

(2) Examples of priority regions

■ Asia

Tropical Asia encompasses rich biodiversity. The region is represented not only by broad expanses of tropical forests, but also by rich inland freshwater ecosystems —perhaps the best known of which is the Mekong River. The region is also home to rare and valuable marine ecosystems, all of which contribute significantly to the livelihoods of local communities, as well as to industries. These very ecosystems are yet considerably affected by development. In 2000 - 2005, many parts of Southeast Asia experienced annual deforestation rates of over 0.5 percent, implying a high pressure imposed by development in those regions (Figure 1.3). Reflecting the situations, many parts of Asia are designated as biodiversity hotspots.

JICA's cooperation in the region will support the conservation efforts by respective countries, while at the same time assist regional efforts such as the Green Mekong Initiative¹⁰ in Mekong basin and coastal ecosystems protection including the conservation of mangroves targeting ASEAN countries.

■ Africa

While a major part of African land is characterized by dryer climates (such as desert, steppe and savanna), the Congo River Basin features the second largest tropical rainforest in the world. Madagascar also has vast forests that form a rare ecosystem. The savannas of Africa serve as habitats to rare wildlife, with some areas offering resources for tourism. JICA implements cooperation projects with a focus on Sub-Saharan region, and in the Congo Basin, adopts a regional approach to carry out projects in cooperation with the Central African Forests Commission (COMIFAC).

■ Latin America and the Caribbean

Latin America and the Caribbean have a variety of rare species across the region, of which the Amazon River Basin represents the world's largest tropical rainforest. It is estimated that around a quarter of the world's species of life reside in this basin (UNEP-WCMC 2008), while the Tropical Andes exhibits the richest level of biodiversity among the designated biodiversity hotspots (Mittermeier et al. 2004). In addition to conservation efforts in the Amazon Rainforest, JICA conducts cooperation in the conservation of rare ecosystems throughout the region.

■ Oceania

Oceania offers a nest to a myriad of rare wildlife, while their habitats are rapidly shrinking as a result of development among others. Nearly all of the countries in the region are biodiversity hotspots, and urgent measures

are needed for their protection. As the Pacific region consists of many island nations, JICA adopts a regional approach by collaborating with Secretariat of the Pacific Community (SPC), Secretariat of Pacific Regional Environment Programme (SPREP) and other regional organizations to ensure efficiency of its cooperation.

1.3 JICA's commitment for achieving the Post 2010 Biodiversity Target

At its tenth meeting of CBD in Nagoya, Japan, in October 2010, the Conference of the Parties (COP) will review progress made towards the achievement of the 2010 biodiversity target through its Strategic Plan and adopt a revised and updated Strategic Plan for the Convention, including new biodiversity targets for the post 2010 period.

Preparation of the Post 2010 Biodiversity Targets has been carried out by the Secretariat of CBD (SCBD) and its member countries and relevant organizations. The vision and the five Strategic Goals currently proposed by SCBD and the parties are shown below.

Vision for 2050 – “Living in harmony with nature”

Strategic Goals by 2020

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Strategic Goal B: Reduce the direct pressure on biodiversity and promote sustainable use

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

JICA will assist developing countries to achieve CBD's Strategic Goals through implementing variety of activities according to its Policy stated in this leaflet. The mutual relationship between CBD's proposed post 2010 Strategic Goals and JICA's scope, approach and cooperation items on biodiversity conservation is shown in the Table 1.1.

10) Green Mekong Initiative: The “Decade toward the Green Mekong” initiative. The initiative was presented in July of 2010 at the Third Mekong-Japan Foreign Ministers' Meeting in Hanoi. It treats the Mekong region's environment and climate change issues comprehensively and in the context of the region as a whole. In the initiative, Japan will provide ODA and private-sector loans to Mekong Basin countries to help them realize their ideals with regard to richness of biodiversity, bounty of the countries' land, and abundant water resources.



