

Summary of the 2008 JICA Annual Report

This report covers program results and the status of activities for the Japan International Cooperation Agency (JICA) in fiscal 2007.

Feature: Looking Back on JICA's Cooperation, and Aiming for the Future

In October 2008, JICA will be transformed into the agency that conducts the technical cooperation, loan assistance, and grant aid aspects of Japan's ODA in an integrated fashion. This year's feature will look back over the projects that JICA has worked on up until now, interweaving these with examples of current initiatives to give a fresh outlook on financial cooperation and the integrated operation of the future.

1 Developing Human Resources: News from the Field

Japan's government-based technical cooperation began in 1954. The first cooperation that JICA worked on was technology transfers mediated by Japanese specialists and technicians or administrative officials from the partner countries. Project-type technical cooperation that combined this technology transfer with the provision of equipment has come to be regarded as an important approach to developing personnel.

From the latter half of the 1970s to the 1980s, in response to changes in the international situation there was increased recognition of the importance of carrying out comprehensive, cross-sectoral cooperation by country. At the same time, project cycle management was introduced as a means of ensuring the theoretical basis of assistance results and their transparency, and these results were used in strengthening the collaboration with international aid agencies and other organizations. There has also been continual improvement and innovation.

2 Continuing to Take on Challenges

● Addressing Climate Change

Reflecting the policy of the Japanese government, JICA proactively implements projects that advance climate change countermeasures. The feature gives specific examples of cooperation projects relating to mitigation measures for reducing greenhouse gas emissions or absorbing greenhouse gases over the long term and adaptation measures for coping with the unavoidable effects of climate change on global weather systems, while at the same time putting forward JICA's thinking.

● Efforts toward Peacebuilding Projects

The feature looks at Sudan and Afghanistan as countries that are rising from conflict. It introduces initiatives in Sudan that stress a sense of speed based on JICA's experience accumulated in Asia, and examples from Afghanistan that tackle various possibilities for development assistance for nation-building centered on human security.

3 The Start of "New JICA"

"New JICA" will be one of the world's largest bilateral aid agencies, and will therefore have to carry out an even greater role and bear an even greater responsibility than JICA has done to date. Under the banner of the Three Ss – Speed up, Scale up, and Spread out – JICA will combine technical cooperation, grant aid cooperation, and yen loan cooperation, and will work to be able to bring the synergy of these three methods of assistance into play.

The feature focuses on the example of Viet Nam to consider a specific case for the directionality of "New JICA"

Part I ODA and JICA Programs

A comprehensive report on ODA and JICA program results in fiscal 2007 (calendar year 2007 for ODA) is provided. More detailed JICA results can be found in Part IV of this report or on the attached Statistical Appendix CD-ROM.

Part II JICA's Regional Activities

Part II divides the countries of the world into 10 regions and describes JICA's cooperation activities for each region. It reports on the basic principles of JICA's assistance to each region, gives overviews of the regions, and summarizes the priority issues and measures in JICA programs. It also introduces representative projects in each region, allowing the reader to overview specific activities.

Chapter 1 Asia

1. Southeast Asia

As regional economies grow in ASEAN, where regional integration is advancing, correction of disparities between the six original members and the four new members of ASEAN are important tasks. Through various projects, JICA's technical cooperation will continue to focus on the development of individual countries as well as the whole region.

2. East Asia

Based on China's five-year plan announced in March 2006, JICA implements cooperation with a focus on three priorities: (1) cooperation towards resolving environmental and other global issues; (2) assistance for open and reform policy; and (3) promotion of mutual understanding.

Cooperation for Mongolia is provided in four pillars: (1) support for institution-building and human resources development necessary for promoting a market economy; (2) support for rural development; (3) support for environmental protection; and (4) support for the development of infrastructure.

3. Central Asia and the Caucasus

It has been over 15 years since respective countries in the region achieved independence, and the speed and direction of their development vary. Accordingly, in line with the development levels of each country, JICA is providing support for transition to a market economy and democratization, human resources development, infrastructure development, and rebuilding social sectors. JICA is also carrying out activities to promote industrial development and regional cooperation, which are pillars of the "Central Asia plus Japan" dialogue, a cooperation framework.

4. Southwest Asia

JICA's cooperation focuses on poverty reduction and economic development as pillars of aid for Southwest Asia, where approximately 500 million people live in poverty. JICA also continues to provide support for peacebuilding, mainly in Nepal and Sri Lanka where the effects of conflict linger, as well as disaster reconstruction assistance and disaster prevention assistance in countries such as Pakistan and Bangladesh.

