Part 3

Thematic Evaluation

Part 3 Thematic Evaluation

Part 3 introduces JICA's program-level ex-post evaluations whose reports were completed in fiscal 2003. The program-level ex-post evaluations are supervised by JICA's Office of Evaluation, Planning and Coordination Department. When conducting evaluations, it is important to apply thematic approaches that JICA has made efforts to strengthen, to develop practical methods of evaluation that accurately correspond to the various characteristics of projects, and to use external organizations. Based on this concept, JICA selects the topics to be evaluated.

At the beginning of Part 3, the program-level evaluations conducted by JICA in fiscal 2002 and 2003 are introduced. Chapter 1 presents the results of specific evaluations: "Synthesis Study on Evaluations: Science and Mathematics Education Projects," which was carried out to strengthen the thematic approach; another synthesis evaluation study, "Information Technology (IT)-related Human Resources Development and the Utilization of IT in Various Fields"; "Poverty Reduction and Community Development," which examined a new approach under the cooperation themes of poverty and regional development; and "Environment" and "Water and Poverty in Africa," which incorporated external views on vital themes by contracting evaluations out to external organizations. Furthermore, the results of developing evaluation methods for NGO-JICA Collaboration Programs are briefly introduced.

When selecting topics for program evaluation, JICA prioritizes the enhancement of thematic approach. The synthesis study of evaluations introduced in fiscal 2001 has been conducted to extract generalized lessons for practical feedback by extracting tendencies and problems commonly associated with specific issues or by analyzing characteristics of cooperation type and good practices through comparison of several projects. This responds to the fact that some lessons learned from individual projects are not applicable to the feedback since they are neither conceptualized nor generalized. The synthesis study is conducted for the purpose of extracting the effective lessons and analyzing the individual projects by literature reviews of their evaluation results and conducting field surveys for specified issues or sectors. JICA has been reviewing and improving the methods of the synthesis study on a yearly basis. For instance, the topics in 2002 and 2003 were selected from the sectors or issues in which the Thematic Guidelines have been developed by the Thematic Task Forces

Table 3-1 Thematic Evaluations (Fiscal 2002-2003)*

FY of evaluation	Title of Evaluation	Evaluation Body	Target Country/Region
2002	Country-program Evaluation	External organization	Senegal
2002	Environment—Environment Center Approach: Development and Social Capacity for Environmental Management in Developing Countries and Japan's Environmental Cooperation	External organization	Indonesia, Thailand, Mexico, China
2002	Agriculture and Rural Development (Phase 1)	JICA	—
2002	Water and Poverty in Africa	External organization	Zambia, Zimbabwe
2002	Disaster Relief	JICA	Turkey, Taiwan
2002	NGO-JICA Collaboration Program	JICA	Myanmar
2003	Poverty Reduction/Community Development	JICA	Indonesia, Sri Lanka, Tanzania, Nepal, Philippines, Bangladesh
2003	Science and Mathematics Education Projects	JICA	Indonesia, Philippines, Egypt, Ghana, Cambodia, Kenya, South Africa, Honduras
2003	Information Technology (IT)-related Human Resources Development and the Utilization of IT in Various Fields	JICA	Jordan, Thailand, Philippines, Viet Nam, Poland, Malaysia, China
2003	Agriculture and Rural Development (Case Study)	External organization	El Salvador, Tanzania
2003	NGO-JICA Collaboration Program	JICA	Bangladesh, Kenya

*Reports for those evaluations were completed in fiscal 2003.

in JICA. Thematic Task Forces were established to accumulate knowledge relevant to a specific sector or issue within JICA and to contribute to the improvement of programs. Moreover, in order to promote feedback, members of Thematic Task Forces were encouraged to participate in the synthesis study from the beginning. This is aimed at incorporating the perspective from the user side of the study results. The two synthesis studies were completed recently: Science and Mathematics Education Projects and Information Technology.

In addition, Poverty Reduction and Community Development evaluates the projects based on poverty reduction, which has been regarded as the most important aspect of development assistance in recent years. This evaluation looked at projects that approached various parties concerned with JICA's community development program in a multi-level approach, such as central and local governments, local residents, universities, and NGOs, and then examined whether the multi-level approach was effective. Water and Poverty in Africa focused on cooperation in the water field. Cooperation in the water field has been regarded as being important by Japan as part of its measures for poverty alleviation that aim to fulfill basic human needs, and improve lives and livelihoods in African countries.

Some program-level evaluations are contracted out to external organizations every year to ensure objectivity of the evaluations. JICA expends its efforts not only to secure objectivity but also to improve the quality of evaluations using the experience of external academics. For example, Water and Poverty in Africa mentioned above was contracted out to a private consulting firm, and Thematic Evaluation in Environment—Environment Center Approach: Development and Social Capacity for Environmental Management in Developing Countries and Japan's Environmental Cooperation, was contracted out to the Japan Society for International Development.

As introduced in Part 1, evaluation methods for collaborative programs between NGOs and JICA are continuously examined at the NGO-JICA Evaluation Subcommittee, which was established in fiscal 2001. In fiscal 2003, the subcommittee proposed the method for evaluating grassroots type projects that directly benefit the local community and extracted points of concern based on the evaluation results..

Chapter 1 Science and Mathematics Education Projects

1-1 Outline of Evaluation Study

(1) Background and Objectives

As part of the effort towards improvements in the quality of basic education, JICA had so far implemented 12 technical cooperation projects in the primary and secondary science and mathematics education sector at the end of April 2004. However, a systematic evaluation of the education projects had not been conducted yet, thus the review and classification of past and ongoing education projects were strongly required. Within this context, JICA conducted a synthesis evaluation study on technical cooperation projects in primary and secondary science and mathematics education with the following two objectives.

a. Review and classify the past and ongoing 12 projects by JICA on primary and secondary science and mathematics education
b. Analyze project planning and modification processes as well as the components of cooperation to isolate contributing and inhibiting factors of the projects and to draw lessons learned for the improvement of future project formulation and implementation processes

(2) Evaluation Study Period and Team

1) Evaluation Study Period

July 2003 to February 2004 (Field studies were conducted in Kenya and the Philippines for 35 days from November 8, 2003 to December 12, 2003.)

2) Evaluation Study Team

The evaluation study was organized and supervised by the then Office of Evaluation and Post Project Monitoring, Planning and Evaluation Department of JICA (currently the Office of Evaluation, Planning, and Coordination Department). The Evaluation Study Committee was established as an advisory committee, consisting of JICA educational task team representatives and external evaluation advisors. Based on the strategies discussed and finalized at the Evaluation Study Committee, one of the external advisors, JICA, and consultants (Global Link Management) undertook the actual study and compiled reports.

Evaluation advisors

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(3) Projects Subject to the Study

Twelve JICA projects were selected for the evaluation study (Table 3-2). Out of the 12 projects, field studies were

Table 3-2 Projects Subject to the Study

Region	Country	Project Title	Abbreviation	Project Period
Asia	Philippines	The Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education	Package Cooperation	1994.6-1999.5
		Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers	SBTP	2002.4-2005.4
	Indonesia	The Project for Development of Science and Mathematics Teaching for Primary and Secondary Education	IMSTEP	1998.10-2003.9
	Cambodia	Secondary School Teacher Training Project in Science and Mathematics	STEPSAM	2000.8-2004.9
Middle East/Africa	Egypt	Development of Creativity Lessons for Primary Education	DCL (Mini-Project)	1997.12-2000.11
		Improvement of Science and Mathematics Education in Primary Schools in Egypt	ISME	2003.4-2006.3
	Kenya	Strengthening of Mathematics and Science in Secondary Education (Phase 1)	SMASSE I	1998.7-2003.6
		Strengthening of Mathematics and Science in Secondary Education (Phase 2)	SMASSE II	2003.7-2008.6
	South Africa	Mpumalanga Secondary Science Initiative (Phase 1)	MSSI I	1999.11-2003.6
		Mpumalanga Secondary Science Initiative (Phase 2)	MSSI II	2003.4-2006.4
	Ghana	Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education	STM	2000.3-2005.2
Latin America	Honduras	Improvement of Teaching Methods in Mathematics	PROMETAM	2003.4-2006.3

conducted on two projects each in Kenya and the Philippines so that lessons common in projects could be extracted.

1-2 Framework of the Study

(1) Evaluation Questions

The evaluation questions of the evaluation study were designated in line with the above-mentioned objectives as follows:

a. Summary and classification of projects

Under what social and educational situation was each project implemented? What elements or criteria could be used to classify the projects?

b. Contributing and inhibiting factors

What were the contributing and inhibiting factors affecting the impacts of primary and secondary science and mathematics education projects?

c. Lessons learned

What lessons were learned and extracted from these primary and secondary science and mathematics projects?

Table 3-3 Classification of the 12 Projects

Duration of projects	One seven-year project, four five-year projects, and seven three-year projects: the number of three-year projects has been on the increase.
Cooperation modality	Five Project-type Technical Cooperation Projects including the Package Cooperation, two projects in the form of dispatch of expert team, and five Technical Cooperation Projects
Primary or Secondary Education	Three projects are at the primary education level, five at the secondary education level, and four at both primary and secondary education levels.
Science or Mathematics	One project focuses on mathematics and the remaining 11 projects on both science and mathematics.
PRESET or INSET	Ten projects conducted training for teachers in-service (INSET) and two projects conducted both INSET and training for pre-service teachers (PRESET).

(2) Evaluation Methods

Based on the three evaluation questions, the projects were classified according to the approaches taken and were then analyzed using logic models. Document reviews, questionnarie surveys, and interviews with domestic stakeholders were conducted in Japan. Document collection, questionnaire surveys and interviews with local stakeholders, and site visits were also conducted during the field studies.

1-3 Summary and Classification of Projects

(1) Classification of Projects by Characteristics

The first project in the primary and secondary science and mathematics education sector was the Package Cooperation launched in the Philippines in 1994. Since then, a series of projects in the sector were implemented in succession. The efforts expanded notably from the late 1990s to 2000s, resulting in seven projects in Africa, four in Asia, and one in Latin America. Table 3-3 shows the results of classification of the 12 projects according to their major characteristics.

(2) Classification of Projects by Approach

Activities in the projects could be divided into typical 11 groups including development of teaching materials, training for in-service teachers, monitoring, and evaluation. It was revealed that all 12 projects include teacher training as a core component. Accordingly, this evaluation made the classification of projects by approach based on two criteria: beneficiaries of training and teacher training system. As a result, the 12 projects in primary and secondary science and mathematics education were classified into the four types shown in Table 3-4.

(3) Five Factors Determining the Success of the Projects

The projects were cross-examined based on the above summary and classification, and contributing and inhibiting factors that influence the effects of each project were extracted.

Table 3-4 Project Classification by Teacher Training Approach

Type 1	Approach of INSET by cascade system. The experts and counterparts of the projects directly train teacher trainers using their expertise in the subjects.	Philippines: Package Cooperation Kenya: SMASSE I Kenya: SMASSE II South Africa: MSSI I
Type 2	In this type, teachers are provided with direct training in a cluster (a group of schools in an area) or through in-school training for teachers (cluster system). The experts and counterparts of the projects support the training and offer advice on management, but do not provide direct guidance on the content of the subjects.	Philippines: SBTP Ghana: STM South Africa: MSSI II
Type 3	The approach of the development and dissemination of teaching guides. The projects classified as Type 3 simultaneously provide in-service teachers with training in using the guides.	Egypt: DCL(Mini-Project) Egypt: ISME Honduras: PROMETAM
Type 4	This is the approach of training for university faculty, in which trained university trainers conduct direct training or offer lessons for in-service teachers and university students.	Indonesia: IMSTEP Cambodia: STEPSAM

The following are five elements that were considered factors determining the success of primary and secondary science and mathematics projects. (Table 3-5).

The five elements discussed here are considered important factors determining the success of primary and secondary science and mathematics projects. In the following chapters, analysis is performed on these important five factors. Four cases targeting for the field studies are to be introduced in its course, followed by the eight other projects. Then a synthesis study will be conducted in order to draw common lessons from the projects.

1-4 Results of the Synthesis Study of the Projects and Lessons Learned

This section reports the results of the field studies of representative projects of the primary and secondary science and mathematics projects conducted by JICA in the past. As mentioned earlier, all 12 projects examined in the evaluation study were conducted focusing on teacher training. Thus, projects emphasizing the training of in-service teachers in two countries were chosen for field study.