Table 1.1 Comparison of JICA Guidelines to Biodiversity Conservation and the Post 2010 Biodiversity Target

JICA's scope →	① Promotion of Biodiversity Conservation and the Sustainable Use of its Components			
JICA's approach → Post 2010 Biodiversity Target Strategic goal ↓	1-1 Biodiversity conservation	1-2 Community-based resource management	1-3 Fair and equitable sharing of the benefits arising from the utilization of ecosystem services	1-4 Awareness-raising
A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	<ul style="list-style-type: none"> ● Assistance related to ecotourism or environmental education linked to protected areas 	<ul style="list-style-type: none"> ● Awareness raising programs related to sustainable agriculture and fisheries 		<ul style="list-style-type: none"> ● Assistance in environmental education and awareness raising activities for governments or private sector organizations ● Capacity development for governmental, educational, and private sector organizations regarding environmental education
B. Reduce the direct pressure on biodiversity and promote sustainable use	<ul style="list-style-type: none"> ● Assistance in institutional framework for managing invasive alien species at national and regional levels ● Assistance in technology transfers and facility construction related to quarantining ● Implementation of demonstration projects 	<ul style="list-style-type: none"> ● Assistance in creating community forestry systems suited to local circumstances ● Assistance in the development and commercialization of non-timber forest products ● Assistance in the introduction of forest certification systems ● Assistance in improving livelihood of local communities ● Capacity development of local government regarding community forestry ● Dissemination of agroforestry, and economically and ecologically superior agricultural techniques which reduce the use of pesticides and chemical fertilizers ● Creation of added values by improving preservation and process techniques of agricultural and fisheries products ● The conservation and sustainable use of mangrove ecosystems 		
C. To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	<ul style="list-style-type: none"> ● Assistance in developing appropriate systems for protected area at national and regional levels ● Assistance in developing appropriate systems for community based protected area and enhancing management capacities ● Assistance to organize and conduct conservation programmes of rare species in protected areas 			
D. Enhance the benefits to all from biodiversity and ecosystem services	<ul style="list-style-type: none"> ● Assistance in creating systems to ensure fair and equitable sharing of benefits through mechanisms such as PES and REDD-plus in protected areas ● Assistance for ecological restoration in protected areas 	<ul style="list-style-type: none"> ● Assistance in creating forest tenure systems ● Support to residents in setting out rules for sustainable farming and fisheries ● Support to improving the livelihood of local communities 	<ul style="list-style-type: none"> ● Assisting relevant authorities in improving their capacities ● Assistance in creating PES-related systems ● Establishment and management of seed bank, preservation of endemic microorganisms, and the preservation of traditional breeds 	
E. Enhance implementation through participatory planning, knowledge management and capacity building	<ul style="list-style-type: none"> ● Ecosystem and socioeconomic surveys in protected areas ● Ecological and socioeconomic surveys related to invasive alien species 	<ul style="list-style-type: none"> ● Support for forming community organization ● Ecological and socioeconomic surveys ● Identification and application of traditional knowledge and technologies ● Ecological and socioeconomic surveys in farm and fishing villages 	<ul style="list-style-type: none"> ● Researches related to PES ● Basic research/joint research on genetic resources in resource countries ● Technical assistance in the use and application of traditional knowledge for sustainable development ● Collecting and collating basic data (assessing genetic resources, creating inventories, data management) 	

JICA's scope →	② Generation of "Co-benefits" for Biodiversity Conservation and Climate Change Mitigation/Adaptation (REDD-plus)			
JICA's approach → Post 2010 Biodiversity Target Strategic goal ↓	2-1 Capacity development	2-2 Forest monitoring	2-3 Collaboration with diverse stakeholders	2-4 Generating co-benefits
A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	<ul style="list-style-type: none"> ● Sharing information derived from demonstration project 		<ul style="list-style-type: none"> ● Information campaigns to generate interests by companies and NGOs on REDD-plus and co-benefit ● Collaborative demonstration projects with companies and NGOs 	
B. Reduce the direct pressure on biodiversity and promote sustainable use	<ul style="list-style-type: none"> ● Studies on the causes of deforestation, effective measures, and land- and forest administration ● Review of past forest conservation activities ● Forest management including afforestation and reforestation 		<ul style="list-style-type: none"> ● Implementation of participatory forest management demonstration projects that incorporates REDD-plus 	
C. To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity				<ul style="list-style-type: none"> ● Assistance in designing REDD-Plus frameworks that maximize positive effects on biodiversity conservation ● Inclusion of biodiversity components to forest monitoring and provision of related technical assistance ● Monitoring of the effects of demonstration projects on biodiversity and the incorporation of the obtained information into the system design
D. Enhance the benefits to all from biodiversity and ecosystem services	<ul style="list-style-type: none"> ● Enhancing knowledge of the governments and relevant authorities, including through workshops ● Assistance in establishing reference levels ● Assistance in establishing safeguards, that take into account both the livelihoods of local communities and biodiversity ● Assistance for governments in developing REDD-plus policies ● Developing plans for demonstration projects ● Monitoring and identification of issues 	<ul style="list-style-type: none"> ● Testing of the above monitoring systems through demonstration projects ● Assistance for governments in developing a system to report to such international carbon- and forest-monitoring bodies as UNFCCC and the FAO, and in building relevant capacities ● Supporting governments to contribute to carbon monitoring and accounting systems 	<ul style="list-style-type: none"> ● Development of a mechanism where the opinions of local communities and stakeholders are sufficiently reflected in the design of REDD-plus framework (including ensuring access to resources by local communities as well as their rights to use those resources) 	<ul style="list-style-type: none"> ● Assistance in designing REDD-Plus framework effective in preventing natural disasters and reducing poverty
E. Enhance implementation through participatory planning, knowledge management and capacity building	<ul style="list-style-type: none"> ● Basic surveys in demonstration sites 	<ul style="list-style-type: none"> ● Reviews of existing forest data ● Examinations of optimum remote sensing technologies ● Examinations of optimum techniques for carbon stock estimation ● The design and implementation of optimum forest monitoring systems 	<ul style="list-style-type: none"> ● Development of participatory- and sustainable forest management plans pertaining to REDD-plus; establishment of forest management systems; and related capacity development activities 	