Chapter 2 Middle East

JICA places the utmost priority on peacebuilding and reconstruction assistance for Afghanistan, Iraq, and Palestine as the key to regional stability in the Middle East. At the same time, in the fields of water resource management, industrial promotion, human resources development, and environment protection, all of which are issues common to the region, JICA implements cooperation including volunteer programs in line with the needs in each country.

Chapter 3 Africa

JICA is providing assistance for healthcare, primary education, and securing drinking water on the basis of the Yokohama Action Plan, set forth during TICAD IV, which was held in Yokohama in 2008. At the same time, in order to accelerate the favorable economic growth of Africa, JICA is also providing assistance focused on improving the industrial base, promoting trade and investment, improving agricultural productivity, and promoting collaboration with the private sector.

Chapter 4 Latin America

1. Central America and the Caribbean

Given that the region consists of adjoining small countries with common characteristics, through various methods such as regionwide cooperation targeting a set of countries, South-South cooperation in the region, and coordination and collaboration with organizations related to regional integration, international organizations, and other donor countries, JICA prioritizes cooperation in the following areas: (1) education; (2) health; (3) agricultural and rural development; (4) industrial development and development of socioeconomic infrastructures; (5) environmental conservation; (6) disaster prevention; and (7) human security.

2. South America

In South America, which sees increasingly prominent movements toward regional cooperation and economic integration, the number of those living in poverty is increasing in spite of steady economic growth, contributing to political and economic instability, deterioration of public security, and environmental issues. Therefore, JICA implements cooperation with focus on the following priority issues: (1) efforts toward global issues; (2) poverty reduction and disparity correction; (3) public-private partnership; (4) promotion of partnership and South-South cooperation; and (5) collaboration with Nikkei (Japanese descendant) communities.

Chapter 5 Oceania

While providing cooperation with an emphasis on economic self-reliance and sustainable development in Oceania, which consists of small island countries, JICA works to formulate projects that have a large impact throughout the region and promote

collaboration with other aid agencies. In this regard, promoting tourism and agriculture and fisheries, expanding basic social services including education and health, and cooperation for sustainable conservation are implemented.

Chapter 6 Europe

JICA's aid will terminate in two years in the countries that graduated from ODA recipient country status when the DAC list was revised in January 2006. At the same time, JICA is also supporting these countries in their ambitions to become donors in the future. On the other hand, based on the discussion at the Ministerial Conference on Peace Consolidation and Economic Development of the Western Balkans in 2004, JICA is providing cooperation that sets the consolidation of peace and the development of the private sector as priority fields.

Part III JICA Programs by Development Issue

Part III introduces JICA programs, mainly approaches to each development issue.

Chapter 1 Approach to Development Issues

JICA's approaches to social development, human development, the global environment, rural development, and economic development as well as MDGs are introduced.

Chapter 2 Cooperation Modality

JICA's representative cooperation programs are introduced.

Chapter 3 Project Evaluation

Evaluation and Follow-up, which are critical to efficient and effective project implementation, are described.

Part IV Fiscal 2007 Results

Part IV provides more details on JICA's fiscal 2007 programs, which were introduced in Part I, by region, sector, and country. Even more detailed results can be seen on the Statistical Appendix CD-ROM.

Reference Section: Organization and Budget of JICA

JICA's history, organization, budgets, financial statements, and domestic and overseas offices are provided.

Reading the Annual Report of the Japan International Cooperation Agency

1. This annual report summarizes the activities of JICA in fiscal 2007 (April 1, 2007 to March 31, 2008).
2. The figures contained in the report are those for the fiscal year mentioned above in the case of JICA and for the calendar year 2007 (January 1, 2007 to December 31, 2007) in the case of ODA. Please note that some figures are provisional values and figures may vary according to the timing and method of calculation.
3. All sums indicated with a dollar sign (\$) refer to US dollars and are calculated at an exchange rate of \$1.00 = ¥117.9 (the official Development Assistance Committee (DAC) rate in 2007).
4. All maps contained in the report are approximate. National borders that are under dispute or unclear have been entered merely for convenience.



Feature

Looking Back on JICA's Cooperation, and Aiming for the Future

In October 2008, 34 years and two months since the inception of the Japan International Cooperation Agency (JICA) in August 1974, JICA will transform into an organization that conducts the technical cooperation, loan assistance, and grant aid aspects of Japan's ODA in an integrated fashion. Thus, a new JICA is on the verge of inauguration. But what came before? What kind of programs and technical cooperation has JICA worked on previously? What kind of projects is JICA working on right now? Going forward, what will be the role of technical cooperation and what challenges should the new JICA address?

