. One is the output of the experts committee on Official Development Assistance (ODA) for climate change adaptation, formed by Japanese Ministry of Foreign Affairs. It has examined the diverse and technical aspects of what measures would be necessary, where the international community should focus its efforts so that developing countries would adapt to climate change, and how Japan would be able to contribute to this process. In March 2007, Japan adopted its recommendations on international cooperation for adaptation to climate change in developing countries. The second output is from Japan International Cooperation Agency (JICA). JICA is now assessing its past technical assistance activities in order to collect good practices for adaptation to climate change. JICA will compile the results and release the paper in a few months, whose outline is attached as the Annex to this submission.

Other outputs under preparation include researches conducted by Japan Bank for International Cooperation (JBIC). JBIC is developing a methodology to assess vulnerability of urban coastal area and also conducting empirical studies regarding adaptation strategies of farm households in Asia and Africa.

Japan has provided significant amount of ODA so far, in the forms of grant assistances, technical cooperation and concessional loans to support thousands of adaptation – related projects/activities in developing countries under Japan's ODA Charter and several initiatives such as Kyoto Initiative, WASABI, disaster reduction, assistance toward PIF member countries, etc.

The Government of Japan and its ODA agencies, JICA and JBIC, have conducted ex-post evaluation of each completed projects. Further details of effectiveness, impact and other lessons learned from past adaptation –related projects/activities can be obtained through the web-site of MOFA (<http://www.mofa.go.jp/policy/oda/note/index.html>), JICA (<http://www.jica.go.jp/english/evaluation/index.html>) and JBIC (<http://www.jbic.go.jp/english/oec/post/index.php>).

Japan considers that it is quite important to collect good practices and lessons learned from the past activities on adaptation, including those related to ODA. Japan looks forward to hearing related information from other parties.

Type of adaptation action ¹	Title of adaptation action, including projects	Status of adaptation action - ongoing - under implementation - under development - under consideration	Needs in order to successfully implement the adaptation action	Concerns/Barriers	Experiences/Lesson learned	References i.e. publications, websites etc.
Scope of adaptation action <i>Regional level</i>						
Approaches/strategies						
Practices						
Technologies						
<i>National level</i>						
Approaches/strategies	International Cooperation for Adaptation to Climate Change in Developing Countries (Recommendations by Experts Committee) Ministry of Foreign Affairs of Japan	-under implementation The recommendations, announced April 2007, herein both set forth the key issues on adaptation approach, and describe required policies to promote adaptation measures in developing countries, and appropriate assistance that the international community including Japan should pursue.	- International cooperation in observation, forecasting, impact assessment and other aspects of climate change. - Guidelines for mainstreaming adaptation considerations in development assistance projects. -The urgent sector, such as water resources, food supplies (agriculture), healthcare, disaster prevention, infrastructure and ecosystems, should be selected on a regional basis. etc.		Adaptation measures are unlikely to be a single policy aimed at adapting to the adverse effects of climate change but a comprehensive policy issue to be addressed in the context of development policies on poverty reduction, agricultural development, water resources development and disaster prevention.	Full paper of the recommendation is available at; http://www.mofa.go.jp/gaiko/oda/bunya/environment/reference.html

¹ Please be aware of the degree of adaptation within activities:

- Some activities are undertaken specifically to adapt to climate change, e.g. increased water storage capacity, development of new crop varieties.
- Some activities include a component of climate change adaptation, e.g. infrastructure replacement incorporating higher flood standards
- Some activities are not carried out for adaptation but have other objectives such as preserving biodiversity, however they can offer adaptation co-benefits, e.g. restored wetlands protect against storm surges.