(1) Overview of Projects for Case Study and Evaluation Results

1) The Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education in the Philippines (Package Cooperation)

Table 3-6 shows the overview of the Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education in the Philippines.

Table 3-6 The Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education in the Philippines

Project period	June 1, 1994 - May 31, 1999 June 1, 1999 - March 31, 2001 (Follow-up period)
Project purpose	To establish INSET system for science and mathematics teachers in elementary and secondary schools
Target group	Elementary and secondary science and mathematics teachers
Target areas	Nation-wide; however, Districts 5, 6 and 11 were selected as model districts.
Teacher training approach	Type 1

■ Background of Cooperation

The then National Development Plan of the Philippines (1993-1998), under which this cooperation project (hereinafter referred as the "Package Cooperation") was originally planned, specified two priority issues in the area of education: to improve enrollment and completion rates in elementary and secondary education, and to upgrade the quality of science and mathematics education. Thus, there was a great need for a systematic framework for in-service teachers. And this project was formulated to establish a training system for in-service teachers and through the training to improve teachers' skills in teaching science and mathematics classes that incorporate experiments and practice.

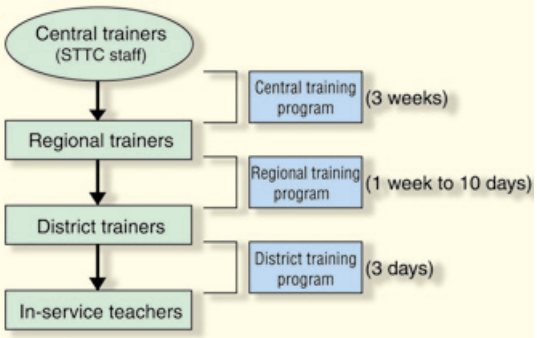
■ Classification and Structure of Cooperation

The Package Cooperation adopted the cascade-system training (Figure 3-1). In this system, one staff member of the Science Teacher Training Center, one supervisor of the Department of Education, and two in-service teachers designate central trainers to begin with. The central trainers conducted the central training program for regional trainers at the

Table 3-5 Five Elements Determining Success of Primary and Secondary Science and Mathematics Projects

1) Planning	One of the important factors lies at the planning stage of a project, which is not just confined to the primary and secondary science and mathematics sector. In-depth needs analysis, the construction of logic keeping cause-and-effect in mind, and the selection of inputs are factors that are especially significant in influencing the efficiency of projects.
2) Means to expand outcomes	The teacher training system employed under the primary and secondary science and mathematics projects are classified into two groups: cascade and cluster (training within school district) systems. Whether a project is being implemented considering different characteristics of these systems or not influences the impact.
3) Collaboration	In recent years, many projects include collaboration with Japan Overseas Cooperation Volunteers, other ODA schemes, local universities, and other donors. The collaboration with related agencies inside and outside the project is a factor that especially influences efficiency.
4) Institutionalization	Governmental support for the projects leads to securing financing at both the central and local levels. Governmental assistance such as establishment of funds and authorization of training on weekdays particularly affects sustainability.
5) Monitoring and evaluation	How to monitor and evaluate the reality of teacher training and the capability of teachers and students is a universal issue in the primary and secondary science and mathematics projects. A timely modification of project planning through monitoring and evaluation greatly contributes to the achievement of project purposes.

Figure 3-1 INSET System in the Package Cooperation



training center. The regional trainers who had received training at the center provided the regional training program to district trainers in each area. This was followed by the provision of the district training program by the district trainers to the elementary and secondary science and mathematics teachers in the district.

The three-step cascade system was expected to improve the abilities of elementary and secondary science and mathematics teachers in the region as well as improve elementary and secondary students' competency in science and mathematics. Discretion in planning and budget control of programs other than the central program was given to each area. Therefore, the actual training for the central training took three weeks, but the area and district training periods were one week and three days, respectively.

■ Evaluation Results

The terminal evaluation of this project reports that no significant impact on teachers was apparent, although some impacts showed up at the central level. In terms of sustainability, the training system did not continue. As a result, it did not alter the status quo of the Philippines' teacher training system in which training is provided only when budgets are secured. Nevertheless, certain outcomes were identified. For example, some of the materials developed during the Package Cooperation were revised and published after the completion of cooperation, and are presently being used at the Science Teacher Training Center.

A considerable number of lessons learned from the Package Cooperation have become important assets to Japan's subsequent projects in science and mathematics education. The SMASSE in Kenya and the SBTP in the Philippines, which will be introduced in the next section, make the most of the lessons learned from the project.

2) Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers in the Republic of the Philippines (SBTP)

The summary of the project is shown in Table 3-7.

Table 3-7 Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers in the Republic of the Philippines

Project period	April 10, 2002 - April 9, 2005
Project purpose	To promote student-centered teaching methods through improving teaching methods and deepening understanding of the study contents of the subjects
Target group	Elementary and secondary science and mathematics teachers
Target areas	Districts 5, 6, 7, and 11 (District 11 was added during the operation guidance study)
Teacher training approach	Type 2

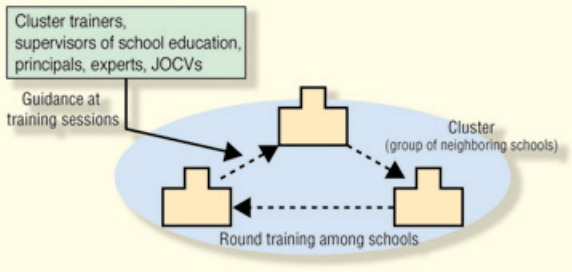
■ Background of the Project

The Package Cooperation in the Philippines aimed to establish a sustainable teacher training system; however, it failed to achieve the objective within the project period. Therefore, the task of establishing a teacher training system remained. The Philippines specified reinforcement of science and mathematics education as a priority in basic education in the mid-term plan (1999-2004), part of the Medium-term National Development Plan by 2025, showing a continued high priority on science and mathematics education even after the completion of the Package Cooperation. With this as a background, after the implementation of the two-year follow-up activities of the Package Cooperation, Japan launched the Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers in the Republic of the Philippines (SBTP) in 2002, following a one-year interval. The objective of the project is to promote student-centered teaching in science and mathematics education. The project was designed to improve the ability of teachers from both aspects of improvement in teaching methods and the understanding of content of the subjects by making the most of the lessons learned form the Package Cooperation.

■ Classification and Structure of Cooperation

The training method in SBTP differs greatly from that in the Package Cooperation (Figure 3-2). The SBTP provides in-service science and mathematics teachers with monthly training in a group of neighboring schools called a cluster. Fostering teachers who are willing to keep learning is the central concept of the training. Mock lessons are used just as in the actual class setting, rather than having a third party provide

Figure 3-2 Training System in SBTP



the teachers with new techniques and knowledge. This helps teachers improve themselves as a group. In cooperation with supervisors of school education, experts and JOCVs dispatched from Japan visit the monthly training sessions in rotation to support the sessions to keep a certain level of quality. Other activities for strengthening support for the school system include the organization of school principals' meetings and the implementation of advocacy programs for regional administrators, PTA executives and parents.

■ Evaluation Results

After discussions with counterparts and in-depth needs surveys, the SBTP was appropriately formulated. As a result of switching from the large-scale cascade system in the Package Cooperation to the cluster system implemented by school districts, favorable results have been achieved despite low inputs, showing high efficiency and sustainability. Impact on teachers has emerged; however, cause-and-effect linkage with the project has yet to be discerned. The project is scheduled to be completed in 2005, as its coverage has been expanded and its sustainability has been secured to some extent. Currently, efforts are being made to improve particularly the quality of education.

3) Strengthening of Mathematics and Science in Secondary Education in Kenya (SMASSE), Phase 1 and Phase 2

Summary of the above projects is shown in Table 3-8.

Table 3-8 Strengthening of Mathematics and Science in Secondary Education in Kenya (SMASSE)

	Phase 1	Phase 2
Project period	July 1, 1998 - June 30, 2003	July 1, 2003 - June 30, 2008
Project purpose	To strengthen secondary mathematics and science education through INSET in the pilot districts	To improve the ability of district trainers. To implement ASEI/PDSI at teacher training organizations and secondary schools in target countries
Target group	Mathematics and science teachers in secondary schools	Mathematics and science teachers in secondary schools
Target areas	Nine districts (Kajiado, Kishii-South, (later Gucha), Kishii-Central, Makueni, Maragua, Muranga, Kakamega, Butere/Mumuas, Lugari) Six districts were added in 2001.	71 districts excluding nine districts targeted in Phase 1. Achivements are transmitted to Ghana, Burundi, Lesotho, Malawi, Mozambique, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe
Teacher training Approach	Type 1	Type 1

■ Background of the Projects

When Phase 1 of the project was formulated, Kenya's nationally standardized test results were notably poor in mathematics and science, and there was no sustained training system for in-service teachers. Japan's cooperation in the area of mathematics and science education had a comparative advantage in Kenya as well, and it was decided that cooperation in elementary education was not feasible as there were too many elementary schools. For these reasons, it was concluded that support should be given to mathematics and science education in secondary schools; thus, SMASSE (Phase 1) was launched.

■ Classification and Structure of Cooperation

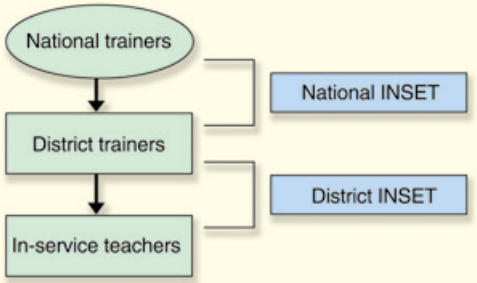
Teacher training in SMASSE falls into the in-service teacher training approach of the cascade system (Type 1) (Figure 3-3). Phase 1 set up a model in which district trainers who have previously received training at the central level were to provide training to in-service teachers for improving their teaching skills and students' academic performance in science and mathematics. National trainers conducted training (National INSET) for district trainers, and then the trained district trainers conducted training (District INSET) to in-service teachers at each district INSET center. In principle, all the mathematics and science teachers in secondary school of the target area participated in the District INSET. Workshops for school inspectors and principals were also held to gain their understanding and support for the training program. Both National and District INSET were to be carried out once a year for two weeks during the school holidays in either April or August, with fixed themes for training. They were scheduled to roll over four times during the project period.

Cooperation in Phase 2 was constructed based on a similar concept and approach to Phase 1, but inputs from the Kenyan side in terms of human resources and budget increased as the target area was expanded. Moreover, in order to extend activities to reach neighboring countries in Africa, the Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA) was established as a permanent training facility.

■ Evaluation Results

Phase 1 of the project was planned and revised where necessary after discussions with counterparts and appropriate needs surveys. In particular, according to the results of the mid-term evaluation, training at the cluster level was found to be economically inefficient and diminishing the effectiveness of the training program, and, therefore, it was decided to be discontinued. A dual-stage cascade system with National

Figure 3-3 INSET System in SMASSE



INSET and District INSET was then adopted, which enabled the organization of effective training activities. Moreover, contents of the cooperation were satisfactorily effective, and it was completed almost successfully. Some impacts have occurred; in Makueni District, for example, teachers' teaching skills and students' interest in mathematics and science has improved, although this varies among areas and schools. An initiative of the partner country is very positive, and related governmental agencies provide support. Currently, the project went into Phase 2, and the outcomes of the 15 districts have been extended to encompass 71 districts throughout the country. At the same time, efforts have been made to further increase the quality of the training and to stimulate the incentives of training participants.

(2) Summary of Other Projects

The analyzed projects that are not included in the case studies are listed in Table 3-9. The analysis of each project has been summarized and described in the following section (3).

(3) Lessons Learned and Recommendations

We have already discussed the five important factors that are thought to influence the success of technical cooperation projects in primary and secondary science and mathematics education. Here, attempts are made to draw common lessons from the projects in relation to these five important factors. Major elements of those lessons learned are described in this summary.

1) Lessons Learned about Planning

The evaluation study confirmed that contributing and inhibiting factors of projects are deeply associated with the planning process in many cases. This section shows analytical results on whether the achievement of objectives has been thoroughly thought out at the time the projects were formulated and how input elements have influenced the achievement of the objectives. Although the following lessons have been drawn from the primary and secondary science and mathematics education projects subject to the evaluation study, these lessons can be applied to projects other than those in the educational sector.