This feature article takes a look back at the history of technical cooperation while weaving in examples from the environmental field and other areas, and projects forward to JICA's future of operating technical cooperation in an integrated manner with financial cooperation.

Developing Human Resources: News from the Field

JICA's technical cooperation underpin the government-based technical cooperation programs that are one of the three pillars of Japan's official development assistance (ODA). These cooperations have been developed with a particular focus on human resources development as a means of supporting nation building in partner countries. How exactly have initiatives with such characteristics been implemented and what results have they produced in, for example, Asia?

The Start of Technical Cooperation

Japan's government-based technical cooperation programs began when Japan joined the Colombo Plan^{*1} in October 1954, three years after Japan was reintegrated into the international community through the conclusion of the San Francisco Peace Treaty in 1951. At the time Japan was continuing strenuous efforts to achieve economic independence, even as it was receiving aid from United States of America and international organizations.

Initially, technical cooperation was mainly implemented through the Japan Asian Association (established in 1954), which received government commissions. Later, as projects expanded, the Overseas Technical Cooperation Agency (OTCA) was established in 1962 and a structure for implementation of technical cooperation was put in place. The 1960s were marked by the improvement in developed countries of structures for aid implementation. This period was also marked by the worldwide enhancement of overseas economic aid.

In 1974, the Japan International Cooperation Agency (JICA) was established by integrating OTCA and the Japan Emigration Service in order to upgrade and enhance the structure for ODA implementation. In October 2003, JICA became an independent administrative institution.

*1. The Colombo Plan is a cooperation organization established in January 1950 with the aim of promoting economic and social development in the countries of South Asia, Southeast Asia, and the Pacific region. Aid is implemented through bilateral arrangements between member countries. Later, the target area for cooperation expanded beyond the initial scope of the Colombo Plan to the Middle East and Africa (fiscal 1957), Latin American (fiscal 1958), and then to other developing regions.

Human Resources Development and Nation Building

The main objective of the technical cooperation initially undertaken by JICA was the transfer of technology through *people*. Under this scheme, Japanese experts shared Japan's experience and knowledge by interacting directly with technical personnel and administrative officials in partner countries. This cooperation was intended to lead to human resources development by transmitting appropriate knowledge, technology, and know-how while deepening mutual understanding through interaction with people in developing countries.

Project-type technical cooperation that combines the acceptance of training participants, the dispatch of experts, and the provision of equipment is of course important. At the same time, development studies – which are a form of cooperation with the purpose of conducting an investigation – have also been regarded as an important means of human resources development cooperation due to the emphasis on teaching study methods to technical personnel in partner countries during each study.

The importance of human resources development cooperation was expressed at the 5th meeting of the United

Nations Conference on Trade and Development (UNCTAD) in 1979 by then Prime Minister of Japan Masayoshi Ohira who said, "Human resources development is the foundation of nation building." Capital is important for economic development; however, the problems of developing countries cannot be solved by capital alone. Attempting to push enterprising development plans forward using a variety of capital obtained abroad but without nurturing the engineers and technicians who will support such plans and who can handle the supplied capital, equipment, and technologies results in ineffective aid that does not contribute to the development of the nation. Human resources development cooperation is essential to train the human resources who will become the leaders of a developing country's economy and its social development and stability.

JICA's Human Resources Development Cooperation and Technology Transfer

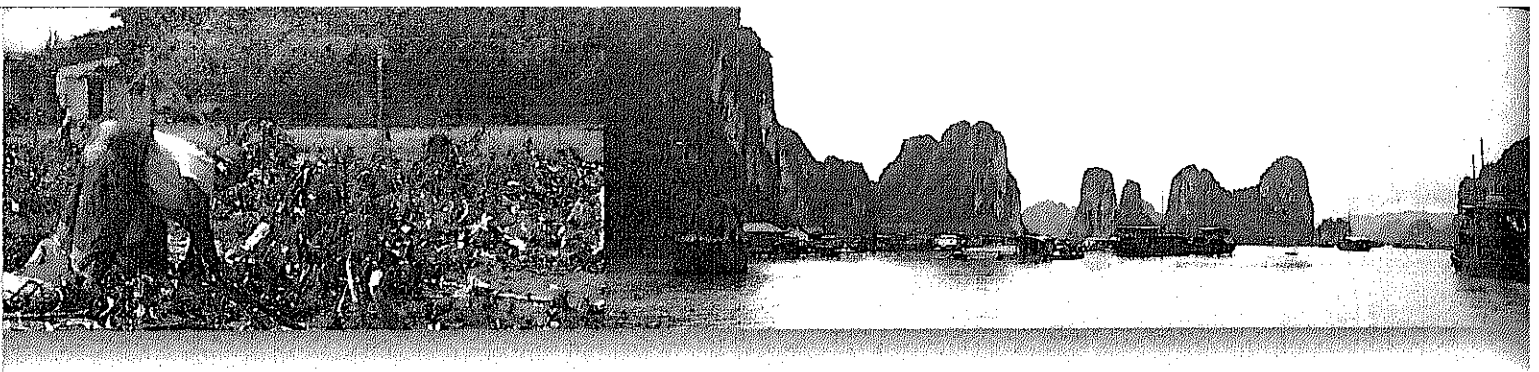
One pattern of cooperation is to first educate and train core human resources who will then spread knowledge and technical skills to other people in the country. Under this scheme it was necessary to set up appropriate organizations and systems so that the transferred technology would be made use of as part of the country's organizational memory.

