Thailand, Indonesia, Bolivia, Paraguay

Follow-up Evaluation of Development Studies

Project Sites Thailand, Indonesia, Bolivia, Paraguay

1. Background and Objectives of Evaluation Study

The domestic and foreign needs for evaluation from the perspective of ensuring the transparency of ODA has increased in recent years. In addition, it has been recognized that the promotion of evaluation and adequate feedback of the results of evaluation into project implementation is needed not only to ensure transparency, or so-called accountability, but also to improve the quality of ODA projects themselves.

In this context, further promotion of evaluation for Development Studies is anticipated in the future. Over 300 Development Studies are conducted annually, and they account for a roughly constant proportion of JICA's cooperation.

Japan's project-type schemes including Project-type Technical Cooperation, Grant Aid and Loans have been subjected to evaluation by the Ministry of Foreign Affairs (MOFA), JICA or the Japan Bank for International Cooperation (JBIC/former OECF) for over 15 years, and the number of evaluations implemented has built up. In contrast, there are few evaluations of Development Studies as they have only recently become subject to evaluation by MOFA and JICA. Therefore, as the percentage of Development Studies being evaluated is low compared with that for Grant Aid and Loans, it has been recognized that it is necessary to further promote evaluation of Development Studies in the future. This will improve the quality of future Development Studies through the utilization of the results of evaluation.

Against this background, this evaluation makes an overall assessment of Development Studies from the implementation stage to the post-implementation stage based on the following objectives, while focusing on impacts at the post-implementation stage:

1) To draw lessons from the results of evaluation for improving the quality of future Development Studies
2) To develop the methods of evaluation through implementation of evaluation of Development Studies

2. Evaluated Projects

Twenty-two completed Development Studies in Asia and South America were subjected by the evaluation. Projects were selected from Thailand and Indonesia in Asia and from Bolivia and Paraguay in South America. The subjected sectors were focused on transport and traffic and water resources development (including flood control and water supply), and evaluations for each country were implemented from the following perspectives.

<Thailand>

To evaluate, as comprehensive inputs in the eastern seaboard region, a total of 13 completed Development Studies in the sectors of regional development, transport and traffic and water resources development conducted in relation to the Eastern Seaboard Development Plan promoted by the Thai Government.

<Indonesia>

Focusing on the water resources development sector, to make an evaluation of a total of three Development Studies related to the flood control project for the Jeneberang River in South Sulawesi and provision of water supply in the downstream city of Makassar.

<Paraguay>

Focusing on the transport and traffic sector, to make an evaluation of a total of four Development Studies related to regional roads in the city of La Colmena and the traffic plans covering the Asuncion Metropolitan Area and the whole of Paraguay.

<Bolivia>

Again focusing on the transport and traffic sector, to make an evaluation of a total of two Development Studies

related to the Viru Viru International Airport in Santa Cruz and the El Alto Airport in the city of La Paz.

The studies evaluated are shown in Table 1.

3. Members of Evaluation Team

<Indonesia and Thailand>

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<Paraguay and Bolivia>

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4. Period of Evaluation

<Indonesia and Thailand>

6 February 2000-27 February 2000

<Paraguay and Bolivia>

30 January 2000-8 February 2000

5. Evaluation Methods

(1) Scope of Evaluation

This evaluation assesses Development Studies overall from the implementation stage to the post-implementation stage with a focus on the impact at post-implementation