Practices						
Technologies	Study on vulnerability of mega cities in Asia and adaptation strategies by Japan Bank for International Cooperation	Under implementation Includes Manila and other cities as case studies	Joint development of assessment methodology with World Bank and Asian Development Bank			
<i>Local (community) level</i>						
Approaches/ strategies						
Practices						
Technologies						

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<i>Sectoral level</i>						
<i>Agriculture</i>						
Approaches/ Strategies	a pilot project aiming for the capacity development of the nomads (Mongolia)	04/2004-03/2007	Project for capacity building of the nomads	Adding to adapting to climate impacts, it is necessary to introduce measures to control overgrazing by livestock	(1) Role of aid agencies/companies directly involved in aid activities should be enhanced without discouraging ownership of host countries and groups of residents. (2) Traditional technologies and know-how should be utilized.	
Practices						

Technologies	‘The Study on Comprehensive Agricultural Development of Prek Thnot River Basin’ (Cambodia)	07/2005-08/2008			(1) Improvement of irrigation system, (2) planning for flood warning system	For more details, please refer to the research paper on ‘JICA’s Approach on Adaptation to Climate Change’, which will be published this year. A summary paper is attached.
Technologies	‘Promotion, Development and Dissemination of NERICA Rice Varieties’ (Uganda)	06/2004-06/2006			Transfer of rice cultivation technology	
Technologies	a pilot study in north-east Asia for developing desertification assessment and constructing an early warning system (EWS)	04/2004-03/2007	The CST of the 6 th COP, UNCCD was urging to establish an early warning system against desertification.	There is a gap between data obtained from satellite and those from in situ observation. Integration between EWS and appropriate countermeasures are necessary.	(1)The risks of soil degradation varied regionally (2)The options for the desertification countermeasures (3)The cost-effectiveness evaluation.	
Technologies	a study and research project for transferring the methods of technologies for desertification countermeasures (Burkina Faso)	04/2004-03/2008	Traditional technologies and know-how are necessary.		(1) Role of aid agencies/companies directly involved in aid activities should be enhanced without discouraging ownership of host	

					countries and groups of residents. (2) Traditional technologies and know-how should be utilized.	
<i>Water resources</i>						
Approaches/ Strategies	'The Study for the Water Resources Management and Rural Water Supply Improvement' (Yemen)	12/2005-07/2007			(1) Institutional development for water resource management, (2) participatory approach, (3) development of rural water supplies	Ditto
Practices						

Technologies	Asian Water Cycle Initiative (AWCI) Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Korea, Laos, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Uzbekistan, Vietnam	-under development Baseline ideas for implementation were agreed at the 2 nd Asian Water Cycle Symposium, 9-10 January 2007. See "Annex AWCI". An implementation plan will be approved at the 3 rd Asian Water Cycle Symposium, 3-5 December 2007. Preliminary case studies started in Vietnam, Bangladesh, Thailand, Pakistan and Japan. Implementation period: 2008-2010			Improvement of flood control and water use management	Annex AWCI
Technologies	Study on Advanced Prediction System and Counter Measures of Regional- and Meso- scale Water Cycle	Under implementation	Joint development of the JICA project, such as water resource survey and management in arid land countries		Technology transfer is an important factor to apply the adaptation technologies for water management, desert greening and oasis-network establishment into practical needs in arid land countries	http://kyousei.aesto.or.jp/~k051open/

Technologies	A Sub-surface dam for the effective use of underground water in the arid area (Burkina Faso)	1995-2002	a Sub-surface dam for the effective use of underground water in the arid area and to have a research on the effect and effective use of its storage of water and suffered influences to natural environment		This sub-surface dam brought villagers about 2,700 m3 of water supply a year.	
<i>Health</i>						
Approaches/ Strategies	'Enhancement of Early Diagnosis for Malaria' (Tanzania)	11/2004-11/2007			Community-based approach for disease control	ditto
Practices						
Technologies						
<i>Coastal zones (settlements)</i>						
Approaches/ Strategies						ditto
Practices	'The Study on Comprehensive Flood Mitigation for Cavite Low' (The Philippines)	03/2007-01/2009			Community-based approach for disaster management	

