ner country in the medical education area through the enhancement of CMEJ. In addition, careful consideration is necessary with respect to the pros and cons of creating an independent entity for a project. What is most important is not to create an independent entity but rather to provide and develop knowledge and technology, thereby promoting development in a particular area. Creating a new entity is not necessarily the best plan to adopt; the ideal way is to develop and enhance the necessary ability of an existing organization in accordance with its capacity. JICA is able to develop and enhance the ability of an existing entity, while it is outside of their control to keep a new entity developed for the project after its completion. The implementing section in China does not necessarily have the capability, either.

Chapter 2 Synthesis Study of Evaluations (Project-level ex-post evaluations)

This chapter presents the results of the synthesis study on ex-post evaluations of individual projects which were conducted in fiscal 2002 and 2003. Ex-post evaluation mainly examines whether the effect of assistance is sustained and continues to occur after the termination of cooperation. This study was conducted to derive common features from individual evaluation results and compile generalized lessons for easy feedback. The Office of Evaluation, Planning and Coordination Department, an evaluation section of JICA, conducted this study with the participation of external consultants.

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2-1 Objective, Target and Evaluation Methods

(1) Objective

Chapter 1 of Part 2, "Synthesis Study of Evaluation Results," in the Annual Evaluation Report 2003 comprehensively analyzed primary evaluation results based on terminal evaluation reports of JICA's Technical Cooperation Projects (hereinafter referred to as "project"). This synthesis study analyzed the project effects at the termination of cooperation between the partner countries and Japan, identified factors that promoted and impeded realization of the effects, and derived lessons for effective and efficient cooperation in the future.

This year, primary evaluation results of the ex-post evaluation reports are comprehensively analyzed using the same synthesis analysis method as last year. This analysis sheds light on general trends of the effects that were realized in a certain period after the project termination, as well as promoting and impeding factors. Furthermore, lessons are derived based on the results of this analysis for future implementation of projects with sustainable effects.

(2) Members of the Study

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(3) Projects Subject to the Study

This study targeted 43 ex-post evaluations on individual projects that were conducted by JICA in fiscal 2002 and 2003 (24 evaluations for fiscal 2002 and 19 for fiscal 2003 whose reports were publicized as of April 2004: see Table 2-5 Projects Subject to the Study). Project-level ex-post evaluation was introduced in fiscal 2002 on a trial basis. In principle, JICA overseas offices conduct ex-post evaluation on Technical Cooperation Projects three years after the termination of cooperation using local consultants. Focusing on impact and sustainability of the DAC Five Evaluation Criteria, this evaluation examines whether the effects of the projects are sustained and expanded even after termination of cooperation.

Breakdowns of projects by region and by sector are shown in Figures 2-1 and 2-2, respectively. Since project-level ex-post evaluation has been introduced on a step-by-step basis, these breakdowns are not necessarily consistent with the general trends of JICA projects. Thirty-three projects subject to the study are in Asia, which accounts for 77% of those implemented in the whole area, whereas the number of projects in the Middle East and Africa is limited in this study.

(4) Methods of the Synthesis Study

The analysis in this study set the following three questions.

a. Has the impact of a project emerged after termination? Is sustainability secured?
b. What are the major factors that promoted or impeded to the occurrence of effects?
c. What are the major lessons learned that should be considered at the planning and implementation stages of a project for sustainable effects after the termination of cooperation?

The procedure of analysis and evaluation is described in detail below.

1) Understanding General Trend

In terms of impact and sustainability, criteria used for ex-post evaluation, in the DAC Five Evaluation Criteria, projects were rated on a scale of one to four (details of the criteria for rating are described subsequently at the analysis section). The rating aimed to grasp the general trend seen in primary

Table 2-5 Projects Subject to the Study

FY	Country	Project Name
2002	Bangladesh	A Pilot Project on Prevention and Control of Rheumatic Fever and Rheumatic Heart Diseases
	China	The Research Center for Water Pollution and Water Re-use
	China	The Laboratory Animal Science and Technology Training Center Project
	China	The Computer Software Technology Training Center of SSTC
	China	The Forestry Development Project in Fujian Province (Follow-up)
	Indonesia	The Veterinary Drug Control Project
	Indonesia	The Fundamental Technology Transfer Project for Production of Live Attenuate Measles and Poliomyelitis Vaccines
	Indonesia	The CEVEST Vocational Training Development Project
	Indonesia	The Modernization of Perumka's Education and Training System in Jabotabek
	Nepal	The Medical Education Project
	Nepal	The Project for Natural Water Fisheries Development (Follow-up)
	Pakistan	The Geoscience Laboratory in the Geological Survey
	Philippines	The National Center for Transportation Studies
	Philippines	The National Construction Productivity Development Project
	Philippines	The Diversified Crops Irrigation Engineering Project (Phase 2)
	Philippines	Philippine Software Development Institute
	Thailand	The National Computer Software Training Center
	Thailand	The Training in the Distribution Automation System
	Thailand	The Chiang Mai University Plant Biotechnology Research Project
	Thailand	The Research Project on the Quality Development of Fishery Products
	Thailand	Development of Mechatronics Engineering Course at Bachelor Degree Level in Pathumwan Technical College
	Thailand	The Project for Development of Agricultural Research (Phase 2) in Northeast Thailand
	Egypt	The Cairo University Pediatric Hospital
	Kenya	The NYS Engineering Institute
2003	China	The Project on Research and Training Center on New Technology for Housing
	China	The Pilot Scheme for Technological Development on River Information System Project
	China	The Clinical Medical Education Project for the China-Japan Medical Education Center
	Indonesia	The Project to Enhance Education and Training of Industrial Safety and Health
	Nepal	The National Tuberculosis Control Project (Phase 2)
	Philippines	The Training Services Enhancement Project for Rural Life Improvement
	Thailand	The Project to Enhance the Capacity of the Faculty of the Engineering at Thammasat University
	Thailand	The Testing and Inspection Technology Upgrading for Textile and Garment Products
	Thailand	The Productivity Development Project
	Thailand	The Training Center for Sewage Works
	Thailand	The Industrial Property Information Center
	Morocco	The Higher Institute of Maritime Studies Project
	Saudi Arabia	The Project on Improvement of the Technical Education of Electronics in the College of Technology in Riyadh
	Kenya	Jomo Kenyatta University of Agriculture and Technology (Undergraduate Program): JKUAT
	Argentina	Population Statistics Project
	Argentina	The Industrial Energy Conservation Project
	Brazil	Brazilian Institute of Quality and Productivity Project
	Mexico	The Project on the Improvement of Techniques for the Production of Vegetables in Morelos State
	Paraguay	The Rural Development Project in the Region South of Pilar

*Summaries of results of these evaluations are available on the JICA website.

evaluation results of the target projects. Impact was comprehensively examined from the standpoint of how much the overall goal was achieved and whether there was any other effects (i.e., ripple effects). Sustainability was also comprehensively examined mainly focusing on sustainability of the project effects, as well as sustainability from technical, organizational, and financial aspects.

It is to be noted that at least three members (two JICA staff members and one external consultant) of the above-mentioned study team read one evaluation report for the classification of primary evaluation results in order to reflect viewpoints of more than one person and avoid evaluators' biased interpretation as much as possible.

2) Analysis of Promoting and Impeding Factors

In addition to the rating described above in 1), factors that promoted or impeded the effects were identified and classified based on primary evaluation results. Then, for each classification of factors, the frequency and specific cases were surveyed and reported.

Since ex-post evaluation mainly concerns the period after termination of cooperation, the promoting and impeding factors reported generally are attributed to situations in the partner countries. And this synthesis study basically deals with the promoting and impeding factors that were identified after the termination of cooperation. However, given the objective of this study to draw lessons for better planning and implementation, factors in the planning and implementation stages that were considered to have a close relationship with the factors that emerged after the termination were also analyzed.

3) Deriving Lessons

Based on the results of the above analysis, lessons that should be kept in mind for more effective and efficient cooperation were summarized. Although it is the partner country that independently takes responsibility for managing the project after the cooperation period, lessons derived here are not directed toward partner countries but rather toward JICA from the standpoint of what JICA needs to keep in mind at the planning and implementation stages in order to secure a high level of impact and sustainability even after the termination of cooperation.

