Chapter 6

Financial Resources and Transfer of Technology

In August 2003, the Cabinet adopted Japan's Official Development Assistance Charter (the ODA Charter), which spells out the philosophy and principles of Japan's official development assistance. One of the main priorities addressed by the ODA is global issues, including environmental problems. The charter states that, as a principle of ODA implementation, "environmental conservation and development should be pursued in tandem." Japan's Medium-Term Policy on ODA, announced in February2005, also makes global issues, including environmental problems, a priority issue that must be addressed. In this way the Government of Japan is trying to realize sustainable development on a global scale by supporting the self-ownership of developing countries.

Japan has communicated concrete proposals to the world through initiatives of the prime minister, including Cool Earth 50 (May 2007) and Cool Earth Promotion Program (January 2008, Davos Summit).

Cool Earth 50 expresses intent to provide wide assistance for developing nations that aspire to control greenhouse gas emissions while achieving economic growth. The initiative asserts that assistance will be provided such as for cutting greenhouse gas emissions, conserving forests, countermeasures in areas vulnerable to the impacts of warming, including rises in sea levels and drought, and the promotion of using clean energies, while utilizing Japan's technology and experience and paying thorough consideration to the circumstances of developing nations.

In addition, in order to implement tangible measures for realizing Cool Earth 50, in January 2008, Japan constructed Cool Earth Partnerships with developing countries. Under the Cool Earth Promotion Program, Japan announced that it would actively cooperate on efforts for cutting emissions (including energy-saving efforts), extend assistance to developing countries that are seriously damaged from climate change, and strengthen solidarity with developing countries while cutting greenhouse gas emissions on a global-scale.

At the United Nations Summit on Climate Change on September 2009, Prime Minister Yukio Hatoyama voiced that vast amount of financial resources would be required to resolve the climate change problem, in particular to support adaptive measures in vulnerable developing nations and island states. The prime minister thereupon announced that Japan is prepared to provide more financial and technical assistance than in the past, in accordance with the progress of the international negotiations. In addition, the Prime Minister expressed that developed countries must contribute through substantial, new and additional public and private financing and other principles, and these undertakings were proposed under the title of the Hatoyama Initiative.

6.1 Measures Concerning New and Additional Financial Resources Pursuant to Article 4.3 of the Convention

- Cooperation to the Global Environment Facility (GEF)

  Japan contributed US$410 million (total funds equaling US$2.02 billion) to the GEF during Phase I (1994-1998, GEF-1), US$410 million (total funds equaling US$2.75 billion) during Phase II (1998-2002, GEF-2), and US$420 million (total funds equaling US$3 billion) during Phase III (2002-2006, GEF-3). It is currently Phase IV (2006-2010, GEF-4) and US$310 million (total funds equaling US$3.13 billion) have been contributed to date.

- Cooperation to IPCC

  Japan has provided the IPCC with CHF180,000 annually since 1997. Furthermore, it has handled the organization of technical support for the inventory task force that was established in 1999 and has funded its operational costs (2007: ¥114.448 million; 2008: ¥150.113 million). In addition, Japan has contributed to IPCC personnel, including Takahiko Hiraishi, who is the chair of the IPCC Task Force on National Greenhouse Gas Inventories, as well as three head coordinating writers, 21 head writers, and five referee editors who participated in drafting the Fourth Assessment Report, which was completed and released in 2007.

6.2 Assistance to Developing Countries Particularly Vulnerable to Adverse Effects of Climate Change

- Contributions to the GEF Trust Fund

  Japan is one of the largest donors to the GEF Trust Fund which implements capacity building in the adaptation sector in the form of projects commissioned to international organizations, such as the UNDP, with 1.17 billion in SDR payment base until the present (from the pilot phase that began in July 1991 until the end of November 2009).

- Contributions to the Least Developed Countries Fund

  The Least Developed Countries Fund supports such efforts as the preparation and implementation of National Adaptation Programmes of Action (NAPA) by least developed countries. Japan contributed US$250,000 to this fund in March 2007.

- Cooperation for the Adaptation Fund

  Japan contributed the clerical expenses (US$13,093 in 2008) of the Adaptation Fund as a grant until

2009, when the Adaptation Fund's carbon credits will become available for sale. In addition, Japan is making personnel contributions. The director of the Research and Information Office at the Ministry of the Environment has served as a board member of the Adaptation Fund since 2008.

6.3 Assistance through Bilateral and Regional Frameworks and Multilateral Channels

6.3.1 Bilateral Assistance

6.3.1.1 Initiatives by Japan

- The Hatoyama Initiative

  At the United Nations Summit on Climate Change on September 2009, Prime Minister Yukio Hatoyama voiced that vast amount of financial resources would be required to resolve the climate change problem, in particular to support adaptive measures in vulnerable developing nations and island states. The Prime Minister thereupon announced that Japan is prepared to provide more financial and technical assistance than in the past, in accordance with the progress of the international negotiations.. In addition, in regards to assistance to developing nations the Prime Minister expressed that 1) the developed countries, including Japan, must contribute through substantial, new and additional public and private financing. 2) we must develop rules that will facilitate international recognition of developing countries' emissions reductions, in particular those achieved through financial assistance, in a measurable, reportable and verifiable manner. 3) on assistance to developing countries, consideration should be given to innovative mechanisms to be implemented in a predictable manner. And an international system should be established under the auspices of the UN climate change regime. This system should facilitate one-stop provision of information on and matching of available bilateral and multilateral financing, while securing transparency and effective utilization of assistance. 4)Japan proposes to establish a framework to promote the transfer of low-carbon technologies which ensures the protection of intellectual property rights.. These undertakings were proposed under the title of the Hatoyama Initiative, and the Prime Minister addressed that Japan will exert every effort for the success of Copenhagen, in the course of formulating this initiative

- Cool Earth Partnership (overview)

  In January 2008, Japan utilized roughly US$10 billion in funds to construct Cool Earth Partnerships with developing countries that work to contribute to stabilizing the climate while achieving both emission reductions and economic growth. Japan then announced that it would provide assistance in

the climate change sector, and will fund roughly ¥250 billion over a five-year period beginning in 2008 through grant aid, such as Grant Aid for Environmental Programs, which was newly established in 2008 as a countermeasure for climate change. Moreover, yen loans as countermeasures against climate change were created in order to implement programs and projects that combat global warming in various countries, whereupon Japan is to provide approximately ¥500 billion in funds at a special interest rate over a five-year period from 2008. Japan is also to provide a maximum of roughly ¥500 billion over a five-year period from 2008 to greenhouse gas cutting projects in developing nations through investments and warranties provided by the Facility for Asia Cooperation and Environment (FACE) of the Japan Bank for International Cooperation (JBIC), trade insurance provided by the Nippon Export and Investment Insurance (NEXI), and the New Energy and Industrial Technology Development Organization (NEDO), as well as funds called on from the private sector.

These schemes are mobilized in unison to provide technical assistance for forest conservation and disaster prevention projects as well as for drafting disaster prevention and adaptation plans in response to climate change, among other initiatives. Other utilities include providing village development assistance including electrification via clean energies such as sunlight, and providing assistance for countermeasures against disasters such as drought and flooding.

