

# 5 Transfer Technology through Studies

## —Development Studies—



Resident hearing survey for the Metro Manila Disaster Prevention Plan

## What is a Development Study?

### ■ Program Flow and Objectives

Development studies support the formulation of plans for public projects (see Table 3-7) that are beneficial to social and economic development in developing countries. They also serve as media for the transfer of planning methods, and survey and analytical skills to counterparts\* in the recipient countries.

Studies are conducted in line with “scopes of work” (S/W) agreed upon by JICA and the governments of developing countries. Under JICA’s guidance and supervision, consultants selected by JICA prepare reports in cooperation with the government concerned, and transfer technology during the process of development studies.

These reports prepared on the basis of study results provide recipient governments with data for assessing their social and economic development policies. They also offer international organizations and donor\* countries resources for studying the need for financial aid and technical cooperation. In many cases, plans proposed in these reports have been realized with financial assistance such as Japanese yen loans and grant aid cooperation. Skills transferred through the studies are also utilized when recipient counties work on projects with their own funds and carry out other studies.

Recently, the number of projects that incorporate direct policy proposals has been increasing, a trend that should open up a new phase for development studies.

## Various Studies

### ■ Formulation of Development Plans

#### 1. Master Plan Studies (M/P)

These are conducted to formulate comprehensive and

long-term sectoral development plans for an entire country or for specific regions.

Master plans ensure efficient execution of multiple projects by making them mutually compatible and by clarifying their priority. Projects given priority in the master plan studies often become the object of feasibility studies as described later.

#### 2. Regional Integrated Development Planning Studies

These present a basic strategy for development that emphasizes distinctive regional features and include integrated development plans for specific regions, while taking into account how best to form efficient links between various sectors. Seminars and workshops are held during the study process to improve the planning abilities of administrators in the recipient country.

#### 3. Preparation of Basic Data

The following studies are carried out to gather and provide information needed to formulate development plans.

##### 1) Preparation of topographical charts

This study involves preparing topographical charts such as basic maps of national territory and urban areas for use as primary data for the formation of development plans.

##### 2) Development of groundwater

This study ascertains the current quantity and development potential of groundwater reserves.

##### 3) Development of forestry and fishery resources

This study provides basic data to ascertain current forestry and fishery resources.

##### 4) Development of mineral resources

This study determines the current quantity and development potential of mineral resources through geological surveys, physical investigation, geophysical surveys and boring. The issue of environmental conservation in relation to the development of mineral resources is also studied.

**Table 3-7** Fields Covered by Development Study

Field	Main Content
Planning and administration	Regional development plans; economic development plans
Public works	Water supply and sewerage; urban sanitation; waste disposal
Social infrastructure	Urban planning; rivers; erosion control; water resources; housing; cartography
Transportation and traffic	Transportation planning; roads; railroads; ports; airports; urban transportation
Communications and broadcasting	Mail; telecommunications; television and radio broadcasting
Health and medical care	Administration of health, medical care and hygiene; population and family planning
Agriculture	Agricultural and rural development; irrigation and drainage; processing and distribution of agricultural products; livestock
Forestry	Resource studies; social forestry; forest management planning; processing of forest products
Fisheries	Resource studies; processing and distribution of marine products; development of fishing villages; aqua-farming; fishing ports
Mining and Industry	Resource studies; industrial promotion; trade and investment promotion
Energy	Energy development; energy saving
Environment	Measures against air and water pollution; processing of industrial waste
Others	Development of human resources; education; commerce and tourism; management; others

## Project Implementation Assessment

### 1. Feasibility Studies (F/S)

Feasibility studies (F/S) examine objectively whether or not individual projects accorded priority in development studies and policies can be implemented for the formation of the most feasible project plans.

Feasibility is examined from various angles, including technology, economics, finance, social concerns, administrative organizations, institutions, and the environment. F/S reports provide international organizations and donor countries with reference material for examining possible financial cooperation.

### 2. Detailed Design Studies

These are concerned with creating the design drawings, work specifications, and tender documentation needed before construction work can begin. More detailed than feasibility studies, they involve preparation of the design drawings required for construction, and precise calculation of construction costs. Since fiscal 1998, detailed design studies have been carried out in collaboration with the Japan Bank for International Cooperation (JBIC)\* specifically in connection with projects scheduled for implementation with yen loans.