- **In the planning stage, it is necessary to construct a logic model and formulate a logical framework (PDM) after sufficient deliberation on cause-and-effect linkages.**

The analysis of all the projects using a logic model (visual representation of the cause-and-effect linkages between project inputs and the goals) in the evaluation study found that nearly half of the projects need to be reconsidered in terms of logical construction, particularly from the project

Table 3-9 Other Projects

Country	Project title (Abbreviation)	Project overview
Indonesia	The Project for Development of Science and Mathematics Teaching for Primary and Secondary Education (IMSTEP)	This project aimed to improve training for both prospective and in-service teachers, targeting three local universities designated for primary and secondary science and mathematics education (Type 4). The project was implemented in combination with other Japanese cooperation schemes such as Grant Aid and Development Studies.
Cambodia	Secondary School Teacher Training Project in Science and Mathematics (STEPSAM)	This project aimed to improve training for both prospective and in-service teachers mainly at the Higher Teachers' Training School (Type 4). In addition, it included activities in support of formulating medium and long-term plans for training prospective teachers.
Egypt	Development of Creativity Lessons for Primary Education (Mini-Project)	Based at the National Center for Educational Research and Development of the Ministry of Education of Egypt, this project aimed to improve teaching methods of primary science and mathematics education by developing teachers' guidebooks (Type 3). Individual experts were dispatched in a team.
Egypt	Improvement of Science and Mathematics Education in Primary Schools	This project aimed to build the basis for consolidating the new teaching methods using the guidebooks developed by the Mini-Project described above at model schools and further expanding the methods (Type 3).
South Africa	Mpumalanga Secondary Science Initiative-Phase 1 (MSSI-1)	This project was launched in Mpumalanga Province where there are many former townships (homeland). Targeting in-service training for teachers in Grades 8 and 9 (equivalent to 2nd and 3rd grades in Japan's junior high schools), it aimed at dissemination through the cascade system from the center (Type 1), with in-country training by short-term experts and training in Japan as the core components.
South Africa	Mpumalanga Secondary Science Initiative-Phase 2 (MSSI-2)	This project is a continuation of Phase 1 described above. In this phase, the target was expanded to include teachers for up to Grade 12 (equivalent to Japanese junior and senior high schools). In addition to central training, direct lectures are offered to in-service teachers (Type 2).
Ghana	Science, Technology and Mathematics Education Project (STM)	This project aimed to upgrade the ability of in-service teachers in primary and secondary schools in the target areas (Type 2). Particularly, aid coordination was sought, and the original plan of the project was improved proactively by using the mid-term evaluation.
Honduras	The Improvement of Teaching Methods in Mathematics (PROMETAM)	The high rate of school dropouts and being held back a grade for failing to meet standards have been serious problems in Honduras. Thus, the project aimed to upgrade skills of teachers and improve students' academic performance through the development and dissemination of teachers' guidebooks and students' workbooks (drills) (Type 3). It has produced favorable results in the area of institutionalization; for example, the developed materials have been selected as national textbooks.

purpose to the overall goal. While the logical framework (PDM) employed in projects is generally an effective tool for project management, it sometimes encounters difficulties in precisely describing complicated cause-and-effect linkages of the projects. Constructing a logic model at the planning stage leads not only to a deliberate consideration of the cause-and-effect linkages of projects and but also to uniform understanding of the detailed structure of the project by parties concerned. In particular, since educational projects may involve a complicated cause-and-effect relationship, using a logic model helps pinpoint potential risks of projects (as to which objectives seem hard to achieve).

- **The quality and scale of inputs have a great influence on sustainability and impact. Therefore, planning of project inputs needs careful consideration with comparison to similar projects.**

In the Package Cooperation in the Philippines, in spite of considerably large-scale inputs, the sustainability of the training system began to disappear as soon as the project was terminated. On the other hand, SBTP that followed the Package Cooperation realized a training system without major costs while demonstrating sustainability and geographical expansion. One possible reason for this was that the training system of SBTP was designed with the intention of reducing Japanese inputs and establishing a training system that could be easily managed by local people alone. While large-scale inputs may result in an accelerated expansion of activities in the short-term, the danger of inhibiting long-term sustainability and impact needs to be kept in mind. To calculate the adequate scale of inputs at the planning stage of projects, it may help to identify similar projects inside and outside of JICA and to compare the necessary costs and outputs.

- **While formulation of projects utilizing existing resources is effective in terms of efficiency and sustainability, it is necessary to deliberately consider whether the utilization is in line with the objective of the projects.**

It is effective to formulate a project plan with considerations to the existing resources in the partner country as well as to the outcomes and experiences of past projects. However, a clear overall project plan must first be in place when priority is given to the utilization of existing resources. Without an appropriate project plan, its purpose may be distorted through the mere utilization of resources and implementation of inputs. As a matter of fact, in the Package Cooperation in the Philippines, too much emphasis was placed on the utilization of the Science Teacher Training Center constructed through grant aid and the real purpose of the project, establishment of a training system, was not clearly defined. In the utilization of resources, careful consideration should be made so that the inputs are consistent with project purposes.

2) Lessons Learned about Expansion of Outcome

Classifying technical cooperation projects in primary and secondary science and mathematics education was one of the major objectives of this evaluation study. The teacher training systems employed in many projects were classified either as "cascade" (the transmission of lectures from central to local bodies) or "cluster" (direct training to groups of schools). Here, we have analyzed the characteristics of each system and have compiled its results.

- **In teacher training using the cascade system, it is effective to minimize the number of cascade layers and conceptualize what is delivered in the training in simple keywords.**

In teacher training using the cascade system the delivered content has a tendency to diminish in proportion to the number of cascade layers. In the Package Cooperation in the Philippines, training courses were conducted in three stages, namely, national, regional, and district levels. It was observed that the effects of the training were diminished from the national level to the district level due to no allowance for training at the local level. In the training system of SMASSE in Kenya, the three stages established in the initial project plan were reduced to two, a modification that enhanced the effectiveness of the training. In the cascade system, information delivered from one person to another diminishes. Delivery of fundamental concepts, rather than of complicated issues, avoids the diminishing of the content, and thus contributes to its effectiveness. In SMASSE in Kenya, the keyword of "ASEI/PDSI" was contrived to make the concept intended by the project easy to understand. On the other hand, if the keyword itself is presented without an underlying context, the message conveyed may be misunderstood. In the Package Cooperation in the Philippines, the keyword of PWA was adopted, but the keyword was misunderstood as meaning just conducting experiments in class. Unfortunately in this case, the misunderstood concept was disseminated through training. Though it is important to simplify a concept into a keyword in the cascade system, it is necessary to organize the concept carefully and prepare for dissemination, for example, by producing manuals for training.

- **The expansion system such as the cluster (direct) system is suitable to consolidate the outcomes in a geographically limited area. In introducing cluster training, it is necessary to gain understanding and support from stakeholders in the area.**

Teacher training through cluster and school training systems has an advantage in delivering the effects of the training not only to teachers but also to schools and the entire school district (cluster). In STM in Ghana, in response to the high turnover rate of teachers, the support to school training was

strengthened. In SBTP in the Philippines, a training system where schools in the same cluster hold training in turn contributed to establishing a network among teachers in the cluster who teach the same subject. This kind of dissemination system can be especially effective at the primary education level, because primary schools have closer relationships with local areas. In addition, obtaining more understanding from principals and school inspectors promotes the participation of teachers. In cluster and school training systems based in schools and local communities, holding a workshop for principals and school inspectors is important for gaining understanding and support at the school and community levels.

- **Applicability of the training system depends largely on the condition of the educational administration, level of education (primary/secondary), and geography. The training system should be designed with these factors in mind.**

When the two dissemination systems mentioned above are compared, the cascade training system is suitable for spreading skills "fast and wide to a large number of people"; whereas the cluster training system is appropriate for spreading skills "slowly to a small number of people in small areas." Furthermore, in selecting a teacher training system, cascades or cluster, it is important to consider the following three conditions: educational administration, the level of education, and geography. In terms of educational administration, the cascade system is adequate in a situation where administration capacity at both the central and local levels is high, while the cluster system is adequate where decentralization has been established. At a higher secondary education level, schools are located at a considerable distance and the cascade system is desirable, as it requires less occasion to get together. At the primary education level, on the other hand, education is conducted in close relationship with local communities and, therefore, cluster training is recommended, as those concerned can get together more often. From a geographical point of view, in areas where transportation systems are not well developed, it is difficult to continuously conduct cluster training. Thus, a large-scale cascade training held during vacation time is suitable. Conditions to help effectuate each training system are compiled and listed in Table 3-10 below.

3) Lessons Learned about Collaboration

Science and mathematics education projects in recent years seek collaboration not only with other ODA schemes such as Japan Overseas Cooperation Volunteers (JOCV), but also with local universities and other donors. The type of collaboration has no small effect on the occurrence of outcomes. In this section, the current state of collaboration between the evaluated projects and related organizations are reviewed and analyzed. The evaluation study chose collaborative partners who were considered particularly significant in the field of educational projects, and examined how collaboration with these partners related to the contributing and inhibiting factors of the projects.

- **Collaboration with local universities or academic institutions is effective in terms of the quality control of training, sustainability, and incentives for teachers. In promoting collaboration, it is necessary to clarify the organizational relationships surrounding each institution.**

Collaboration with local universities helps to spread local knowledge and experiences, control the quality of training, achieve sustainability, and promote participation in training. Under SBTP in the Philippines, propelled by the collaboration with universities, new evaluation theories that have been widely accepted locally are adopted in an attempt to quantitatively assess how lessons have been changed. Under MSSI in South Africa, a university provides a training course on teacher qual-

Table 3-10 Factors to be Considered When Choosing between Cascade System and Cluster System for a Teacher Training System

	Cascade System	Cluster System
Educational Administration	Since the top-down approach is used, it is better to have educational administrators possessing superior capabilities in the central government at the upper layer of the cascade and in the regional government at the lower layer.	In the case where cluster training is conducted in rural areas, local governments are required to have some level of administrative capability. Thus, it is appropriate to conduct it in a country where a degree of decentralization has been achieved. Also, in order to carry out in-school training sessions, schools have to be equipped with a degree of management ability.
Level of Education	High schools are located at a good distance from each other, which makes it difficult for teachers to often gather in a single location. Therefore, the cascade system is effective at the high school level, (especially in the case where the enrollment rate is low).	Since primary and secondary schools are often deeply rooted in the local community, the needs vary depending on the region. Therefore, it is significant for neighboring schools to form a cluster. When a project targets primary and secondary schools, cluster training is effective, since it enables the teachers of the local schools to congregate in a nearby school.
Geographical Conditions	When access to the other schools is hindered due to underdeveloped infrastructure, etc., as in the case in Kenya, it is difficult to frequently gather at one site. The rate of participation increases if a center with accommodation facilities is built to provide the teachers with opportunities to receive intensive training.	Cluster training is suitable when a transportation network is well developed and access to neighboring schools is relatively easy, thus facilitating day trips and the rotation system, even in an island country such as the Philippines.

ification at a discounted rate and this enhances the motivation to participate in training. In pursuing collaboration with universities, it is essential to clarify responsibilities as well as organizational relationships surrounding concerned institutions in order to avoid the diffusion of ownership. Several cases have been reported in which the involvement of the Ministry of Education, which should assume the leadership, has become less pronounced due to the participation of universities. Moreover, a key contributing factor to future sustainability is to emphasize the concept of reciprocity and equality when collaboration with universities is deployed.

- **Collaboration with Japan Overseas Cooperation Volunteers (JOCV) Program can be a great contributing factor. A precondition for collaborating with the JOCV Program is to formulate a full agreement between experts and volunteers on the direction and activities of the projects.**

Among the projects surveyed under this evaluation study, the JOCV Program was frequently chosen as a partner for collaboration. Collaboration with the JOCV Program took two forms: organized collaboration and flexible collaboration. Under organized collaboration, the JOCV Program was officially designated as a component of the project and a certain level of output was expected from this arrangement. Under flexible collaboration, the JOCV Program was positioned externally to the project but was requested as needed by the project to collaborate through activities such as monitoring. This study revealed that the appropriate collaboration is basically chosen to suit the objectives of each project, while taking advantage of its own strength. However, JOCV posts in science and mathematics education were generally difficult to fill due to a shortage of eligible candidates. To counter this constraint, senior JOCVs and short-term emergency JOCVs were assigned under SBTP in the Philippines to secure a required number of experienced volunteers for achieving the project's outputs. In collaborating with the JOCV Program, it is important to confirm the intention of volunteers and to fulfill two objectives at the same time: civil participation, which is the aim of the JOCV Program, and the achievement of outcomes sought by projects. It is especially important to confirm the intention of JOCVs from the recruitment stage and not to impede activities desired by JOCVs themselves.