Fig 1. Scope of Evaluation

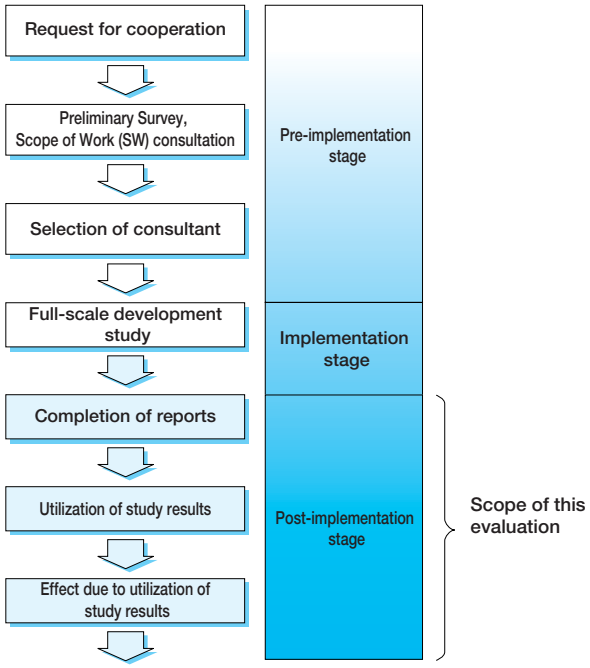

Table 1 Evaluated Development Studies

Country	Sector	Name of Study	Type of Study	Implementation Period
Thailand	National and Regional Development	Development Project of Leam Chabang Coastal Area	M/P + F/S	January 1984-March 1985
		Development of Patthaya Area	M/P	March 1989-July 1990
	Transport and Traffic (ports)	Development Project of the Industrial Port on the Eastern Seaboard	M/P + F/S	July 1982-November 1983
		Establishment of a Large Repair Shipyard	F/S	July 1984-May 1985
		Effective Port Management and Operation System	Other	August 1986-March 1988
		Measures to Promote Container Handling System through Leam Chabang Port	M/P	March 1988-July 1989
	(roads)	Road Development in the Central Region	M/P + F/S	August 1987-March 1989
		Toll Highway Development	M/P	February 1990-June 1991
		Inter-City Toll Motorway Project	F/S	August 1993-March 1995
	Social Infrastructure (water resources development)	East Coast Water Resources Development Project	F/S	February 1981-March 1982
		Dok-Krai-Map Ta Phut Water Pipeline Project on the East Coast Area	D/D	November 1981-August 1982
		East Coast Water Resources Development Project (Phase Ⅱ)	F/S	July 1982-March 1983
	Public Works (water supply)	Nong Kho-Leam Chabang Water Pipeline Project	F/S	August 1983-March 1984
Indonesia	Social Infrastructure (flood and erosioncontrol)	Lower Jeneberang River Flood Control Project	F/S	June 1976-February 1980
		Jeneberang River Flood Control Project (Phase Ⅱ)	F/S	January 1981-March 1982
	Public Works (water supply)	Ujung Pangdang Water Supply Development Project	M/P + F/S	June 1984-October 1985
Paraguay	Transport and Traffic (urban traffic)	Transportation Facilities Improvement Project of Asuncion Metropolitan Area	M/P	August 1984-August 1986
		Transportation Facilities Improvement Project of Asuncion Metropolitan Area	F/S	September 1987-October 1988
	(roads)	La Colmena Highway (Follow-up)	Other	September 1976-January 1977
		National Transport Master Plan	M/P	March 1990-January 1992
Bolivia	Transport and Traffic (aviation, airports)	Viru Viru International Airport Development	F/S	April 1977-December 1977
		El Alto Airport Modernization Project	M/P + F/S	January 1987-February 1988

M/P: Master Plan Study F/S: Feasibility Study D/D: Detailed Design Study

stage. The implementation stage is from the point when a study team actually begins the full-scale study in the country to when the study is finished, the report is submitted to the recipient-country government and a final report is produced based on discussions. Meanwhile, the post-implementation stage refers to the period after the full-scale study is completed and the final report is produced. The scope of evaluation also includes the utilization stage, which is the period of utilization of the results of studies in the formulation of projects for the targeted region or in the implementation of individual projects, and the impact stage, when the effects appear resulting from the utilization. (Refer to Fig. 1)

(2) Perspective of Evaluation

The evaluation divided Development Studies into the stages of implementation and post-implementation. For the implementation stage, it examined the necessity for the implementation of the development study, the structure of cooperation between the study team and counterparts, and the establishment of the recipient-country government's system for utilizing the development study. For the post-implementation stage, the evaluation examined 1) reflection of proposals from the development study in recipient-country government development policies, progress into next-stage study and project implementation, and the ripple effect produced by project implementation from the perspective of impact, and 2) the implementation system and self-help seen in the process of utilization of development study results from the perspective of sustainability after the implementation of Development Studies.