Chapter 2

OVERVIEW OF JICA'S EFFORTS IN BIODIVERSITY CONSERVATION AND REPRESENTATIVE PROJECTS

2.1 JICA's Cooperation: Overview

Between year 2000 and 2008, JICA implemented 74 technical cooperation projects worth 23.5 billion yen, nine grant aid projects of 10.4 billion yen, and 28 ODA loan projects of 210 billion yen for cooperation in forest management and conservation in developing countries. Various activities, such as creating forest information databases, establishing forest management plans and improving the standard of living of local communities were conducted in over a total of 12.3 million hectares of protected areas. Reforestation was carried out for total of 2.8 million hectares of land. Estimated total about 7.7 million people were benefited from these activities. In addition, during this period JICA provided various trainings to total about 390,000 people (for 14,000 government officials and for 376,000 local residents) for their capacity development.

Areas of cooperation and regions implemented

JICA started its cooperation projects in conservation of natural environment in 1970s. During 2000—2009, the Agency implemented 308 projects that were related to biodiversity conservation. Figure 2-1 shows the breakdown of these projects sorted by seven “focus areas” of 2010 targets, adopted

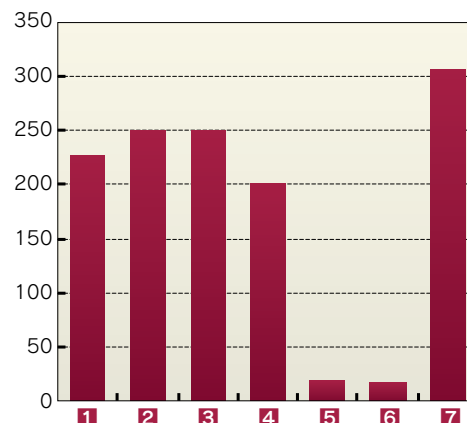
at COP6 of the Convention on Biological Diversity. Almost all of the projects fall under the category of “Improvement of human, scientific and technical capacity to conserve biodiversity (Area 7)”, indicating JICA’s strong emphasis on capacity development that facilitates the creation of self-sustaining mechanisms. Projects that correspond to "Protection of biodiversity (Area 1)", "Sustainable use of natural resources (Area 2)", "Mitigation of threats to biodiversity (including measures to address global warming, Area 3)", and "Sustaining the production of goods and services derived from biodiversity (to sustain the livelihoods of poor in particular, Area 4)" have all been undertaken with roughly the same frequencies.

Meanwhile JICA has not implemented projects that would be categorized under “Sustaining traditional knowledge and practices of indigenous and local communities (Area 5)” or “The fair and equitable sharing of benefits derived from the use of genetic resources (Area 6)” nearly as often.