Technologies	'The Project for the Construction of Multipurpose Cyclone Shelter' (Bangladesh)	Completed 11/2005.			Construction of cyclone shelter	
Technologies	'The Project for the Seawall Construction in Male Island' (Maldives)	Completed 11/2002.			Construction of protective structures for vulnerable coastal zones	
<i>Forest / Nature Conservation</i>						
Approaches/ Strategies						ditto
Practices	'Coastal Wetland Conservation in Yucatan Peninsula' (Mexico)	03/2003-02/2008			(1) Restoration of mangroves, (2) environmental education	
Technologies	'Palau International Coral Reef Center Strengthening Project' (Palau)	10/2002-09/2006			Strengthening of monitoring abilities	
<i>Others (please provide information about other relevant sectors)</i>						
Approaches/ Strategies						ditto
Practices	Group Training Course 'Development of Strategies on Climate Change'	Under implementation			Provision of technical training (Acceptance of trainees from developing countries to Japan)	
Technologies						

JICA's Approach on Adaptation to Climate Change

1 JICA's Approach on Adaptation

1-1 Basic Concepts for JICA' Cooperation related to Adaptation

As effects of climate change have been increasingly observed, the needs for assistance on adaptation in developing countries are also growing. In response to their needs, JICA is expected to assist developing countries in designing and implementing the adaptation measures. It should be noted that there are two basic concepts underlying JICA's cooperation in this area; one is a concept of 'human security', and the other is 'capacity development' (CD) as a key approach. In addition, adequacy and possibility to internalize adaptation considerations into a range of conventional projects should also be examined.

1-2 Approach to Adaptation Measures in JICA's Cooperation

The adaptive capacity consists of various interacting elements such as human resources, knowledge, information and technology. Assistance for adaptation in developing countries is to help strengthening of these elements at individual and organizational levels. It is also important to support to create enabling environment, such as overall policies and rules, for facilitating interactions among those individuals and organizations. In other words, assistance for adaptation is to support recipient countries in developing their own adaptive capacity as a whole on multiple levels of individuals, organizations, and societies.

There are three entry points of assistance for adaptation. First is the empowerment of communities by promoting CD at specific communities and sharing lessons with others. The second is strengthening of key organizations by promoting human resources development, technology dissemination or research development. The third is the policy formulation and institutionalization where assistance is provided for key ministries to develop their capacity to formulate and implement related policies.

2 Adaptation Measures in Each Sector

2-1 Water Resources

Adaptation measures in this sector may include appropriate water resource management, development, and effective utilization, as well as water quality and sanitation improvement. Institutional development for water resource management and development of rural water supplies are among the examples of the measures taken by JICA projects.

Project examples:

【Morocco: The Study on the Integrated Water Resources Management Plan in the Haouz Plain in the Kingdom of Morocco】

(September 2005 – March 2008)

【Yemen: The Study for the Water Resources Management and Rural Water Supply Improvement】

(December 2005 – July 2007)

【Ethiopia: The Project for Water Supply Development in the Afar National Regional State】

(Basic Design Study: January – July 2006, Exchange of Notes: November 2006, This project is in operation)

2-2 Agriculture / Food

Adaptation in this sector may include irrigation facility development, crop plant breed improvement, rural development with participation of local residents, and countermeasures against extreme climate events. JICA projects with adaptive effects include water management with participatory approach, transfer of rice cultivation technology, integrated rural development approach.

Project examples:

【Cambodia: The Study on Comprehensive Agricultural Development of Prek Thnot River Basin】

(July 2005 – August 2008)

【Uganda: Promotion, Development and Dissemination of NERICA Rice Varieties in Uganda】

(June 2004 – June 2006)

【Mali: The Study on the Capacity Building Programs for the Community-based Prevention of Desertification in the South Region of Segou in the Republic of Mali】

(July 2004 – January 2008)

2-3 Forest / Nature Conservation

Development of infectious disease/vectors-resistant tree species, mangrove conservation, forest disaster prevention, and forestation in arid areas are considered as adaptation measures in this sector. The examples of the measures taken at JICA projects include research and development of adaptation technologies, transfer and dissemination of appropriate technologies, and strengthening of monitoring abilities.