(3) Method of Implementation

The implementation of this evaluation was composed of 1) information gathering in Japan; 2) on-site research (including interviews of participants in the Development Studies); 3) information gathering using local consultants; and 4) analysis of data in Japan.

Thailand / Development Project of Leam Chabang Coastal Area

6. Results of Evaluation: Thailand

In judging the success or failure of Development Studies, it is necessary to examine both the implementation stage that is affected by the efforts of both the Japanese side and the recipient country's government, and the post-implementation stage that is significantly impacted by the efforts of the recipient government.

This evaluation covered 13 Development Studies implemented mainly during the 1980s that were directly or indirectly related to the development of Thailand's eastern seaboard. It comprehensively evaluated the studies as an input package in the whole region. Following the evaluation of the implementation and post-implementation stages, it could be confirmed that the series of Development Studies conducted for the development of the eastern seaboard had generally been successful.

The implementation stage can generally be judged successful based on an overall evaluation of the following points: 1) Japan's Development Studies aimed at eastern seaboard development appropriately reflected the needs of the time; 2) the cooperation between the Japanese side and the Thai side was generally satisfactory; and 3) the system for the utilization of Development Studies was in place against the background of the priority placed by the Thai Government on the Eastern Seaboard Development Plan as a national project.

Furthermore, it was confirmed that the overall impact of the Development Studies in the post-implementation stage was substantial and extremely significant. The following four points illustrate the impact: 1) projects proposed by the Development Studies conformed to Thai Government development plans and were largely reflected in concrete policies aimed at project implementation; 2) the results of Development Studies were utilized in regional level development policies and projects, for example, Pattaya City Office positioned the results of Development Studies as its development policy; 3) a large number of proposals developed into subsequent studies and to project implementation; and 4) the effect on the eastern seaboard region was extremely significant, which included the invigoration of economic activity in the eastern seaboard area, an increase of contribution to the Thai economy by the manufacturing and mining industries in Chon Buri and Rayong Provinces, an increase in private investment and greater generation of employment.

To give actual examples of the economic impact on the region covered by the studies, from 1982 to 1996, Chon Buri and Rayong Provinces significantly outperformed the average rate of growth in real GDP for the whole of Thailand. In 1990, the manufacturing industry in Chon Buri Province accounted for

approximately 6 percent of added value for the whole of Thailand, but this had increased to 10 percent by 1996. In terms of the rate of growth in the number of companies, while the growth rate for the whole of Thailand has been showing a tendency to decline since 1981, in Chon Buri and Rayong Provinces it has been on the rise from 1987 and outperformed the rate of growth in companies for the whole of Thailand from 1990. With the increase in the number of companies, new employment has been generated in the eastern seaboard region. The number of employment opportunities created during the Eastern Seaboard Development Plan Phase I (1981-1994) reached 460,000. As a result of the advance of industrialization due to the eastern seaboard development projects, employment opportunities have increased particularly both in industry and in services.

The five points below are the main factors in the success throughout implementation and post-implementation stages of the Development Studies implemented in relation to the Eastern Seaboard Development Plan.

1) The Thai Government's Eastern Seaboard Development Plan provided a clear framework for development.

2) Within this framework, Japanese Development Studies were intended to be utilized from the beginning of implementation.

3) Under the leadership of the Thai Government, decisions concerning the project implementation of eastern seaboard development were clearly made.

4) Against the background of 1) and 2), the system for utilization of proposals and plans produced by Development Studies in the implementation and post-implementation stages was in place.

5) After the Plaza Accord, investment increased and the Thai economy was vitalized.