- **Collaboration with other donors can be effective if the objective of the collaboration is clearly defined. In addition, donors with past experiences in similar projects can be an important source for information exchange.**

In this evaluation study, two projects, STM in Ghana and PROMETAM in Honduras, were analyzed for lessons learned on collaboration with other donor agencies. Under both of these projects, issues to be addressed by forming collaborations were clear and recognized among donor agencies. The evaluation study, through a questionnaire survey, found that donor collaboration did not take place under other projects due to a lack of recognition for the need or problems to be solved in establishing collaboration. When one ventures to pursue collaboration in such projects, one may end up with mere rhetoric: "a collaboration for a collaboration." In order to avoid seeking unnecessary collaborative relationships, it is crucial to clarify issues to be addressed and to share common recognition of them when collaboration with other donors is sought.

Under SMASSE in Kenya and MSSI in South Africa, information exchange with other donors took place during the project planning stage and this helped to avoid duplication of cooperation as well as in receiving useful advice. It was observed that information exchange with other donors is especially essential at the planning stage of new projects.

4) Lessons Learned about Institutionalization

Governmental assistance and institutionalization, such as holding training on weekdays and making it obligatory to participate in training, can have a huge impact. In this section, some common points found in projects that have received institutionalization or administrative support are reviewed, and some points to be considered when seeking institutionalization are analyzed.

- **To gain governmental assistance and achieve institutionalization in promoting teacher training and project outcomes, activities to gain understanding from the partner countries and ingenuity to facilitate institutionalization are, of course, important. Having mentioned that, we believe the most important factor is to gain support from teachers and students, who are the end beneficiaries.**

Institutionalization of the teacher training system is effective not only for future impact or sustainability, but also for the groundwork for further participation of teachers in training. Some efforts in the past were helpful to gain governmental support for each project: for example, efforts to make educational administrators aware of outcomes of the project of SMASSE in Kenya, and ingenuity of SBTP in the Philippines to develop a low-budget training system. On the other hand, the evaluation study revealed that the biggest factor for institutionalization was the strong support for the training from the teachers and students. A training course for fostering "self-realization" of teachers in the culture of "self-help efforts" in the SBTP in the Philippines has gained strong support from teachers, which must have lead to the institutionalization of training on weekdays. Furthermore, the PROMETAM in Honduras made a strong appeal to relevant parties by compiling data pertaining to the rate of satisfaction of teachers with

the training, the degree of understanding of subjects, frequency of the use of teaching materials, etc. As the saying goes, "example is better than precept." This has led to the dissemination of teaching materials throughout the country.

Decisions on institutionalization and governmental support rest in the hands of the local government authorities, and they always place the emphasis on end beneficiaries. A short avenue to institutionalization may be to gain solid support from teachers and students by upgrading the quality of the training.

- **Governmental assistance can be obtained more smoothly for a training system built upon an existing system, rather than for a newly established system.**

Under SBTP in the Philippines, a school training system that was conducted by the Philippine side was strengthened and expanded by Japanese inputs and was established as a cluster system. At present, SBTP is the only training system authorized to be held on weekdays and supported by the government. This could be attributed to the fact that the school training system was already prevalent and recognized by authorities to a certain degree. As this example shows, cooperation and/or assistance for the existing training system facilitates the establishment of a system in the short term and, as a result, sustainability through institutionalization.

- **In countries where effective collaboration among donors is under way, coordination among donors promotes institutionalization.**

If there were no other donor implementing projects in the same sector in the country of the project, the possibility of institutionalization becomes higher in comparison. In Kenya, donor coordination in the education sector was not very advanced and there were no other donors implementing projects in the area of secondary science and mathematics education. Consequently, the importance of SMASSE in Kenya became comparatively high and this led to the institutionalization of the project. In countries where donor coordination is advanced, enhancing the Japanese presence in the framework of donor coordination can promote institutionalization. In the case of Honduras, Japan was recognized among donors as being competitive in mathematics education, and this contributed to the official adoption of materials developed by the project. Therefore, it can be said that the enhancement of donor coordination is a contributing factor for institutionalization in countries where donor coordination in the education sector is already under way.

5) Lessons Learned about Monitoring and Evaluation

Education projects, including methods for teacher training as well as for monitoring and evaluation, are modified through trial and error, using the results of monitoring and evaluation. In this section, we reviewed the methods used to evaluate ongoing projects and how the monitoring and evaluation systems had been established.

Teachers conducting science experiments in school training (Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education in Ghana)

- **Monitoring results bring about important information useful to the improvement of projects. Mid-term evaluation, if conducted appropriately, contributes considerably to the improvement of project planning.**

Although preliminary studies may be carefully conducted at the planning stages, it is impossible to grasp all the necessary information before the start of the project. Therefore, almost all projects need modification after they start. The quality of modification depends on regular monitoring activities. Under IMSTEP in Indonesia, a pilot activity was introduced in the middle of the project period and this successfully enhanced the project's effectiveness at the school level. This initiative was evaluated as a tangible output of monitoring activities. A mid-term evaluation is a good opportunity to find potential inhibiting factors that may be overlooked under daily monitoring activities. Under STM in Ghana, the mid-term evaluation revealed that the high turnover rate of teachers could be an inhibiting factor. Based on this evaluation result, the project plan was modified and support for school training was strengthened to generate impacts on entire schools as well as on individual teachers. Although mid-term evaluations tend to be conducted in a more simplified manner than ex-ante and terminal evaluations, it is desirable to enhance the role of mid-term evaluation as it greatly contributes to the efficiency and impact of the projects.

- **Establishing an independent monitoring and evaluation group in a project management system can clearly define the responsibility of evaluation tasks.**

In SMASSE in Kenya, a task force in charge of monitoring and evaluation operations was formed, and a system to conduct periodical monitoring was established. It was an attempt to allocate staff (even though a small number) who

mainly assume evaluation tasks by establishing an evaluation group within the project. This method is also effective as a means of identifying where responsibility for evaluation lies. On the other hand, in MSSI in South Africa, a reporting obligation was imposed on every layer of the cascade system from top to bottom with the premise that evaluation is the accumulation of monitoring information. In this way, a system was established to provide constant feedback. Both projects established and applied an evaluation system unique to their own respective projects. In many JICA projects not confined to education, JICA often undertakes periodical monitoring for the mid-term and terminal evaluations. However, it must be noted that local entities took initiatives in monitoring and evaluation in the projects in Kenya and South Africa by submitting the results of their own monitoring and evaluation to be used for the JICA's periodical evaluations. Implementation of such monitoring and evaluation would tailor the content of evaluation to correspond with the needs and reality of the projects, which in turn facilitates the achievement of the objectives with more effective feedback.

- **In the evaluation of primary and secondary science and mathematics education projects, an attempt for adopting a method to objectively evaluate the teaching capacity of teachers and the improvement of classes was launched. It is desirable to accumulate evaluation results on the capacity of students and to establish an evaluation method based on such results in the future.**

The evaluation method adopted for primary and secondary science and mathematics education projects in the past mainly focused on interviews and questionnaire surveys targeting teachers who had participated in training. Recent impact evaluations include comparisons of effects seen on participants before and after training as well as effects seen on training participants and non-participants. In addition, quantitative analyses applying academic theories were also conducted. The evaluation of students, however, has not been conducted in some projects of this evaluation study. The improvement of student capacity depends on local community and individual characteristics to a great extent: thus, it is difficult to establish appropriate indicators to measure the effects. In the mid-term evaluation of STM in Ghana, interviews were conducted not only with students but also with parents in an attempt to perform a multi-aspect evaluation. Although the evaluation results of STM may not be sufficient to find direct cause-and-effect linkages within the project, the accumulation of data will contribute to the development and improvement of a method to evaluate the capacity of students.

Students answering questionnaires for monitoring and evaluation (Strengthening of Mathematics and Science in Secondary Education in Kenya)

Chapter 2 Poverty Reduction and Community Development

2-1 Outline of Evaluation Study

(1) Background and Objectives

The issue of poverty has received high priority in the context of cooperation to developing countries for a long time, leading to global efforts and initiatives for poverty reduction. In 2000, poverty-related issues were included in the Millennium Development Goals; thus reaffirmed as a common fundamental goal of development assistance among donor countries. Since the cooperation to the governmental organization has not reached the poor, it is necessary to involve the poverty group and local community directly in the projects. At the same time, the issue is being raised that a direct problem-solving approach to the poverty group or local community won't spread to other regions since the effects are confined to only the target area, although direct effects easily occur.

Poverty reduction has been recognized as an important development issue within JICA and various efforts were made through community development projects. Up to the 1980s, poverty-related projects assisted by JICA were mainly based on two approaches: the direct problem solving approach applied for projects with specific village-level target groups and the technical transfer approach applied for projects designed to develop the capacity of civil servants such as administrative and technical staff. Characteristically, these two approaches provided development interventions at a single level, such as the government or the community level. The technical transfer approach was effective in strengthening the capacity of institutions involved in community development. However, the replication of cooperation activities to the local people was left to the discretion of the counterpart organization. It is difficult to assess local needs directly as well as evaluate the impact of activities conducted by the counterpart organization. The direct problem solving approach was effective in providing quick development solutions as well as empowering the target population. However, the projects based on this approach often brought impacts to a specific target area, thus limiting the number of beneficiaries. This aspect raised certain questions regarding the post-project sustainability of the activities introduced as well as equity in the selection of target areas and populations.

As an alternative to the above two approaches, JICA introduced a more comprehensive approach towards poverty reduction called the multi-level cooperation approach (Figure 3-4). In this approach, each project incorporated interventions at multiple levels, such as central and regional government, community, university, and NGO. Furthermore, this approach enhanced collaboration by creating linkages among above mentioned stakeholders. JICA-supported projects based on the multi-level cooperation approach began to appear since early 1990s in various countries.

