

Chapter 3

Environment and Climate Change

Photo: Kenshiro Imamura/JICA

Tackling climate change is a pressing issue that requires long-term and global efforts. Climate change will continue to be one of the most important challenges in the field of development assistance. Japan has provided support to developing countries on this issue through the Cool Earth Partnership since 2008, and in September 2009 announced the “Hatoyama Initiative.” Under this initiative, Japan will make even more active efforts to support the climate change countermeasures of developing countries.

Section 1

Japan’s Efforts – The Hatoyama Initiative

Climate change is an urgent matter for mankind that threatens human security across the borders. As such, it is essential for the international community, including both developed and developing countries, to work together to enhance measures on this issue. In order to reduce global greenhouse gas emissions, it is important that all the major economies of the world, including the United States and China, will participate in the establishment of a fair and effective international framework.

In September 2009, Prime Minister Yukio Hatoyama announced at the United Nations (UN) Summit on Climate Change that Japan would actively commit itself to setting a long-term reduction target from the standpoint that developed countries need to take the lead in emission reduction efforts. With regard to a mid-term target, Prime Minister Hatoyama announced that Japan would aim to reduce its emissions by 25% by 2020, if compared to the 1990 level, consistent with what the science calls for in order to halt global warming, premised on the establishment of a fair and effective international framework by all major economies and agreement on their ambitious targets. This target was welcomed as an ambitious one by the leaders of other countries and the UN Secretary-General Ban Ki-moon.



Prime Minister Yukio Hatoyama delivering an address at the informal high-level event at the 2009 United Nations Climate Change Conference in Copenhagen (COP15)
(Photo: FTP=Jiji)

At the same time, solving the problem of climate change will entail a vast amount of financial resources. In particular, to support adaptation efforts by vulnerable developing countries and small island countries, such financing should be strategically expanded. Prime Minister Hatoyama announced the “Hatoyama Initiative” at the UN Summit on Climate Change held in September 2009. He stated that

Japan was prepared to provide more financial and technical assistance than in the past to developing countries, in accordance with the progress of international negotiations.

The Government of Japan carefully considered the elaboration of support to developing countries through the “Hatoyama Initiative,” and in November 2009 proposed the establishment of a framework (from 2013) for multi-lateral support to developing countries. In December 2009, at the fifteenth session of the Conference of Parties to the United Nations Framework Convention on Climate Change (COP15) in Copenhagen, Denmark, Japan announced that, under the “Hatoyama Initiative,” it would provide financial assistance to developing countries which are taking active

emission reduction measures or those which are vulnerable to the negative impacts of climate change, of approximately 1 trillion 750 billion yen (about US\$15 billion), including public and private financing, of which public financing comprises approximately 1 trillion 300 billion yen (about US\$11 billion). This assistance is premised upon the establishment of a fair and effective international framework by all major economies and agreement on ambitious targets. This announcement was welcomed by other countries and gave a boost to negotiations. Carrying out the “Hatoyama Initiative,” Japan will serve as a bridge between developed and developing countries, and will contribute to the transformation of the world to a low carbon society at a global level.

Section 2

Specific Cooperation for Climate Change Measures

Climate change brings about various impacts on the living environment, such as droughts, floods and other extreme weather, as well as rising sea levels due to global warming. In order to effectively respond to these circumstances, it is necessary to develop and enhance socioeconomic environments, such as infrastructure, technology, information, funding, and management capacity (adaptation measures). In developing countries in particular, however, climate change measures tend to fall behind as they lack sufficient funding, technology and knowledge. There is also a risk that progress made in the area of human development ^(Note 8) may stagnate, or even step back, due to the impacts of climate change. In 2009, Japan implemented a project, as the cooperation on the environment, constructing disaster-resistant buildings and anti-flood measures to raise the awareness of local residents regarding disaster prevention in 24 villages (communities) along the Nyando River in Kenya based on an adaptation program. Furthermore, Japan has also extended grant aid for the provision of safe and sanitary drinking water and the procurement of resources and materials necessary to conduct disaster countermeasures to four countries in Africa which suffer from floods, droughts and other extreme weather due to climate change.