Points 1) through 4) above are closely connected to the fact that the Eastern Seaboard Development Plan was promoted under the ownership of the Thai Government. This ownership resulted in the strengthening of the organizational structure for promoting the Eastern Seaboard Development Plan and encouraged meticulous consideration as well as the development of concrete projects. In addition, 5) is an external factor that exerted a positive effect on the post-implementation stage of the Development Studies.

However, in terms of technology transfer, because the Development Studies were implemented focusing upon improvement of infrastructure at the time, they were expected to draw blueprints rather than to transfer technology. In other words, Development Studies were not regarded as technical cooperation, thus there was no focus on technology and knowledge transfer.

The local autonomous bodies in the districts covered by the Development Studies targeted by this evaluation include the Laem Chabang self-governing office, the Map Ta Phut self-governing office and the Pattaya City Office. Among these, the Laem Chabang self-governing office and the Map Ta Phut self-governing office were not bodies for the implementation of projects considered and proposed by the Development Studies. This was because the industrial development of Map Ta Phut and Laem Chabang was largely implemented by central government implementing organizations and ministries. As a result, the Laem Chabang self-governing office and the Map Ta Phut self-governing office did not receive feedback from the Development Studies when they were completed, and there was very little collaboration with the central government office. However, at the time of implementation of the "Development of Pattaya Area", there were city employees who took part as counterparts, and there was feedback of the results from Development Studies as the necessity arose from the implementation stage. According to Pattaya city employees, the results of the Development Studies are still being used as a blueprint for the city's development plan.

7. Results of Evaluation: Indonesia

The three studies reviewed can be evaluated successful overall, considering the implementation stage of the studies, the system during the implementation process, and the status of utilization and the utilization system in the post-implementation stage. The following is an outline of the factors that created the success of the three studies from perspectives of the system of the study in the implementation and post-implementation stages, the needs for the studies, and the manifestation of the post-implementation impact.

All three studies covered in this evaluation reflected

Indonesia/ Ujung Pangdang Water Supply Development Project

the needs at the time, and the implementation of the studies was well timed. In the case of the "Lower Jeneberang River Flood Control Project" and the "Jeneberang River Flood Control Project (Phase II)", the studies were carried out against a background of a strong need for flood control. In the case of the "Ujung Pangdang Water Supply Development Project", the study was carried out against the background of a forecasted future increase in demand for water.

In terms of the study implementation process, the studies evaluated were conducted between the end of the 1970s and the mid-1980s. Therefore, as 15 or 20 years elapsed, it was impossible to obtain sufficient information on the status of implementation at the time. However, counterparts from the period recall that there were no communication problems between the teams from the Japanese side and the Indonesian side and that the counterparts participated actively in the studies.

Further, since the Ministry of Public Projects (currently the Ministry of Residence and Area Development), the counterpart organization at the time, established a system in place for the adequate utilization of study results from the study implementation, the studies appear to have been conducted efficiently.

The plans proposed at the study implementation stage were adequately utilized in the development policy for flood control and water resource development in the lower reaches of the Jeneberang River, and the provision of water supply facilities in Makassar City.

In terms of the impact of project implementation, it was confirmed that despite suffering the biggest rains in several decades at the beginning of 2000, the flood control system on the Jeneberang River worked perfectly and prevented the river from flooding. In addition, it was confirmed that the rate of water supply had increased resulting from the improvement in clean water supply capability due to the establishment of water treatment plants and expansion of the water pipe network.

Paraguay/ La Colmena Highway (Follow-up)

Meanwhile, in terms of the system of utilization for the Development Studies, the Ministry of Public Projects, the counterpart organization for the three studies from the implementation stage, took an active role. Therefore, the system for utilizing the Development Studies was in place, meaning that there was a smooth transition to utilization after implementation.