A representative example of JICA's human resources development cooperation is the ASEAN Human Resources Development Project that was started based on a concept proposed in 1981 by then Prime Minister Zenko Suzuki during his visit to five ASEAN countries. Under this framework, Human Resources Development Centers were established as bases in each country through a form of cooperation that combined technical cooperation with grant aid. The centers also functioned as cooperative organizations within the region where human exchanges could take place between Japan and ASEAN countries.

In this way, human resources development cooperation has two facets: the nurturing and utilization of human resources as well as day-to-day human exchanges and the promotion of mutual understanding. Accordingly, rather than unilaterally transferring technology, there is a need to work together with people in partner countries to find what is referred to as appropriate technology – that is, technology that can take root and spread widely within the partner country – and to enable the partner country to develop suitable methods on its own. When conceiving of this kind of human resources development cooperation, personality and dignity must have featured as important factors alongside the knowledge and technical capabilities of experts.

Start of an Efficient Approach

Following JICA's establishment, there was growth in the awareness of the importance of implementing comprehensive, cross-cutting aid on a country-specific basis with a



view toward carrying out effective and efficient aid. Hence, an implementation structure was gradually developed to promote a country-by-country approach.

Behind this change in approach was the increasing recognition of limits to the results that could be obtained, amid aid needs that were more diversified and complex, from an implementation structure that had become specialized by field and by form of cooperation.

In terms of the implementation structure, in 1981 the divisions in charge of regions were placed within the planning department, after which that structure was expanded. In addition, regional divisions were set up within the departments in charge of the acceptance of training participants, the dispatch of experts, and the Japan Overseas Cooperation Volunteer Program. In 1999, the regional department system was established.

The Integrated Regional Development Approach – a comprehensive approach that addresses multiple issues within a specified region – was not only applied in Asia; it has also been used in Africa since the mid-1970s. Consideration of and efforts with the Program Approach^{*2}, which has become the most common nowadays, started in the 1980s in Indonesia and other locations. This flow of approaches has improved the strategic characteristics of programs and is continuing to develop today.

*2. An aid approach in which multiple related projects are implemented in an organic combination.

Development of Management Methods and Strengthening of the Evaluation Function

Even if what to do and what kind of investment (personal and materials, etc.) to make were determined during the operation and management of traditional project-type technical cooperation projects, it was not always the case that the results to be achieved from cooperation were clearly defined. In this situation, however, it was not possible to theoretically explain the results of aid, which led to the identification of room for improvement in terms of transparency. Accordingly, in 1991 JICA started to develop a project cycle management (PCM) method for the planning, operation, and management of projects, using the methods of other aid organizations as a reference. The method was adopted in 1992 and thereafter this way of thinking and its use became well established. The adoption of this method can be said to have been a major turning point from the perspective of the improvement of planning and operation and for coordination with other countries and international aid organizations. JICA's projects and project management methods have been continually improved up to the present.

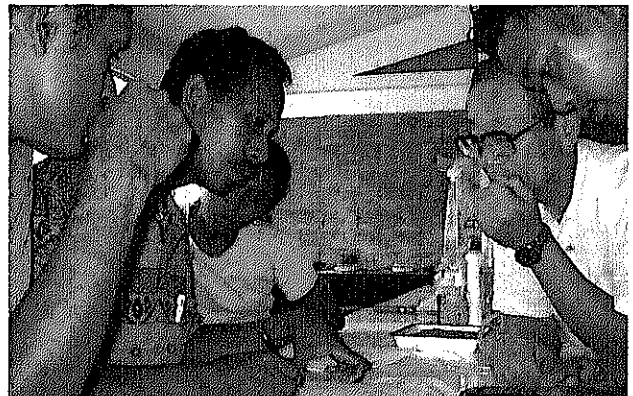
Discussion of the evaluation of technical cooperation started a long time ago. For example, in the beginning an attempt was made to grasp the effects of projects that accepted training participants in the 1960s. In 1976, research on measuring the effects of technical cooperation was conducted while referencing the method used by the United States Agency for International Development (USAID). After establishing the Evaluation Study Committee in the 1980s,