Figure 3-4 Community Development System by Multi-level Cooperation Approach

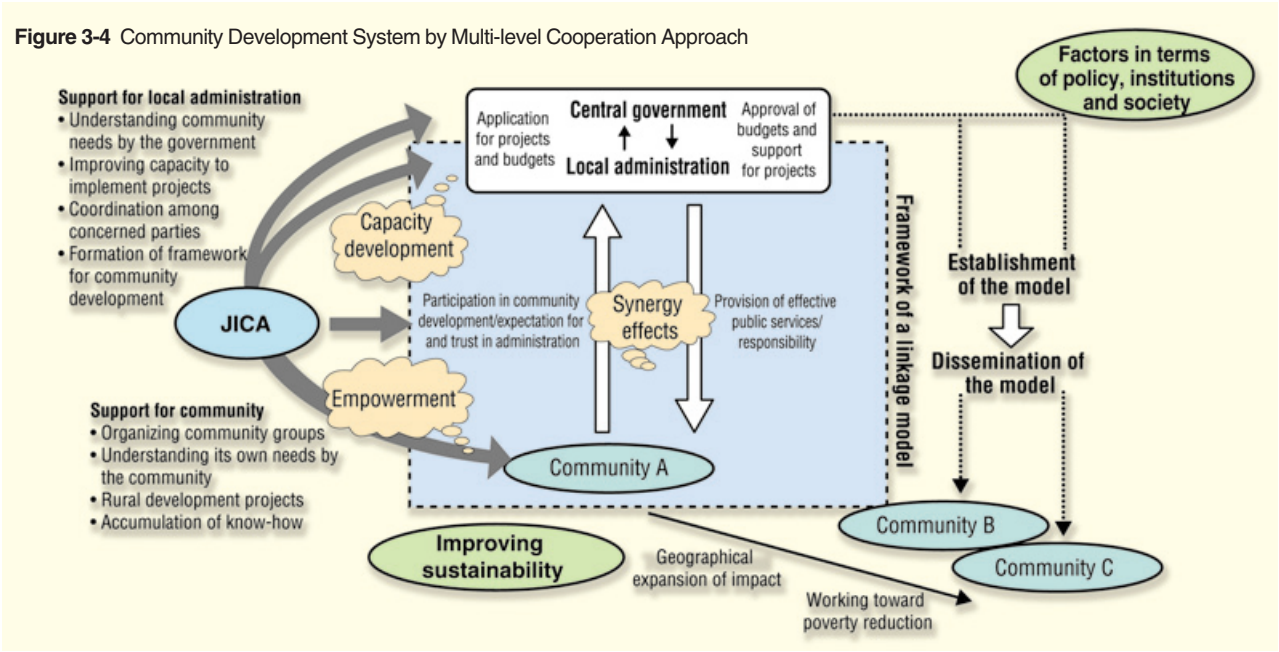


Table 3-11 Projects Subject to Evaluation

No.	Project Title	Scheme	Project period	Abbreviation
1	**Project on Strengthening Sulawesi Rural Community Development to Support Poverty Alleviation Programs in Indonesia**	Project-type Technical Cooperation	1997. 3- 2002. 2	Sulawesi Rural Community Development Project
2	**Participatory Rural Development Project in Bangladesh**	Expert Team	2000. 4 - 2004. 4	Bangladesh PRDP
3	**The Rural Livelihood Generation Project in the Philippines**	Project-type Technical Cooperation	1991. 1 - 1996. 9	Rural Livelihood Generation Project in the Philippines
4	**The Cebu Socio-Economic Empowerment and Development Project in the Philippines**	Project-type Technical Cooperation	1999. 3 - 2004. 2	Cebu SEED
5	**Training Services Enhancement Project for Rural Life Improvement in the Philippines**	Project-type Technical Cooperation	1996. 6 - 2001. 6	Training Project for Life Improvement in the Philippines
6	**Joint Study Project on Strengthening Capacity for Participatory Rural Development through Mobilization of Local Resources in Sri Lanka**	Expert Team	1998. 7 - 2001. 6	Participatory Rural Development Project in Sri Lanka
7	**Integrated Agricultural and Rural Development Project in Southeast Sulawesi Province in Indonesia**	Project-type Technical Cooperation	1991. 1 - 1998. 2	Southeast Sulawesi Agricultural and Rural Development Project
8	**The Agricultural and Rural Development Project in Vientiane Province (Phase 2) in Laos**	Project-type Technical Cooperation	1995. 11- 2002. 10	Rural Development Project in Laos
9	**Community Development and Forest/Watershed Conservation Project (Phases 1 and 2) in Nepal**	Project-type Technical Cooperation	1994. 7 - 2004. 7	Forest Conservation Project in Nepal
10	**Project on Sokoine University of Agriculture Center for Sustainable Rural Development in Tanzania**	Project-type Technical Cooperation	1999. 5 - 2004. 4	Sokoine Rural Development Project

In order to learn lessons from past experiences for planning and implementing upcoming projects, the Office of Evaluation of JICA conducted "Thematic Evaluation on Poverty Reduction/Community Development". For this purpose, projects based on the multi-level cooperation approach to poverty reduction were specifically highlighted.

(2) Evaluation Study Period and Team

1) Evaluation Study Period

From July 2003 to March 2004. Field study in Indonesia was conducted from November 28 to December 20, 2003.

2) Evaluation Study Team

This thematic evaluation was supervised by the Office of Evaluation of JICA. The study committee consisted of external experts (evaluation advisors), the JICA Poverty Reduction Task Force, and parties associated with the project. Evaluation was conducted in accordance with the policies determined by the study committee. The actual study and report writing were undertaken by the Office of Evaluation and consultants (Global Link Management Inc).

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(3) Projects Subject to the Study

JICA has implemented poverty-reduction related projects and community development projects in various sectors and schemes. The objective of this evaluation is examination of the effectiveness of the multi-level cooperation approach as mentioned earlier. Accordingly, this evaluation targeted technical cooperation projects that worked on building linkages by approaching various parties involved in community development under a multi-level cooperation*. The target projects are listed in Table 3-11 (the abbreviations for each project title are used in this evaluation report).

2-2 Framework of the Study

(1) Evaluation Questions and Hypotheses

In this thematic evaluation study, the multi-level cooperation approach was cross-examined from the perspective of its effectiveness in reducing poverty through multi-level interventions at the local government and the community levels to create linkages between them. The following hypotheses were employed to clarify the points under discussion during the evaluation study and were subject to verification. Thus, the framework of the study was designed as to verify these hypotheses.

1) The multi-level cooperation approach could generate synergy in community development, by building linkages between regional governments and community members.
2) If a synergy model for community development using a

* It should be noted that the multi-level cooperation approach was not always used deliberately at the planning or implementing stages of all these projects. In addition, there are some differences in the degree of interventions to administrations or local residents among projects.

multi-level cooperation approach is integrated into the policies and institutions of the partner country, the sustainability of the model and the development effects will expand geographically.

(2) Evaluation Methods

The evaluation study began with the analyses of individual projects based on literature reviews and interviews with relevant individuals. Individual projects were analyzed based on the following points: (1) logic of the project planning, (2) activities and outcomes at the implementing stage, (3) establishment, sustainability, and dissemination of the framework of community development (i.e., "synergy model") as a result of the multi-level cooperation approach, and (4) finding lessons learned.

Next, a field survey was conducted on the Sulawesi Rural Community Development Project as a case study, mainly through interviews with the persons concerned and focus-group discussions. We then assessed the degree of sustainability and impact of the synergy model* in the community development that the project introduced into the target area. All the target projects were then analyzed comprehensively and in a cross-sectoral manner, and lessons were extracted from a thorough examination.

2-3 Cross-sectoral Analysis

(1) The Planning Stage of the Multi-level Cooperation Approach

Here, the target projects are analyzed from the viewpoint of what was the target at the planning stage, what kind of logic was used to achieve the goal, and whether or not the logic was clearly stated.

1) Background of Introducing the Multi-level Cooperation Approach and Objectives

Looking at the status of community development at the time of project planning (Table 3-12), a common characteristic was found. Specifically, there was a lack of opportunity for local residents to participate in the process of development activities from the planning to the implementing stage due to the top-down provision of public services and inadequate capacity of the local administration of the partner government. As a result, local needs were not adequately accommo-

Table 3-12 Status of Community Development at the Time of Project Planning

Country	Administration Type	Project Title	Administrative Body of Community Development*	Implementing Body	Concerned Parties (excluding implementing bodies and local residents)
Indonesia	Centralized authority	Sulawesi Rural Community Development Project	Central government, provincial government, district government	Directorate General of Community Empowerment, Ministry of Home Affairs (BPM); South Sulawesi Provincial BPM; Government of Takalar District	Provincial government, district assembly, NGO, local university
		Southeast Sulawesi Agricultural and Rural Development Project	Central government	Southeast Sulawesi Provincial Office, Ministry of Agriculture	Provincial government, district government
Bangladesh		Bangladesh PRDP	Central government	Bangladesh Rural Development Board	Central government (disseminators in each sector and county office), union council, NGO
Philippines		Rural Livelihood Generation Project in the Philippines	Provincial government, town office	Human Development Center, Office of the President	Central government, town office, NGO, provincial agricultural school
	Decentralized authority	Cebu SEED	Provincial government, town office	Planning and Department Division, Cebu Provincial Government	Provincial government, town office, NGO
		Training Project for Rural Life Improvement in the Philippines	Provincial government, town office	Agricultural Training Institute, Department of Agriculture; Agriculture Training Center	Provincial government, NGO, town office, university
Sri Lanka		Participatory Rural Development Project in Sri Lanka	Central government, provincial government, prefectural government	University of Colombo	Provincial government, NGO, agricultural producers' association
Tanzania		Sokoine Rural Development Project	Prefectural government	Sokoine University of Agriculture, Center for Sustainable Rural Development	Prefectural government, NGO
Laos		Rural Development Project in Laos	Provincial government, county government	Ministry of Agriculture and Forestry, Provincial Agricultural and Forestry Service Office	NGO, county, JOCV
Nepal		Forest Conservation Project in Nepal	County government	Department of Soil Conservation and Watershed Management, Ministry of Forest and Soil Conservation	County government, village government, NGO

*The administrative body of community development here refers to the administrative agency that manages the implementation of community development in the partner country, and it varies depending on the administration system of the country and the target sector. The Sulawesi Rural Community Development Project and Southeast Sulawesi Agricultural and Rural Development Project in Indonesia and Rural Livelihood Generation Project in the Philippines saw the administration system shift from centralization to decentralization during the cooperation period.

*In practice, the term "synergy model" was not used in the actual projects. The term is used for convenience to ensure consistency in the description of this study.

dated in the development activities led by the local government, and the potential of the local community was rarely tapped through the participation of the local residents in the development activities. Under these circumstances, each project aimed to improve the situations by securing the participation of local residents and building linkages to the central government, including its local branch offices, and to people involved with community development such as local municipalities, universities, and residents.

As a result, the projects had a clear objective to encourage the positive participation of local residents and conduct bottom-up community development projects. Thus, common characteristics were found in those projects such as emphasis on the community empowerment and livelihood improvement, establishment of collaborative linkage between local administration and the community, and an increase in sustainability of rural community development. The Participatory Rural Development Project in Sri Lanka and the Sokoine Rural Development Project in Tanzania both incorporated new roles for universities in community development and aimed at establishing unique participatory development methods. With respect to poverty reduction, the Rural Livelihood Generation Project in the Philippines was the only project that adopted measures against poverty. Other projects did not specifically direct assistance to the poverty group, but aimed to activate the regional community as a whole, which would in turn alleviate poverty.

2) Mechanism of the Multi-level Cooperation Approach

In each project, an implementing body was selected from the central government, local government or universities in the partner country. The selection process of the implementing body varies depending on the type of administration system or the administrative body in each country; nonetheless, each project tried to select the most appropriate institution to achieve the goal of the multi-level cooperation approach. However, in some projects the implementing bodies of partner countries assumed new roles and additional functions that were different from the original operation within the framework of community development. This made it difficult for the projects to continue performing additional roles after termination due to budgetary and institutional constraints. In such cases, the project could possibly have involved a more appropriate organization, in terms of its original functions at the planning stage.

Target areas of the multi-level cooperation approach at provincial and prefectural levels were selected based on requests made by the partner government, giving due consideration to regional disparities and poverty levels in the partner country. In each selected province or prefecture, several town or village-level areas (model areas) were chosen in all the projects in order to compare and examine the differences. The selection criteria included various factors such as differences in social and economic conditions, consistency with specific objectives of each project, continuation from preceding research cooperation projects, and political factors in the partner country.

In selecting the beneficiaries of rural development activities, which were conducted as the community level component of the multi-level cooperation approach, most projects identified them as any existing community groups in the target areas. This method can be considered effective in securing a wide range of beneficiaries, focusing on the initiatives of participating communities.

Methods for establishing a synergy model for implementing the multi-level cooperation approach are largely classified into two types: projects with a clear plan of action from the beginning, and projects in which a model was eventually formed as a result of experiences and lessons learned by trial and error. The projects with a clear plan from the beginning (seven projects) incorporated the step-by-step process into the project plan, from designing to verification or dissemination of a synergy model. In the projects where a model was eventually formed (three projects), the project activities were launched without specifying the process of formation or the time of completion of a model, and they flexibly dealt with situations in the course of the formation. Eight projects except for the Sulawesi Rural Community Development Project and Training Project for Life Improvement in the Philippines did not lay out specific plans to disseminate a synergy model to other areas; instead, they did nothing more than propose a model to the implementing body of the partner country (expecting them to adopt the model). In this case, the success of the dissemination of the synergy model depends largely on the policies, technical and social conditions, or environment of the partner country or implementing organization. It is therefore necessary to understand these external factors in order to examine the possibility of dissemination and the necessity of proactive promotion by the project.

(2) Implementation Stage of Synergy Model through Multi-level Cooperation Approach

The type of cooperation (activities, inputs) that was made during implementation and the type of changes (outcomes) that was entailed in contrast to the plans of each project are discussed below. In addition, the ingenuity and creativity generated at each level of the multi-level cooperation approach, namely local administration, residents, and linkage between them, are analyzed.