8. Results of Evaluation: Paraguay

This part of study focused on the transport and traffic sector and evaluated four Development Studies related to local roads in La Colmena City, and traffic plans for the Asuncion Metropolitan Area and the whole of Paraguay. The four Development Studies that were evaluated were generally successful because they met the needs of Paraguay at the implementation and post-implementation stages. An outline of the results of evaluation of the implementation and post-implementation stages of the four studies is given below.

In terms of the convergence between the Development Studies and the needs on the Paraguay side, the studies for post-construction care for roads in La Colmena reflected the prioritised target of the land transportation sector in the National Social and Economic Development Plan of Paraguay (1977-1981). The Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (M/P) and Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (F/S) were studies that addressed the population increase and concentration of industry in the metropolitan area. Further, the studies for the National Transport Master Plan addressed motorization since 1980.

It was confirmed that during the study process there was adequate communication between the JICA study team and counterparts, regular meetings, seminars and technical transfer by the study team to counterparts. Therefore, it appears that there was an adequate system of cooperation between the study team and the counterparts at the study implementation stage. In terms of the establishment of a system for the utilization of the Development Studies during the implementation stage, representatives of participating organizations formed a steering committee whereby cooperation and decision-making could take place and advice shared on both administrative and technical aspects of the studies and plans. This type of system not only deepened understanding and interest in the studies within the government but also played an important role in the timely transition of plans into projects.

Three of the four studies, Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (M/P), Transportation Facilities Improvement Project of

the Asuncion Metropolitan Area (F/S), and the National Transport Master Plan were developed into subsequent Development Studies, and part of those plans were implemented as projects. For the Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (F/S), it was reported that work had already begun on circular road widening (construction to widen Madam Lynch Street), improvement of primary intersections, installation of new bus terminals, and central control of traffic signals by a traffic control center. These projects were initiated using funds of the Asuncion municipal government and World Bank loans. For the National Transport Master Plan, it was confirmed through on-site research that a number of proposed road projects have been undertaken or are in the process of implementation. In addition, Japan's OECF (currently JBIC) provided Loans to road projects twice, in 1990 and in 1998.

Turning to the indirect economic and social effects resulting from the implementation of projects, it was ascertained that the study of "La Colmena Highway (follow-up)," from which all the plans were developed into projects, has made a significant contribution by increasing convenience and efficiency for local people, increasing the importance of the regions and improving access to public facilities. The Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (F/S) has resulted in better driving conditions as a result of the surfacing and widening of roads, and there has been a decrease in the number of traffic accidents in Asuncion. It was also confirmed that the National Transport Master Plan likewise had indirect effects that included a shortening of travelling times and promotion of trade through the creation of a corridor for imports and exports.

The sustainability of the Development Studies can be evaluated from the perspective of the preparedness of the internal system for the development of plans into projects and whether the technology transferred by the study teams at the time the studies were implemented has become firmly established on the recipient side. For the Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (F/S), few of the counterparts who participated are still in office due to the 1989 coup d'etat and the subsequent reorganization of the municipal government. Therefore, there was no sustainability from the perspective of the system. For the National Transport Master Plan (M/P), it was ascertained that it was integrated into the national plan in the transportation administration and that the Comprehensive Transport Planning Department, Section In Charge of Transport (OPIT) of the Ministry of Public Projects and Communications carries out decision making in the order of priority for comprehensive project implementation and monitoring.

It can be confirmed that the studies had sustainability from the perspective of the establishment of technology. According to the counterparts who received the technology transfer during the study implementation process for Transportation Facilities Improvement Project of the Asuncion Metropolitan Area (M/P) and the National Transport Master Plan (M/P), the basic knowledge of transport civil engineering technology, knowledge of signalling equipment, and traffic planning that they acquired through the studies is still useful in their current work more than ten years after the studies were completed.

9. Results of Evaluation: Bolivia

This evaluation focused on the transport and traffic sector and in particular on airports, and evaluated the two Development Studies related to Viru Viru International Airport located in Santa Cruz City and El Alto Airport in La Paz City, the capital of Bolivia. As the two Development Studies met the needs of Bolivia in the implementation stage and the post-implementation stage, they were evaluated generally successful.