JICA set up the Evaluation and Post Project Monitoring Division in 1990. In 1991, it prepared and firmly established evaluation guidelines. Coupled with the planning, operation, and management method foundation created with the PCM mentioned above, the strengthening of evaluation functions lead to the strengthening of the project planning stage.

From Human Resources Development and Nation Building to Capacity Development (CD)

Technology transfer was regarded as important in JICA's technical cooperation described above. From the beginning, the aim of this technology transfer was not only to introduce technology from the outside, but to also establish and spread technology throughout the partner country, as symbolized by the phrases human resources development and nation building. On the other hand, there was a tendency to place too much emphasis on transferring Japanese technology in activities that centered on approaching individual persons concerned in the partner country. Then, capacity building came into use from the second half of the 1990s in place of the term human resources development. Capacity building attached importance on the overall development of abilities in organizations and society rather than the transfer of technology to individuals. This concept pointed to a new direction for JICA's technical cooperation.

Since the 1990s, the question of whether aid proves of any benefit became a hotly debated issue as a current in international aid. This debate resulted in the idea that technical cooperation should improve overall abilities to cope in developing countries: that is, it should support capacity development. In part due to the influence of this trend, after much consideration JICA came to emphasize indirect support of the partner country, which should act as the main player instead of the aid donor being the one to carry out the process of improving overall capacity to cope with the partner country's issues on a variety of levels including the individual, organizations, and society. In other words, the emphasis evolved into initiatives that attach importance to the independence and spontaneity of the partner country.



A class being taught by a Japanese expert. Steady efforts are being put into nurturing the technical personnel who will lead the nation building of the future. (The Project for the Capacity Development of Teaching Staff in the Faculty of Engineering, the National University of Timor-Leste)



JICA's stance of stressing relationships of trust born of the give-and-take between people, which is something that cannot be bought with money nor measured by the value of money, has been carried through.

Technical Cooperation in the Environmental Field

The waste problem in the environmental field can be used as an example to illustrate the points mentioned above. Regarding the growing waste problem accompanying rapid urbanization in developing countries, aid can be seen to have started with hard investments in waste collection equipment and related technology transfer and then progressed to the support of soft investment such as the preparation of urban waste management plans and cooperation in the development of waste management bureaus and other organizations. This support focused on the capacity development of the organizations in charge of waste and their staff. However, the waste problem cannot be solved without the cooperation of the private sector, including the participation of individual residents.

Also, the social problems typified by slums that form around the periphery of landfills must not be overlooked.

For this reason, the extent of cooperation has transitioned since the 1990s toward support for comprehensive capacity development that incorporates topics such as community participation, government-private sector collaboration, and administrative capacity all while emphasizing the independence of a wide range of people and the manner of interacting with society. Even the view of waste problems changed from a municipal problem to the need to create recycling-oriented societies that pursue the issues of pollution control, resource preservation, and the cross-border problem of hazardous wastes in an era of globalization. These challenges are being shared with countries worldwide, including developed nations, under the banner of the "Three Rs (reduce, reuse, recycle) initiative" spearheaded by Japan. In step with this movement, JICA's support for capacity development has evolved from the municipal to the national level and on to initiatives carried out in a global framework.

Focusing on Environmental Cooperation Projects in Asia

In this section, it describes what kind of cooperation in the environmental field JICA undertakes. Below are examples of cooperation in the environmental field undertaken in Asia: specifically, the People's Republic of China and Indonesia.

Cooperating in the Afforestation of the People's Republic of China

China

Catastrophic flooding struck the Yangtze River basin in the summer of 1998, affecting upwards of 200 million people. What is more, desertification in China expanded at an average of 3,436 km² per year during the 1990s. In response to this situation, the Government of the People's Republic of China established a National Plan for Ecological Improvement and Environment Protection in 1999 to stem soil loss and the spread of desertification in mountainous regions, which is thought to be one of the causes of flooding. This master plan for protection of the natural environment aims to increase forest coverage to at least 19% by 2010 and to 26% by 2050. Based on this plan, afforestation projects are being actively undertaken throughout the People's Republic of China.