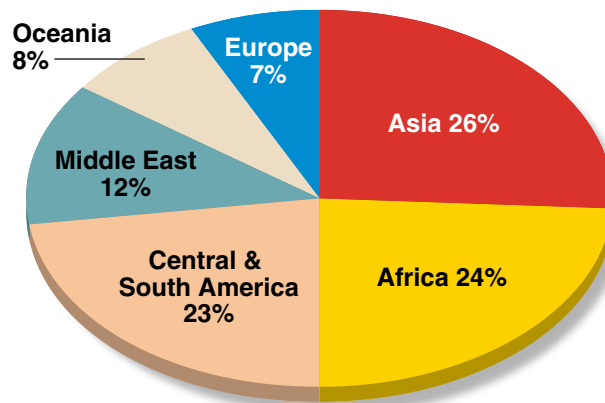
By region, projects carried out in Asia, Africa, and Central/South America account for about a quarter each in ratio, with the remaining quarter covering the Middle East, Oceania, and Europe (Figure 2-2). The figure indicates that the regional distribution of JICA’s biodiversity-related projects has been relatively even.

■ Figure 2-1 JICA Projects for biodiversity conservation by the areas of cooperation (2000-2009)

- 1 Protection of biodiversity
- 2 Sustainable use of natural resources
- 3 Mitigation of threats to biodiversity (including measures to address global warming)
- 4 Sustaining the production of goods and services derived from biodiversity (maintaining the livelihoods of poor in particular)
- 5 Sustaining traditional knowledge and practices of indigenous and local communities
- 6 The fair and equitable sharing of benefits derived from the use of genetic resources
- 7 Improvement of human, scientific and technical capacity



■ Figure 2.2 Regional distribution of biodiversity conservation projects (2000-2009)



Cooperation schemes and representative projects

JICA provides international cooperation through three schemes: technical cooperation, ODA loans (concessionary loans), and grant aid. Methods and representative projects by scheme are shown below.

(1) Technical cooperation

Technical cooperation aims at capacity development of both institutions and individuals in developing countries, at various levels, from grass roots to government officials. It includes provision of technical assistance through experts, the provision of necessary equipment, and training in Japan and overseas. In addressing various challenges arising from different environments, contexts and in countries, JICA applies a variety of methods appropriate for the situations and cooperates in most efficient manner.

Participatory approach

In most of its projects, JICA employs a participatory method in which to encourage local communities to participate and work to improve their living standard and conserve biodiversity at the same time. Here are some examples of projects applying participatory methods. In the **Participatory Forest Management Project Phases I & II in Belete-Gera** (Ethiopia, 2003—2010, p. 23), JICA works with about 9,000 residents and with local governments to grow coffee under natural forests to achieve income generations and forest conserving at the same time. The coffee produced under the project is certified as ecologically sustainable products and sold at higher prices. The **Project for Community Vitalization and Afforestation in Middle Shire** (Malawi, 2007—2012, p. 23), helps local

communities to plant trees to rehabilitate degraded forests and assists sustainable farming to improve their standards of living. **Project for Community-Based Integrated Watershed Management in the Laolo and Comoro River Basins** (Timor-Leste, 2005—2010, p. 25) is an effort to utilize traditional village customs to preserve forests, and to improve the living standard of the people.

Protected area management

JICA implements projects for the restoration of ecosystems and the management of protected areas. Following three projects undertake ecological surveys and activities to enhance management capacities of the governments, and employ community participatory methods as well. In the **Project on Coastal Wetland Conservation in the Yucatan Peninsula** (Mexico, 2003—2010, p. 23), activities are undertaken to restore coastal ecosystems including Mangrove forests, that have been destroyed as a result of pollution caused by wastewater and overfishing among others. The **Borneo Biodiversity and Ecosystems Conservation Program** (Malaysia, 2002—2012, p. 24) established new protected areas, including newly listed sites under the Ramsar Convention for wetlands, and wildlife corridors. By conducting environmental education and other measures, the project also promotes the establishment of a system, which local communities and the governments work together for appropriate protected area management. In the **Project for Enhancing Management Capacity for National Parks and National Reserves in Samoa** (Samoa, 2007—2010, p. 25), JICA assists improving the capacity for protected area management through activities including the establishment of management plans.



Science and Technology Research Partnership for Sustainable Development

To address issues such as the conservation of biodiversity that have global ramifications, it requires not only the cooperation from practitioners of the corresponding sectors, but also collaboration at the forefront of research fields. To this purpose, JICA joined with the Japan Science and Technology Agency (JST) to establish the Science and Technology Research Partnership for Sustainable Development programme, which began in 2008. In the **Conservation of Biodiversity in Tropical Forest through Sustainable Coexistence between Human and Wild Animals Project** (Gabon, 2009—2014, p. 24), wildlife species are monitored to understand of seasonal dynamics in order to protect ecosystems. The research outcomes are expected to contribute for establishing the systems of better symbiotic relationships between humans and wildlife. The **Project for the Development of Internationally Standardized Microbial Resources Center as a Core of Biological Resources Center to Promote Life Science Research and Biotechnology** (Indonesia, 2011—2016, p. 22) would seek various Indonesian microbial resources, and implement a series of research which would contribute for the sustainable agricultural development and conservation. A first integrated internationally standardized microbial resources center is expected to be developed through the project.