(5) Limitation in Analysis and Evaluation

1) Quality of Primary Evaluation

In the course of the analysis on primary evaluation results, some variations in ways of value judgment and description were observed. However, since it is difficult to verify whether the judgment given in the primary evaluation is appropriate from the reports alone, the analysis was made based on the judgment in the primary evaluation. Accordingly, the rating of evaluation results on impact and sustainability and the frequency survey on promoting and impeding factors are reported simply to show the picture of general trends. The actual emphasis of this study is placed on the analysis of factors based on specific cases for drawing lessons.

In addition, in order to prove the credibility of factor analysis concrete cases from primary evaluation reports are introduced. However, as described before, due to the variance in analysis and description of primary evaluation, it is still conceivable that problems were not identified precisely. Therefore, it should be noted that some projects were picked up as problematic cases not necessarily because of the magnitude of the problem. Instead, they are more likely to be projects with well-made primary evaluation that identified and analyzed the problems clearly.

2) Timing of Evaluation

As was mentioned before, ex-post evaluation is implemented basically after three years since the cooperation termination. Consequently, the degree of the effects toward the overall goal of the project at the time of evaluation varies from project to project. This is because each project assumes a different timeframe for the accomplishment of the overall goal. Also, in some cases, an unexpected situational change influences the occurrence of effects temporarily, generating

Figure 2-1 Breakdown by Region of the Projects Subject to the Study

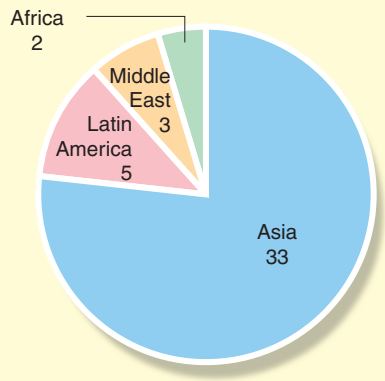
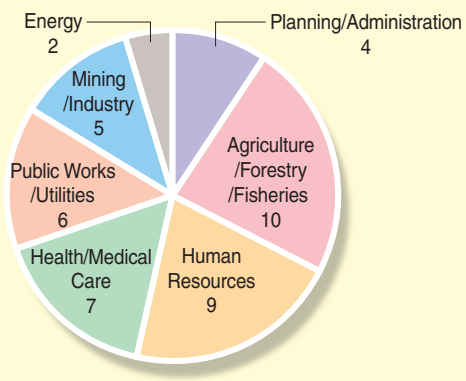


Figure 2-2 Breakdown by Sector of the Projects Subject to the Study



differences in the occurrence. Therefore, it should be noted that the evaluation results shown here are snapshots of the conditions of the target projects at the time of their ex-post evaluations.

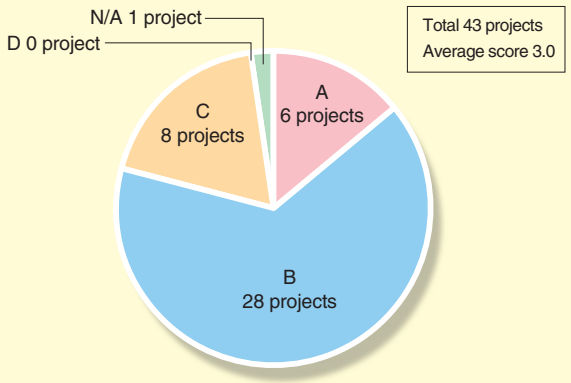
2-2 Trends of Impact and Sustainability in Primary Evaluation Results

(1) Impact

1) General Trend

Impact is examined to find whether the overall goal was accomplished as expected through cooperation and whether there are any unexpected ripple effects. From these two perspectives, primary evaluation results on a scale of 4 grades from A to D were given in the analysis. The result is shown in Figure 2-3. The average score was 3.0 with 4 points given for A, 3 for B, 2 for C, and 1 for D.

Figure 2-3 Results of Impact Analysis (Primary Evaluation)



A: The overall goal has been achieved.
B: The overall goal has been mostly achieved, or a large positive impact has emerged.
C: The overall goal has not been achieved yet, but some positive impact has emerged.
D: The overall goal has not been achieved yet and no positive impact has been identified, or a negative impact has emerged.
N/A: It is hard to judge due to insufficient data.

2) Achievement of Overall Goal

Projects that were graded A (the overall goal has been achieved) and B (the overall goal has been mostly achieved, or a large positive impact has emerged) constituted nearly 80 % of the results. The projects graded A had considerable positive impacts on end beneficiaries such as local communities. One of those projects is the Project for Natural Water Fisheries Development in Nepal, which aimed to improve the local residents' nutritional intake by promoting aquaculture in the central highland area, such as Pokara in Nepal. The cooperation project resulted in positive effects, specifically, a fourfold increase in fishery production within the targeted area and double the local fish consumption over the past 10 years. Another case is the Pilot Scheme for Technological Development on River Information System Project in China, where water disasters wreak enormous damage every year. The project provided assistance to establish an automatic water disaster prevention system and train flood forecasters. An on-line flood forecasting system was developed and operated in the model area. Also upgraded were capabilities for detailed and fast data acquisition including water level and flow volume as well as for a very precise flood forecasting using a computer. As a result, China was able to provide appropriate flood information and forecasts during the massive flood season from June to September in 1998, thus contributing to a reduction in disaster-related damage and loss caused by floods across the country.

Projects graded B can be roughly classified into those that were on the verge of partly accomplishing the overall goal (from the viewpoint of preset indicators) and expected to accomplish their goal in the near future, and those that have begun to realize the effects of the overall goal level but still require a certain period of time to realize the conditions of overall achievement because the project set the final goal sometime in the distant future. The Industrial Property Information Center in Thailand is an example of the former, where goals were partly achieved. This project, with the overall goal of improving the center's administration capacity for industrial property rights, established an industrial property information system and transferred technology for operation and management of the system. The speed of patent application process and the degree of user satisfaction were set as indicators to measure the achievement of the overall goal. As far as user satisfaction is concerned, some users said that further improvement of the service was still needed. However, there were good results with regards to the speed of patent application process, and furthermore, the numbers of both patent applications and permissions were increasing. Therefore, the primary evaluation stated that effects had steadily been generated for the achievement of overall goals. An example of the latter situation, where the effects of the overall goal have been realized but a certain period of time was still needed to accomplish the goal, is the Chiang Mai University Plant Biotechnology Research Project in Thailand. This project aimed to improve agricultural productivity in the Northern part of Thailand by improving biotechnology research skills at Chiang Mai University and making the research results more widely available. For some agricultural products, technology for the production of good seedlings was transferred, and this technology spread to the level of farmers, thus demonstrating positive impacts, such as an increase in productivity and a reduction of production costs. Nevertheless, the evaluation results show that a certain period of time is still needed until the technology for other agricultural products spread to farmers.

Projects that are rated C, (the overall goal has not been achieved yet, but some positive impact has emerged) in many

cases experienced changes in the managing system of the counterpart body and social needs for activities in partner countries due to accidental factors that occurred after the termination of cooperation. For example, in the Testing and Inspection Technology Upgrading for Textile and Garment Products in Thailand, there was an organizational change in the implementing organization (i.e., an organization that undertakes the project on the partner country's side; also called a "counterpart organization") after the cooperation was completed, and functions for testing and inspection were transferred to a private institute. At that time transfer of human resources for the counterparts, who were government officials, did not proceed efficiently, thus resulting in a decline in the technical level of testing and inspection in the new entity. Consequently, they temporarily lost the clients' credibility and demand for testing and inspection services decreased. However, it is to be noted that the newly appointed head of the institute has already taken initiatives to improve its testing and inspection systems by dealing with budgetary affairs, securing capable employees, and gaining technical support from the counterpart officials to whom the technology was originally transferred.