One specific example is the provision of the Climate Change Program Loan to assist climate change countermeasures in Indonesia via policy dialogue. Other examples include the construction of a highly efficient power plant, construction of new power distribution facilities, and measures for the reduction of power distribution loss via revamping efforts in Bangladesh, as well as Grant Aid for Environment Programs to provide Kenya with flood countermeasures and for assistance to emergency water-supply measures in various African countries. In addition, the Cool Earth Seminar was launched, where capacity building was implemented for the environmental ministries and other bodies in approximately 30 developing countries.

- The Kyoto Initiative

  Japan launched the Kyoto Initiative in December 1997 at the 3rd Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change. Under this initiative, Japan provides assistance for developing nations related to countermeasures against global warming, while focusing on the three pillars of (1) cooperation in capacity development (3,000 people in five years), (2) ODA loans at the most concessional conditions (interest rate of 0.75 percent, repayment period of 40 years), and (3) exploitation and transfer of Japanese technology and know-how.

  As of present, approximately 8,200 people have been trained in the five years beginning in FY 1998 through such measures as training in Japan, training in third-party countries, dispatching specialists,

and dispatching the Japan Overseas Cooperation Volunteers. In addition, 123 ODA loans projects (worth for approximately ¥1.61 trillion) with concessional conditions related to global warming countermeasures were implemented between December 1997 and December 2008**.**

- Japan's Action on Adaptation: Building Capacity and Ownership

  With the critical importance of sustainable development in developing countries in mind, the government of Japan will provide comprehensive assistance on adaptation measures in these countries by taking advantage of Japan's knowledge and expertise in the adaptation sector, focusing mainly on the following three pillars.

  ・Assistance through Promotion of Development Projects
  ・Capacity Building for Government Officials in Developing Countries
  ・Promotion of Climate Change Research and Personnel Development in Modeling Activities

- Assistance for Developing Countries and Measures for Adaptation in the Areas of National Land Development and Environmental Issues

  - Disaster Risk Reduction and National Land Development

  Initiative for Disaster Reduction through ODA: Japan announced its basic policy and concrete actions concerning international cooperation on disaster risk reduction through ODA at the United Nations World Conference on Disaster Reduction held in Kobe in January 2005.

  - Water Issues

  Water and Sanitation Broad Partnership Initiative (WASABI): In Mach 2006, Japan announced its basic policy, and concrete efforts on ODA relating to water and sanitation. In pursuit of sustainable water use and strengthening the perspective of human security, Japan has provided assistance for efforts including (1) promotion of integrated water resources management, (2) provision of safe drinking water and sanitation, (3) support regarding water use for food production and other purposes, (4) water pollution prevention and ecosystem conservation, and (5) mitigation of damage from water-related disasters.

  - Forests

  Asia Forest Partnership (AFP): With the objective of promoting sustainable forest management in Asia and Oceania, this partnership was launched in 2002 between Asian and Oceanic nations (mainly ASEAN), developed countries and international organizations, NGOs, and other entities to cooperate on activities including countermeasures against illegal logging, preventing forest fires, and rehabilitating (reforesting) degraded lands.

  The two key themes for Phase II starting from 2008 are (1) reducing forest loss and

degradation and enhancing forest cover to maintain the provision of forest products and ecosystem services, including mitigation of and adaptation to climate change, watershed and land resource protection, and conserving biological diversity and (2) combating illegal logging and associated trade.

- Global Environmental Problems

Environmental Conservation Initiative for Sustainable Development (EcoISD): This initiative was launched at the 2002 World Summit on Sustainable Development (WSSD). Japan has been implementing international environmental cooperation mainly through ODA in providing assistance for global warming countermeasures, conservation management of nature reserves and other areas, forests, desertification prevention, and natural resource management as high priority issues.

- Agricultural Issues

Assistance for New Rice for Africa (NERICA): NERICA projects aim to develop and disseminate high yielding upland rice varieties suitable for semi-arid regions, by cross-breeding African rice (which is resistant to diseases, weeds and drought) with Asian rice (which has high yield potential).

Financial assistance is being provided for research and development conducted by Africa Rice Center (AfricaRice) through contributions from the Consultative Group on International Agricultural Research (CGIAR) and the Japan-UNDP Partnership Fund. Joint research is also underway between AfricaRice and agricultural research institutions in Japan. Moreover, Japan is promoting NERICA rice by, for example, dispatching specialists through JICA to countries such as Uganda and providing assistance for NERICA rice cultivation tests in various African countries.

6.3.1.2 Specific Assistance Measures

- Japan International Cooperation Agency (JICA) Training Courses

  JICA provides a variety of training courses relevant to climate change adaptation such as disaster prevention, water resources management, forest resources management, river management, and national land development. JICA will continue to provide these courses in the future.

- Development of Strategies on Climate Change

  Based on the Kyoto Initiative, JICA has been conducting training courses on measures against

global warming since 1997, including a course entitled “Development of Strategies on Climate Change.” A total of 123 government officials from developing countries have completed these courses since they were inaugurated. JICA will continue to provide these courses in the future.

- Capacity Building for Project Staff regarding Kyoto Mechanism

  JICA implemented a training course entitled “Capacity Building for Project Staff regarding Kyoto Mechanism,” in order to achieve the goals stipulated in the Kyoto Protocol. The course is provided for capacity building of government project staff, mainly in the areas of gaining an understanding of the rules and the roles to be played by the developing countries provided by the Kyoto Mechanism. This course will continue to be provided to ten personnel from ten countries per year.

- Technical Cooperation for Development Planning (Development Survey)

  Assistance is being provided for promoting adaptation and mitigating measures for developing countries that have regional conditions vulnerable to the impacts of warming. This is conducted through implementing development survey projects that assist the drafting of these countries’ development plans along with the development of systems and policies. One example of adaptation measure assistance is the comprehensive agricultural survey conducted in Cambodia’s Prek Thnot River basin, which includes assistance for improving agricultural management technology for boosting agricultural production, developing irrigation facilities, and establishing a flood warning system. These efforts have engendered expectations for mitigating damage in the event that the seasonal fluctuation in rainfall becomes significant due to climate change.

  An example of mitigating measure assistance includes development plan surveys for women’s assistance in the oasis regions of Mauritania, which are conducted with the objective of presenting a regional development policy for better living and alleviating poverty. The installation of upgraded furnaces and other goods are being promoted, and it is anticipated that the improvement of fuel efficiency in households will contribute to controlling forest decline and, as a result, lead to curbing superfluous greenhouse gas emissions.

- Loan Aid

  Financial assistance is being provided for mitigating measures, etc. employed by developing countries through low-interest, long-term yen loans, which are extended as a part of official development assistance.

  In particular, Yen Loans for Climate Change Countermeasures have been provided since 2008 as an assistance measure based on the Cool Earth Partnership and with the objective of further actively assisting developing nations that will seriously address climate change with Japan. A special preferred interest rate is applied to these loans, which is offered to partner countries to which Japan

can provide yen loans. Specifically, Japan has provided cooperation for climate change countermeasures in Indonesia and Bangladesh until present.

- Grant Aid

  Financial assistance and transfers of technology are provided for adaptive measures (including forest conservation, afforestation, and flood prevention work) taken by developing countries, through grant aid provided by the government as part of its development assistance.

  One specific example is the assistance provided for creating a conservational forest on the coast of Senegal. In 2008, Grant Aid for Environment Programs was constructed as part of the Cool Earth Partnership in order to actively assist developing countries that aim to cut emission while also achieving economic growth. Based on this initiative, combinations of hard (facilities, etc.) and soft (training, etc.) assistance are provided. Further examples include assistance for countermeasures in Bangladesh and for implementing a water supply project in Ethiopia. Currently, additional assistance is being considered for the future that utilizes Japan's sophisticated environmental technologies, such as solar power generation.

