

Synthesis Study of Evaluation: Higher Education Summary

1. Framework of the Evaluation Study

1.1 Background and Objectives of the Evaluation Study

As is observed in the “World Conference on Higher Education in the Twenty-first Century: Vision and Action” held by UNESCO in 1998 as well as the “Higher Education in Developing Countries: Perils and Promise (2000)” by the World Bank, there is a growing trend in recent years in the world to reevaluate the importance of institutions of higher education. Institutions of higher education are now required to play a role of so called “Center of Excellence,” which undertakes development activities based on their knowledge and information such as; “Creation of Knowledge” (survey and research), “Popularization of Knowledge” (education and human resource development), or “Utilization of Knowledge” (implementation of projects, direct social actions) and etc. In developing countries, there are only a limited number of institutions that can shoulder the role of “Center of Excellence” and contribute to their own country or neighboring countries. Therefore, establishment, development, and enhancement of such institutions exert a significant influence to the mid-to-long term development of developing countries.

On the other hand, the Japanese international cooperation has been emphasizing the human resource development in institutions of higher education. This is because, under the motto of “Human resources development is the key to nation building”, human resource development has been considered to directly contribute to the economic activities and the technological development. This reflects Japan’s efforts to replicate Japan’s own experience of development into institutions of higher education in developing countries through international cooperation. There is also an aspect where relevant personnel from institutions of higher education in Japan and the counterpart country have constructed strong relationships based on the frameworks of “Human Resource Development” and “Transfer of Technology.”

JICA’s cooperation projects in the field of higher education have been reviewed in several reports such as “Research on Systematization of JICA Experience in Human Resources Development: Higher Education (2000)” and “Approaches for Systematic Planning of Development Projects (2003).” However, there have been only limited cross-sectional analyses of evaluation results of individual projects, and limited discussions reflecting the global trend in higher education.

Based on the issues described above, this synthesis study evaluates JICA’s higher education projects primarily targeting at universities, which are expected to play more important roles as the “Center of Excellence” in the future, and applies a cross-sectional analysis of the evaluation results of individual projects from the viewpoint of three main functions of universities, such as “Improvement of Educational Activities,” “Capacity Building of Research Institutions,” and “Encouragement of Social Activity.” Based on the analysis, the lessons learned and

recommendations specific to JICA's higher education projects will be drawn to contribute to the future cooperation in higher education in developing countries.

1.2 Outline of Evaluation Study

1.2.1 Projects Subject to Evaluation

In the late 1990s, the cooperation in higher education gained a renewed recognition as is seen in the "World Conference on Higher Education (1998)." Therefore, this study examined the projects implemented in the 1990s (completion of such projects ranges from 2000 through today) from a variety of academic disciplines and geographical regions. The projects under this study are listed in Table 1.

1.2.2 Evaluation Study Team

In order to conduct this study, the evaluation committee was formed. The evaluation committee was consisted of two external experts (evaluation advisors), the Office of Evaluation, the Planning and Coordination Department (the secretariat of the committee), and representatives from the Technology and Higher Education Group, JICA. The Office of Evaluation and the consultants (Mitsubishi UFJ Research & Consulting) conducted the survey and compiled the report.

Evaluation Advisors

Mr. Norihiro Kuroda, Professor at the Center for the Study of International Cooperation in Education, Hiroshima University

Mr. Akiyoshi Yonezawa, Associate Professor at the National Institution for Academic Degrees and University Evaluation

1.2.3 Framework of Evaluation

The evaluation viewpoints were determined by the evaluation committee. The specific evaluation questions are set as follows:

- When projects are analyzed from the viewpoints of "Improvement of Educational Activities," "Capacity Building of Research Institutions," and "Encouragement of Social Activity," what kinds of contributions are brought with by the projects to the universities and the society?
- What are the features of impacts and sustainability of projects under the three categories?
- What are the facilitating and constraining factors in the projects under the three categories, and what are the lessons learned and the recommendations to be considered?

In order to find the answers to these questions, the team conducted a literature search on previous evaluation reports, questionnaire surveys to personnel involved in the projects, and an overseas field surveys in Asia (Thailand and Laos from July 12th to 27th in 2005) and in Africa (Kenya and Tanzania from August 13th to 30th in 2005).

Table 1. Table of projects subject to evaluation

Field Survey	Country	Project name	Period	
			Start	End
X	Kenya	The Jomo Kenyatta University College of Agriculture and Technology (Undergraduate Programme)	90.04	97.04
X	Thailand	Project to Enhance the Capacity of the Faculty of Engineering at Thammasat University	94.04	01.03
	P.R. China	The Clinical Medical Education Project for the China-Japan Medical Education Center	95.04	00.04
	Poland	Polish- Japanese Institute of Information Techniques	96.03	01.03
X	Thailand	The Research Project for higher Utilization of Forestry and Agricultural Plant Materials, Kasetsart University (Faculty of Forestry/ Kasetsart Agricultural and Agro-Industrial Products Improvements institute – KAPI)	96.08	01.07
X	Thailand	The Research Center for Communication and Information Technology (ReCCIT), King Mongkut's Institute of Technology, Ladkrabang, (KMITL)	97.10	02.09
	Sri Lanka	Dental Education Project at University of Peradeniya in Sri Lanka	98.02	03.01
	Malaysia	The Project for the Aquatic Resource and Environmental Studies of the Straits of Malacca in UPM	98.05	03.05
	Vietnam	The Education and Research Capability Building Project of Hanoi Agricultural University	98.09	02.08
X	Tanzania	The Project on Sokoine University of Agriculture for Sustainable Rural Development (SCSRD)	99.05	04.04
X	Kenya	African Institute for Capacity Development (AICAD)	00.08	07.07
X	Thailand/ ASEAN	ASEAN University Network/Southeast Asia Engineering Education Network (AUN/ SEED-NET)	03.03	08.03