3) Other Ripple Effects

In addition to achievement of overall goals, various ripple effects as a result of the projects in terms of policy, society, economy, organizations and institutions were reported in the ex-post evaluations.

a. Effects on Policy

The project's effects on policy are observed in many cases in which counterparts utilize acquired technology and knowledge in the government of the partner countries by taking part in the process of drafting laws and standards as well as attending various governmental commissions, thus indirectly contributing to better policy formulation. For example, in the National Center for Transportation Studies in the Philippines, whose overall goal was to develop human resources in the transportation sector and improve research activities, people trained in the center were appointed to important posts at governmental institutes and as a result, the knowledge and skills acquired from the training were applied in formulating and improving transportation policies, thus demonstrating ripple effects at the policy formulation level in the transportation sector of the Philippines.

b. Effects on Society

Regarding the projects' effects on society, many evaluations refer to changes at the end beneficiary level such as service users and local communities. One example is the Pilot Project on Prevention and Control of Rheumatic Fever and Rheumatic Heart Diseases in Bangladesh, which provided assistance to early diagnosis and treatment for the prevention of rheumatic fever and rheumatic heart diseases. The Rheumatic Heart Disease Reduction Center, which was a counterpart organization of the project, examined and treated out-patients at a low price or free of charge, thus promoting its use by the poor. Another exemplary project that had a positive impact from the standpoint of social equity by paying attention to the poor was the Medical Education Project in Nepal.

c. Effects on the Economic Front

Ripple effects on the economic front included an economic impact at the regional level, an increase in financial revenues in the government, an increase in revenue in implementing organizations (self-generating income, governmental subsidies, etc.), and an income increase at the end beneficiary level. Among these projects was the Research Project on the Quality Development of Fishery Products in Nepal (page 93), whose overall goal to improve the nutritional condition among local residents was achieved with the promotion of aquaculture in the target area. In addition to achievement of the overall goal, considerably increased productivity brought about ripple effects such as increased income of local residents and improved employment.

d. Effects on Organizations and Institutions

As ripple effects on organizations and institutions, many evaluations mentioned the expanded position and role of the implementing organization, and strengthened institutions as a result of closer collaboration with related organizations. A case of a project that showed ripple effects on institutions was the National Construction Productivity Development Project in the Philippines. This project provided assistance to develop and disseminate work performance standards so that construction practices that stress quality, construction schedules, and safety can be efficiently undertaken in response to the increase in construction demand in the Philippines. As a result of encouraging positive participation of the construction industry during the project, a cooperative relationship was built

An expert giving technical guidance while examining inpatients (The Pilot Project on Prevention and Control of Rheumatic Fever and Rheumatic Heart Diseases in Bangladesh)

Concerned parties discussing measures for disseminating work performance standards (The National Construction Productivity Development Project in the Philippines)

between the implementing organization (Construction Manpower Development Foundation) and the industry. After the termination of cooperation an accreditation and certification system for product managers and engineers was officially introduced through the cooperative relationship.

(2) Sustainability

1) General Trend

Sustainability is a criterion for asking whether the effects of a project have continued since the termination of cooperation. The analysis on sustainability involves the three aspects of technology, organization, and finance. As in the analysis on impact, sustainability was evaluated using 4 ratings levels (A to D) based on the primary evaluation results. The average score of sustainability was 3.2 when calculated in the same way as impact. Figure 2-4 shows the results.

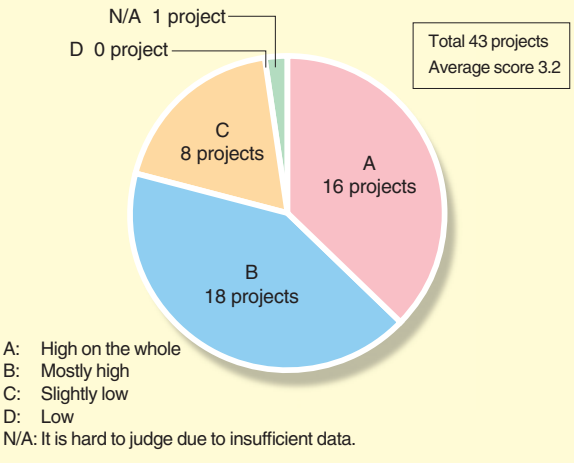
2) Sustainability of Effects

The projects whose sustainability was rated A, or high on the whole, gained generally favorable results in each of three aspects: technology, organization, and finance. In the projects whose effects continue, the technical skills of the implementing organization is sustained and strengthened even after the termination of cooperation. In addition, the organizational authorities and management skills are also sustained and strengthened, and sufficient revenue is secured to sustain and expand the activities in many cases. In particular, those projects that are financially sustainable have a strong tendency to have a high level of sustainability in overall cooperation effects. In most cases, these projects receive a stable budget with policy support, or gain sufficient self-generating revenue resulting from the great need for the services* provided by the implementing organization. An example is the Fundamental Technology Transfer Project for Production of Live Attenuate Measles and Poliomyelitis Vaccines in Indonesia, which aimed to attenuate measles and poliomyelitis (the leading cause of death for infants under five). In order to increase the self-sufficiency ratio of both vaccines, which had been dependent on imports, the project transferred fundamental technologies for the production and quality control of those vaccines to the implementing organization (a public biological production company). Consequently, a system to supply all the vaccines needed domestically was appropriately put in place. In addition, since the quality of these vaccines was certified as meeting international standards, such as those developed by WHO and ISO, they were eventually exported to other countries in Asia, Africa, and Latin America. Since revenues from sales have been maintained at a certain level with reputations at home and overseas, and the organization can afford to improve the technical skills, human development and facility maintenance, sustainability has been acknowledged for the time being.

Although projects whose sustainability were rated B, or mostly high, did not come to expand and develop effects due to constraints such as insufficient budgets and human resources, the project activities continued after the termination of cooperation, with a certain level of effects emerging continuously in most cases. The Veterinary Drug Control Project in Indonesia provided cooperation in quality control technology of domestically supplied veterinary drugs to prevent veterinary infectious diseases and promote livestock farming. Subsequently, as the implementing organization faced constraints in terms of budgets and human resources, part of the veterinary drug control activities became unstable. However, most of the other activities continued and the overall effect of supplying good drugs have been sustained.

Among the projects whose cooperative effects were rated C, or slightly low, in many cases the implementing organization experienced trouble in continuing smooth operations due to reorganization and personnel reallocation in the partner's government; or governmental support for the activities in the partner organization declined because of economical stagnation or other external factors. The Testing and Inspection Technology Upgrading for Textile and Garment Products in Thailand previously referred to in the section of Impact (page

Figure 2-4 Results of Sustainability Analysis (Primary Evaluation)



* Examples are training, education, medical care, etc. In principle, service demanders pay for the use.

94), is an example of the former case, and the NYS Engineering Institute in Kenya is one of the latter cases.

The NYS Engineering Institute in Kenya is a project that cooperated with a skills training program for youth in the poverty and low income areas, which was implemented by the NYS Engineering Institute from the standpoint of contributing to social and economic development through human resouces development. Operations and management systems of the institute were improved and the teaching skills of instructors were upgraded so that the skills training program could be operated by themselves. However, due to a stagnant domestic economy that lasted more than a decade, the budgets from the government became chronically insufficient, thus leading to the suspension of some activities, such as procurement of books and reference literature for revising teaching materials. However, for the past few years, the Kenyan government has allocated a preferential budget to the NYS Engineering Institute with the amount rising every year. Therefore, improvement in financial conditions is expected to help increase sustainability in the future.

3) Other Sustainability

Below is the result of a more detailed analysis on sustainability in each project from the technical, organizational, and financial aspects. The sustainability of each of these aspects influences one another, which leads to the sustainability of the overall effects of the cooperation projects.

a. Technical Aspects

Sustainability from the technical aspect is generally a question of whether or not the technology transferred through the project has been sustained and developed. Sustainability from the technical aspect was evaluated positively on the whole, compared to sustainability from the other two aspects, and transferred technology has been sustained or developed in about 80 % of the 43 target projects, according to the evaluation reports. Among the projects evaluated positively on sustainability, there are cases where even after the termination of cooperation the implementing organization was working on an upgrade of the service, such as establishment of new training courses, by independently utilizing the transferred techniques; cases where the acquired knowledge and techniques were disseminated to staff that had not directly received technical training during the cooperation; and cases where they independently improved their technical skills by exchanging information with the institutes concerned and attending external training and seminars. For example, the Laboratory Animal Science and Technology Training Center Project in China strengthened the function of the Laboratory Animal Research Institute, an implementing organization, for the purpose of improving techniques for breeding and managing laboratory animals to perform proper animal testing. Subsequently, this institute exchanged information and carried out joint research using not only the network formed with Japanese experts during the cooperation, but also the cooperative relationship with related organizations in China and overseas research institutes. Sustaining and improving their technical levels through these activities enabled them to continue developing new training curriculum and materials even after termination of cooperation.