Promotion of REDD-plus

For promoting REDD-plus (BOX.6), JICA assists in capacity development for forest monitoring using remote sensing technologies that requires analysis of satellite imagery. For example, in the **Project for the Support on Forest Resources Management through Leveraging Satellite Image Information** (Indonesia, 2008—2011), JICA assists promoting sustainable forest management based on accurate forest resource information, which is obtained by monitoring forest using information provided by Advanced Land Observing Satellite (ALOS) "DAICHI" operated by the Japan Aerospace Exploration Agency (JAXA). The **Carbon Dynamics of Amazonian Forests Project** (Brazil, 2010—2014) aims to develop techniques for quantitative assessment of carbon dynamics in Amazonian forests using forest inventory systems and remote sensing among other technologies.

Volunteer programme

JICA's volunteer program started in 1965. So far, more than 33,000 volunteers (including Japan Overseas Cooperation Volunteers, Senior Volunteers, and Japan Overseas Development Youth Volunteers) have been dispatched to work

in 83 developing countries. In the period from 2000 to 2009, 492 volunteers conducted activities in 40 different vocations, which were related to biodiversity conservation. Among those, 290 volunteers (59 percent) were engaged in "environmental education", followed by 58 volunteers (12 percent) in "ecological system survey", 40 volunteers (8 percent) in "community development", and 28 volunteers (6 percent) in "forest administration, conservation, protection and afforestation".

Training and Dialogue Programme

JICA's Training and Dialogue Programme have three major components. Country-Focused Training and Dialogue are carried out in response to specific requests from respective developing countries. International Training and Dialogue Programme is originated by proposals from Japan to developing countries and are carried out after a corresponding request is received. The third component is the Training Program for Young Leaders, which focuses on training young leaders of next generation. Over 500 Training and Dialogue Programmes are undertaken annually in a broad range of fields, many of which are conducted in partnership with groups and relevant institutions within Japan. This programme is a unique feature rarely seen in the ODA programmes of other donor countries and international organizations, and it makes Japan's ODA quite distinct. In 2009, JICA conducted 26 Training and Dialogue Programmes in environmental conservation including topics for forest conservation, biodiversity conservation, environmental education and ecotourism, and the total 180 trainees participated to the programmes. There are currently 22 programmes underway in 2010 including the topics as described below. The "Eco-Tourism for Sustainable Use of Natural and Cultural Resources", that aims at sustainable development with participation from local communities. Group Training Program on "Conservation of Diverse Forest with Community Participation" instructs skills and methods to involve local communities in the forest management and conservation. The "Conservation and Sustainable Management of Mangrove Ecosystems" provides knowledge and skills on the preservation, restoration, and management of mangrove forests and coastline ecosystems.

(2) ODA loans (concessional loans)

ODA loans support developing countries above a certain income level by providing low-interest, long-term and concessional funds to finance their development efforts such as construction of large scale infrastructure. For the period between fiscal 1990 and 2006, the loans pertaining to

ecosystem conservation and afforestation were provided to India (165 billion yen, 17 projects), China (106 billion yen, 13 projects), and Indonesia (210 billion yen, 6 projects) among others. One concrete example of the ODA loans is the **Tripura Forest Environmental Improvement and Poverty Alleviation Project** (India, 2007—2014), which seeks to achieve synergistic effects from restoring degraded forests, preserving biodiversity, and improving the livelihoods of people in the project area. Another example is the **Sikkim Biodiversity Conservation and Forest Management Project** (India, 2010—2020, p. 22), the scope of which covers ecosystem studies, better management of protected areas, sustainable forest management, the promotion of ecotourism, livelihood improvement, and other initiatives by way of protecting the rich biodiversity of Sikkim, a state of India in the Eastern Himalayas.

(3) Grant aid

Grant aid is a form of ODA involving the provision of development funds without the obligation of repayment. It is used to procure basic infrastructure facilities and equipment, JICA implements comprehensive programmes that offer assistance both in grant aid and technical cooperation combine. For example, technical cooperation was also implemented at the following facilities, which were constructed under the grant aid, including Forest Resource Information Centre in Laos, Coral Reef Centre in Palau and Seed Bank Centre in Myanmar (p.21-22 for details).