Greenhouse gas, which causes climate change, is not only emitted by developed countries. At the moment, about

a half of global greenhouse gas emissions come from developing countries, which are not bound by the Kyoto Protocol to any emission reduction obligation. Under the principle of “common but differentiated responsibilities,” developing countries must also make an effort to reduce greenhouse gas emissions in the process of working toward sustainable development and the eradication of poverty. On the other hand, developed countries are required to actively support efforts of developing countries (mitigation measures) which lack sufficient skills and funding for measures for emission reduction. In 2008, Japan cooperated in the construction of a high-efficiency combined cycle thermoelectric power plant featuring reduced CO₂ emissions in Bangladesh, and provided technical assistance. It is anticipated that these efforts will reduce drastically CO₂ emissions compared to a current electric power facility, through an increase in the amount of power generated and improved efficiencies regarding operations and maintenance.

Furthermore, Japan also actively supports policy formulation in developing countries. Japan has established the “Policy Action” to be carried out over the three years (2007-2009) based on the National Action Plan Addressing Climate Change, drawn up by the Government of Indonesia. Through the Climate Change Program Loan (CCPL) which was provided after assessing the achievements of the “Action,”

Notes: (8) Areas including eradication of extreme poverty, health, food and education

Japan extended approximately 30.8 billion yen in 2008 as a contribution for the first phase, and another approximately 37.4 billion yen (including approximately 9.4 billion yen in ODA loans for Economic Stimulus Support) in 2009 for the second phase, while monitoring activities at the same time.

In addition, Japan is also implementing assistance utilizing its excellent environmental technologies, including the provision of clean energy generated by solar power, which greatly contributes to reductions in greenhouse gas

emissions compared to the emissions generated by the thermoelectric power.

Japan will provide more assistance for developing countries under the “Hatoyama Initiative,” in the hope that it will help developing countries to overcome their vulnerability to climate change and promote the active involvement of all major economies in the establishment of a fair and effective new international framework.

Section 3 Other Cooperation

1. The Fifth Pacific Islands Leaders Meeting (PALM5)

In May 2009, Japan hosted the Fifth Pacific Islands Leaders Meeting (PALM5)^(Note 9) in Tomamu, Hokkaido, inviting the leaders and representatives of 16 member countries and areas of the Pacific Islands Forum (PIF). At PALM5, heated discussion on various topics, including the environment and climate change, took place under the catchphrase, “We are islanders – Towards an Eco-friendly and Rich Pacific.” As a result of the meeting, the Hokkaido Islanders’ Declaration was adopted.

At the meeting Japan announced that it will extend assistance on the scale of 50 billion yen over the next three years. With regard to the environment and climate change issues in particular, Japan also advocated the Pacific Environment Community, an initiative to cooperatively engage in such issues, including international negotiations for COP15. In addition, as part of assistance under this initiative, Japan announced that it will cooperate, through a contribution of



The Fifth Pacific Islands Leaders Meeting

6.8 billion yen to PIF, in the form of a provision of solar panels and seawater desalination units as well as human resources development for 1,500 people in the areas of the environment and climate change. In response to this announcement, participating countries and areas expressed their support, as well as their expectations that Japan will take the lead and provide assistance on the climate change issue, as it affects the existence of their nations.