1) Approaches to Local Governments

The characteristics of the activities and outcomes in organizational enhancement and human resource development of local administration are presented in Table 3-13. Activities carried out to institutionally and organizationally incorpo-

Table 3-13 Activities and Outcomes in Organizational Enhancement and Human Resource Development of Local Administration

Activities	Project Title	Outcomes
Technology transfer to local administration through OJT	Nine projects except Sokoine Rural Development Project	Improvement of knowledge and technologies in related sectors
Institutionalization of training models (by bylaws and ministerial ordinances) in addition to OJT	Sulawesi Rural Development Project, Training Project for Life Improvement in the Philippines	Continuous development of human resources who support the model
Support for formulating manuals and guidelines	Sulawesi Rural Development Project, Bangladesh PRDP, Training Project for Life Improvement in the Philippines, Forest Conservation Project in Nepal	Promotion of understanding of counterparts (Nepal, Bangladesh), application of the model by counterparts (Sulawesi), efficient dissemination of the model (Philippines)
Introduction of the third country training, and training tour to neighboring countries	Rural Development Project in Laos, Forest Conservation Project in Nepal	Improvement of counterparts' skills and motivation for instructing residents
Accumulation of experiences (cases, collected data, etc.)	Cebu SEED, Forest Conservation Project in Nepal, Sokoine Rural Development Project	Unidentified (from a literature review)

rate a synergy model into the routine operations by means of bylaws or ordinances in addition to OJT, as well as to accumulate relevant knowledge through support for formulation of manuals and guidelines, contributed to improved sustainability. Even when the implementing organization was not a local administration, but rather an institution such as a university, activities to develop human resources in the local administration and strengthen the functions must be made. Without these efforts, it was revealed that the sustainability of the synergy model is undermined after the completion of the project.

The projects in which linkage was built with a clear definition of the roles of players, such as related organizations and personnel involved in regional social development, could obtain necessary technical and financial support from these stakeholders, thus demonstrating the high sustainability of rural development projects. However, there were some projects that did not draw support from the related actors, thus leading to an ineffective synergy model. Such projects included one in which the roles of the concerned parties were not clearly defined at the planning and implementing stages and the approach to the concerned parties was delayed (Rural Development Project in Laos). There was another in which the concerned parties were given overlapping roles (Rural Livelihood Generation Project in the Philippines), and one in which there was no intention to build linkage between local administration and communities (Participatory Rural Development Project in Sri Lanka).

With respect to the cost burden of the implementing organization, the local activity costs of most projects were borne by the Japanese side, and financial sustainability after the termination of a cooperation project remained an issue. In this regard, the Sulawesi Rural Community Development Project reduced the local cost burden on the Japanese side on a step-by-step basis, taking into account the sustainability of the synergy model after termination of cooperation. This effort eventually led to the institutionalization of the model. The Participatory Rural Development Project in Sri Lanka encouraged the partner government to apply collateral funds of Japanese Grant Aid for Increase of Food Production (2KR) as an activity cost, and as a result it was used to pay for the implementation of the multi-level cooperation approach, and a synergy model formed.

2) Approaches to Local Communities

At the launch of projects in the rural area, the community awareness of their problems was enhanced through various activities, including participatory rapid appraisal (PRA) workshops, meetings with local residents, and awareness campaigns held by facilitators. Also, in the projects that adopted the participatory project formulation process, the incentives for residents to participate in the activities of rural development were enhanced. At the implementation stage of rural development activities, training tours to developed regions were conducted for maintaining motivation. However, in the Rural Development Project in Laos, which did not work to encourage community participation, there was a lack of incentives for residents to participate in activities, and this remained as an issue.

When existing community groups or groups newly organized by residents themselves initiated the implementation of rural development activities after sufficient social preparatory activities as motivation and appropriate technologies were introduced, the morale of residents and the continuity of the activities were often boosted. Efforts to improve the financial sustainability of rural development activities were also vital.

As shown in Table 3-14, all the efforts directed at local communities generated positive results.

3) Approach for Establishing Collaborative Relationships

In all the projects, facilitators were introduced for identifying local needs, coordinating opinions within the community, increasing the awareness of residents, and monitoring activities in the implementation of participatory development activities. Facilitators brought about public services in line with the local needs and helped local residents foster a trusting

Table 3-14 Activities and Outcomes in Human Resource Development and Empowerment of Local Communities

Activities	Project Title	Outcomes
Promotion of awareness about issues through workshops and meetings	Projects except for the Rural Livelihood Generation Project in the Philippines	Residents themselves understood issues. Later, in the projects where a participatory planning process was adopted, except for the Rural Development Project in Laos, workshops and meetings motivated and activated their awareness of rural development activities, and the planning capacity for rural development activities improved.
Increase in residents' voice by organizing community groups	Bangladesh PRDP, Participatory Rural Development Project in Sri Lanka, Southeast Sulawesi Agricultural and Rural Development Project, Rural Development Project in Laos, Forest Conservation Project in Nepal	Community representatives gained a voice toward local governments and their influence was enhanced.
Capacity enhancement through training and technical guidance	Sulawesi Rural Community Development Project, Rural Livelihood Generation Project in the Philippines, Cebu SEED, Training Project for Life Improvement in the Philippines, Rural Development Project in Laos, Forest Conservation Project in Nepal	Training and technical instruction improved the knowledge and skills of residents, and even raised the income of the residents for some groups.
Improvement of access to public services through meetings between administration and communities	Sulawesi Rural Community Development Project, Bangladesh PRDP, Cebu SEED, Participatory Rural Development Project in Sri Lanka	Access of communities to public services improved and services were effectively provided to a large number of residents, which led to the technical improvement of local residents.
Introduction of target approach to the socially vulnerable	Forest Conservation Project in Nepal	Introduction of a target approach for women enabled women to organize groups and activated the social and economic activities of women, resulting in the improved voice of women. On the other hand, in the activities targeting occupationally discriminated castes, the participation of the relevant castes was not fully ensured.

relationship with the local administrations. They functioned effectively in establishing linkages between local administrations and residents.

Furthermore, various efforts such as the use of existing town meetings and the help of resource persons were made in some project activities to establish linkages between the local administrations and residents. In addition, most projects worked to establish a new framework or forum, which promotes dialogues among residents or administrative organizations, or between residents and administration, in order to improve community access to public services. This facilitated smooth, mutual communication, which brought about collaborative relationships (Table 3-15).

Effects of community development activities have already been mentioned along with the outcomes of each project. Important factors to be considered are compiled in Table 3-16. As the table shows, positive impacts are most observed in the target areas where the rural development activities were carried out. Such impacts include the activation of the rural development activities and improvement of the technical and the

Table 3-15 Activities and Outcomes in Establishing Linkage between Local Administration and Communities (Establishment of New Framework or Forum)

	Activities	Project Title	Outcomes
1. Horizontal Network (among residents)	Establishment of an administrative base (committee), which provides the opportunity to exchange information and coordinate opinions among the residents at the community or rural area levels.	Bangladesh PRDP Participatory Rural Development Project in Sri Lanka Southeast Sulawesi Agricultural and Rural Development Rural Development Project in Laos Forest Conservation in Nepal	In the Bangladesh PRDP, the Participatory Rural Development Project in Sri Lanka, the Southeast Sulawesi Agricultural and Rural Development Project, social surveys were sufficiently conducted to increase the community awareness before establishing committees, which contributed to their vigorous activities later on.
2. Vertical Network (residents-administration)	Periodical meetings were set at the local administration level to exchange opinions between the local administration and residents.	Bangladesh PRDP	A network connecting local administration and residents was established and public services in line with local needs were effectively provided. It fostered trust in local administrators. Particularly in the Bangladesh PRDP which emphasized the linkage between residents and administration, effective and efficient public services were provided and residents' trust in administration was fostered, and the morale of facilitators was raised as synergy effects.
	A forum where residents can formulate development plans and exchange opinions was set at the community level	Cebu SEED	
	A forum for opinion exchange between residents and local administration in activity assessment was set at the local administration level.	Sulawesi Rural Community Development Project	
	Meetings between university and local administration were set up to deliver local needs to local administration.	Participatory Rural Development Project in Sri Lanka Sokoine Rural Development Project	Projects were implemented in line with local needs.

problem-solving capacity of communities.

As shown in Table 3-16, three projects (Sulawesi Rural Community Development Project, Bangladesh PRDP, and Cebu SEED) showed impacts on the relationship between administration and residents, such as activation of rural development activities, increasing transparency of administration, and improving community access to public services. The reason why these three projects stand out with regards to synergy effects of the multi-level cooperation approach is that they commonly made creative and ingenuous efforts in one aspect, namely the provision of a forum for dialogue between administration and the community in addition to technology transfer through OJT (an approach to administration), activities for social preparation (raising awareness of residents), and training (an approach to residents). In other words, these three projects exemplify how synergy effects were generated by the positive provision of opportunities for direct contact between administration and the community. In addition, Bangladesh PRDP, which made great efforts in building a network between administration and residents, demonstrated that such a network also led to an increase in the morale of facilitators who acted as a bridge between residents and administration.

4) Introduction of the Multi-level Cooperation Approach

As already mentioned, the target projects intervened not only in the community and in local administrations, but also comprehensively incorporated both as important actors in rural community development. As a result, communities and administrations increased awareness and capacities and community-level activities were successfully implemented, thus contributing to the realization of bottom-up rural community development, which was the objective of each project.

(3) Factors Contributing to Sustainability and the Spread of a Synergy Model Using a Multi-level Cooperation Approach

Below, the analysis results are examined from the viewpoint of whether or not there is a possibility that the synergy model developed and established in each project will be consolidated, developed (sustainability), and applied to other regions (spread), as well as what kind of impacts were seen or expected to be seen in terms of poverty reduction.

1) Sustainability of the Synergy Model in the Project Implementation Areas

In order to secure sustainability of the synergy model, three elements are important: institutionalization, securing budgets, and appropriate technologies. These three elements were mostly secured in the Sulawesi Rural Community Development Project and the Training Project for Life Improvement in the Philippines, and it was believed that the potential for continuation of the activities following their termination was high in the pilot project areas. In contrast, the Rural Livelihood Generation Project in the Philippines lacked organizational and institutional support for the synergy model and many activities were not sustained even at the village level. In other projects, post-project sustainability was found to be insufficient since policy and institutional support and the budget were not secured at the government level of the relevant country (or region), although the effectiveness of synergy models in the target areas and activities at the community level were proved.

Table 3-16 Impact of Rural Development Activities

	Sulawesi Rural Community Development Project	Bangladesh PRDP	Rural Livelihood Generation Project in the Philippines	Cebu SEED	Participatory Rural Development Project in Sri Lanka	Training Project for Life Improvement in the Philippines	Southeast Sulawesi Agricultural and Rural Development Project	Rural Development Project in Laos	Forest Conservation Project in Nepal	Sokoine Rural Development Project
Activation of rural development activities	○	○	○	○	○	○	○	○	○	○
Increase in transparency of administration	○	○		○						
Increase in morale of facilitators		○								
Improvement in technical skills, yields, and income	○		○			○	○	○	○	○
Improvement in problem-solving capacity of residents	○	○		○	○	○	○	○	○	○
Improvement in residents' access to public services	○	○		○						
Review of local industry					○					○

2) Spread of Synergy Model to Other Areas

In all targeted projects, the synergy model developed as a result of the multi-level cooperation approach was found to be effective. Among these, we saw the spread of the model beyond pilot areas in three projects, namely, the Sulawesi Rural Community Development Project, Training Project for Life Improvement in the Philippines, and the Southeast Sulawesi Agricultural and Rural Development Project. In other projects except Rural Livelihood Generation Project in the Philippines, the model could have spread if certain conditions had been satisfied (Table 3-17).

With regard to three projects that succeeded in the spread of the synergy model to other areas, major factors were analyzed individually. Though factors related to the spread of the model vary from project to project, the factors and conditions are roughly categorized into two types: (1) those that are influenced and changed by a project, and (2) external environments and derived situations, which a project cannot control. In other words, the former factors are referred to as the promoting factors of spread and the latter as external conditions that promote spread. The promoting factors of spread are further divided into two groups: internal factors in the model* in relation to whether or not its contents and levels are appropriate to spread to other areas in the partner country after the completion of cooperation, and factors outside of the model in relation to whether or not the environment such as institutions, policies, organizations, and budgets of the partner country are appropriate for the spread of the model, which can be influenced by a project. The important points in the spread of the model were found in designing a model that is easily understood and applied by the implementing body and other donors (internal factors), and in effectively using political and institutional factors surrounding the project by improving the understanding of the stakeholders and considering spread concretely from the planning stage (external factors). It was observed that the spread of the model to other areas was enhanced when these factors were present.