Finally, among projects rated at low technical sustainability, there is a case where self-reliant efforts to improve technical skills such as participation in external training and the purchase of materials and equipment were limited due to a lack of budget. In another case, resignation of the counterparts who received technological transfer after the termination of cooperation made it difficult to inherit and propagate the technology within the organization. The NYS Engineering Institute in Kenya, which was mentioned previously, is one example of this budgetary shortfall.

b. Organizational Aspects

Organizational and institutional sustainability relates to whether or not the organizational system of the implementing organization, its position within the policy framework, and the institutions related to its activities are stable enough to sustain and develop activities initiated or enhanced by a project. Projects that were found to have no organizational problems for continuing the activities comprised 70 % of the targeted 43 projects. Among them, projects specially valued as having superior organizational sustainability included one where the role of the organization within the national policy was strengthened and one where the counterparts who received technical transfer took root in the implementing organization as core players and engaged in disseminating the techniques.

For example, in the Laboratory Animal Science and Technology Training Center Project in China, which was previously mentioned, in light of the improvements made in research skills at the Laboratory Animal Research Institute, the central government, and Beijing City all acknowledged the implementing organization as the leading institute in the laboratory animal field. As the institute's recognition improved along with its promoted position within the policy, it continuously secured stable support from the government, including allocation of budget. In contrast, in the Project on Research and Training Center on New Technology for Housing in China, despite the fact that the implementing organization was privatized and the allocation of governmental budget terminated, many counterparts remained and sustained the efficient management system of the organization. As a result, they carved out a way to increase self-generating income by charging for providing training programs and renting out their facility. Thanks to financial stabilization, this project achieved

not only organizational sustainability but also high sustainability in overall effects of the project resulting from training housing engineers.

On the other hand, the projects whose organizational and institutional sustainability were evaluated as being low included one with an unclear role for the implementing organization within the policy framework and insufficient budget; one with unstable organization management due to organizational reforms such as privatization; and one with a lack of human resources due to similar reasons. One example is the Project to Enhance Education and Training of Industrial Safety and Health in Indonesia, which assisted in the enhancement of education and training of both laborers and employers in industrial health and safety. After termination of cooperation, problems of human resources and financing hit the counterpart training center because of the organizational reform of the governing ministry. It is reported that the fact that the center's legal position was not established made it difficult to secure human resources and financing. The center has continued its activities with self-generating income by charging for training and the use of the facility, and has started working to establish a legal position in order to secure sustainability.

c. Financial Aspect

Financial sustainability asks whether the financial condition of the implementing organization is healthy and whether sufficient income is secured in order to sustain and develop the project effects. The projects that were evaluated as having sufficient financial conditions to sustain and develop the outcomes of the project comprised about 70% of the 43 projects. Projects that gained especially good evaluation results were classified into two types, those that enjoyed allocation of sufficient budgets because they are backed up by the government's support, and those that gained sufficient self-generating income by developing a source of demands in the market despite insufficient allocation of the governmental budget. One example of a project with sufficient budget is the Higher Institute of Maritime Studies Project in the Kingdom of Morocco. This project aimed to achieve an improved level of education and training for sailors in order to contribute to the development of Morocco's maritime sector. Morocco is a country surrounded by the sea and greater importance is attached to maritime transportation in international trade. Therefore, the maritime sector is strategically important, and the government allocates sufficient and flexible budget for the Higher Institute of Maritime Studies. The Pilot Scheme for Technological Development on River Information System Project in China, as already mentioned in the section for achievement of overall goals (page 93), is another example of a project that enjoyed sufficient budget from the government based on its importance. As for those projects with sufficient self-generating income, most of them are gaining income by

First domestically produced vaccines (The Fundamental Technology Transfer Project for Production of Live Attenuate Measles and Poliomyelitis Vaccines in Indonesia)

charging for provision of services such as training, as in the aforementioned Project on Research and Training Center on New Technology for Housing in China. Another example is the Fundamental Technology Transfer Project for Production of Live Attenuate Measles and Poliomyelitis Vaccines in Indonesia (page 95) that secures its own strong financial basis by commercializing high quality vaccines for sale at home and abroad.

On the other hand, among projects with low financial sustainability there are two types, those where sufficient budgets are not allocated because national finances are in difficult conditions, and those where self-generating income is not gained because market demands for project activities stagnated due to external factors such as an economic crisis. One example of a project that lacked a sufficient budget is the National Tuberculosis Control Project (Phase 2) in Nepal. This project, whose purpose was to contribute to the improvement of public health and welfare, strengthened institutional capacity for tuberculosis control activities including testing, monitoring, and the distribution of anti-tuberculosis medicine. The project was highly effective in promoting tuberculosis control in Nepal in cooperation with other donors. However, due to the armed conflict with anti-government forces, the government was obliged to cut back on funding in order to concentrate on maintaining security, thus suppressing the level of public health funding in the national finances. Consequently, although tuberculosis control is considered important and is a priority in the governmental budget, it cannot help but be partly dependent on foreign donors, and financial sustainability remains limited.

2-3 Analysis of the Promoting and Impeding Factors

As shown in the above section, the occurrence of impact and sustainability varies from project to project and there are a number of factors behind it. These factors can be largely divid-

ed into two types, those that promote the occurrence of the project effect (promoting factors) and those that impede it (impeding factors).

This study, which targets ex-post evaluations undertaken basically three years after the termination of cooperaion, analyzed what kind of promoting and impeding factors were involved in the occurrence of project effects during the period between the termination of cooperation and ex-post evaluation. However, some of these factors are believed to have resulted from the planning and implementation stages of the project, even though they emerged after the termination. Therefore these factors will also be analyzed in order to identify factors that need to be taken into consideration during the planning and implementation stages for realizing high impact and sustainability.

(1) Promoting and Impeding Factors

1) General Trend

Promoting and impeding factors that emerged after the termination of cooperation were extracted from the primary evaluation reports and classified into major categories. The results are shown in Figures 2-5 and 2-6. As some evaluations referred to multiple factors in a single project, the numbers in the figures are the total number of references made in the evaluation reports. In addition, some reports of the primary evaluation do not precisely describe promoting and impeding factors or failed to indicate them exhaustively. This analysis included only those factors that were found to be reasonable. Therefore, it should be noted that the number of references in the figures merely indicate the tendencies of promoting and impeding factors.

Among promoting factors classified, more frequently found is the effective organizational management of the implementing organization in terms of activities, budget, human resources, etc. (found in 22 projects); policy support obtained from the government (22 projects); social demand for the activities of the implementing organization (21 projects); and good collaboration and cooperative relationships among related organizations (12 projects). Also there are a certain number of projects where unexpected external factors, including natural phenomena and domestic and overseas situational changes, worked as promoting factors (six projects).

On the other hand, the leading impeding factors were staff resignations and stagnation of activities due to management problems in the implementing organization (19 projects); negative impact from the government's policy changes such as reorganization (16 projects); and unexpected external factors, such as economic crises and stagnation leading to fewer effects of the project (13 projects). The decline of social demand for the activities of the implementing organization (eight projects) and inadequate collaboration among related organizations (seven projects) were also found.

2) Major Promoting and Impeding Factors

a. Organizational Management in the Implementing Organization

- **Proper management in the implementing organization, a main recipient of technical transfer, such as in human resources and finances even after the termination of cooperation tends to encourage staff satisfaction and motivation to work, dissemination of transferred techniques within the organization, and efforts to secure financial resources, which lead to more project effects.**

Since many of the implementing organizations belong to the public sector, they cannot necessarily make their own decisions about their entire management structures, including human resources and finance. However, outflow of human resources, personnel relocation, a lack of management strategies including marketing and public relations, and unstable budgetary allocation are impeding factors common to many projects. Therefore, in order to secure the continuity of activities as well as to sustain and expand project effects, it is crucial to come up with various devices for organizational management even if only limited discretion is given to implementing organizations. For example, the Project to Enhance the Capacity of the Faculty of Engineering at Thammasat University in Thailand introduced an incentive system for research activities and provided researchers who completed

Figure 2-5 Promoting Factors that Emerged after the Termination of Cooperation

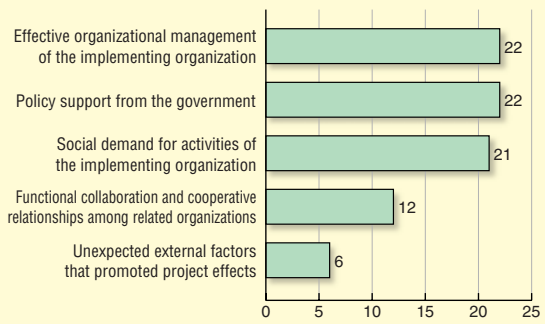
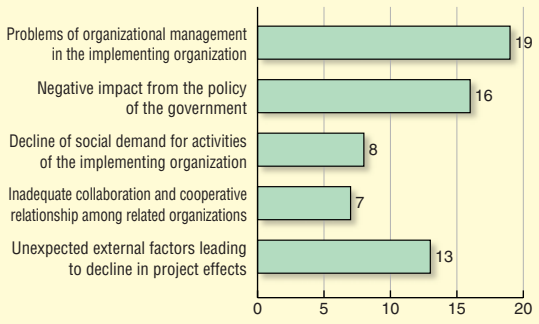


Figure 2-6 Impeding Factors that Emerged after the Termination of Cooperation



papers with assistance of 10,000-17,000 bhat (about 30,000-50,000 Japanese yen) monthly, depending on the qualities. In addition, a system to commend excellent papers was introduced to provide incentives for researchers.