- Project-Type Technical Cooperation

  To improve adaptation technology in developing countries, Japan cooperates in projects related to adaptation measures by participating in project-type technical cooperation. This is conducted by combining the dispatch of experts, acceptance of trainees and provision of equipment.

  In 2008, joint research was conducted between research institutes in Japan and developing countries to produce results that lead to problem resolution. At the same time, Science and Technology Cooperation on Global Issues was created in an effort to develop the capacity of research institutes in developing nations, whereupon projects such as the Wild Fire and Carbon Management in Peat Forest in Indonesia and the Eco-technological Management of Tuvalu against Sea Level Rise were implemented.

  In addition, cooperation is underway in various countries for the preservation and restoration of forests, including forest resource management assistance utilizing satellite information in Indonesia (The Project for the Support on Forest Resources Management through leveraging Satellite Image Information), as well as a project utilizing ALOS satellite imagery to promote forest conservation and prevent illegal logging in the Brazilian Amazon (Utilization of ALOS Images to Protect Brazilian Amazon Forest and Combat against Illegal Deforestation).

- Dispatch of Experts and Acceptance of Trainees

  Training has been held in both Japan and Third Countries, in addition to which experts and JOCV members have been sent abroad to train personnel in global warming-related fields (air pollution,

waste, energy conservation, forest conservation and afforestation).

- Promoting the Co-benefits Approach

  Between Japan-China and Japan-Indonesia, joint research and model projects have been conducted using a co-benefits approach that addresses both climate change and environmental pollution, which is a pressing issue in developing nations. These joint activities are based on “the Statement on the Joint Implementation of Co-Benefits Studies and Model Projects by the Ministry of the Environment of Japan and the Ministry of Environmental Protection of the People’s Republic of China” and “the Joint Statement on Environmental Protection through Co-Benefits Approach by the Ministry of the Environment of Japan and the State Ministry of Environment, Republic of Indonesia” , which were agreed by the Environmental Ministers in December 2007.

- JBIC Facility for Asia Cooperation and Environment

  The JBIC Facility for Asia Cooperation and Environment was established in April 2008. The facility utilizes funds and the guarantee functions of JBIC with the objective of mobilizing private capital as much as possible in supporting projects that contribute to mitigating measures for climate change. The facility was established in order to assist funding support for energy conservation and new energy projects, as well as to assist funding for individual projects in the aforementioned sectors while guaranteeing financing from private sector financial institutions.

  In addition, the Leading Investment to Future Environment Initiative (LIFE), which utilizes JBIC, was announced in March 2009, where it was indicated that a total of US$5 billion in assistance would be provided over a two-year period for environmental investments implemented by developing countries’ governments and the private sector. This initiative centers on developing countries in Asia.

- Creation of Trade and Investment Insurance for Preventing Global Warming

  Nippon Export and Investment Insurance (NEXI) created Trade and Investment Insurance for Preventing Global Warming as part of the efforts in order to contribute to reducing greenhouse gas emissions through such measures as the transfer of energy conservation technology and new energy technology of Japan. NEXI started accepting underwriting of Trade and Investment Insurance for Preventing Global Warming in January 2009.

  The Insurance provides the following specific forms of assistance; (1) promoting use by setting a credit line of ¥2 trillion for a ten-year period, (2) increasing user convenience by applying the Insurance to a wide scope of projects that contribute to climate stabilization through trade-related facilities and equipment, or investments and financing abroad that contribute to reducing greenhouse gasses, (3) establishing an option for 100 percent coverage of country risk (political risk), thereby reducing risk related to project implementation.

- CDM/JI Feasibility Studies

  In order to discover projects that are highly effective at preserving and enhancing greenhouse gas emission limitation and removal effects and to accumulate knowledge that contributes to creating domestic and international rules for the CDM/JI mechanisms, the Government of Japan is conducting CDM/JI feasibility studies. Specifically, public applications are received from private organizations, NGOs, and other institutions, and applicant surveys are conducted for waste management, biomass use, energy conservation, reusable energy, or other projects that are considered to be highly feasible and will have co-benefits such as decreasing environmental pollution (from 1998).

- Promotion of Co-benefits CDM Projects

  Co-benefits CDM projects are projects that reduce greenhouse gas emissions in developing countries while also improving environmental pollution problems prominent in developing countries, such as air pollution, water pollution, and waste management issues, in addition to realizing sustainable development. From FY2008 model projects were established as subsidy projects, and assistance is currently being provided for two projects in Malaysia and Thailand. The promotion of co-benefits technology and other measures were noted in the April 2009 The Innovation for Green Economy and Society" and at the May 2009 G8 Environment Ministers' Meeting, and these projects are to be continued in the future.

6.3.2 Assistance through Regional Frameworks

- Asia-Pacific Partnership on Clean Development and Climate (APP)

  This is a public-private partnership established in July 2005 with such objectives as addressing the increasing energy demand energy security and the climate change problem of the Asia-Pacific region. Currently, seven countries are participating in the partnership: Japan, Australia, China, India, Republic of Korea, United States, and Canada.

  Task forces have been established for the APP in eight sectors, which covers nearly 60 percent of CO_2 emissions in participating countries. Each task force is working to develop, spread, and transfer clean and efficient technologies that reduce greenhouse gas emissions and encourage economic growth. Specifically, the task forces are working to reduce greenhouse gas emissions through such efforts as sharing knowledge on technologies that are highly effective at reducting emissions, as well as conducting emission cutting potential analyses.

  In particular, the Steel Task Force and Cement Task Force , of which Japan is the chair of both, are conducting such efforts as energy conservation and environmental diagnoses, where specialists are dispatched to China and India to consider improvements and offer advice on issues.

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

  The APN is an inter-governmental network whose major objectives are promoting research projects on global changes in the Asia-Pacific region, increasing the participation of developing countries in research, and enhancing collaboration between scientific research and policy making. Japan actively supports the activities of the APN, which improves the capacity of researchers by hosting workshops, providing support for the participation of researchers in international research meetings, and training researchers. Key areas subject to project assistance research at the APN include climate as well as changes in atmospheric, terrestrial, and marine domains. In addition, from FY2009 efforts have been made to upgrade and expand the research assistance program focusing on the issue of scientific capacity building for climate change impact and vulnerability assessments in developing countries.

- Asia-Pacific Seminar on Climate Change

  Much effort has been made to cope with climate change in the Asia-Pacific region. The Ministry of the Environment has been organizing the annual Asia-Pacific Seminar on Climate Change since 1991 with the participation of administrators and experts from countries in the Asia-Pacific region as well as international organizations. The seminar aims to contribute to the promotion of efforts to address climate change in the Asia-Pacific region through the sharing of information, experiences and views concerning the global warming issue in countries in this region.

  The eighteenth seminar held in March 2009 was attended by roughly 50 officials and specialists that serve as directors of climate change and development planning in 14 countries and ten organizations. At the seminar an active exchange of views took place on measurable, reportable, and verifiable actions (MRV), greenhouse gas emission data (inventory), the co-benefits approach, and adaptation measures based on scientific knowledge. As a result it was agreed that leadership by advanced nations in cutting emissions as well as proactive actions by developing countries will be necessary in order to cut global emissions overall. The following efforts were also agreed to be necessary.