## Policy and Program Support Cooperation

### 1. Policy Support Studies

These aim at formulating basic strategy and comprehensive plans for promoting policies to ease the process of transi-

tion to a market economy and to open up markets through monetary and financial reform, adjustment of legal systems, and privatization of state and public enterprises. Workshops and seminars are held to improve the administrative capacity of officials in recipient countries and develop human resources.

The privatization plan and its feasibility are also studied. Practical plans are drawn up and manuals and texts on the implementation process are compiled. A few examples of such program support cooperation are the Program for Economic Policy Support for the Republic of Indonesia and the Japan-Myanmar Cooperation Program for Structural Adjustment of the Myanmar Economy.

### 2. Sector Program Development Studies

In fiscal 2001, JICA started the sector program\* development studies, which aim at formulating and implementing development plans to cover entire sectors through dialogue with governments of developing countries and other donors. The studies are comprised as follows.

- 1) Sector study and program formulation
- 2) Implementation monitoring
- 3) Evaluation

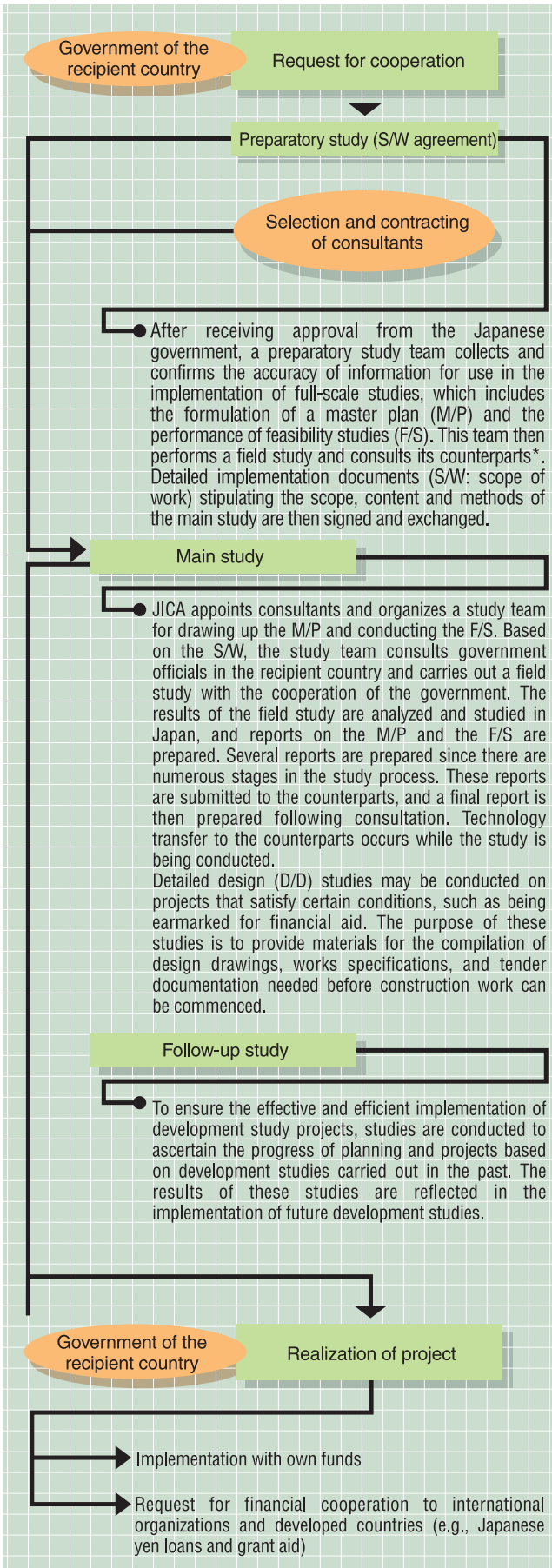
In fiscal 2002, the Support Program for Agriculture and Fisheries Development in the Republic of Indonesia, the Support Program of Primary Education Development in the Socialist Republic of Viet Nam, and the Support Program on Rural and Agriculture Sector Development in the United Republic of Tanzania.