Notes: (9) PALM5: The Fifth Pacific Islands Leaders Meeting

2. Other Specific Environmental Cooperation

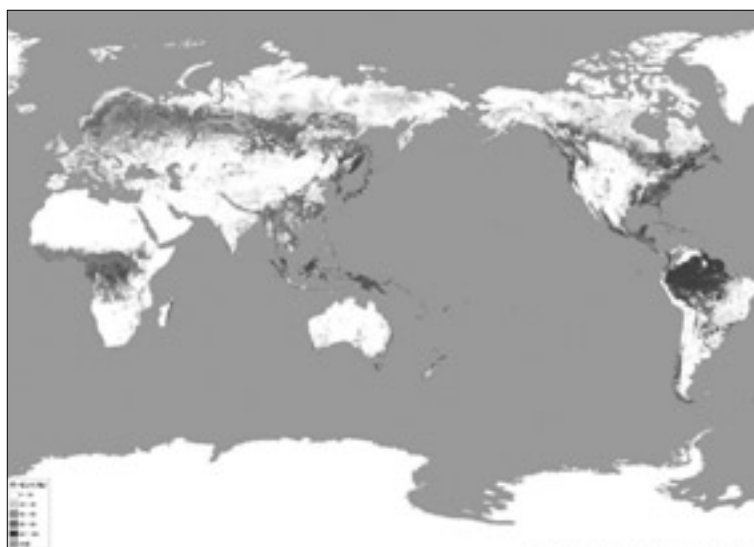
Developing countries which are experiencing rapid economic growth and urbanization face not only climate change but also other various environmental issues, including air and water pollution. In the Environmental Conservation Initiative for Sustainable Development (EcoISD),^(Note 10) which Japan adopted in 2002, the “application of Japan’s experience and scientific technology” was highlighted as one of the basic policies. As such, Japan has worked to draw on its experience with pollution issues and utilize its advanced environmental technology to improve pollution alleviation measures implemented in urban areas and to improve the living environments of residents. For example, Japan has extended technical assistance to Viet Nam on water quality monitoring and the enhancement of regulations for factories which are the source of pollution, with the objective of improving the water ecosystems of the country. Furthermore, Japan has also provided assistance in the form of yen loans for the development of sewage treatment facilities in Hanoi, Ho Chi Minh and other cities. In addition, Japan is also extending technical assistance to China, Viet Nam, Fiji, Mexico and other countries in order to promote the 3Rs^(Note 11) among local residents, companies and other organizations.

Furthermore, Japan extends assistance to developing

countries to help them manage and conserve the environment and the biodiversity, taking into consideration the living environments of local residents. Japan is providing assistances for the conservation and maintenance of natural reserves by helping them to establish a system modeled after that of the national park system of Japan, sustainable forest management, and measures against desertification. For example, in Mexico, Japan is carrying out a cooperation project in which both the local government and people work together for the conservation of the mangrove ecosystem in the natural reserve of Yucatan, as well as for the promotion of the use of natural resources in a sustainable manner.

In October 2010, the “International Year of Biodiversity” (IYB), the Tenth Conference of the Parties on the Convention on Biological Diversity (COP10) will be held in Nagoya City, Aichi Prefecture. The global target for after 2010 (the Post 2010 Target) is scheduled to be established at COP10, and Japan, as the host country, shall lead the conference to success by making concrete proposals, as well as further promote cooperation on biodiversity.

In conserving biodiversity, in particular, the conservation of forestry ecosystems is extremely important. Japan has strongly supported the promotion of sustainable forest management, the suppression of deforestation and degradation,



World map showing areas of vegetation

Notes: (10) EcoISD: Environmental Conservation Initiative for Sustainable Development
(11) 3R: Reduce, Reuse, Recycle









and measures against illegal logging and other issues faced by developing countries through its bilateral ODA projects, and contributions to international organizations and funds. For example, in Indonesia, since September 2008 Japan has cooperated in the form of technical assistance and human resources development for forest resource management through the use of images taken by the advanced land observing satellite (ALOS) “Daichi.”

Moreover, Japan is promoting the “Global Mapping Project” to develop a global map on land cover, vegetation and so on, in cooperation with the national mapping

organizations of other countries, in order to study the current situation and changes in the global environment. In 2009, Japan hosted a global mapping seminar for education-related personnel and nongovernmental organizations (NGOs) focused on the environment and/or disaster prevention, and a workshop inviting the personnel related to national mapping organizations as well as experts on the environment and disaster prevention from around the world.

Japan will continue to actively cooperate in the areas of the environment and climate change.