  ・The actions of developing countries should be properly evaluated, and a well-understood framework should be constructed, developing a system related to MRV actions for a framework beginning from 2013 as well as creating an inventory.

  ・The realization of co-benefits (synergistic effects) in mitigating measures and mainstreaming the development of adaptation measures is necessary in order to fulfill the development needs of developing countries while instituting both mitigating and adaptation measures against climate change.

6.3.3 Assistance through Multilateral Channels

6.3.3.1 Cool Earth Partnership (contributions through international organizations)

- Japan-UNDP Joint Framework for Building Partnership to Address Climate Change in Africa
  This is an adaptation assistance framework providing US$92.1 million for about 20 African countries that was established at the Fourth Tokyo International Conference on African Development (TICAD IV) in May 2008 by Japan together with the UNDP, which is a co- organizer for TICAD, based on the Cool Earth Partnership. The Joint Framework includes introduction of a long-term national planning mechanism to address the impacts of climate change, building institutional frameworks to manage climate change risks, and implementation of adaptation measure. Currently UNDP is formulating country specific proposals, by coordinating with each government, towards actual implementation.

- Japan-UNDP Partnership Fund
  Assistance is currently being provided through the Japan-UNDP Partnership Fund for community-based climate change adaptation in Namibia and Niger (US$400,000, approved September 2008), enhancing the capacity of the clean development mechanism in Burkina Faso (US$300,000, approved December 2008), and enhancing the capacity of the clean development mechanism under the Kyoto Protocol in Rwanda (US$300,000, approved December 2008).

- UNV/Japan Trust Fund
  Assistance is being provided through the UNV/Japan Trust Fund for Community-based Adaptation in Climate Change in Bolivia, Guatemala, Jamaica, Morocco, Namibia, Niger, and Samoa (US$1 million, approved January 2009).

- ADB (ACEF)
  This is a fund established within the Asian Development Bank (ADB) in January 2008 through Japanese contributions in order to assist a response to such issues as climate change in member developing countries (establishment was announced at the 2007 Annual Meeting of the Board of Governors in Kyoto). This fund provides assistance for individual efforts aimed at cutting greenhouse gas emissions by ADB member developing countries through utilizing reusable energy and energy-saving technologies.

6.3.3.2 Climate Investment Funds (CIF)

These funds were established by Japan, the United States, and the United Kingdom as an assistance measure for efforts tackling the climate change problem in developing countries. Japan has encouraged the funds to ensure as many donor countries as possible, and has pledged to contribute a maximum of US$1.2 billion. Japan also participates in the fund's administrative committee, thereby actively contributing to the fund's operations.

6.3.3.3 Climate Change Countermeasures Assistance through the PHRD Fund

Through the Japan Policy and Human Resources Development Fund (PHRD Fund), established in partnership with the World Bank, Japan is contributing to the World Bank's Forest Carbon Partnership Facility (FCPF). The FCPF is a facility that supports pilot projects that enable emission cuts resulting from forest conservation to be transferred into carbon credits. In addition, from 2005 the PHRD has funded future climate forecast training at the Meteorological Research Institute and Japan Agency for Marin-Earth Science and Technology (JAMSTEC). The training is conducted for eight countries in Latin America and incorporates rises in temperature and sea level using the Earth Simulator, a supercomputer.

6.4 Measures Related to Transfer of Technology

6.4.1 Government Measures for the Promotion, Facilitation and Financing of the Transfer of Technology

- Asia-Pacific Partnership on Clean Development and Climate (APP) (as previously mentioned)

- Asia-Pacific Seminar on Climate Change (as previously mentioned)

- Japan Kyoto Mechanisms Acceleration Programme (JKAP)
  As a flexible international measure for countries to achieve their respective targets in reducing greenhouse gas emissions, and to prevent global warming as well as to promote sustainable development in developing countries, the Kyoto Protocol authorizes the use of the Kyoto Mechanisms which permit the utilization of a portion of the emission cuts of greenhouse gas from other countries.

  Taking into account the principle that the Kyoto Mechanisms are supplemental to domestic measures, Japan is primarily utilizing the Clean Development Mechanism (CDM) and Joint Implementation (JI),and is also utilizing the Green Investment Scheme (GIS) a mechanism which links emissions trading to specific environmental measures. (Hereafter these three approaches will be referred to as "CDM/JI, etc.")

  As a program to promote CDM/JI cooperation in Japan and host countries, the Ministry of Foreign affairs, the Ministry of Economy, Trade and Industry, the Ministry of the Environment, and related institutions established the Japan Kyoto Mechanisms Acceleration Programme (JKAP). [Related institutions: the Global Environmental Center (GEC), the Institute for Global Environmental Studies(IGES), the Japan Bank for International Cooperation (JBIC), the Japan External Trade Organization(JETRO), the Japan International Cooperation Agency (JICA), the New Energy and

Industrial Technology Development Organization (NEDO), Nippon Export and Investment Insurance (NEXI), the Overseas Environmental Cooperation Center (OECC), and Japan Carbon Finance (JCF).]

This program aims to implement a variety of support measures that have previously been implemented by individual institutions in a more effective and user-friendly manner through the JKAP network. The major support projects in this program are as follows.

- Building the Capacity of Host Countries

With the objective of development of human resources related to the Kyoto Mechanisms in host countries, JKAP holds a variety of training seminars and workshops for government officials and private business owners in the host countries, supports the development of CDM/JI, etc. project approval systems by the governments of the host countries, and conducts a variety of public information campaigns to promote the implementation of such projects. (2003-)

- Provision of Information and Counseling Support

JKAP has created a web page (the Kyoto Mechanisms Information Platform) in order to provide information to private companies in Japan and the host countries that are working on CDM/JI, etc. projects and to the host country governments. The site provides information about the various support measures implemented by the Government of Japan through the JKAP network, the latest developments concerning CDM/JI, etc. projects in the host countries, and the latest information concerning the rules of the Kyoto Mechanisms and debates at CDM board meetings. In addition, individual questions are answers and consultations provided through e-mail. (2004-)
(URL: http://www.kyomecha.org/e/index.html)

- Climate Technology Initiative (CTI)

New Earth 21 was proposed to the world based on an agreement at the Council of Ministers for Global Environmental Conservation’s Houston Summit in 1990. The Technology Renaissance for Environment and Energy (TREE) concept was proposed at the Tokyo Summit in 1993 to establish comprehensive, concrete strategies for New Earth 21. In the same year, a scoping study was carried out to look into the implementation of joint international research and development concerning environmental energy technologies at a conference for promoting the development of environmental energy technology.

Twenty-three IEA/OECD member countries and the EC proposed the establishment of the Climate Technology Initiative (CTI) at the 1st United Nations Framework Convention on Climate Change in 1995. The CTI has made a new start as an Implementing Agreement of the IEA in 2003. Japan has played a central role as an establishing member since its launch.

The CTI has provided international cooperation such as the dissemination and promotion of technology that contributes to the reduction of greenhouse gases, market promotion of such technology, and promotion of the transfer of innovative technology development ever since its establishment. Specifically, 90 seminars, workshops, and side events were held by March 2009, and participation numbered over 6,000 people.

In addition, the Private Financing Advisory Network (PFAN), a public-private partnership, was launched with the objective of expanding fund procurement opportunities by business developers related to clean energy, reusable energy, and energy streamlining projects and to promote the transfer of technologies to developing and economically transitioning countries. A finance forum is being held with the purpose of building the capacity of business developers and matching investors.