In November 1998, after the major flooding of the Yangtze River, then president of China Jiang Zemin visited Japan and talked with then Prime Minister Keizo Obuchi. The two leaders made a joint press announcement that Japan and China would study and promote without delay details for concrete cooperation between the government and private sector in the fields of afforestation and forest conservation. In response, the government and private sector each started considering afforestation projects. At the government level, consideration was given to tree planting projects in the Yangtze River basin. After multiple bilateral discussions between Japan and China, it was decided that JICA would implement a technical cooperation project along the Anning River, a tributary of the Jinsha River, which forms part of the headwaters of the Yangtze River in the Liangshan Yi Autonomous Prefecture (hereinafter the Liangshan Prefecture). The decision was also made to study and implement afforestation projects with grant aid in the Yellow River basin, specifically in Shanxi Province, located on the Loess Plateau, which is marked by severe soil erosion, and the Ningxia Hui Autonomous Region, where there is acute desertification.

In the past, JICA had undertaken cooperation in the People's Republic of China in the field of forestry, including timber research and forest tree breeding. But triggered by the events of 1998, it started carrying out full-scale cooperation in afforestation projects in the People's Republic

of China.

Wei Le Anning To Achieve Peacefulness

The Liangshan Prefecture is an area rich in nature, with mountains rising into the 3,000 meter range and the Anning River running through it. Since the 1950s, however, much of the natural environment has been destroyed due to land clearing accompanying a growing population and large-scale timber harvesting as a result of the Great Leap Forward program. The government of the People's Republic of China has undertaken afforestation projects in response. However, in this area with its harsh conditions, the restoration of vegetation had not made sufficient progress even by the end of the 1990s, and so soil continued to be carried away by the Anning River. The repeated afforestation projects undertaken by the government of the People's Republic of China in alpine regions around 3,000 meters above sea level also did not go well; south-facing slopes show exposed reddish brown soil, large amounts of which are washed away by the Anning River.

From 2000 to 2007, JICA conducted a technical cooperation project, the Model Afforestation Project in Sichuan, in one city and two counties in the Anning River basin (the city of Xichang and the counties of Xide and Zhaojue). The project's objective was to create a foundation for implementing autonomous afforestation activities in the target region. A variety of activities were rolled out toward that end: the development of techniques for producing afforestation saplings that are suited to the local natural and social conditions; the development of afforestation techniques designed for water and soil conservation; the training of technical personnel to manage, implement, and spread the raising of seedlings and afforestation activities; and the diffusion among community residents of understanding of the importance of forest conservation and of seedling raising and afforestation techniques.

The slogan for the project was *wei le anning*, which in Chinese means "in order to achieve peacefulness," and which plays on the name of the

Anning River: that is, the Peaceful River. Japanese experts and Chinese experts worked side-by-side on this project with the hope of bringing peacefulness to the area by preventing the Anning River from flooding and by restoring the river's rich natural environment.

Developing Technology Suited to the Local Area

The Anning River basin is located between the mountains in a hot and dry area. Saplings that can grow even in this harsh environment were selected and methods for raising seedlings so that the saplings will take root in the mountains were developed. Seedlings grown in pots with bottoms, which is common in the People's Republic of China, do not develop sufficient roots. Accordingly, the project tried one device after another to get seedlings to grow sufficient roots and eventually developed a technique for raising seedlings in pots without bottoms. These bottomless pots won the Liangshan Prefecture Scientific and Technological Progress Award in 2004. In 2006 they were designated and promulgated as the official technical prescription based on the laws and ordinances of Liangshan Prefecture. Furthermore, the project also developed a container pot-technique for raising seedlings, which made it possible to efficiently produce excellent saplings with more soundly-developed roots. In its afforestation phase, the project tested methods of combining a variety of tree species to create mixed forests. As a result, the trees grow better than planting a single species. The method of planting mixed forests developed in this project was then applied to other afforestation projects in the People's Republic of China.

In part due to the fact that the outflow of earth and sand could not be stopped in the project's target area with just afforestation, the Japanese and Chinese experts gradually came to recognize the need for erosion control technology. The kind of erosion control implemented in Japan is expensive and requires large-scale construction. But, in Liangshan Prefecture there were not enough funds and material for such work. So, the Japanese and Chinese experts created a simple erosion control model using straw, bamboo, and stone, and demonstrated its effectiveness.

The techniques developed by the Japanese and Chinese experts working on the project were gradually dispersed through training sessions given to relevant persons in Liangshan Prefecture. In addition, many technicians from Sichuan Province came to observe the project.