BOX.8 Synergistic effects

JICA increases the benefits derived from development and maximizes the effectiveness of cooperation on a broad scale through flexible and coordinated combinations of technical cooperation with ODA loans and grant aid.

Examples:

Grant aid **Technical cooperation**

cooperation projects in the forestry sector (Laos)

Laos is a country where the majority of people make a living from subsistence farming and rely on forest resources for their livelihood. This country is facing deforestation and forest degradation caused by human factors, such as illegal logging practices and excessive reliance on forest resources affected by overpopulation and poverty. The government of Laos has developed a national plan to reduce poverty through improvements in the forestry sector, and is currently developing ways to implement REDD-plus as a measure to combat climate change. In order to support these efforts comprehensively, JICA has committed to the promotion of better forest management through the Forestry Strategy Implementation Promotion Project (technical cooperation at the national level; 2005—2010) as well as the Participatory Land and Forest Management Project for Reducing Deforestation in Lao PDR (technical cooperation at the local level; 2005—2010).

The acquisition of forest-related data, the construction of facilities and equipment to promote forest conservation, and the development of human resources are all necessary to promote REDD-plus initiatives. Assistance to these activities is provided via the Programme for Forest Information Management (2010—2012) by the Japanese grant aid.



Examples:

Grant aid **Technical cooperation**

Cooperation in coral reef conservation and marine protected area (MPA) sector (Palau)

Palau regards tourism, utilizing natural resources such as coral reefs, as the main driver of its economic development. Naturally, conservation of coral reef ecosystem becomes one of the main issues in Palau. Supporting this idea, Japan assisted in constructing the “Palau International Coral Reef Center” (PICRC) through grant in aid (opened in 2001). Following this, JICA launched “PICRC Strengthening Project” (2002-2006), and “The Capacity Enhancement Project for Coral Reef Monitoring” (2009-2012). Through these two technical cooperation projects, JICA has been assisting PICRC to especially strengthen its research and education aspects. The later project links with the other Micronesian countries and also supports managing the MPA.



ODA Loans **Technical cooperation**

The Sikkim Biodiversity Conservation and Forest Management Project (India)

[March 2010 — March 2020]

Sikkim is a small Indian state at the foot of the Himalayas flanked by Nepal and Bhutan. In spite of its size, Sikkim has rich ecosystems featuring many rare and endemic species. In recent years, however, signs of the negative impact on the environment due to the increase in the numbers of tourists to Sikkim, and the fact that the poor are still largely dependent on the natural environment for their livelihood, are beginning to show. To address this issue, assistance is being provided through an ODA loans and by technical cooperation in the form of experts sent to the state to help achieve sustainable socioeconomic development that balances environmental considerations. This is to be accomplished by efforts at biodiversity conservation such as gathering and organizing the basic data needed for ecosystem conservation and enhancing reserve management capacities, by encouraging ecotourism in a way that takes advantage of the area’s unique natural and cultural features, by better managing forests, and by improving the livelihoods of people in the local communities.



Grant aid **Technical cooperation**

Science and Technology Research Partnership for Sustainable Development (SATREPS)

Cooperation in Biodiversity conservation sector (Indonesia)

Biodiversity in Indonesia is known as one of the highest in the world, while at the same time it is at risk of vanishing due to loss of the natural environment. The Research Center for Biology of Indonesian Institute of Sciences (RCB-LIPI) has been continuously improving and maintaining the reference species of biodiversity, which have been deposited in the Herbarium Bogoriense, Museum Zoologicum Bogoriense, botanical gardens and microbial culture collections. Until today, Japan has provided a series of grant in aid and technical cooperation supporting the RCB-LIPI activities, and the above stated herbarium and museum have become known in the country and globally.

A new technical cooperation is being developed for RCB-LIPI, under the SATREPS program by JST* and JICA. “The Project for the Development of Internationally Standardized Microbial Resources Centers as a Core of Biological Resources Center to Promote Life Science Research and Biotechnology” (2011-2016), will support establishing an integrated system to manage the Indonesian microbial collection and preserve the specimens. The project is expected to: advance search for new microbes and to implement researches; and strengthen the management abilities, including such as collecting, preserving and supplying of microbial resources, in both technical and administrative aspects, following the international standards in trend. Japanese and Indonesian researchers would collaborate in a series of research, following the ABS (genetic resource access and benefit sharing) ideas.