Chart I-4. Progress Chart of the Millennium Development Goals (MDGs) (from UN MDGs 2009 Progress Chart and other sources)

Goal	Goals and targets Indicator written in parenthesis	All developing countries		North Africa	Sub-Saharan Africa		
		Calendar year	Progress chart				
 Goal 1 Eradicate extreme poverty and hunger	1. Reduce extreme poverty by half (Proportion of people living below \$1 per day [percentage])	1990	45.5	4.5	57.4		
		1999	32.9	4.4	58.2		
		2005	26.6	2.6	50.7		
	2. Productive employment and decent employment (Employment-to-population ratio)	1991	64.6	42.7	64.4		
		2000	63.3	42.3	64.0		
		2008	62.5	45.1	64.3		
	3. Reduce hunger by half (Proportion of population below minimum level of dietary energy consumption [percentage])	1990-92	20	Less than 5	32		
		2004-06	16	Less than 5	28		
		2008	17	Less than 5	29		
 Goal 2 Achieve universal primary education	4. Universal primary schooling (Net enrolment ratio in primary education [percentage])	1991	79.6	82.8	53.5		
2000		83.0	91.3	58.5			
2007		88.1	95.6	73.5			
 Goal 3 Promote gender equality and empower women	5. Equal girls' enrollment in primary school (Ratio of girls to boys in primary education [percentage])	1991	0.87	0.82	0.83		
		2000	0.91	0.91	0.85		
		2007	0.95	0.94	0.90		
	6. Women's share of paid employment (Share of women in wage employment in the non-agricultural sector [percentage])	1990	31.5	21.0	22.8		
		2000	33.5	19.8	26.2		
		2005	34.3	19.5	28.0		
	7. Women's equal representation in national parliaments (Proportion of seats held by women in national parliament [percentage]) *As of January 31, 2009	1990	10.4	2.6	7.2		
		2000	10.8	2.1	9.1		
		2005	13.9	5.4	14.2		
	2009	17.2	8.3	18.1			
		 Goal 4 Reduce child mortality	8. Reduce mortality of under-five-year-olds by two-thirds (Under-five mortality rate per 1,000 live births [number of children])	1990	103	83	183
				2000	88	48	164
2007	74			35	145		
	9. Measles immunization (Proportion of one year-old children immunized against measles [percentage])	1990	71	84	56		
		2000	70	93	55		
		2007	80	96	73		
 Goal 5 Improve maternal health	10. Reduce maternal mortality by three quarters (Maternal deaths per 100,000 live births)	1990	480	250	920		
		2005	450	160	900		
	11. Access to reproductive health (Antenatal care coverage [percentage]) *women aged 15-49 who have had at least one visit	1990	64	48	68		
		2006	79	77	75		
 Goal 6 Combat HIV/AIDS, malaria and other diseases	12. Halt and reverse spread of HIV/AIDS (HIV prevalence among population aged 15-24 years [percentage])	1990	0.3	Less than 0.1	2.1		
		2002	1.0	Less than 0.1	5.4		
		2007	0.9	0.1	4.9		
	13. Halt and reverse spread of tuberculosis (Number of new cases per 100,000 population [excluding HIV infected])	1990	149	60	150		
		2000	140	48	204		
		2007	139	42	234		
 Goal 7 Ensure environmental sustainability	14. Reverse loss of forests (Proportion of land area covered by forest [percentage])	1990	31.3	1.3	29.2		
		2000	30.6	1.5	27.3		
		2005	30.3	1.5	26.5		
	15. Halve proportion without improved drinking water (Proportion of population using an improved drinking water source [percentage])	1990	71	88	49		
2006		84	92	58			
16. Halve proportion without sanitation (Proportion of population using an improved sanitation facility [percentage])	1990	41	62	26			
	2006	53	76	31			
17. Improve the lives of slum-dwellers (Proportion of urban population living in slums [percentage])	1990	46.3	36.2	71.5			
	2000	39.4	20.3	65.8			
	2005	35.7	14.5	62.2			
 Goal 8 Develop a global partnership for development	18. Internet users (Number of internet users per 100 population)	1995	0.1	Less than 0.05	0.1		
2000		2.1	0.8	0.5			
2007		12.7	14.4	3.7			

*1 The eight MDG logos above are created as part of a campaign dubbed *Hottokenai Sekai no Mazushisa* (Don't let it be – World Poverty).