Supporting Improved Standards of Living for Local Residents

The project's target area, especially the alpine region, is an area of poverty. People of the Yi ethnic minority who live in the area herd sheep, goats, and other animals and cultivate crops such as buckwheat and potatoes. They live a lifestyle dependant on the forest for timber used as firewood. However, a policy of the government of the People's Republic of China prohibited the logging of natural stands and prohibited the grazing of animals in forest areas. Further, pastureland decreased due to the implementation of afforestation projects, which led to reductions in the cash income of local residents.

Seeing this situation with their own eyes, the Japanese and Chinese experts started to recognize the need to comprehensively improve the lives of the local residents, since it would be difficult to restore the forests simply by planting saplings in the hills. The project personnel exchanged opinions with officials of the government of the People's Republic of

China and NGOs active in Liangshan Prefecture, obtained the cooperation of JICA experts operating in other regions, and otherwise worked aggressively on this problem.

First, an effort was made to cultivate rapeseed with the cooperation of the Project for a Local Demonstration Study of the Development of Rape Seed Production Techniques in Hubei Province. As a counter to the decreasing pastureland, an experiment was run to cultivate pasture grass between the trees in the project's model forest.

Moreover, the project designated the village of Dashitou, where the experimental nursery for the project in Zhaojue County is located, as an ecological model village, since the educational, health, environmental, and other problems faced by poor areas were striking in this village. Thereafter, NGOs were set up with the participation of experts, Japan Overseas Cooperation Volunteers, and other volunteers to provide support activities such as health diagnoses, health instruction, environmental education, and musical instruction to elementary school students and villagers. These activities are continuing today.

Nearly eight years have passed since the project began. The waters of the Anning River have changed from a reddish brown color to become clear, and the people's awareness of the environment is increasing. It finally appears that the effects of the project are sinking into the nature of the Liangshan Prefecture.

Cooperation Today

At present, JICA is developing forestry human resources at the county level through the Sino-Japanese Forestry Ecology Training Center plan. This project is improving knowledge related to afforestation projects. At the same time, field observations and exchanges of experiences are being actively carried out in an effort to get the experiences and results obtained in technical cooperation projects in Sichuan Province and grant aid and yen loan projects implemented in the Ningxia Hui Autonomous Region and Shanxi Province as well as afforestation projects carried out by NGOs to be made use of in other afforestation projects throughout the People's Republic of China. In addition, in-country training is being provided in Shanxi Province through the Project for Afforestation Technology Disseminating Training in the Ocher Plateau, and the experiences gained in grant aid projects implemented in Shanxi Province are being shared with forestry technicians.



On-site training in afforestation techniques in Sichuan.

Indonesia

Forest Fire Prevention

Indonesia has a land area of 192 million ha. Of this, 120 million ha (62%) is classified as forest area. The country is the world's third largest country with tropical forests. Tropical forests are extremely important in many respects: for the value of the timber itself, for their role as the

source of forest products and sites of water source replenishment, for their role as habitats for diverse wildlife, and for the counter to global warming and other environmental conservation functions they perform as the lungs of the Earth and huge carbon sinks.

In recent years, however, the forested area in Indonesia, which accounts

Indonesia



for about 10% of the world's tropical forests, has been decreasing rapidly at a rate of 1.5-2.1 million ha per year (1% or more per year). Causes of this decrease include changes in land use accompanying large-scale development prioritizing economic growth, illegal logging, and massive forest fires. The forest fires, in particular, which occur mainly during the dry season each year, have become an international problem. The impact on the real economy from airport and school closures due to smog and the adverse effects on health such as tracheal disorders are creating a serious outcome not only in Indonesia but also in neighboring countries such as Malaysia and Singapore.

The Government of Indonesia attaches great importance to the prevention of forest fires. The Ministry of Forestry is working to tackle and restrain forest fires as part of its efforts to restore and protect forest resources, which is one of its five priority issues.

JICA started cooperating with Indonesia regarding the prevention of forest fires in 1991. It dispatches study teams, provides education and technical training regarding fires, offers counterpart training in Japan and provides portable fire extinguishers.

Phase 1 (1996-2001) of the Forest Fire Prevention Management Project established the goals of improving initial forest fire responses at the central government level, forest fire prevention at the local level, and initial forest firefighting methods. The project developed early warning and detection systems for forest fires using satellite information and provided technical advice on initial firefighting and firebreak establishment, among other relevant topics. During Phase 2 (2001-2006), four national parks were selected and support provided to create maps of fire spreading risk using satellite information with the goal of implementing forest fire prevention management activities (i.e. early warning and detection and initial firefighting). As a result, it became possible to effectively manage extensive parks, since information on hotspots (high temperature areas where fires could start) started being distributed to national park offices. The project also prepared a manual on forest fire prevention and initial firefighting methods, which is used in training and drill sessions given to residents and local firefighting organizations.