It could be ascertained that in the study implementation process for both the studies, there were regular meetings between the JICA study teams and counterparts and there was technology transfer from the study teams to the counterparts (data collection techniques, planning techniques for airport renovation and expansion projects, and expertise on aircraft noise measurement technology). Therefore, it appears that there was an adequate system of cooperation between the study teams and the counterparts at the implementation stage.

In terms of the system for using the results of Development Studies at the implementation stage, in the case of the Viru Viru International Airport Development, institution building and developing a system for implementation of the projects were carried out simultaneously with the completion of the study. Meanwhile, in the case of the El Alto Airport Modernization Project, there was a change of government immediately after the completion of the study, most of the counterparts hence either resigned or changed jobs. The project steering committee therefore was never organized.

Turning to the implementation of projects, some of the projects from both of the Development Studies were implemented. The Viru Viru International Airport Development (F/S) was granted yen loans in 1979 (¥10.8 billion) and 1983 (¥6.689 billion) by OECF, and the project was completed in 1984. The El Alto Airport Modernization Project (M/P + F/S) was provided with grant aid from JICA in three consecutive years: 1994 (¥893 million), 1995 (¥2.374 billion) and 1996 (¥278

million). Improvement of runways, the construction of a new control tower, the installation of aids to navigation and telecommunications facilities, and the purchase of communications devices and landing-aid-related devices were implemented.

The economic and social impacts on the local community was confirmed to include 1) improvement of transport services and comfort for airport users; 2) increase in demand for air travel; 3) increase in volume of freight handling; 4) increased employment opportunities in Santa Cruz Prefecture; and 5) various cost savings from the construction of a new airport.

Likewise, the impact from the implementation of the projects in the development study for El Alto Airport was examined. However, as the projects implemented were limited to the provision of control facilities related to safety of the airport and it had been only two years since implementation, it was impossible to measure substantial impacts resulting from the projects. The impacts that were ascertained through interviews included improvements in safety and modernization of aviation technology.

In the future, the issue of whether the remaining projects from the two studies are implemented is largely dependent on the decision of Servicios de Aeropuertos Bolivianos SA (SABSA), which has jurisdiction over the management of the airports. The main factors preventing implementation are funding-related issues and stagnated demand for air transport (passengers and freight). If these are resolved, the projects are likely to be implemented according to the proposals in the studies. In addition, the Ministry of Transport is considering the formulation of a National Transport Master Plan in the future. If the details proposed in the Viru Viru International Airport Development and the El Alto Airport Modernization Project are reviewed in the master plan, it seems likely to spur implementation.

Meanwhile, as the counterparts at the time of both the studies have almost all been replaced due to the change of government or other reasons, it must be said that the Sustainability of technology transfer, from the viewpoint of human resources, is low. However, the reports generated by the two Development Studies are now important reference materials at SABSA, so there may be Sustainability in terms of the contents of the results of the Development Studies.

10. Lessons Learned and Recommendations

(1) Recommendations to Improve the Quality of Development Studies

1) Reconfirmation of the purpose of the Development Studies from the perspective of technical cooperation

Bolivia / Viru Viru International Airport Development

When a development study is implemented, it is necessary to reconfirm its purpose in order to utilize its results as technical cooperation as much as possible.

Japanese cooperation so far has fulfilled the goal of supporting the formulation of projects, but the level of achievement is generally low for technology transfer. In the future, if there is to be an even greater focus on technology transfer, it will be necessary to strengthen the points below.

a) To deepen recipient countries' understanding of Japanese Development Studies as technical cooperation so that recipient countries will make requests for Development Studies including requests on technology transfer from the very first stage of a request. While, at the stage of project selection and confirmation (project formulation study, etc.), Development Studies that emphasize technical cooperation must be proposed to recipient countries.

b) To issue public notices that enable tenderers to produce proposals that emphasize technology transfer, and to select a consultant with an aptitude for technology transfer. Depending on circumstances, to include a long-term specialist in technology transfer in the Japanese team for Development Studies.

c) To establish support systems that facilitate technology transfer from the Japanese team to the recipient country's team.