<Sulawesi Rural Community Development Project: A Case with Spread of the Model Considered at the Initial Stage of Planning>

a. Factors Related to the Spread

■ Development of a model that spreads easily (internal factors)

- Field studies were conducted with counterparts to identify the situations during the planning stage of activities. As a result, a model that corresponds to the local situation and which can be easily accepted by the implementing body and the community of the partner was developed.

■ Approach to the environment surrounding the project (external factors)

- In order to secure human resources who implement and manage the model, the capacity of local government officials was strengthened through PLSD training. This training enabled not only the implementing body but also other relevant parties to share the concept of the model and the importance of implementation of the model in the relevant area.
- Related organizations were encouraged to assume the operation costs incurred for the model after termination of the project.
- The governor, chairman and members of the district council were invited to Japan for training in order to secure policy and institutional factors for the spread of the

Table 3-17 Spread of Linkage Model to Other Regions

Project Title	Spread Plan of the Model	Spread Situation and Method of Ensuring Spread		Points of Concern
Sulawesi Rural Community Development Project	Specific activity plan was initially developed to spread the model to other areas	○:Models spread to other areas.	Models were stipulated in a provincial ordinance.	The model spread after completion of cooperation by the implementing body (district government).
Training Project for Life Improvement in the Philippines			The implementing body developed an ordinance.	The spread of the model was verified during the project.
Southeast Sulawesi Agricultural and Rural Development Project	A model was presented to the implementing body of the partner country.		The model was adopted by the implementing body or other donor.	Input of development fund for infrastructure and establishment of operational fund for the community are essential to maintain the spread.
Cebu SEED, Bangladesh PRDP, Participatory Rural Development Project in Sri Lanka, Rural Development Project in Laos, Sokoine Rural Development Project, Forest Conservation Project in Nepal		△: Possible if conditions are met		Policy and budget measures of the implementing body are necessary for the spread of the model. Judgement by the provincial governor was required in the case of Cebu SEED.
Rural Livelihood Generation Project in the Philippines		×: No possibility of spread		No sustainability of the model and far from spread

*From the viewpoint of applicability of the model, the budget size for implementation, complexity in the implementation process, and required technical level are examples of those factors.

model. The effect of the training was large and the model was institutionalized with the adoption of the district ordinances passed by the council following the governor's ordinance.

b. External Conditions Promoting Spread

- Since decentralization-related laws were enforced in the partner country, the authority pertaining to development plans and budgets was transferred from the central government to local governments, and the policy and institutional conditions became preferable for the implementing body to spread the model.

<Training Project for Life Improvement in the Philippines: A Case with Spread of the Model Considered at the Initial Stage of Planning>

a. Factors Related to the Spread

■ Development of a model that spreads easily (internal factors)

- Implementation process was simplified and manual was revised to promote the spread.
- The possibility of the spread of the model was verified step-by-step during the implementation.

■ Approach to the environment surrounding the project (external factors)

- Institutional support was derived by encouraging the Ministry of Agriculture, the implementing body, to issue ministerial ordinances.
- Officers at the central government level were dispatched to lab sites (pilot areas to verify the effectiveness of the model) to provide clear evidence of the effectiveness of the model.
- Support was gained from the town offices, which were the implementing body of the development activities in the field.

b. External Conditions Promoting Spread

- The implementing body was the training institution of the central government (agricultural training center). This center had 33 regional training centers and a structure well designed for circulating instructions. Therefore, it was relatively easy to spread the synergy model to the rural areas.

<Southeast Sulawesi Agricultural and Rural Development Project: A Case Where the Success of the Model Led to the Spread of the Synergy Model Despite the Lack of Any Spread Plan>

a. Factors Related to the Spread

■ Development of a model that spreads easily (internal factors)

- The model simply intended to plan and implement community participatory agriculture and rural development activities and provide the communities with financial resources for operation of development activities. Therefore, there was no particular organizational difficulty on the part of the implementing body in undertaking the model. As a result, the implementing body (plus the World Bank and district government) applied the model to two other areas in the same province.

■ Approach to the environment surrounding the project (external factors)

- Counterparts in the implementing organization was able to duly understand the concepts and characteristics of the model through OJT.

b. External Conditions Promoting Spread

- The implementing body was the central government (and the donor), which had the budget and authority to implement the model.

Importantly, the Southeast Sulawesi Agricultural and Rural Development Project did not intentionally adopt strategic approaches as the first two projects did. Thus, sustainability of the spread depends on how infrastructure is developed, and how financial resources for the establishment of an operational fund are secured and provided for the community.

Projects that did not spread the synergy model to other areas, except for the Southeast Sulawesi Agricultural and Rural Development Project, did nothing more than propose models to the implementing bodies of the partner countries, expecting the models to be applied to other areas through the initiatives of the implementing bodies. However, after the completion of cooperation, the spread of the model to other areas required additional policy measures and budgets in the partner countries in many cases. For example, the Bangladesh PRDP had to build a local community hall as a core of the framework of this model and employ facilitators in order to implement a synergy model. The Cebu SEED needed a political decision from the provincial governor to officially incorporate this model into the operation of the provincial government, in order to institutionalize the synergy model. In the Sokoine Rural Development Project and Participatory Rural Development Project in Sri Lanka, the Japanese side was required to continue its budgetary and technical support since the partners were not able to initiate spreading by themselves. In other words, in these projects, the governments and implementing bodies in the partner countries were aware of the significance of the model developed by the multi-level cooperation approach; however, spread has yet to be achieved under existing circumstances. Therefore, it is fair to conclude that positive actions to secure spread at an early stage of the project were necessary, not right before termination.

3) Requirements for Ensuring Sustainability and Spread

Comprehensive analysis of the target projects revealed

the following common factors in projects with high sustainability and potentials for spread to other areas of the synergy models that had been developed through the multi-level cooperation approach.

- Objectives of the multi-level cooperation approach are clear and specific.
- The formation process of the model is well planned.
- Specific activities for the spread are included in the plan.
- Various efforts concerning enhancement of the function of local authorities and human resource development are made.
- The roles of stakeholders in the synergy model do not overlap but are clearly defined. Collaboration with the various local people concerned is established.
- Specific efforts are made to increase the financial sustainability of the partner country, including measures to gradually reduce the cost burden on the donor side, and efforts to prepare the local budget.
- In implementing rural community activities, residents are motivated to actively participate in the activities by designing participatory rural activities and conducting social preparations (raising awareness of residents).
- Various efforts are made to generate synergy effects through linkage between local administration and residents; specifically, opportunities to exchange opinions among residents as well as between residents and administration are provided and technical support (regarding use of existing technologies and resources) from the facilitators of the government are gained.

4) Impact of Multi-level Cooperation Approach on Poverty Reduction

The effectiveness of the multi-level cooperation approach in rural community development was fully proved in the process of the evaluation study; however, the process starting with the formation of a synergy model using this approach to achieve poverty reduction remains unclear. That is because the information available on local conditions was limited in the completed projects, and the impact of the on-going projects could not be sufficiently measured.

Nonetheless, the Sulawesi Rural Community Development Project on which the field study was performed proved that a project could geographically expand the effectiveness of the model of rural community development, which was developed through the project. In this case, the synergy model of rural community development formed by the multi-level cooperation approach was accepted by the partner's implementing body and demonstrated its effectiveness. Such a geographical expansion is believed to enhance the possibility of improving the conditions of rural communities, thus contributing to poverty reduction in the medium and long term.

2-4 Conclusions (Verification of Hypotheses)

This section examines the effectiveness of the multi-level cooperation approach, which is the objective of this evaluation study, based on the results of the analysis thus far. Two hypotheses are individually verified to answer the evaluation question as to whether or not a multi-level cooperation approach, which is directed at both local administration and communities to form linkages between them, is effective from the perspective of poverty reduction.

(1) Verification of the First Hypothesis

The multi-level cooperation approach could generate synergy in community development, by building linkages between regional governments and community members.

Most projects technically supported regional governments through OJT for better implementation of participatory rural development at the community level. For example, the capacity building of regional government officials on the skills of socio-economic survey enhanced their respect towards the opinions of the community. As a result, most community development pilot activities were implemented based on the needs. Most projects also approached people at the community level through social preparation activities including conceptualization and participatory planning processes. As a result, community members participated in pilot activities at their own initiatives, which in turn led to the formulation and implementation of community development activities that were more responsive to local needs.

Besides these activities, some projects set up forums or venues among stakeholders of community development in order to create networks between regional governments and communities, as well as among regional government officers. The synergy generated as a result of these activities included: increased transparency of regional government procedures and activities, increased expectation towards the government by community members, enhanced sense of ownership and motivation towards community development by local people, and increased number of community development projects reflecting the needs of people. In sum, the multi-level cooperation approach in projects generated synergy in community development when the establishment of linkages between capacity development of regional governments and community members was achieved successfully.

(2) Verification of the Second Hypothesis

If a synergy model for community development using a multi-level cooperation approach is integrated into the policies and institutions of the partner country, the sustainability of the model and the development effects will expand geographically.

Among the 10 projects selected for this study, only three

synergy models for extended outside the original project areas. These were: Sulawesi Rural Community Development Project, Philippines Training Service Project, Southeast Sulawesi Integrated Agricultural and Rural Development Project. In the case of Sulawesi Rural Community Development Project, the area that adopted the synergy model was expanded from four pilot villages to 73 villages/towns. In the case of Philippines Training Service Project, the synergy model (set up as a training program) was institutionalized or internalized through a ministerial ordinance, and was scheduled to be adopted in 33 training centers across the country. In the case of Southeast Sulawesi Integrated Agricultural and Rural Development Project, the synergy model was adopted by the counterpart organization upon completion of the project, and was extended outside the project areas. However, the activities of the synergy model were suspended as a result of the lack of funds caused by the Asian Economic Crisis of 1997. This unfortunate situation was recognized as a factor that hindered the sustainability of the synergy model, thus raised as an issue of concern.

Through the ex-post field study of Sulawesi Rural Community Development Project, impacts from the replication of the synergy model to wider areas were observed. Such impacts were increased opportunities for community participation in development activities, increased efficiency in service delivery by extension workers, and increased number of community development activities. The impacts were further multiplied by the creation of networks among regional governments and communities. On the other hand, while the sustainability of the synergy model was institutionalized by a district ordinance, there still was room for improvement of sustainability at the implementation level. For an example, the management system did not function well since a leader in one village did not practice the rule. As such, ensuring the sustainability of synergy model in both pilot project areas and extended areas remains an important issue.

When the replication of synergy models was supported by adequate institutional mechanisms, the resultant development effects were more positive. However institutionalization cannot be automatically attained by adopting the multi-level cooperation approach or through synergy effects. Clear strategies for institutionalization need to be incorporated within the project. Furthermore, though minor adjustments of the synergy model may be inevitable for replication, it is important to maintain a certain degree of accuracy in the original synergy model for it to be effective in new areas. In order to achieve this, adequate attention must be paid to the framework and process of replication, such as the implementation structure and the operating procedures of the synergy model. These factors need to be considered along with measures for proper institutionalization.

In conclusion, the multi-level cooperation approach can be effective in community development if the above mentioned conditions are met. It also demonstrates high potential for being effective in poverty reduction. However, clear evidences were not identified through this evaluation study. This was mainly due to the lack of data on past projects and long-term impact analyses of on-going projects. Nevertheless, the field study suggested the possibility of long-term poverty reduction through the overall improvement of the regional socioeconomic conditions through wider application of the synergy model.

2-5 Lessons Learned

As presented above, the evidence from the case study showed that the multi-level cooperation approach was effective to some extent in introducing a new system in community development cooperation. However, difficulties were identified in implementing and extending the synergy models. The following are several lessons learned that can be useful to the planning and implementation of future projects adopting the multi-level cooperation approach.