- Asia-Pacific Network for Global Change Research (APN) (as previously mentioned)

- Green Aid Plan (GAP)

  In the areas of energy saving and environment, Japan is engaged in efforts to promote the Green Aid Plan (GAP), which aims to enhance the awareness of the governments of Asian countries on environmental measures by engaging in policy dialogues with the partner countries, and to construct systems which reflect the situation of each country. Simultaneously, this project aims to facilitate the dissemination of Japan's environmental and energy saving technologies through which sustainable development may be achieved by developing countries while realizing a harmonious coexistence with the environment.

- Countermeasure Project for Rationalization of International Energy Use

  With the aim to promote the establishment and dissemination and to prove the effectiveness of technologies for the effective use of energy (e.g. energy-conserving and oil substitute energy technologies) and countermeasure technologies for use of coal, the Government of Japan implements model projects and such to exploit and transfer Japanese technology and know-how. To date, 68 projects have been implemented in developing countries in the Asia Pacific region.

- Support for the International Tropical Timber Organization (ITTO)

  The ITTO conducts such activities as restoring depleted forests, sustainable forest management, and creating standards and indices for countermeasures against illegal logging that hinders sustainable forest management. These efforts are conducted for countries producing tropical timber in order that they may properly and efficiently utilize and conserve tropical forests. Japan provided assistance equaling approximately US$35.3 million for nearly 140 projects between 2004 and 2008.

- Support for the Food and Agriculture Organization (FAO)

  In order to support the activities of the FAO and contribute to the promotion of sustainable forest

management in developing countries, Japan has voluntarily contributed to a trust fund to implement 14 projects since 1983 in addition to covering about 20% of the organization's regular budget. Since FY2005 Japan has made voluntary contributions for accurately assessing and analyzing the current situation of forest management in Asian countries. Assistance is being provided for Strengthening Monitoring, Assessment and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia, which was implemented in order to have the results from the aforementioned analyses fed back into forest policy.

- CDM Afforestation Related Projects

  The following efforts are being made as infrastructure development that contributes to implementing CDM afforestation projects by private sector businesses, etc.: (1) information collection on developing countries, (2) development of guidance for validation screenings, and (3) development of personnel in charge of planning of CDM afforestation plans.

- Project for Strengthening the Promotional Structure of Sustainable Forest Management in Siberia and the Far East

  In regards to forest sink activities conducted under the Kyoto Joint Implementation mechanism, a basic survey was conducted in order to assess technical problems, etc. in implementing projects in Siberia and the Far East.

6.4.2 Government Support Measures to Develop and Enhance the Capabilities and Technologies of Developing Countries

- Asia-Pacific Network for Global Change Research (APN) (as previously mentioned)

- Criteria and Guidelines for Sustainable Forest Management

  ITTO is working on improving the capacity of its member countries, financial and technological support, and promotion of information sharing, in order to achieve its Year 2000 Objective, of "all tropical timber and tropical timber product exports coming from sustainably managed sources by 2000." As a part of this process, the ITTO has created the Criteria and Guidelines for Sustainable Management of Tropical Forests and is introducing them in stages. Since 2004 it has been holding workshops to disseminate the criteria and guidelines in tropical timber producing countries. Japan is providing financial support for the efforts extended by the ITTO.

- United Nations Forum on Forests Follow-up Partner Country Experts' Meeting on Forests

  International experts' meetings were held three times between 2006 and 2008 in order to support sustainable forest management efforts in developing nations, mainly in Asia. In 2006, the 17th Montréal Process Working Group meeting and the Workshop on Strengthening Monitoring, Assessment, and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia were held in

order to consider such items as utilization of criteria and indicators for assessing sustainable forest management. In 2007, the 7th Meeting of the Asia Forest Partnership (AFP) was held in order to promote sustainable forest management in Asia.

- SBSTA Workshop

  Japan hosted an international workshop under SBSTA in June 2008 to discuss methodological issues, etc. for reducing emissions from deforestation and forest degradation in developing countries (REDD).

- Promotion of the Asia Forest Partnership

  The Asia Forest Partnership (AFP) is a partnership for Asia-Pacific countries (mostly ASEAN countries), developed nations and international organizations, NGOs, and other entities to cooperate on such activities as countermeasures against illegal logging, forest fire prevention, and the rehabilitation and reforestation of degraded lands. The objective of the AFP is to promote sustainable forest management in the Asia-Pacific region, and it was officially launched in 2002 at the Johannesburg Summit (World Summit on Sustainable Development (WSSD)). The two key themes for Phase II starting from 2008 are (1) reducing forest loss and degradation and enhancing forest cover to maintain the provision of forest products and ecosystem services, including mitigation of and adaptation to climate change, watershed and land resource protection, and conserving biological diversity and (2) combating illegal logging and associated trade.

  Japan has been promoting the implementation of projects related to the AFP by hosting the meetings to promote AFP activities and by providing support to workshop on strengthening the AFP.

- Support for Afforestation by Private Sector Parties

  The Government of Japan has been supporting afforestation activities in developing countries undertaken by Japan’s private sector entities such as NGOs through awarding grants for previous studies and providing technical assistance through dispatching experts, and.holding international seminars. Since 2005, private sector’s efforts have been further assisted through building a network on the web to facilitate exchange of information and coordinate activities among organizations interested in afforestation in developing countries and through giving technical guidance to develop model projects for small-scale afforestation.

- Observation of Forestry Statuses Using Satellite Data

  Research and development, together with capacity building in developing countries, has been conducted to assess deforestation and forest degradation in developing countries using such means as satellite imagery.

- Flood Forecasting, etc. Utilizing Satellite Data

  In order to predict floods in regions with poor hydrological information, a flood forecast system (GFAS/IFAS) utilizing information including rainfall amounts observed by artificial satellite is provided on a website via grant aid. The Public Works Research Institute ICHARM is holding workshops on using the system.

6.4.3 Prevention of Acid Rain

Nitrogen oxide, which is one of the causative substances of acid rain, is considered as a contributer to tropospheric ozone production, one of the factors leading to warming. Thus countermeasures aimed at preventing acid rain contribute to preventing warming. Furthermore, by preventing damage to forests, countermeasures against acid rain contribute to the preservation of forests as sinks for CO_2, which is the most widespread greenhouse gas.

- Acid Rain Monitoring Network in East Asia

  In aim to create a framework for acid rain countermeasures in the entire East Asian region through international cooperation, the Network commenced regular operations in January 2001, following a preparatory phase conducted from April 1998 with the participation of 13 countries: Cambodia, China, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, Thailand, and Vietnam. The aim is to foster a common understanding among the participating countries on the current status of the acid rain issue in East Asia by preparing and evaluating reliable data that can be compared between the countries using a standardized method.

6.4.4 Prevention of Desertification

The importance of countermeasures to the problem of desertification, the degradation of land in arid regions that are vulnerable to climate change, has been pointed out from the perspective of adaptation to climate change as well as that of mitigating climate change, so as to reduce the accumulation of carbon in arid regions. Japan has traditionally promoted various projects related to addressing desertification through such means as bilateral official development assistance (ODA), including for the conservation of water resources, forest conservation and reforestation, agricultural development, and capacity building. In September 1998, Japan accepted the Convention to Combat Desertification that was adopted in June 1994 and became a party to the Convention, and has been working to support the formulation of national action programs so that developing country parties to the Convention that are affected by desertification can effectively implement the Convention. In addition, as a signatory country, Japan has considered the role of comprehensive desertification prevention measures from the perspective of contributing further to the implementation of the Convention to Combat Desertification, as well as for social and economic aspects. As part of these efforts, Japan has conducted a pilot study on constructing an early warning system that includes research on assessing and monitoring desertification using desertification indices. The results from

the study were announced at the Committee on Science and Technology under the auspices of the Convention to Combat Desertification.