*2 For details of the statistics data above, please refer to a UN official site Millennium Development Goals Indicators (<http://unstats.un.org/unsd/mdg/Default.aspx>).

① Target already met or very close to being met. ② Target is expected to be met by 2015 if prevailing trends persist. ③ Target is not expected to be met by 2015. ④ No progress, or a deterioration or reversal. — Insufficient data.

Eastern Asia	South-Eastern Asia	Southern Asia	Western Asia	Oceania	Latin America & Caribbean	Commonwealth of Independent States in Europe	Commonwealth of Independent States in Asia
60.1 35.6 15.9	39.2 35.3 18.9	49.5 42.2 38.6	2.2 4.1 5.8	—	11.3 10.9 8.2	1.6 3.0 0.3	6.3 22.3 19.2
74.8 73.7 71.3	67.8 66.5 65.8	58.8 56.5 55.9	48.3 46.2 44.5	67.7 68.3 68.3	55.0 58.5 61.3	58.3 53.3 57.5	57.1 55.6 58.4
15 10 10	24 15 15	24 22 21	6 8 8	12 13 15	12 8 8	Less than 5 Less than 5 Less than 5	15 11 9
98.0 99.1 95.2	95.6 94.3 94.1	71.9 79.1 89.8	80.4 84.8 88.2	—	86.7 94.3 94.9	90.8 88.0 92.5	88.3 93.7 95.1
0.94 1.01 0.99	0.97 0.97 0.98	0.77 0.84 0.95	0.82 0.88 0.90	0.90 0.90 0.89	0.99 0.97 0.97	1.00 0.99 1.00	0.99 0.99 0.98
38.0 39.6 40.9 41.3	35.6 37.4 37.0 37.4	13.4 17.2 18.3 18.8	17.3 19.6 20.7 21.2	32.8 35.1 35.6 35.8	36.5 40.7 42.1 42.7	50.3 51.2 52.1 52.1	45.4 45.5 46.2 46.2
20.2 19.9 19.4 20.2	10.4 9.7 15.5 17.3	5.7 6.7 8.6 16.7	4.6 4.7 5.0 9.2	1.2 3.4 3.0 2.5	11.9 14.8 19.0 22.2	7.5 10.5 14.1	7.1 9.9 14.0
45 36 22	77 46 34	122 95 77	67 46 34	85 69 59	54 33 24	26 23 15	78 62 42
98 85 94	70 80 84	57 58 72	79 87 87	70 68 62	76 92 93	85 97 99	— 96 97
95 50	450 300	620 490	190 160	550 430	180 130	58 51	—
80 90	73 92	48 70	54 77	—	79 95	—	90 96
Less than 0.1 0.1 0.1	0.2 0.4 0.4	Less than 0.1 0.3 0.3	Less than 0.1 0.1 0.1	Less than 0.1 0.4 1.3	0.2 0.5 0.6	Less than 0.1 0.7 1.2	Less than 0.1 Less than 0.1 0.1
122 107 100	277 228 202	172 161 160	55 42 38	202 188 158	84 55 44	44 100 89	60 104 114
16.5 18.1 19.8	56.3 49.9 46.8	14.0 14.3 14.2	3.3 3.4 3.5	68.3 65.0 63.4	49.9 47.2 46.0	46.6 46.7 46.7	3.9 3.9 3.9
68 88	73 86	74 87	86 90	51 50	84 92	95 97	87 88
48 65	50 67	21 33	79 84	52 52	68 79	89 88	95 93
43.7 37.4 36.5	49.5 39.6 34.2	57.2 45.8 42.9	22.5 20.6 25.8	— 24.1	33.7 29.2 27.0	—	—
0.1 3.6 18.7	0.1 2.4 11.8	Less than 0.05 0.5 6.9	0.1 3.9 15.7	Less than 0.05 1.9 5.7	0.1 3.9 25.7	0.1 1.7 21.5	Less than 0.05 0.5 7.8