(1) Lessons Learned at the Planning Stage

1) The aims of the multi-level cooperation approach and concept of synergy model should be clearly understood by concerned individuals of both Japan and partner countries at the planning stage.
2) When selecting a counterpart organization, it is important to analyze organization and to select a suitable organization with potential for organizational and financial capabilities to operate the community development model to be applied.
3) By conducting an effective survey, ensure cooperation among all the stakeholders associated with community development activities. Also, ensure the roles and responsibilities of relevant organizations are clearly defined and interventions occur in a timely manner.
4) In selecting target areas, efficiency is an important factor given every project has its timeframe. In selecting target populations, give priority to existing organizations. Organizations formed through facilitation by projects can also be considered as long as they were formed at their own initiative. With regard to the empowerment of socially vulnerable groups, consider adopting the target approach specifically for those that are unlikely to participate at their own initiative.
5) When the replication of the synergy model is expected outside of the original target area, ensure that specific strategies including institutionalization of the model are incorporated in the project plan.

(2) Lessons Learned during Implementation

1) In order to generate synergy, creating "opportunities" for direct dialogue between regional governments and communities need to be established. This is in addition to interventions at regional government (technical transfer through OJT) and community (social preparation activities and training) levels.
2) When the replication of the model cannot be effectively achieved through interventions at the administrative level, it is important to consider appealing to political authorities. This was seen in the case of Sulawesi Rural Community Development Project.
3) The capacity building of regional government officers with significant roles in the implementation of the synergy model is crucial.
4) To ensure the sustainability of the synergy model, it is important to minimize the amount of Japanese support to project operation costs. Also, gradually shift implementation and financial responsibilities to the counterpart organization.
5) In implementing rural development projects, incorporate social preparation activities as well as participatory development planning processes to enhance the problem solving ability of communities. Later, facilitate activities that utilize local resources and technologies.
6) Activities designed to increase the level of stakeholder motivation and initiatives are important to ensure sustainability of the synergy model within the project area as well as for extension in other areas.
7) In order for the synergy model to be accepted and budgets to be secured within the counterpart organization, the model needs to be supported by a proper institutional mechanism. This is in addition to the wide-spread acknowledgement of the synergy model's effectiveness within the government.
8) In order to maintain the accuracy of the synergy model upon completion of cooperation, rules and procedures for the management of the synergy model should be established. Also, the awareness raising and extension activities of the synergy model need to be conducted by targeting regional governments, relevant development workers and communities that will be involved in the implementation and extension of the model.
9) In implementing the multi-level cooperation approach, various stakeholders in community development will be involved. As such, there should be room for flexibility within action plans.

Appendix: Outcomes of the Introduction of Multi-level Cooperation Approach

Project Title	Outcomes
Sulawesi Rural Community Development Project in Indonesia	The SISDUK (Participatory Rural Development Support System) was formed to target four pilot villages. At the time of the completion of the project in 2002, 170 proposals for development activities had been submitted by the community to improve their living condition and generate income within the framework of SISDUK. Among them, 40 projects were approved and the communities implemented and managed the projects. The government of Takalar District, an implementing agency, acknowledged the effectiveness of this system and issued an ordinance stipulating the system. As a result, the application of the SISDUK was expanded to 73 towns and villages in the district with the support of the district government. In particular, the following points were observed as outcomes of the multi-level cooperation approach from the field study. (1) The Takalar district government managed and implemented the SISDUK after the termination of the project. As of the end of 2003, more than 600 proposed rural development activities were submitted by the community and chosen for implementation. (2) Even though technical issues arose for implementing the SISDUK, community participation was active and the government side also showed expectations and enthusiasm about the implementation of the SISDUK under decentralization. (3) It was confirmed that human resources who support this system were developed at both the government and the community levels through the PLSD training courses. (4) Neighboring districts started to introduce participatory development, having been stimulated by the introduction of SISDUK by Takalar District. (5) It was confirmed that the community accepted and utilized the SISDUK, which was formed with the multi-level cooperation approach, as an effective system for decentralization. Based on this fact, the planning and implementation of SISDUK will contribute to the activation of rural areas on a continuing basis.
Bangladesh PRDP	A synergy model was formed by the project in the model areas. Thirty-nine village committees (VCs) were established as of October 2003 in order to implement the synergy model, and 21 small-scale infrastructure activities were conducted. It was confirmed that the implementation of these activities improved the living environment of the villages and strengthened community activities. A sense of duty ensued and self-reliance improved toward regional development. The synergy model provided an opportunity for exchanging information among parties concerned with rural development at the union level, which is the smallest unit of administration, and worked to establish vertical collaboration among the county, union, and villages. Furthermore, efforts were made to create horizontal collaboration among governmental facilitators in various fields. As a result, numerous synergy effects were generated between local administrations and the community, and the effectiveness of the model in activating the rural community was proved. The effectiveness of this model was acknowledged by the national government and other donors, and its spread to other regions is expected. However, the implementing body, the Bangladesh Rural Development Board (BRDB), faced some issues, including securing the system and budgets that support the model, as well as ensuring human resources who support the implementation and management of the model.
Rural Livelihood Generation Project in the Philippines	Thirty-five activities for income generation and four aquaculture activities were conducted in four areas as project models to increase the livelihood of the impoverished people (promoting employment and increasing income) who live in low-income municipalities in the Philippines. As a result, the project improved the skills and increased incomes of beneficiary communities. However, many introduced technologies were too advanced to be used in the sideline businesses for the poverty group, and there were more than a few models with low technical applicability. As a result, many activities were discontinued. Also, due to insufficient collaboration between the community and supporting local administration at the time of implementation, support from the town office was not obtained. Thus, synergy effects between administration and the community were not generated in the end. In addition, due to governmental reformation in the Philippines, organizational responsibility to support the model was not clearly defined and thus sustainability of the model were not ensured. It is fair to conclude that contributions of this approach to rural community development were limited.

Project Title	Outcomes
Cebu SEED in the Philippines	This project developed and strengthened the function of local administration and developed a rural development mechanism that continuously and effectively utilizes development resources in collaboration with the community and NGOs. Using this mechanism, opinions were coordinated between local administration and the community and an agreement was reached during the project. Consequently, a statement was signed among the province, the town, and the community, and 67 rural development activities were formed. Joint evaluation conducted by these concerned parties allowed sharing of the recognition of problems involved in development activities, thus boosting the awareness of rural development. From these facts, it was verified that the mechanism was an effective tool for rural community development. However, as the possibility of the mechanism's sustainability is closely associated with the political intentions of the governors of the province or mayors, it depends substantially on the intentions from the Philippines' side (future governors, etc.).
Training Project for Life Improvement in the Philippines	This project aimed at strengthening the capacity of the Agricultural Training Institution (ATI) in providing training for the community and enhancing its function as a facilitator for rural community development. Consequently, income generation activities in line with the local needs (improvement of nutrition and home economics by small gardens, improvement of community environments, etc.) were conducted on a trial basis in five villages of the model center. In the process of planning and implementing each activity, OJTs for the ATI staff, empowerment of the community, and training for local government officers (facilitators, etc.) were provided. It was confirmed that the implementation of the activities led to improvements in livelihood and living environments through the multi-level cooperation approaches to a training center, local administration, and the community. In addition, the implementation cycle of these activities (understanding of needs, planning and designing activities, implementation, monitoring and evaluation) and the implementation process of training at each stage were compiled into a draft manual. This was revised during the process of the implementation of the activities at the original three implementation centers, and organized as the Manual for Training for Agricultural Life Improvement (the implementation model). Before the completion of the project, the Department of Agriculture, the governing organization of the ATI, issued an ordinance to institutionalize the introduction and implementation of training on a step-by-step basis at 33 training centers throughout the country in accordance with the manual. At the time of the ex-post evaluation conducted by the overseas office in February 2004, the model was being implemented at a total of 19 training centers. The model has been smoothly disseminated and is expected to contribute to the activation of rural communities; however, the limitation of activity budgets for each center due to the reduction of the national budget has become an issue.
Participatory Rural Development Project in Sri Lanka	The objective of this project was to develop an effective participatory development method for linking rural villages and external society or resources in order to improve living conditions of isolated rural villages. To this end, a local university was selected as the supporting body for rural community development and efforts were made to generate synergy effects through the multi-level cooperation approaches to the local community, local administration and the university. As an outcome of implementation of the project, various community organizations led by rural development committees were formed in six model villages and 59 rural development activities were conducted. Training tours helped raise awareness of the local residents and lead to review of local industry; thus activation of rural villages and empowerment of residents were also observed. Local government officers visited villages and discussed about various issues with the residents as well. From these facts, the effectiveness of the participatory development method in rural community development was proven through the generation of synergy effects such as the development of a trusting relationship in community, the university and provincial government, activated activities of the residents, and prompt implementation of activities. However the relationship between the central and local governments needs to be strengthened in order to spread the method to other areas within Sri Lanka.
Southeast Sulawesi Agricultural and Rural Development Project	This project incorporated a participatory approach into agricultural and rural development activities. With support of the project, local administration verified an approach for planning, and operating rural development activities, with the participation of local residents (farmers). As a result of verification of the model in eight pilot areas, the area of paddy fields cultivated by farmers themselves expanded to 890 hectare, and the amount of wet-rice production increased from 2t/hectare to 3.5t/hectare, showing a drastic increase in agricultural development. Also, a stock fund (reserve fund) was introduced to increase sustainability of activities of community organizations in enhancing the capacity of residents. It was confirmed that this effort enabled many residents' organizations to continuously implement their activities. Since this model was easy to apply for the implementing body, the model was spread through independent application of approaches by the implementing body, the Ministry of Agriculture, prefectural government and the World Bank. This model expanded development activities in rural community development in terms of quality and dimensional quantity and generated effects such as continuation of rural development activities by the community. However, input cost is indispensable for the implementation of a model, and the spread of the model and expansion of the development effects seem dependent on the cost bearing capacity on the implementing body.
Rural Development Project in Laos	This project intended to develop methods and techniques for sustainable agriculture and rural development with community participation through the verification by residents. Village Committees were created in five pilot areas and systems of development activities were developed before the implementation of activities. As a result, water supply facilities were developed, the average rate of rice self-sufficiency reached 124.9%, and the amount of produced vegetables as cash crops were continuously cultivated. Improvement of the agricultural aspect was observed. Support for community capacity development enabled each Village Committee to formulate an annual activity plan. The implementation of the project facilitated the dissemination of cultivation methods introduced in the model at the community level, showing that the method is highly applicable at the resident level and effective in the pilot areas. On the other hand, the Vientiane provincial government, the counterpart of the project, has not yet specified a system to organizationally support the Center for Agriculture and Rural Development, which assumes the role of implementing and disseminating the model. This has become a problem in expanding the development effects demonstrated in the pilot areas.
Forest Conservation Project in Nepal	This project aimed to enable the community to independently maintain and manage rural resources including the conservation of river basins and forestry through the improvement of not only the capacity of concerned administrative officers but also the problem-solving capacity of local residents. The project improved conditions by means of technology transfer to administrative officers as well as approaches to local residents. In Phase 1 of this project, 634 rural activities and 199 capacity development activities targeting community organizations were implemented, and they were proven to be effective in improving the problem-solving capacity of the residents and activating rural resource development activities. In Phase 2, activities were implemented targeting villages. Village Conservation Committees were established in all of the 88 villages as of February 2002, and organizations were strengthened. Funds were created in 76 villages by the project to implement individual activities. In the project, the local administration worked to spread the model to other areas; however, securing institutional and budgetary systems from the government of Nepal remained as a task. Moreover, the problem that emerged in the approach to the community was that it took long for the community to initiate plans for forest conservation activities.
Sokoine Rural Development Project in Tanzania	This project verified the Sustainable Utilization Area (SUA) method as a rural development method emphasizing sustainability while utilizing existing techniques and resources, which were lacking in traditional rural development methods. As a result of adopting this method in two model areas, local needs were extracted from discussions and presentation of problems given by community itself, and they were then embodied in activities. These needs had long been difficult to detect using traditional methods provided by the local administration. As a result, various activities were identified and formulated, and they were implemented and managed by the community organizations. Such activities included hydro mills (flour milling using water power), apiculture, conservation of agricultural soil, agriculture in valleys, promotion of livestock, and wind power generation. In the project, the SUA method's cycle, which flows from the understanding of problems by residents themselves to the formulation of community development plans, and the development and implementations of rural development activities by community organizations, was proved effective in rural community development. Consequently, the effectiveness was recognized by the government of Tanzania and the prefectural government in the model area. Sokoine University of Agriculture is currently the implementing body of the SUA method; however, in order to spread the method independently, the university still needs to secure budgets and collaborate with government agencies and other development organizations. This is a future task for the university.