### Overseas Basic Studies

Small-scale studies are carried out for formulating simple development basic plans that require social approaches, such as living habits and analysis of various basic data related to the plans, as well as for maintaining inventory by local consultants instead of consultants dispatched from Japan.

Starting in fiscal 2001, these studies could be conducted based on an agreement between JICA's overseas offices and counterpart organizations in recipient countries, which makes more locally initiated cooperation possible. The number of studies implemented has increased from 19 in fiscal 2001 to 23 in fiscal 2002.

**Figure 3-8** Flow of Development Study



### Follow-up and Evaluation Studies

These studies examine the progress of plans and projects based on past development studies in order to ensure that development studies are as effective and efficient as possible. The results are reflected in formulating and implementing future development studies.

### Study-related Work

In order to facilitate technology transfer\* through development studies, seminars on study results are held and texts in local languages are prepared. Furthermore, the documentation held by other organizations is collected and analyzed in order to find out recent innovation in research methods in related areas, and to enhance the effectiveness of these studies.

## Future Approaches

### Strengthen Approaches Specific to Regions and Countries

Region- and country-specific approaches must be further strengthened to obtain an accurate picture of the cultural, social and economic features of a recipient country, to examine its aid requirements, and to increase the effectiveness of aid. For this purpose, we need to identify development issues by country by getting actively involved with country-specific project planning initiated by the regional department, and understanding the culture, social, and economic conditions of the partner countries.

At the same time, we strive to ensure quality improvement in accumulated know-how, including directions and implementation methods of sectoral cooperation, in order to reflect the improvement on country-specific project planning for implementing more effective and efficient projects. We are also actively expanding our operations and developing projects for new regions and countries.

### Achieve Qualitative Improvement

In order to allow study projects to fulfill their original aims and be effectively applied, the project's technical reliability, funding possibilities and administrative capacity must be carefully examined. The studies themselves must be effective and efficient. This requires timely and sufficient preparatory work, including preliminary studies and feedback from the results of previous studies. JICA has been therefore continually compiling supervision and inspection manuals and preparing planning and technical standards for various projects such as road project.

JICA has also been compiling basic region-specific, country-specific and sector-specific information to implement studies effectively and efficiently corresponding precisely to diversifying development needs. In the case of large-scale projects and projects requiring advanced skills, consultants are employed to assess and examine the studies from a technical standpoint. Links with local governments in Japan are encouraged when these governments possess experience and expertise that can be applied.

### ■ Priority Global Issues

As for important development issues in the DAC New

Development Strategy\*, JICA has been engaged in four projects in the field of health and medical care, and 11 projects each in fields of education and poverty relief. The implementation of such development studies is also under consideration.

### ■ Increase in Policy-support and Reconstruction Support Projects

The issues faced by developing countries vary depending on their economic and financial conditions and technical standards. In response to such diversifying development needs, there has recently been an increasing number of “soft-type” development projects related to policy-support such as human

## Front Line

### ● India Integrated Pollution Abatement and River Basin Management Project for the Ganges Basin

#### Purifying the Holy River

Development Study

#### Drainage is the cause of pollution

India is called a country of rivers, which run in all directions across its vast land. The Ganges River is 2,525km in length, and approximately 380 million people, or 40% of the country's population, live in the basin of the river. The citizens have honored the Ganges as the Mother River or the Holy River for centuries, since the river supplies water for agriculture, living, and industrial activities, as well as for bathing. The river is very significant culturally and religiously.

However, recently, deterioration of the river's water quality has become a serious problem, due to an increase in urban population in the basin and industrial growth. In particular, human sewage is said to make up more than 70% of the water pollution. In response, the Indian government started the Ganga Action Plan (GAP), an action plan for water purification, in 1985. The government has implemented pollution abatement measures such as the construction of sewage plants and public toilets, and improving bathing areas (Ghat). Although these measures have shown some positive results, they are far from

achieving the set purification goal.

Since the 1990s, Japan has provided aid through Japanese yen loans by the Japan Bank for International Cooperation (JBIC) for Yamuna Action Plan (YAP), whose purpose is to purify the water of Yamuna River, a tributary of the Ganges River. The Indian government, appreciating the results of Japanese aid, requested a development study for the Ganges River purification project. Backed by the Japan-India Summit meeting in 2001, implementation of the study was approved.