6.5 Promoting International Cooperation in the Private Sector

- Cooperative Activities by Private Organizations

  Many of Japan's environmental protection technologies were developed by private corporations, and the role carried out by private corporations in technology transfers, such as direct investments in developing countries, is significant. The Japanese Government, various domestic NGOs, and groups such as the Japan Wildlife Research Center, International Lake Environment Committee, Overseas Environmental Cooperation Center, the Organization for Industrial, Spiritual and Cultural Advancement-International (OISCA-International), Nippon Keidanren, Japan International Volunteer Center, and Nippon International Cooperation for Community Development implement environmental protection projects and are conducting efforts to promote international environment cooperation, including holding symposiums, lectures, and seminars, in addition to assisting environmental conservation activities.

  Moreover, NGOs are providing afforestation cooperation in various forms in developing countries, including forestation guidance, dispatching forestation volunteers, and providing environmental education. For instance, the Green Earth Network (GEN), Japan Association for Greening Deserts, Defense of Green Earth Foundation (DGEF), Green Earth Center, International Society for Mangrove Ecosystems, Action for Mangrove Reforestation, OISCA, International Charcoal Cooperative Association, and other organizations are carrying out important roles in promoting forest and forest industry cooperation in various ways through thorough grassroots level response.

- Cooperative Activities of Private Sector Groups

  In Japan, many of the existing environmental conservation technologies have been developed by private sector companies. Parallel to this, direct foreign investment by private sector companies to developing countries plays a very significant role in transfer of technologies. In addition, the Government of Japan and Japan's various NGOs (such as the Japan Wildlife Research Center; the International Lake Environment Committee Foundation; the Overseas Environmental Cooperation Center Japan; OISCA; the Federation of Economic Organizations; the Japan International Volunteer Center and the Nippon International Cooperation for Community Development) promote international environmental cooperation by implementing environmental conservation projects, hosting symposiums, lectures, and seminars, and by supporting environmental conservation activities.

  NGOs have been affording cooperation for afforestation in various ways, such as through

afforestation instruction in developing countries, dispatch of volunteer afforestation workers, and providing environmental education. For example, grassroots level groups, namely, the Green Earth Network; the Japan Association for Greening Deserts; the Defense of Green Earth Foundation; the Green Earth Center; the International Society for Mangrove Ecosystems; the Action for Mangrove Reforestation; OISCA and the International Charcoal Cooperative Association play important roles in providing cooperative assistance to forestry in various ways.

- Support for Private Sector Activities
  Support is being provided to environmental conservation projects conducted by private organizations, such as NGOs, via such means as Partnership Grant Aid for Japanese NGO Projects and Grant Assistance for Grassroots Human Security Projects, which are offered by the Ministry of Foreign Affairs, as well as JICA Technical Cooperation for Grassroots Projects.

- Japan Kyoto Mechanisms Acceleration Program (JKAP) (as previously mentioned)

6.6 Considerations in Undertaking International Cooperative Projects

In pursuing development assistance, it is important to take into account environmental conservation, including elements that might contribute to the mitigation of global warming, in order to promote sustainable development.

- In 1989, the Council of Ministers for Global Environmental Conservation agreed that greater consideration must be given to environmental issues when implementing ODA projects. The ODA Charter, adopted by the Cabinet in 2003, presents addressing global issues, including environmental problems, as one of its priority issues and states that, “environmental conservation and development should be pursued in tandem” as one of the principles of ODA implementation. Addressing global issues, including environmental problems, was presented as one of the priority issues in Japan’s Medium-term Policy on ODA published in February 2005.

- In order to take the environment into consideration when implementing assistance, the Japan International Cooperation Agency (JICA), one of the ODA implementing organizations, has been enforcing the new JICA Guidelines for Environmental and Social Considerations since April 2004 for technical cooperation projects and preliminary studies of grant aid projects.

  The then Japan Bank for International Cooperation (JBIC) enforced the revised JBIC Guidelines for Environmental and Social Consideration in October 2003 for yen loan projects.

  These guidelines were formulated through a highly transparent and open process that reflected

proposals from Universities, non-governmental organizations (NGOs). Furthermore, these guidelines are groundbreaking in that they include objection procedures for local people. They also incorporate consideration for both natural environment and social issues, as well as provisions for information disclosure.

In concert with the launch of the new JICA on October 1st 2008, efforts are underway to unify the old JICA and JBIC guidelines. A draft is currently being created for new guidelines while acquiring the necessary advice from a committee composed of Universities, NGOs, the private sectors, and related ministries. There are also plans to seek public comments in the future. Discussion regarding the new guidelines is advancing while considering the prompt implementation of operations. There is also a basic need to publicize information at an early stage and further enrich the content of environmental and social considerations.

- Development and Dissemination of “the Manual for Quantitative Evaluation of the Co-Benefits Approach to Climate Change Projects”

  In order to include environmental consideration in climate change projects including CDM, “the Manual for Quantitative Evaluation of the Co-Benefits Approach to Climate Change Projects” was developed to present methods for quantitative evaluation of co-benefits in terms of environmental pollution mitigation.

Table 6.1 Contributions to the Global Environment Facility and OtherMultilateral Institutions and Programs (GEF)

Institution or program	Contribution				
	2004	2005	2006	2007	2008
Global Environment Facility (GEF) 1. GEF Trust Fund 2. Least Developed Country Fund (LDCF)	121	121	84 250,000 *3	84	84
Multilateral institutions:					
1. World Bank	44	122	115	96	82
2. International Finance Corporation	3	13	5	3	2
3. African Development Bank	1	1	13	13	9
4. Asian Development Bank	58	53	55	75	69
5. European Bank for Reconstruction and Development	4	4	4	4	3
6. Inter-American Development Bank	11	14	12	11	9
7. United Nations Development Programme-	95	88	83	87	82
8. United Nations Environment Programme	4	3	3	3	3
9. United Nations Framework Convention on Climate Change---Supplementary Fund	140,955 *3	231,505 *3	270,153 *3	1,044,761 *3	1,082,204 *3
10. International Tropical Timber Organization (ITTO)	2	2	5	7	7

Notes:

1) The amounts listed above are for the Japanese accounting year (from April to March of the following year) and are generally in yen (rounded down to the nearest unit).

2) The amounts listed above represent the total initial budgetary provision for contributions to specific multilateral financial institutions, or other institutions, not the amounts used for areas related to climate change.

3) The figures listed above are the contribution for each year expressed in units of hundred millions of yen. Units are truncated. However, figures for “2. Least Developed Country Fund (LDCF)” under the Global Environment Facility (GEF) and the United Nations Framework Convention on Climate Change---Supplementary Fund, which is composed of multiple organizations names, are in dollar units.

4) The amounts listed for “7. United Nations Development Programme” represent contribution only for regular resources. UNDP’s focus areas include energy and environmental issues.