*Japan Science and Technology Agency



2.2 Representative cooperation projects

Technical cooperation **Technical cooperation: Participatory Forest Management Project Phases I & II in Belete-Gera (Ethiopia)**

[October 2003 — March 2012: Phase I October 2003 — September 2006, Phase II October 2006 — March 2012]

Excessive logging, population growth, and other factors in Ethiopia have led to increasing deforestation and forest degradation which are threatening the livelihoods of people who depend on natural resources. There are rare and valuable forest ecosystems remaining in the Belete-Gera Regional Forest Priority Area, which is located in the southwestern part of the country. In this project, JICA works with local residents for the purposes of forest conservation and improving residents' incomes. Phase I of the project was carried out in two sub-villages in the Belete-Gera in the Oromia Region and established a system of participatory forest management that is administered collaboratively by local residents and government officials. Phase II is larger in geographical scope, covering the entire Belete-Gera Regional Forest Priority Area. In this phase work is being done to establish forest management associations and to draw up forest management plans. With assistance from this project, the wild coffee that grows in the area gained certification from the Rainforest Alliance, an environmental NGO. With this certification the coffee can be sold at high prices, which has improved incomes of local residents, providing incentives to participate in sustainable forest management.



Technical cooperation

Project for Community Vitalization and Afforestation in Middle Shire (Malawi)

[November 2007 — November 2012]

Forest resources in the middle Shire River Basin have rapidly dwindled as a result of the overexploitation of woods for fuel, cultivation of new farmlands, and other activities to accommodate the increasing populations of neighbouring commercial centers in the area. This has exacerbated the problem of poverty for the local residents who depend on natural resources. The loss of forests has also accelerated soil erosion. The mud and dirt that runs off into the Shire River accumulates in large volumes in impoundments, impeding the ability of dams to generate power. To address these problems, training sessions for local residents were held throughout the area with the purpose of spreading afforestation practices as well as techniques for combating soil erosion. Assistance is being provided with a view to striking a balance between improving the incomes of residents and soil conservation/forest restoration.



Technical cooperation

Project for Coastal Wetland Conservation in the Yucatan Peninsula (Mexico)

[February 2003 — February 2010]

The Yucatan Peninsula is a breeding site for flamingo's and other birds. Its unique coastal wetland ecosystems are recognized as some of the most important sites in the world from the environmental conservation standpoint. However, road construction and dumping of garbage have caused widespread destruction of the mangroves that cover the peninsula. To address this problem, JICA provided assistance to develop human resources for environmental protection and helping to improve protection and management systems, with the purpose of repairing and restoring the ecosystems and managing them effectively in collaboration with residents. Local efforts are underway to restore about 200 hectares of mangrove forest.



Technical cooperation Bornean Biodiversity & Ecosystems Conservation Programme Phase I & II (Malaysia)

[February 2002 — September 2012: Phase I February 2002 — January 2007, Phase II October 2007 — September 2012]

The island of Borneo is home to a richly diverse ecosystems and biota. There are lowland tropical forests inhabited by Asian elephants as well as brackish-water mangrove forests. However, logging and plantation development in Borneo has led to a rapid shrinkage of the tropical forests, and in recent years concerns have arisen over an increase in the number of endangered species that this deforestation might cause. For this reason, JICA undertook a technical cooperation project in Sabah, Malaysia, which is located on Borneo. Phase I of the project consisted of assistance mainly related to terrestrial ecosystems made up of tropical and mangrove forests in the fields of research and education, park management, wildlife habitat management, and environmental education. Phase II builds upon the results of the fieldwork done in the first phase. Efforts are being made to improve biodiversity conservation governance systems in all of Sabah by strengthening the functions of the Sabah Biodiversity Centre. In 2008, part of the project site was added to the Ramsar Convention's List of Wetlands of International Importance.



Technical cooperation Project for Conservation of Biodiversity in Tropical Forests through Sustainable Coexistence between Humans and Wild Animals (Gabon)

[September 2009 — September 2014]

The Congo Basin, which is located in Central Africa, is home to the world's second largest tropical forest and is rich in biodiversity, but authorities warn that if things continue as is, 70 percent of the rainforest will be lost by the year 2040. Among the countries in the basin, the Gabonese Republic has a particularly high forest coverage ratio, is extremely rich in biodiversity, and has many endemic species of flora and fauna. The project draws upon the findings of collaborative research into primates in Moukalaba-Doudou National Park which is famous as a habitat for gorillas by Kyoto University and the Institut de Recherches sur l'Ecologie Tropicale (Research Institute of Tropical Ecology) of Gabon. In addition to deepening our scientific understanding of the area, regional ecotourism initiatives based on scientific knowledge are being implemented as part of the project, with the aim of having local residents conserve the area's ecosystems.