Box 1

Japan's Assistance in the Area of Natural Environment Conservation

— For the 2010 International Year of Biodiversity (IYB) —

There are over 30 million species on this planet. Humankind is a member of the enormous ecosystem comprised of such diverse species, and receives great benefits from the ecosystem. However, because of human activities, the ecosystem continues to deteriorate and the number of species living on the planet is in decline. According to the United Nations Millennium Ecosystem Assessment announced in 2005, benefits from the ecosystem are expected to notably decrease in the first half of this century.

The international framework on biodiversity conservation and its sustainable use, the Convention on Biological Diversity (CBD), was adopted in May 1992 to promote efforts to fight against this problem. This Convention was opened for signature at the United Nations Conference on Environment and Development (UNCED, Earth Summit) held in Rio de Janeiro, Brazil in June of the same year, and then entered into force in December 1993 (it has been concluded by 190 countries and the European Community (EC) as of September 2009). The year 2010 has been declared as the International Year of Biodiversity, so many events related to biodiversity conservation are expected to be organized around the world. In Japan, the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10) will be held in Nagoya City, Aichi Prefecture in October 2010.

Japan announced the Environmental Conservation Initiative for Sustainable Development (EcoISD) in 2002, which positioned natural environment conservation as one of the priority areas for environmental cooperation conducted mainly through Official Development Assistance (ODA). Moreover, the Medium-Term Policy on Official Development Assistance of Japan formulated in 2005 has set natural environment conservation, including the conservation and management of natural reserves and forests, among others, as one of its priority issues. Based on these, Japan is extending its assistance for the conservation and sustainable use of biodiversity in developing countries through the provision of ODA. Among such ODA projects that Japan has implemented are the "Capacity Enhancement Project for Coral Reef Monitoring" in the Republic of Palau and the Bornean

Biodiversity and Ecosystems Cooperation Programme in Malaysia. Outlined below is the programme carried out in Malaysia.

The State of Sabah in Malaysia, is known to the world for its diverse ecosystem, but its tropical rainforests are rapidly decreasing due to logging and plantation development. In addition, due to the limitation of the total area of reserves in the country, the number of endangered species is increasing in recent years. As such, Japan conducted the Bornean Biodiversity and Ecosystems Cooperation Programme Phase I between February 2002 and January 2007. Specifically, working together with the Government of the State of Sabah and Sabah University of Malaysia, Japan implemented activities to sustainably conserve the precious biodiversity and ecosystems of Borneo by organically combining the following four areas: research and education, management of state parks, management of wildlife habitats, and environmental awareness. Phase II, which is currently being implemented, aims to establish and enhance the system of biodiversity and ecosystem conservation as an administrative system of Sabah based on the results obtained from the conservation activities conducted in Phase I.

At the COP10, the targets after 2010 (Post 2010 Biodiversity Targets) are to be determined. Of the measures for after 2010 discussed within the debate, priority issues are not only those directly related to nature conservation, such as the protection of rare species and management of protected areas, but also a wide range of measures to conserve biodiversity, such as the realization of sustainable production in the activities of agriculture, forestry, fisheries and other industries, and creation of habitat areas maintaining social capital, among others. Furthermore, in light of the trend to make biodiversity a mainstream issue, it is considered necessary to provide development assistance in various areas taking biodiversity into consideration. Japan, which will host COP10, is expected to take on further leadership in the area of natural environment conservation, and carry out various development assistance measures taking biodiversity into consideration.



Bornean Biodiversity and Ecosystems Cooperation Programme Phase II



Instruction on the method to be used for a survey (Photo: JICA)