2) Clarification of the role of the development study in the development plans of recipient countries

When implementing a development study, it is necessary to clarify the position of that development study in the context of the national development plan of the recipient country's government and/or the development plans of the ministry in charge.

When the role that the development study plays in the context of the prioritised development plans of the

recipient country is clarified, and the development study is implemented with that role in mind, the reflection of the study in development policies and its utilization in individual projects in the recipient country will be increased.

3) Clarification of targets for utilization of Development Studies

The purpose of implementing Development Studies varies according to the type of study and its subject. The post-implementation utilization of Development Studies also vary according to differences in their purposes. When assessing utilization status following the implementation of a development study, it is necessary to verify that utilization status matches the targets of the study. Therefore, the targets for utilization of a development study must be clarified from the pre-implementation or implementation stage.

4) Preparation of scenarios to cope with changes in external conditions

It is possible for projects proposed in Master Plan Studies or examined in Feasibility Studies to be suspended after implementation of those studies due to changes in external conditions. It is therefore desirable to prepare a variety of scenarios as far as the change can be predicted.

The most common cause of projects proposed or examined in Development Studies not being utilized is the recipient country's inability to provide the budget. To address this, it would be effective to consider scaled-down projects or projects that can be expanded in stages from the smallest scale.

(2) Recommendations for Improving Methods of Evaluation for Development Studies

1) Setting targets for utilization according to the number of years since implementation, form of development study and purpose of development study

It is necessary for ex-post evaluation of Development Studies to set targets for utilization based on the number of years since implementation, the form (Master Plan Study, Feasibility Study, or Detailed Design Study, etc.) and the purpose of the development study. Setting these targets will allow an appropriate assessment of the development study's achievements whatever the timing, form and purpose of the evaluation.

2) Introduction of terminal evaluations

It is desirable to introduce a terminal evaluation after the implementation of a development study in order to evaluate efficiency at the stage of implementation.

When the period of implementation of the development study being subjected to ex-post evaluation goes back nearly 15 or 20 years, it is difficult to collect information for evaluating the implementation stage. Even if it is possible to collect information, the poor reliability of the information means that it is often difficult to produce accurate evaluations.

The introduction of terminal evaluations would clarify what kind of technical transfer had taken place at the implementation stage and whether collaboration with the recipient country had been adequate. The reliability of the grounds for assessing efficiency of the study at the implementation stage would also be improved.

3) Need to examine methods of evaluation: positioning of Development Studies using logical structure of PDM

In Japanese ODA evaluation, particularly in project evaluation, evaluations are conducted from the perspective of five evaluation criteria (efficiency, effectiveness, impact, relevance and sustainability) based on the logical structure of PDM. PDM illustrates the relationship of input/activity → output → project purpose → overall goal and important assumptions (external factors) in matrix form, and is established in line with the flow of a project, and is therefore logically clear. However, when assessing a development study in the same way as a project of Project-type Technical Cooperation and carrying out an evaluation using the logical structure of PDM, it is necessary to examine the positioning of the stages of the development study from implementation stage to post-implementation stage within the logical structure of PDM.

4) Consideration of criteria of evaluation other than the five evaluation criteria

Development study evaluations do not necessarily have to follow the five evaluation criteria, and if there is another, more appropriate, criteria for evaluating Development Studies, it should be allowed. The disadvantages of the evaluation using five evaluation criteria based on the PDM logical structure are that the content of the evaluation varies significantly depending on the positioning of "purpose," and there may be duplication of the content to be assessed under each criterion.

The alternatives for establishing the criteria of evaluation for Development Studies in the future are a) to base evaluation on the five evaluation criteria and to add improvements to it; or b) to consider new criteria of evaluation using the five evaluation criteria as a reference.