Table 6.2.1 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2007 (Loan aid)

(US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China			134.13		146.86		160.44	441.43						
2.India		115.31	214.31					329.62						
3.Indonesia	220.85							220.85						
4.Viet Nam		177.31						177.31						
5.Kenya	47.71							47.71						
6.Samoa	39.03							39.03						
7.Morocco							26.87	26.87						
Total	307.59	292.61	348.44	0.00	146.86	0.00	187.31	1282.81						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.2 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2007 (Grant Aid)

(Commitment base: US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.Philippines	6.18						5.17	11.35						
2.Indonesia							7.47	7.47						
3. Asia (unclassified)			0.50					0.50						
4.Guyana			0.54					0.54						
5.Peru			0.08					0.08						
6.Papua New Guinea			0.35					0.35						
Total	6.18	0.00	1.47	0.00	0.00	0.00	12.64	20.29						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.3 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2007 (Technical Cooperation)

(Commitment base: US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China	0.03		1.57		0.00		1.63	3.23						
2.Viet Nam	0.14		1.95				0.30	2.39						
3.Mexico	0.02			0.07	0.37		1.43	1.90						
4.Mongolia	0.00						1.75	1.75						
5.Egypt							1.67	1.67						
6.Philippines			0.87				0.74	1.61						
7.Syria							1.28	1.28						
8.Algeria					0.04		1.06	1.1						
9.Thailand	0.00		0.05				0.92	0.97						
10.Peru	0.59						0.27	0.86						
11.Others	1.79		2.86	0.39	2.94		3.94	11.91						
Total	2.59	0.00	7.29	0.46	3.35	0.00	14.99	28.68						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.4 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2006 (Loan aid)

(US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.India		512.06	119.73	30.01				661.80						
2.Indonesia	246.02	16.06						262.08						
3.paraquay	183.87							183.87						
4.China			63.87				78.81	142.67						
5.Egypt	91.62							91.62						
6.mongolia						25.61		25.61						
								0.00						
Total	521.51	528.12	183.60	30.01	0.00	25.61		1367.65						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.5 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2006 (Grant Aid)

(Commitment base: US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China			1.87				6.81	8.69						
2.Myanmar							2.84	2.84						
								0.00						
								0.00						
								0.00						
Total	0.00	0.00	1.87	0.00	0.00	0.00	9.65	11.52						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.6 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2006 (Technical Cooperation)

(Commitment base: US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China	1.34		0.00	0.01	0.01		1.08	2.45						
2.Viet Nam	0.01		1.73				0.06	1.81						
3.The Dominican Republic	0.02				1.34			1.36						
4.Ghana	1.23							1.23						
5.Nigeria	1.14							1.14						
6.Mexico						0.00	1.10	1.10						
7.Palau					1.09			1.09						
8.Syria							0.94	0.94						
9.Egypt	0.00			0.01			0.86	0.87						
10.Nepal	0.00				0.70		0.06	0.77						
11.Others	1.86		1.48	0.09	1.59	0.06	3.40	8.48						
Total	5.62		3.22	0.10	4.73	0.06	7.50	21.23						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.7 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2005 (Loan aid)

(US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.Turkey		896.75						896.75						
2.India		175.22	227.31					402.53						
3.Indonesia	272.70							272.70						
4.Azarbaijan	265.94							265.94						
5.China			59.06				135.61	194.68						
6.Armenia	144.58							144.58						
7.Tunisia	15.72							15.72						
								0.00						
Total	698.94	1071.97	286.38	0.00	0.00	0.00	135.61	2192.90						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were extracted from areas thought to correspond from CRS purpose codes.

Table 6.2.8 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2005 (Grant Aid)

(Commitment base: US$ millions)

	Mitigation								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China			3.35					3.35						
2.Ghana							0.42	0.42						
								0.00						
								0.00						
								0.00						
Total	0.00	0.00	3.35	0.00	0.00	0.00	0.42	3.77						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for adaptation is difficult to extract since adequate data is not available in DAC/CRS and other data.

3) Sectors were derived from areas thought to correspond from CRS purpose codes.

Table 6.2.9 Bilateral and intra-regional economic cooperation related to the implementation of the Convention for 2005 (Technical Cooperation)

(Commitment base: US$ thousands)

	Reduction								Application					
Country/Region Receiving Assistance	Energy	Transport	Forestry	Agriculture	Waste disposal	Industrial	Others	Subtotal	Capacity building	Management of coastal regions	Other vulnerability assessment	Other vulnerability assessment	Subtotal	Total
1.China	1.44					0.01	1.68	3.14						
2.Nepal	0.01				2.14		0.03	2.17						
3.Bangladesh	0.04						2.13	2.17						
4.Cuba	0.02				1.66	0.02	0.02	1.71						
5.Syria	0.01				0.02		1.37	1.40						
6.Malaysia	0.02				0.01		0.90	0.94						
7.Mexico	0.03				0.05	0.02	0.81	0.91						
8.Nigeria	0.88						0.01	0.90						
9.Indonesia	0.01		0.75	0.01			0.09	0.87						
10.Laos	0.86						0.01	0.87						
11.Others	2.78		2.42	0.75	1.29	0.35	3.22	10.81						
Total	6.10		3.17	0.77	5.16	0.40	10.27	25.87						

Notes:

1) Mitigations were created based on Rio markers founded on DAC and CRS data (decimals are rounded to the thousandth).

2) The amount allocated for application is difficult to extract since adequate data is not available in DAC/CRS and other data.

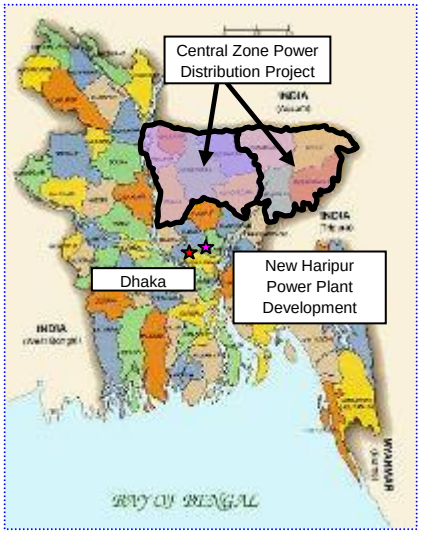
3) Sectors were extracted from areas thought to correspond from CRS purpose code

Table 6.3 Examples of Economic Cooperation Projects and Programs related to Implementing the Convention

Mitigating measures

Yen Loans for Climate Change Countermeasures

Bangladesh: New Haripur Power Plant Development Project, Central Zone Power Distribution Project



(1) New Haripur Power Plant Development Project (Phase II)

(22.21 billion yen)
(Planned location for new Haripur power plant construction)

Project Overview

This project is for the construction of and technical assistance for a highly efficient combined-cycle thermal power plant (360 MW) in Narayanganj Town, located in the suburbs of Dhaka, which will control CO2 emissions. Increased power generation paired with streamlined operations and maintenance will contribute to stable power supply. Thus CO2 emissions are expected to be reduced significantly compared to traditional power generation facilities.

(2) Central Zone Power Distribution Project

(9.715 billion yen)

(Power distribution in Bangladesh)

Project Overview

This project will construct and revamp a new power distribution network in central Bangladesh in the Greater Mymensingh and Sylhet districts. It will also provide assistance in developing the organizational infrastructure of the state-run power distribution network so as to decrease power loss during distribution, thereby cutting CO2 emission levels.