The Population Statistics Project in the Argentine Republic established an information system and trained staff in charge of operation of the system in order to equip them with population statistics information that will be the basis for policy making in social welfare and public health. Since the National Institute of Statistics and Census, the implementing organization in the project, had high organizational management capacity, most of the trained staff members stayed in the organization and provided training to the newly employed staff, which translates as secondary technical transfer, thus contributing to expansion of the project effects.

In addition, the results of this analysis show that organizational management is crucial in implementing training courses in the field of information technology (IT) where technology advances rapidly and public needs change remarkably. For example, in the National Computer Software Training Center in Thailand, which runs training courses for IT professionals, the organizational management system of the implementing organization was weak and the organizational strategy was not necessarily sufficient. It is reported that in particular the center lost human resources due to dissatisfaction with the personnel policy, including the pay system. Furthermore, inadequate advertising activities and market research for recruiting trainees, and insufficient self-evaluation of the training activities, for instance with respect to instructors' performance, apparently caused a decline in the number of trainees.

- **In many cases where the implementing organization continues to be properly managed after the termination of cooperation, the organization originally had a strong organizational basis, high organizational management capacity, and quality human resources even before the cooperation begins.**

Among promoting factors reported were the counterparts' original excellent technical skills and desire to work, a high percentage of quality staff, and the organization's original positive name recognition and trust from the public. For example, in the Fundamental Technology Transfer Project for Production of Live Attenuate Measles and Poliomyelitis Vaccines in Indonesia (page 95), the fact that the implementing organization had excellent organizational management capacity and competent staff was reported as a factor that lead to the development of project effects. It was reported that technical transfer was undertaken quite efficiently, given that the internal staff training system in the organization had been already well equipped.

- **If not only new techniques but also organizational management know-how are transferred when necessary in the project implementation stage, impact and sustainability of the effects tend to be promoted.**

If the management capacity of the implementing organization is not sufficient, it is important to include managerial aspects such as personnel and finance in the scope of technical assistance. In addition, it is useful to include market research and sales promotion in the scope if self-generating income needs to be secured. In the Geosciences Laboratory in the Geological Survey in Pakistan, mineral exploration techniques were originally at the core of technical transfer. However, a wide range of management know-how, such as the principles of punctuality and putting things in order, budget allocation methods, the practical use of IT, and personnel allocation (like the ratio of researchers) were additionally introduced by Japanese experts. It is reported that these transfers of know-how changed counterparts' consciousness and contributed to enhanced organizational management.

b. Policy of Governing Organization

- **If there exists a regulatory authority exercising jurisdiction over the implementing organization, in some cases their policy decision making becomes the promoting factor for sustainability of the project effects. In concrete terms, the authority's securing sufficient budget allocation, strengthening the position of the implementing organization, and implementing policies relevant to the project activities are considered to be these factors.**

Most of the implementing organizations are public and many implement activities based on the policy framework set by the government*. In this case, in order to expand effects of the project and secure their sustainability, policy support including the stable allocation of the budget from jurisdictional authorities is important. For example, as mentioned in the section of financial sustainability (page 97), in both the Higher Institute of Maritime Studies Project in the Kingdom of Morocco and the Pilot Scheme for Technological Development on River Information System Project in China, the fact that the governments allocated sufficient budgets based on the strategic priorities of the implementing organizations' activities was an important promoting factor.

There are also cases where organizational sustainability was enhanced by strengthening and authorizing the position of the implementing organization. For example, as mentioned in the discussion on sustainability, in the Laboratory Animal Science and Technology Training Center Project in China (page 96), once the research skills of the implementing organization, the Laboratory Animal Research Institute, improved, the central government and the city of Beijing approved the institute as the leading institute in the laboratory animal field. The position of the organization in the policies was enhanced

* There is a certain number of projects that set up governmental ministries as implementing organizations.

and the organization strengthened its reputation as a training institute.

There are other cases where the effects of projects were multiplied due to formulation and implementation of policy that was closely related to the activities of the implementing organizations. For example, in the Project on Research and Training Center on New Technology for Housing in China technical assistance was provided to promote research development and education for engineers, aiming to improve skills in planning, designing, and managing construction so that good quality collective housing be built in China. After the termination of cooperation the Chinese government officially issued Code for Design of Residential Buildings for the Elderly as the national standard based on the research results of the center, thus demonstrating the project effects at the level of end beneficiaries. In addition, the introduction of the standard increased the number of applicants for related training programs and consequently boosted the demand for the center's activities. This is a case where implementing the relevant policy in accordance with the project purposes increased the expected role of the implementing organization and thus pushed forward the emergence of impacts.

Meanwhile, there are projects where the governing authority's policy impedes the emergence of effects and has a negative impact on it. However, many of these policies do not mean a change in policy priorities, but rather stem from reorganizations of the entire government, such as privatization, or from unavoidable fluctuations of budget allocations. The Project to Enhance Education and Training of Industrial Safety and Health in Indonesia, which was previously mentioned in the section of organizational sustainability (page 97), is an example where reorganization impeded the project effects.

In the same context, in some countries, especially Indonesia, the Philippines, Thailand and Pakistan, the governments' policy to curb new hires made it difficult to retain sufficient personnel for expanding activities or securing sustainability.

• It is necessary to collect sufficient information about policy frameworks at the project planning stage to analyze if stable policy support is available after the termination of cooperation.

Training building of the Higher Institute of Maritime Studies (The Higher Institute of Maritime Studies Project in the Kingdom of Morocco)

Though some projects gain stable policy supports from the governments based on the fact that the project turned out to be successful in generating impacts, in most cases the possibility of having stable policy supports can be predicted to some extent during the planning stage of cooperation. Especially in those cases where the policy framework is prioritized according to the social demands and the ownership of its implementation is high, the possibility that governmental support continues is high. For example, in the previously mentioned Higher Institute of Maritime Studies Project in the Kingdom of Morocco, as the international treaty to regulate sailors' qualifications came into effect, it was necessary to secure the training content in line with the new treaty in Morocco. If the compliance with the treaty was not confirmed and, for example, a qualification was judged as not fulfilling the security standards in the inspections at foreign harbors, various penalties including vetoing entry to the port could be applied. As a result, observance of the treaty was a priority of the government of Morocco. Also, as the execution of the treaty will be periodically checked by the International Maritime Organization even after ratification, the project gains continuous governmental support in the aspect of running budgetary measures after the termination of cooperation.

• In order to gain stable governmental support, it is important to proactively reach out to and work on the governing authorities during the project implementation stage, in addition to the above-mentioned ex-ante analysis at the planning stage.

It has already been stated that receiving continuous policy support from the governing authority is an important factor that contributes to the promotion of the project effects. In order to gain such support, an approach to the policy level during the implementation stage could be effective. An example of this is the National Tuberculosis Control Project (Phase 2) in Nepal, which directly approached the national tuberculosis control program, transferred techniques and carried out enlightenment activities not only for researchers but also for government officers in charge of policy-making. Consequently, in addition to improved policy implementation capacity, deepened understandings of the government over tuberculosis from not only the policy aspects but the sociocultural aspects have led to keeping the priority level of the tuberculosis control high among the national agenda.

c. Demand for the Activities of the Implementing Organization

• In cases where the organization carries out activities to provide a certain public service, high demand at the end beneficiary level not only ensures overall impact of the

project, but also leads to sufficient self-generating income, thus contributing to sustainability.