Project examples:

【Mexico: Coastal Wetland Conservation in Yucatan Peninsula】

(March 2003 – February 2008)

【Palau: Palau International Coral Reef Center Strengthening Project】

(October 2002 – September 2006)

【China: The Japan-China Cooperation Science and Technology Center for Forest Tree Improvement Project】

(October 2001 – October 2006)

【Nicaragua: The Project on Participatory Forest Management】

(December 2000 – July 2004)

2-4 Disaster Prevention (including coastal defense)

Adaptation in this sector may include coastal disaster prevention, river disaster prevention, landslide disaster prevention, and disaster prevention planning. Among the measures taken at JICA projects are implementation of countermeasures against current disaster risks, awareness raising and capacity strengthening on disaster management in communities, establishment of early-warning systems, and capacity improvement of governmental section in charge of disaster prevention.

Project examples:

【Philippines: The Study on Comprehensive Flood Mitigation for Cavite Low in the Republic of the Philippines】

(March 2007 – January 2009)

【Maldives: The Project for the Seawall Construction in Male Island (Phase 4)】

(Basic Design Study: February – June 2000, Exchange of Notes: August 2000, Completed in November 2002)

【Bangladesh: The Project for the Construction of Multipurpose Cyclone Shelter (Phase V)】

(Basic Design Study: March – July 2003, Exchange of Notes: November 2003, Completed in November 2005)

2-5 Urban / regional development and transportation

Adaptation measures in this sector may include development plan formulation and infrastructure maintenance. There are few JICA projects that take account of future climate change risks. However, projects that address current climate risks are also expected to help recipient countries in enhancing their capacity to respond to future risks.

Project examples:

【Cambodia: the Project for Improvement of National Road No.1 (Phnom Penh-Neak Loueng Section)】

(Basic Design Study: March 2004 – March 2005, Exchange of Notes: June 2005, This project is in operation.)

【Bangladesh: The Project for the Construction of Portable Steel Bridges for Rural Roads】

(Basic Design Study: December 2004 – August 2005, Exchange of Notes: November 2005, Completed in January 2007)

【Sri Lanka: The Detailed Design Study on the Outer Circular Highway to City of Colombo in the Democratic Socialist Republic of Sri Lanka】

(2001-2002, 2004-2005)

2-6 Health

Adaptation in this sector may include measures against malaria, waterborne infectious diseases, as well as actions tailored for high risk areas. Among the measures taken at JICA projects are strengthening of adaptive capacity through maintenance of health information system and establishing of an administration system to control diseases.

Project examples:

【Tanzania: Enhancement of early diagnosis for Malaria】

(November 2004 – November 2007)

【Zambia: Lusaka District Primary Healthcare Project (Phase 2)】

(July 2002 – July 2007)

2-7 Others (acceptance of trainees)

Among various technical training courses conducted by JICA, there are many courses that are related to adaptation to climate change. The examples include anti-tropical diseases, water management technology in dry regions, measures against extreme climate events, agricultural crops cultivation, and ecosystem protection. Specifically, the Group Training Course on “Development of Strategies on Climate Change” has been successfully conducted for many years, contributing to helping the participants in enhancing their capacities on adaptation.

2-8 Overview

JICA has implemented a number of technical cooperation projects which include adaptive effects in one way or another. Particularly, there are many cases where the measures taken to counter current climate risks also contribute to enhancement of capacity to adapt to future climate risks. There are also many examples where a participatory approach is found to be effective. More profound effects will be expected, if climate change impacts and vulnerabilities are taken into consideration from an early stage of project design in many cases.