Mitigating measures

Grant Aid for Environment Programs

Bangladesh: The Programme for Improvement of Solid Waste Management in Dhaka City toward the Low Carbon Society

Development of Human Resources

Environmental education for Drivers etc. (Awareness on Global Warming)

Technical Assistance for Maintenance

Capacity Development of Dhaka City

Provision of Waste Collection Vehicles

Change to CNG Vehicles → CO2 Reduction

Maintenance

Tools and Equipment for Workshop

Formulation of CNG Promotion Plan

Waste collection trucks

Current truck

Natural gas powered truck (actual trucks may appear different)

Amount donated: 1.215 billion yen

Adaptation measures

Grant Aid and Loan Assistance

Bangladesh: -Seamless Assistance- Cyclone and flood countermeasures, emergency assistance, rehabilitation and reconstruction assistance

Cyclone shelters

-Project for Construction of Multipurpose Cyclone Shelters (grant aid):

A total of 81 cyclone shelters were constructed cooperatively in response to damage incurred during the 1991 cyclone. These shelters are utilized as primary schools during normal times. This project helped to equip these shelters against damage from the high tides that accompany cyclones, while also improving school facilities.

Occurrence of Cyclone Sidr

Cyclone Sidr
Occurred on November 15th, 2007 Maximum wind velocity: 69 m/s (250 km/h)
Minimum atmospheric pressure: 944 hpa

Bangladesh was directly hit by two major floods in July and September 2007, and then again by Cyclone Sidr in November. These disasters hit a vast number of victims, while also significantly damaging infrastructure such as roads and levees.

Seamless assistance provided

[Emergency Assistance]
—Provision of emergency relief supplies <grant> (November 2007): tents, blankets, water, etc.
—Provision of emergency grant aid assistance <grant> (November 2007): assistance through international organizations

[Rehabilitation Assistance]
—Emergency rehabilitation project for disaster damage <loan> (February 2008): The necessary funds were provided for importing goods vital to sustainable activities, such as agriculture. Also, roads, levees and other facilities were promptly restored.

[Assistance for reconstruction and countermeasures against future disasters]
— Needs assessment survey on cyclone disaster reconstruction assistance (December 2007): An assessment was conducted to consider mid- to long-term assistance needs.
—Project for Construction of Multipurpose Cyclone Shelters in disaster areas of Cyclone Sidr <grant> (June 2008): Under this project, there are plans to build 36 additional shelters in four provinces that were particularly damaged from the cyclone.

Adaptation measures

Programme Grant Aid for Environment and Climate Change

Kenya: The Project for Community-Based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin

Project Outline

This project is consist of construction for basic infrastructure (e.g. culvert bridge, weir, evacuation center, etc.) and promotion of public awareness for prevention of flood disaster in the 24 villages in Nyando River Basin in Kenya, based on the adaptation programme to climate change.

Location Map of Study Area

Construction for Bank Protection Works

Community Flood Management Training for Evacuation.

Adaptation measures

Development Survey → Grant Aid

Cambodia: Comprehensive Agricultural Development of Prek Thnot River Basin, Project for Improvement of Roleang Chrey Headworks

Project Overview

Prek Thnot River Basin is a major rice-producing area. However, production is unstable as the ratio of irrigated land remains low. Droughts in the dry season and flood damage in the rainy season are frequent, making this a region vulnerable from low production and self-sufficiency.

< Comprehensive Agricultural Development of Prek Thnot River Basin>

Between July 2005 and August 2008 a development survey was conducted in the basin with the objective of 1) considering measures for better agricultural production through the effective use of water resources (draft of the master plan), 2) providing project assistance for upgrading existing irrigation facilities that carry a high level of priority and urgency (FS survey), 3) establishing a flood warning plan and considering measures to reduce the damage incurred from flooding, 4) drafting plans for partner country counterparts and improving the technology related to irrigation management, spreading agriculture, etc. (employing a pilot project).
In the future, if climate change leads to greater fluctuations in rainfall and to the increased intensity and frequency of disasters such as drought and flooding, there is concern that the region will face a more serious level of production decline. However, based on the results of this survey, if irrigation facilities are developed and water resources are utilized effectively, it is anticipated that the resistance capacity against flooding and drought will increase. Furthermore, if the flood-warning plan proposed in this survey is actually drafted, it is expected to prevent flood disasters resulting from climate change from growing more serious.

< Project for Improvement of Roleang Chrey Headworks>

Under this project, assistance will be provided via grant aid for constructional improvements to facilities that have deteriorated and show marked decline in functional performance after a development survey is conducted 34 years following their construction (June 2009 EN). This will accordingly lead to reduced damage from flooding as well as proper and stable water supply in downstream irrigation areas

Mitigating measures

Mitigation Measure Assistance using Japanese ODA Loans (CDM Project)

Egypt: Zafarana Wind Power Plant Project

Project description	Authorized	Loan amount (million JPY)	Interest rate	Redemption period / deferment period
A wind power plant is being newly constructed in the Zafarana area, 220km southeast of the Egyptian capital of Cairo, on the coast of the Red Sea (With 120MW output, this plant will generate roughly twice the power of Japan's largest-scale wind power station at Soya [57MW])	October 2003	13,497	0.75%	40/10 years

- Registered as CDM project in June 2007 (The first large-scale ODA project in the world to become a CDM project)
- GHG reductions resulting from this project: Approx. 250,000 tons annually
- These reductions are comparable to the volume of CO2 absorbed by a forest roughly the size of Tokyo's 23 wards

(Image)

Cross-sectoral

Yen Loans for Climate Change Countermeasures

Indonesia: Climate Change Program Loan

Program Overview

Policy talks were held between the governments of Japan and Indonesia on climate change, whereafter a Policy Action Plan that contributes to climate change countermeasures was established and agreed on between the two governments. The plan is based on the National Action Plan Addressing Climate Change, which was drafted by the Indonesian Government. This program provides yen loans to Indonesia after an assessment of disbursements for the aforementioned action policy actions, which will be implemented by the Indonesian Government. Approximately 30.8 billion yen was provided in 2008, and during the aforementioned assessment, progress management monitoring was conducted on the agreed policy actions, while advice was offered relating to areas that need improvement. This program can be utilized as a base for clarifying the issues that require attention for policy actions and to achieve urgent objectives, while also incorporating the proper assistance in a timely fashion. The Agence Francaise de Developpement (AFD) of France, a co-financer for the program, is also participating in monitoring activities.

Policy Actions in Indonesia (examples)

Forest Sector

1) A pilot project will be launched ahead of a new market mechanism to prevent the decline of forests (Reducing Emissions from Deforestation and Forest Degradation (REDD)).
2) Efforts will be made to strengthen CO2 absorption capacity through the forest sector by firmly managing forested sites, including preventative measures against forest fires and the recovery of peatlands.

Water Resources Sector

The following measures will be implemented in order to enforce optimal management of water areas so as to adapt to the impacts of climate change.

1) Drafting integrated water resource management plans.

Energy Sector

<Power generation related>
Improvement of systems relating to reusable energy development, including geothermal power development.
<Industrial, domestic (household), and commercial sectors>
1) Related laws and ordinances will be developed aimed at improving energy efficiency.
2) Efforts will be made to improve data collection for energy consumption in the major industrial sectors (steel, cement, etc.). A roadmap will also be created aimed at cutting CO2 emissions. CO2 emission reduction regulations will be established that include targets for each sector.

Other

Policies and systems relating to CDM, co-benefits approach, early weather warning systems, etc. will be constructed and upgraded as part of cross-sectoral efforts in the agricultural sector, for national land use plans, and for other issues.