Although many of the implementing organizations are public, some of them carry out activities that directly serve society (e.g., by providing training programs etc.) from which they gain revenues. Continuous high demand for this kind of service notably leads to an increase in self-generating income and contribute to the promotion of sustainability*. For example, the Productivity Development Project in Thailand worked to improve capacities related to consulting skills and human resources development at the Thailand Productivity Institute, the implementing organization, for the purpose of improving productivity and strengthening competitiveness of small and medium-sized enterprises in Thailand. In this institute, where the governmental subsidy and its self-generating income are the main financial resources, consultation skills improved and the human resources development program succeeded, resulting in an increased use of their services by private firms. Though the governmental subsidy is decreasing, the institute has gained more self-generating income from private firms to cover the loss and high financial sustainability has been secured.

On the other hand, in some projects the implementing organization could not sufficiently meet changing end-users' needs and as a result demand for the implementing organizations' services declined, which impeded the further occurrence of effects. For example, the Philippine Software Development Institute developed an IT training program and established an operation system for the purpose of educating IT professionals. However, it was reported that the number of trainees was in decline and training facilities needed to be updated promptly in response to the changing needs of trainees following technical advance.

- **In order to secure demand for the activities of the implementing organizations, it is important to understand the needs at the end beneficiary level and consider the provision of easy-to-use and easily acceptable services in the planning and implementation stages of projects.**

By paying attention to end beneficiary level needs in the planning and implementing stage, activities that identify potential demand and continued support toward the services of the implementing organization will be secured. For example, in three of the target projects, the fact that the implementing organizations were in locations accessible to the target groups helped increase their demand. Locations of the implementing organizations in an industrial area that is accessible to private firms in the CEVEST Vocational Training Development Project in Indonesia, in a government office quarter accessible to government officials in the National Computer Software Training Center in Thailand, and at the heart of the city that is accessible to students in the Industrial Polytechnic Expansion Plan in Thailand, all were believed to have lead to attracting trainees afterwards.

Box packing at a tomato pilot farm (The Project on the Improvement of Techniques for the Production of Vegetables in Morelos State in Mexico)

The Project on the Improvement of Techniques for the Production of Vegetables in Morelos State in Mexico aimed to improve existing techniques, and verify and disseminate new ones by developing capacity for vegetable production at the experimental station of a research institute, which was the implementing organization. As a result, the project had a large impact such as in the successful dissemination to farmers of improved techniques of some varieties. In addition, as a ripple effect of the project, the attitudes of researchers at the experimental station changed and they became conscious of the needs of farmers and the market. In other words, as a result of the researchers' deep understanding of the project's basic policy, that is, development of "proper and practical" vegetable production techniques, researchers came to pay attention to the farmers' needs and market trends in undertaking research and development. Consequently, communication between researchers from the experimental station and farmers became close, and farmers' interest in vegetable production techniques increased, thus demonstrating factors that promoted the development and propagation of improved techniques.

However, since the experimental station was required to become more financially independent after the termination of cooperation, the governmental budget began to decrease, which made it necessary to secure stable financial resources. Therefore, the experimental station began activities to gain self-generating income by providing technical services to farmers and selling seedlings. However, as researchers had no experience in such sales activities, there still remains room for improving the sales revenue. As shown in the examples of projects in the IT sector, it is important not only to pay attention to the changes in needs even after the termination of cooperation, but also to have sufficient management capacity to provide services in line with these needs so that the organization could gain self-generating income. Therefore the orga-

*In 29 out of 43 target projects, the implementing organizations gain some self-generating income other than the governmental budget. However, in many cases, self-generating income by itself is not sufficient for the entire operation of the organizaion, and there are only four projects identified to be financially independent.

Hydration of mangos using an indigenous technique (The Project for Development of Agricultural Research in Northeast Thailand)

nizational management capacity previously discussed in this section are still relevant here as well.

d. Collaborative Relationships among Related Organizations

- **Technical sustainability is secured and higher level of impacts emerge by maintaining and improving technical skills through joint activities and information exchange with related organizations after the termination of cooperation.**

In some projects, there are multiple organizations whose functions and activities are closely related to those of the implementing organization. In many cases, the implementing organization can sustain and improve its technical level by sharing information with the organizations concerned; or it can generate a higher level of impacts and ripple effects through collaborations with those organizations. For example, the Project for Development of Agricultural Research (Phase 2) in Northeast Thailand aimed to enhance agricultural development research activities in order to establish sustainable agriculture suitable to the northeastern region of Thailand. The project involved not only the research center, the implementing organization, but also related organizations such as ministries concerned and the agricultural department of a local university. As a result, the collaborative relationship among those organizations was established and sustained even after the termination of cooperation. Under this collaborative relationship, the research activities became activated and those research outputs were shared through a series of seminars and trainings. In addition to the collaborative relationship among concerned organizations in the partner country, there are examples of a sustained network between the implementing organization and Japanese support organizations even after the termination of cooperation, which contributed to securing technical sustainability of the project.

Also in the National Construction Productivity Development Project in the Philippines, which was referred to as an example of having institutional ripple effects (page 95), a certification system for construction project managers was introduced under an official agreement with the construction industry thanks to the collaborative relationship between the implementing organization and the industry.

On the other hand, there were cases in which problems regarding insufficient collaboration among concerned organizations impeded the occurrence of effects. The Research Project on the Quality Development of Fishery Products in Thailand transferred inspection and analysis techniques for quality control in the processing stage to the Fish Inspection and Quality Control Division, Department of Fisheries, for the purpose of solving the problem of toxic residues from additives and chemicals added during the processing of fishery products. This cooperation generated large impacts such as the introduction of a certification standard for quality control and improved inspection techniques. However, it was reported that even if residue levels over the limits were detected, the division of the department cannot take concrete actions because any actions related to hygiene were not within its jurisdiction. It was pointed out that the division could have developed a collaborative relationship with the Ministry of Health in order to further secure quality control from the standpoint of consumer protection.

- **For establishing collaborative relationships that will be sustained even after the termination of cooperation, it is crucial to involve all the organizations concerned into the project activities since the planning and implementing stages.**

Though there are cases where the implementing organizations independently form collaboration relationships with the organizations concerned, establishing and strengthening such relationships in both the project planning and implementing stages leads to even more secured collaboration. For example, under both of the projects mentioned as cases where the collaboration relationships continued after the termination of cooperation, the Project for Development of Agricultural Research (Phase 2) in Northeast Thailand and the National Construction Productivity Development Project in the Philippines, activities for facilitating collaborations among the organizations concerned were originally included in the scope of the projects. The Rural Development Project in the Region South of Pilar in the Republic of Paraguay can be cited along with these as an example of forming collaborations among the related organizations with a clarified division of roles in the form of an agreement. This project worked to strengthen organizational systems and technical skills by improving sewage systems and innovating soil and cultivation techniques for sustainable agricultural development in the target area. During the project, the agreement that stipulates the divisions of roles and necessary expenditures was made between the implementing organization (the Ministry of Agriculture and Livestock) and the organizations concerned, such as the provincial office and the city office, for securing smooth collaborative relationships.

e. External Factors

- **Unexpected external factors such as natural phenomena**

and domestic and overseas institutional changes can promote the occurrence of effects.

There are various external factors including unexpected natural phenomena, political and economic factors. For example, the above mentioned Research Project on the Quality Development of Fishery Products in Thailand (page 102) carried out activities in view of promoting the export of products by improving the quality control techniques of fisheries and processed products. As quality standards were simultaneously tightened in importing countries, especially the EU, the importance of quality control in the sectors concerned, including the fishery industry and the processing industries, became more apparent and countermeasures were strengthened.

Though external factors worked as promoting factors in the case shown above, in some cases they act as impeding factors against project effects. As in the previously mentioned NYS Engineering Institute in Kenya (page 96), the support and demand for the implementing organization's activities declined due to the unavoidable economic stagnation of the whole country. Another example is the Modernization of Perumka's Education and Training System in Jabotabek in Indonesia, where external factors impeded the realization of high level impact. This project provided theoretical and practical training in the operation and maintenance of railway systems to the staff of the public railway cooperative, and as a result, the technical level of the staff increased. However, various social issues surrounding the railway system, including an excess of demand, obsolete vehicles, free rides, and illegal residents along the railway, became impeding factors in the realization of safe and efficient railway systems.