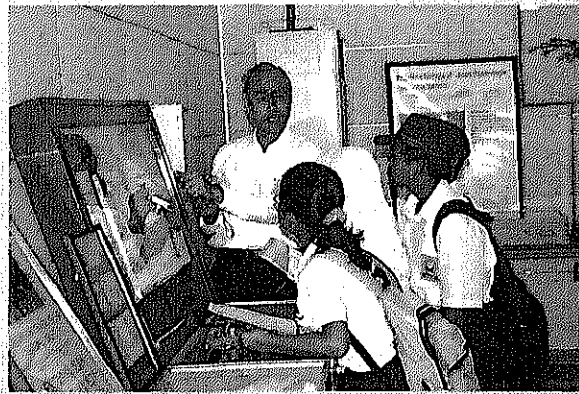
At present, JICA is working on a new technical cooperation project, the Forest Fire Prevention Project by Initiative of People in Buffer Zone (2006-2009). Fire prevention bylaws have been enacted in three model provinces and forest fire prevention activities are being undertaken together with local residents. Going forward, national forest fire prevention ordinances will be drawn up, fire prevention techniques by residents developed in pilot areas, controlled burning implemented, and other forest fire prevention activities stepped up at the local residents level.

Motivated by the cooperation provided by JICA, the Government of Indonesia upgraded the Forest Fire Prevention Department in the Ministry of Forestry to the Forest Fire Prevention Bureau and strengthened its organization. It also established volunteer forest fire brigades made up by resident organizations, using Japan's volunteer fire departments as a reference. The main area of activity of the volunteer forest fire brigades is forest reserves. However, since the spread of fires from outside national parks is often the cause of forest fires inside parks, coordination with the volunteer forest fire brigades is helping prevent fires in national parks.

Biodiversity Conservation

Indonesia is a country whose biodiversity is one of the richest in the world, being home to the equivalent of 20% of the world's wildlife in a territory that covers 1.3% of the world's land area. Many of Indonesia's plants and animals, however, are faced with extinction due to large-scale development, commercial logging, illegal logging, forest fires, and illegal hunting. The country is designated as a biodiversity hotspot* by the Conservation International, an international NGO in the conservation field.

In Indonesia, those who lead traditional lifestyles utilizing natural



Giving an explanation to local junior high school students.

resources were permitted their customary right for land use historically. In recent years, the Government established national parks on state-owned land following the introduction of land laws. With the exception of special scientific investigations and tourism, the parks are managed in such a way as to limit entry and restrict the use of resources. But, this has resulted in conflict with local residents who lead traditional lifestyles that utilize natural resources. Some of the displaced residents have moved to the core zone of parks, where the park authorities cannot access easily. Thus, a vicious cycle has been created in which the natural resources of areas with a higher conservation priority are being overused.

Based on a request from the Government of Indonesia, JICA has been conducting the Gunung Halimun-Salak National Park Management Project since 2004. When the park incorporated the Salak area, where people had always been living, it created a situation in which as many as 100,000 people were now living inside the park. Accordingly, the project put into practice a collaborative national park management style after gradually developing understanding through repeated consultations with the local government, resident organizations, and other stakeholders. In 2007, an ordinance from the Minister of Forestry permitted dwelling and utilization of resources inside national parks in a limited manner. Moreover, joint patrols with local residents have started while at the same time efforts are being made to deepen people's understanding of nature conservation through environmental education activities.

The experience and lessons learned from the park management style based on collaboration with local residents that was developed through the Gunung Halimun-Salak National Park Management Project will be made use of in the management of other national parks in Indonesia in the future. What is more, JICA and the Government of Indonesia are planning to develop the park management abilities of numerous human resources, including local residents, NGOs, and the personnel of neighboring countries engaged in park administration in addition to the directors and local park rangers of each park. This will be accomplished through a new project, namely the Strategy for Strengthening Biodiversity Conservation through Appropriate National Park Management and Human Resources Development.

Direction of Future Cooperation

JICA has established a Natural Environment Conservation Cooperation Program that brings together the cooperation with Indonesia in the natural environment field, and has strengthened activities relating to forest conservation and biodiversity conservation. Going forward, JICA will continue working on the sustainable management of forest resources and national parks with a view toward the realization of a society in harmony with nature through the creation of systems of collaboration with residents.

* Areas containing at least 1,500 endemic species and that have lost at least 70% of their original habitat, making the need for conservation very high.