Technical cooperation Grant aid Seed Bank Project (Myanmar)

[December 1997 — May 2002]

Myanmar has a wide variety of invaluable plant genetic resource. However, as a result of the spread of high yielding varieties in recent years, cultivation of traditional varieties had diminished, sparking concerns over the loss of genetic resources. Due to these circumstances, grant aid and technical cooperation were provided to Myanmar to support the Seed Bank Project, the purpose of which is to collect, evaluate the characteristics of, and preserve genetic resources, particularly rice, for use in breeding businesses. One of the results is that more than 500 unique rice-plant seeds have been preserved.



Development Study**Project for Community-Based Integrated Watershed Management in the Laclo and Comoro River Basins (Timor-Leste)****[November 2005 — March 2010]**

In the years from 1972 to 1999, Timor-Leste lost one quarter of its existing forests by illegal logging, fuel wood collection, and the overgrazing of livestock. The watersheds of both the Laclo River and the Comoro River are located near the capital city of Dili as well as Manatuto, one of the biggest urban centers in the country. Because of the loss or degradation of water source forest, soil is running off into the rivers and is affecting the quality of water used for agriculture and in households. With the aim of maintaining and improving the comprehensive services that watersheds provide, management plans were prepared which utilized traditional village customs to conserve forests and improve the lives of the people there.

**Technical cooperation****The Project for Enhancing Management Capacity for National Parks and National Reserves (Samoa)****[March 2007 — September 2010]**

There are many species of endemic plants and birds that are only found on the island of Samoa. However, forests have been cut down to make way for the expansion of farmland and commercial development, and habitats for endemic species are shrinking. For this reason, assistance was provided to staff of the Ministry of Natural Resources and Environment to help them enhance their capacity to manage the project areas and to raise awareness in local communities. Furthermore, assistance was provided for the eradication of invasive alien species of vines.

**Japan Overseas Cooperation Volunteers****Environmental Education (Kenya; Wildlife Clubs of Kenya)****[1993 to present; dispatch programs ongoing]**

The Wildlife Clubs of Kenya (WCK) is an NGO that specializes in environmental education activities in Kenya, a country with savannas, forests, seas, and other diverse forms of nature. For over 15 years, JOCV have been assigned to carry out environmental education activities at the WCK. As environmental education tended to be classroom based, together with local staff, they have introduced field-based nature games and many other activities, such as essay contests. Volunteers' efforts to raise the awareness still continue for the future generations.



ACRONYMS

- **ABS**
Access and Benefit Sharing
- **ALOS**
Advanced Land Observing Satellite
- **CBD**
Convention on Biological Diversity
- **COMIFAC**
Central African Forests Commission
- **COP**
Conference of the Parties
- **CSR**
Corporate Social Responsibility
- **FAO**
Food and Agriculture Organization of the United Nations
- **GBO3**
Global Biodiversity Outlook 3
- **IPCC**
Intergovernmental Panel on Climate Change
- **IUCN**
International Union for Conservation of Nature
- **JAXA**
Japan Aerospace Exploration Agency
- **JICA**
Japan International Cooperation Agency
- **JST**
Japan Science and Technology Agency
- **MDGs**
Millennium Development Goals
- **NGO**
Nongovernment Organization
- **ODA**
Official Development Assistance
- **PES**
Payment for Ecosystem /Environmental Services
- **PICRC**
Palau International Coral Reef Center
- **RCB-LIPI**
Research Center of Biology-Indonesian Institute of Sciences
- **REDD-plus**
Reducing Emissions from Deforestation and forest Degradation
- **SBSTTA**
Subsidiary Bodies for Scientific, Technical and Technological Advice
- **SCBD**
Secretariat of the Convention on Biological Diversity
- **SATREPS**
Science and Technology Research Partnership for Sustainable development
- **SPC**
Secretariat of the Pacific Community
- **SPREP**
Secretariat of the Pacific Regional Environment Programme
- **TEEB**
The Economics of Ecosystems and Biodiversity
- **UNCED**
United Nations Conference on Environment and Development
- **WGRI**
Working Group on Review of Implementation of the Convention
- **WWF**
World Wide Fund for Nature

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COP10/MOP5
AICHI-NAGOYA
JAPAN 2010