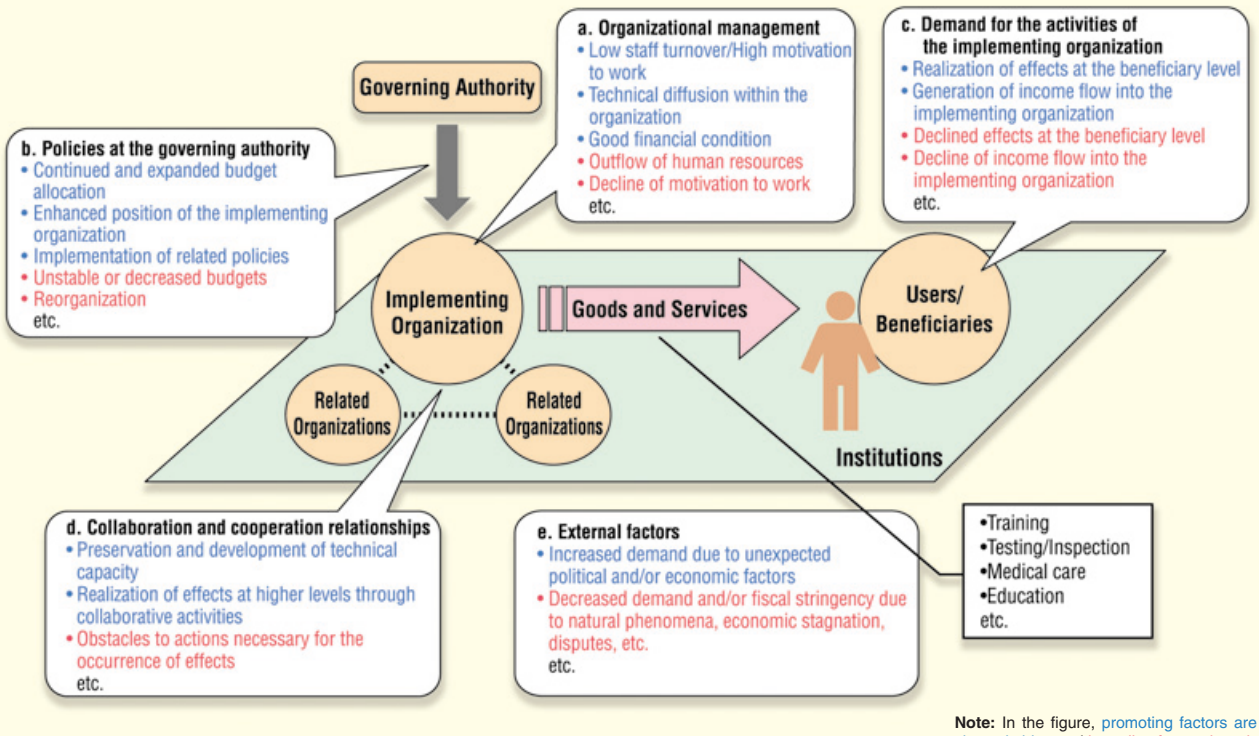
2-4 Lessons Learned from Evaluation Results

This section reports important lessons for the realization of impact and sustainability at a high level after the termination of cooperation based on the results of the analysis of promoting and impeding factors in the previous section. As explained in the previous section some promoting and impeding factors after the termination of cooperation are closely related to actions taken in the project planning and implementation stages. In this sense, lessons that can be applied to other projects are extracted from the viewpoint of what need to be taken into consideration during the planning and implementing stages to reduce impeding factors and draw out promoting factors after the cooperation period ends.

Figure 2-7 illustrates the main promoting and impeding factors after the termination of cooperation. With regard to the promoting factors, Figure 2-8 shows the relationships between factors in the planning and implementing stages and those after termination.

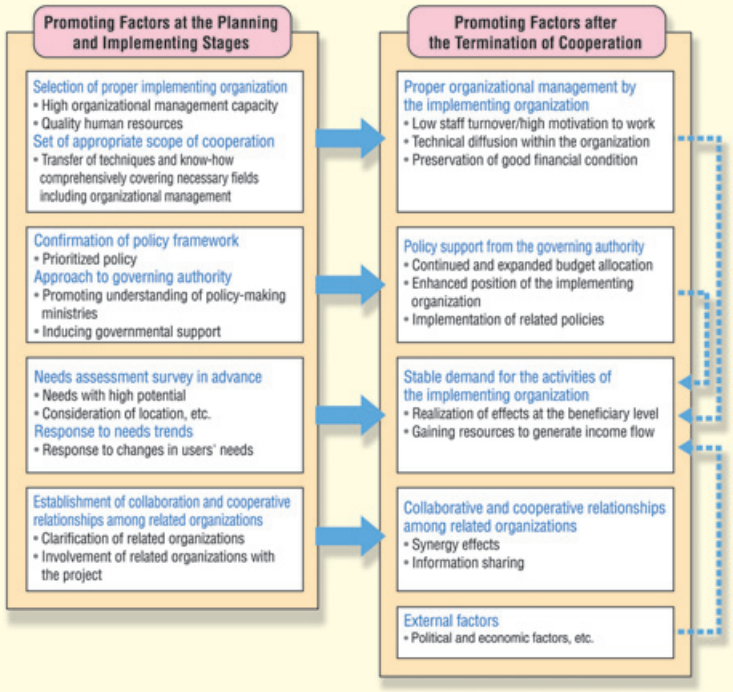
Based on these relationships, points of concern in the planning and implementing stages are presented below as lessons learned in order to sustain and develop effects after the termination of cooperation.

Figure 2-7 Main Promoting and Impeding Factors after the Termination of Cooperation (Conceptual Chart)



Note: In the figure, promoting factors are shown in blue and impeding factors in red.

Figure 2-8 Relationships between Promoting Factors at the Planning and Implementing Stages and those after the Termination of Cooperation



(1) Lessons at the Planning and Implementing Stages

1) Considering the Management Capacity of the Implementing Organization

● In the project planning stage it is desirable to choose an appropriate implementing organization from the viewpoint of not only its organizational functions but also its management capacity. In cases where the management capacity is weak or unknown, technical transfer including know-how for organizational management in the implementing stage needs to be considered.

a. In order to promote the retention of counterpart personnel and encourage their motivation to work while facilitating technical diffusion within the organization, it is important to carefully choose a target implementing organization in the project planning stage and confirm not only if the organization has an appropriate function and jurisdiction, but also if the organizational management including financial aspects is in good condition. In cases where the implementing organizations have excellent organizational bases and cultures, the probability that impact and sustainability are secured is expected to be high owing to their probable stable management after the termination of cooperation.

b. If the choice of an implementing organization with weak organizational management capacity is unavoidable, or a new organization has to be established as an implementing partner, it is necessary to consider whether to include not only the transfer of core techniques but also the transfer of management know-how such as personnel and financial management into the scope of the cooperation where necessary. In addition, if the implementing organization intends to generate income by charging for its service, it would be effective to include the transfer of necessary knowledge and techniques for market-related activities, such as market research, public relations, and sales promotion, in the cooperation scope. It is desirable to make the cooperation scope comprehensive so that the implementing organization can smoothly carry out activities after the termination of cooperation.

2) Gaining Policy Support from the Governing Authority

● The feasibility and priority of the policy framework relevant to the project implementation should be vigorously analyzed at the planning stage. In addition, during the implementation stage reaching out to the governing authority for its understanding and support on the project is effective for the continuation and expansion of project effects.

a. In the planning stage, ample information should be gathered and analyzed in terms of whether there is a policy framework that is consistent with the project's overall goal and purpose, whether the policy implementation is required according to social needs, whether the policy has a high priority level and the priority has been backed up by the government's actual commitment, whether the budget allocation to the targeted sector/sub-sector has been sufficient, and whether the position of the implementing organization tends to be strengthened.

b. Furthermore, during the implementation stage, it is important to see whether there are any changes in the policy framework identified at the planning stage as well as to strengthen relationships with the governing authority for fostering its understanding of the project. This would be an effective measure to gain stable policy support in organizational, institutional, and budgetary terms. In some cases cooperation encompassing an improvement in the policy implementation capacity of government officials can make the policy support more effective.