#### Water quality suitable for bathing

Since the whole Ganges River makes the area of the study too large and the scope of the study wide ranging, the development study was targeted for basins of the surrounding four cities of Uttar Pradesh State, Varanasi, Aurangabad, Kanpur and Lucknow, in the midstream of the Ganges River where the pollution is most evident.

In order to purify the water of the Ganges to achieve water quality suitable for bathing, a two-year feasibility study that started in 2003 is being conducted



Development study for improving the water quality of the Ganges River

regarding the formulation of a water quality improvement master plan that will be accomplished by 2030, and the establishment of a sewage system in the four cities. Implementation of a pilot project on Ghat improvement and technology transfer of monitoring methods and sewage maintenance and management are also planned. We also plan to promote environmental education and other educational activities about river conservation and purification for residents, jointly with NGOs.

This project has drawn wide attention from Indian citizens as a symbol of bilateral friendship through the 50th anniversary of Japan-India Peace Treaty, and future progress of this project is anticipated.

(JICA India Office)



resources development, and the maintenance and management of infrastructure\* facilities. Currently, four development studies to provide support for post-conflict reconstruction are under way. JICA shall continue to respond carefully to recipient countries' humanitarian needs, for instance in the form of support for reconstruction and development following conflict and natural disaster.

### ■ Links with Other Forms of Aid

JICA continues to emphasize the exchange of information in relation to grant aid, loan assistance\* (JBIC implementation), and financing by international financial organizations.

Since 1998, JICA has been conducting detailed design studies in accordance with loan aid programs, 16 of which have been implemented by the end of fiscal 2002. As a Japanese ODA organization, we strive to contribute to a consistent procedure, from studies to project formulation.

To take international initiatives, JICA has been also strengthening its links with other aid agencies. In particular, JICA was actively involved in the World Water Forum an international conference held in Kyoto in March 2003. At the conference, JICA appealed to the world about its knowledge and experience it has obtained through past development studies in the field of water.

## Front Line

### ● Bolivia

## The Study on Enhancement of the District Health System for Beni Prefecture in the Republic of Bolivia

### Direction of Health and Medical Care Services Defined through a Pilot Study

Development Study

#### Formulate a development plan based on the study

Beni Prefecture, located in northern Bolivia, belongs to a tropical climate zone of the Amazon, far from the cool climate of the Andes Mountains. It is a depopulated area with a population density of 1.7 persons/km<sup>2</sup>.

Infectious diseases such as malaria and tuberculosis are common in this prefecture because of the natural environment. However, roads are blocked in the rainy seasons and it is physically difficult to receive medical service at hospitals or health care centers. Furthermore, the regional health and medical care services were not effectively functioning as a system, because a cooperation system between medical facilities, such as hospitals and health care centers, and administrative organizations, such as the Ministry of Health and local governments, was not established. It is also a common problem for the entire field of health and medical care in Bolivia.

In order to improve this situation, a full-scale study started in Beni Prefecture

in June 2001. Based on field studies conducted in four major counties (Cercado, Moxos, Mamore and Vaca Diez) from June to December 2001, development plans for a regional health and medical care system were formulated. Out of these plans, a model cooperation plan representing the health and medical care system in Beni Prefecture was selected, and a pilot study was conducted to examine the sustainability of this cooperation plan.

#### Medical boat called the Health

In this pilot study, a mobile medical care service on a newly constructed medical boat, the Health, was provided to villages scattered throughout the basin of the Mamora River running in all directions across Beni. Health care centers were constructed to provide medical care service in surrounding cities and rural areas where the poor reside. These medical care services were greatly



The Health provides mobile medical care services.

appreciated by the residents in the region, and at the same time encouraged the residents to actively take the initiative in operating the medical boat and the health care centers.

This activity led related parties in Beni to form a coordinating committee initiated by the prefectural governor. Positive activities have continued even after the development study was completed, such as the conference for formulating an action plan in the field of prefectural health care with all the aid agencies active in Beni. It is one of the major achievements of this cooperation.

(JICA Bolivia Office)