3) Securing Demand for the Activities of the Implementing Organization

● A needs assessment survey at the planning stage is essential to see whether a high demand from potential users is expected for the activities of the implementing organization. In addition, it is important to pay attention to

demand trends during the implementation stage and enhance the implementing organization's capacity so that it can respond to changes in demand by itself even after the cooperation period.

a. If a project provides a service directly to users such as private firms or students, it is vital to set target sectors and/or areas with great potential demand based on substantial market research and examination of geographical conditions in the planning stage.
b. It is important to pay attention to needs trends during the project implementation period and develop the implementing organization's capability for flexibly responding to changing needs and for continuously providing the high quality service needed by consumers. To that end, technical assistance should be provided so that the implementing organization can upgrade its technical level through its own organizational management. Especially in cases where the implementing organization generates income, it is important to establish an organizational management that brings about a positive cycle by the time the cooperation period ends. In particular, such a cycle leads to upgrading technical levels, accommodating users' demand, securing financial soundness with increasing income flows, and making investment for further technical improvement.

4) Establishing Collaborative and Cooperative Relationships among Related Organizations

● **Establishing collaborative and cooperative relationships with related organizations in addition to the governing authority with a clear division of roles can bring about even greater impacts including the accomplishment of the overall goal. This is also effective in ensuring technical sustainability.**

a. In the project planning stage, it is crucial to conduct a stakeholder analysis in order to find out what kind of stakeholders will be involved in the project implementation. Based on the result of the analysis, it is desirable to design a project involving the necessary stakeholders, with clear division of roles, for maximizing the effects of cooperation.
b. In the implementation stage, it is important to establish collaborative and cooperative relationships among the stakeholders, based on an understanding of who will take essential roles to sustain and develop the project effects. Especially with regard to collaboration, which is indispensable for the occurrence of effects, collaborative and cooperative relationships may well be established in a form of an agreement to clarify the division of roles. In addition, in a case where there are multiple organizations with similar functions, such as research and development, cooperative relationships may be established during the cooperation period. This will lead to securing technical sustainability through information sharing after the termination of cooperation.

5) Preparing for External Factors

● **Adopting the above mentioned measures 1) to 4) sufficiently and eliminating vulnerabilities in the implementing organization's activities serve to mitigate the negative impacts of external factors.**

Among external factors that occur after the termination of cooperation, there are many incidents beyond the control of a project, including natural disasters and political and economic factors. Regarding these incidents, in practice it is difficult to forecast their occurrence, and therefore, it is impossible to examine proper countermeasures in advance. However, taking the measures mentioned above in 1) to 4) and eliminating vulnerability of the organization will be effective in easing the negative effects possibly caused by common external factors such as reorganizations and policy changes. Including risk management methods in the scope of technical assistance may be another effective preventive measure.

(2) Lessons for Ex-post Evaluation

The lessons learned regarding impact and sustainability of individual projects have already been presented. The following is the summary of lessons regarding the quality of the primary evaluations drawn through this study, which should be applied to improve future ex-post evaluations.

1) Improving the Way to Set an Overall Goal

In some projects, it was difficult to evaluate the extent of achievement of the overall goal because of unclear description of the goal or unclear indicators to measure it, that is, "what kind of" changes are aimed at "whom" and "by when" is not clearly defined. In addition, for some projects, since the level of overall goals was too high and factors external to project activities were substantial, there were cases where achievement of the goals was heavily dependent upon how those factors emerged, or where the occurrence of effects was necessary to be sustained for a long time to achieve the goals.

Since an ex-post evaluation is carried out about three years after the termination of cooperation, it is often the case that projects have not yet achieved their overall goals at the time of ex-post evaluation. However, in terms of ensuring accountability, it should be confirmed that at least some effects have been demonstrated continuously towards the achievement of the overall goal at the time of ex-post evaluation. To this end, it is vital to set clear logic models of the project with appropriate indicators.

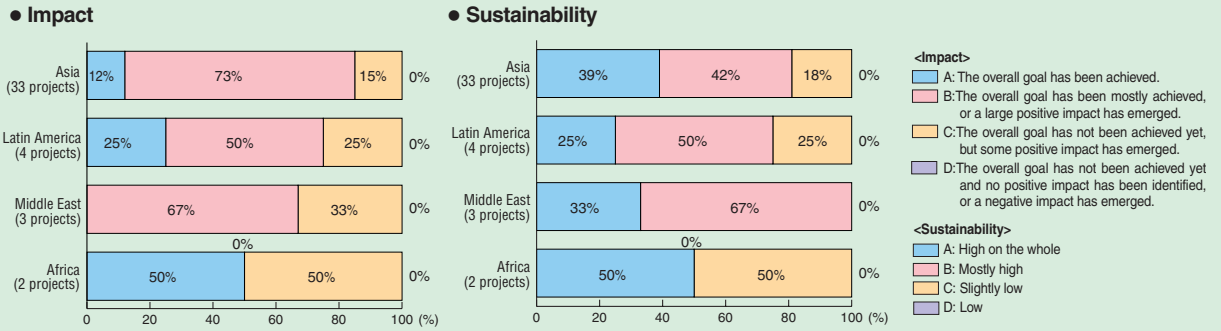
2) Enhancing Quality of Primary Evaluation

The objectives of project-level ex-post evaluation are to ensure accountability as to whether project effects have emerged continuously, and to proactively make use of evalu-

ation results in subsequent projects, especially under the initiative of JICA overseas offices, which take charge of the identification and formulation of new projects. Ex-post evaluation is undertaken mainly by JICA overseas offices, using local human resources such as consultants. However, their familiarity with JICA projects and evaluation methods, as well as expertise in general evaluation skills, varies greatly from country to country. Consequently, in some primary evaluations, the evaluation methods for impact and sustainability were not fully understood, and others failed to extract promoting and impeding factors appropriately. A need for future improvements in quality was frequently observed. Fostering human resources for evaluation in developing countries is a primary task for facilitating developing countries' ownership to conduct cooperation projects, and thus JICA has implemented evaluation training for nurturing these human resources. JICA has to work positively and continuously on this issue by providing opportunities such as evaluation training and joint evaluations.

Box 16 Regional Trends in Impact and Sustainability

In order to examine whether there are regional disparities in the occurrence of impact and sustainability, a trend analysis was conducted by classifying evaluation results by region based on the grades made in the previous section 2-2 (page 93). However, as was mentioned in the beginning of this chapter, the number of projects in regions other than Asia is very limited and it is therefore difficult to estimate a general trend for each region based on this result alone. Therefore it should be noted that the result is nothing more than a reference. Characteristics assumed from the target projects are shown below.



(1) Among 33 projects in Asia, those in Southeast Asia amount to 21 in total, the most. Particularly in this area, compared to other areas, the Asian economic crisis in 1997 tends to have had negative impacts on the occurrence of impact. In the projects that referred to the Asian economic crisis as an impeding factor, activities of the implementing organization were temporarily stagnated due to lack of financial resources, which possibly resulted in limited occurrence of effects at the time of evaluation. Also many countries promote downsizing of the whole public sector as part of their domestic policies, and some implementing organizations became unstable due to reorganization such as privatization, or others ran short of personnel because they cut back on civil servant recruitment. These became impeding factors especially in securing organizational sustainability. Nevertheless, sustainability of project effects on the whole is more or less at the same level as sustainability in other areas.

(2) In the five projects implemented in South Asia, the lack of support from governing authorities was pointed out as an impeding factor in general, and there were cases where it had a particularly negative impact on financial sustainability. There seems to be a severe situation in the whole national finance behind the lack of budget. On the other hand, however, the transferred techniques were continuously utilized and impact and sustainability as overall project effects were at the average level of the entire region.

(3) As for East Asia (China), seven projects were among the targeted projects. Activities and effects tend to be sustained and developed on the whole. Many projects demonstrated policy support from the governing authorities as promoting factors, which were characterized by the stable allocation of budget from the government and the secure consistency of policies. Meanwhile, the occurrence of impact is at the same level as it is in other regions. In the projects aimed at spreading effects to the national level, a certain time period is needed for the achievement of the goal because the land mass is vast.

(4) In other regions, regional common characteristics could not be found because there were not enough projects. However, in both Latin America and the Middle East, impact and sustainability positively occurred in general, and from the technical aspect especially the transferred techniques were applied and modified when necessary. This implies their high level of understanding of those techniques, which in many cases are promoting factors for the occurrence of effects at the end beneficiary level. As for the projects in Africa, it is difficult to generalize regionally based on these evaluation results because the two projects targeted are both in Kenya. In one of these, the Jomo Kenyatta University of Agriculture and Technology, favorable evaluation results were obtained.