2. Development and Role of International Cooperation in Higher Education

2.1 Changes in Environment and Role of Higher Education

2.1.1 Global Trend in Higher Education (Review on Previous Studies on International Cooperation in Higher Education)

There has been growing expectation toward higher education in recent years. Major roles of institutions of higher education in general are “education” and “research.” In addition, the role of “Social Activity” is highlighted as a new role, in that the institutions of higher education contribute directly to the society facing various issues. This third role is not called on the institutions in developed countries, but it is rather strongly expected for the institutions in developing countries, which lack in highly educated and trained human resources.

On the other hand, for the fundamental roles of the institutions such as “education” and “research,” the expectations have been diversified and complicated due to the changes in the social and economic situations and the progress of development, as well as the rapid changes in the context of modern society such as globalization and progress in knowledge based economy. Therefore, all of the activities in “education,” “research,” and “social activity” are the roles that the institutions are expected to play, and the roles will contribute to society in a broad sense.

2.1.2 Main Role and Logic Model of Institutions of Higher Education

Based on the global trend discussed above, this synthesis study categorizes the major roles of institutions in higher education into three categories, “Improvement of Educational Activities,” “Capacity Building of Research Institutions,” and “Encouragement of Social Activity.” By fulfilling the three roles, the cooperation in higher education is expected to improve the situations in respective countries, and to achieve the higher goals, which is “Promotion of Social Contribution.” This study set the hypotheses on the logic model for each of the three roles, and applied it to the analysis of the projects. The overview of relationship among three logic models of “Improvement of Educational Activities,” “Capacity Building of Research Institutions,” and “Encouragement of Social Activity” is illustrated below: (To note, the details of each model is described in Chapter 3 to 5.)

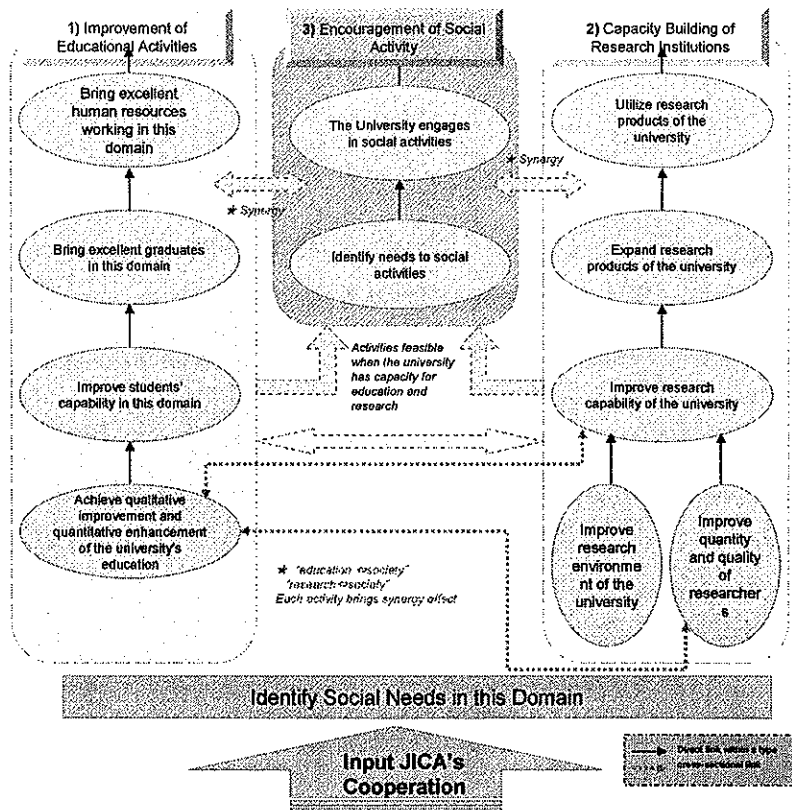


Chart 1 Logic model based on roles of institutions of higher education

Among the three roles of institutions in higher education, “Improvement of Educational Activities” model and the “Capacity Building of Research Institutions” model are closely related. This is because “achievement in qualitative improvement and quantitative enhancement of the university’s education” is considered to be closely related with “improvement of the university’s research function” and with “improvement of quality and quantity of the university’s researchers.” “Encouragement of Social Activity” utilizes capacity of education and research, therefore it can be said that it is supported by both education and research roles. Some universities may own enough capacity for this type of social activities, while other universities may need to develop capacity for problem solutions based on the existing resources. Thus, “Encouragement of Social Activity” model relies on the fundamental capacity of the counterpart universities under the project. This is why the starting point and objective of “Encouragement of Social Activity” model are set higher than those of the other two models.

On the other hand, through “Encouragement of Social Activity,” the universities may enjoy the benefit of “Improvement of Educational Activities” and “Capacity Building of Research Institutions.” Therefore, the “Encouragement of Social Activity” model may bring synergetic effects on “Improvement of Educational Activities” model and the “Capacity Building of Research Institutions” model, when the “Encouragement of Social Activity” projects are implemented along

with the “Improvement of Educational Activities” projects and the “Capacity Building of Research Institutions” projects.

Next, based on the main objectives of the projects, the projects under this study are categorized as in Chart 2, using the perspectives of the three roles and the target level of the institutions under the projects.

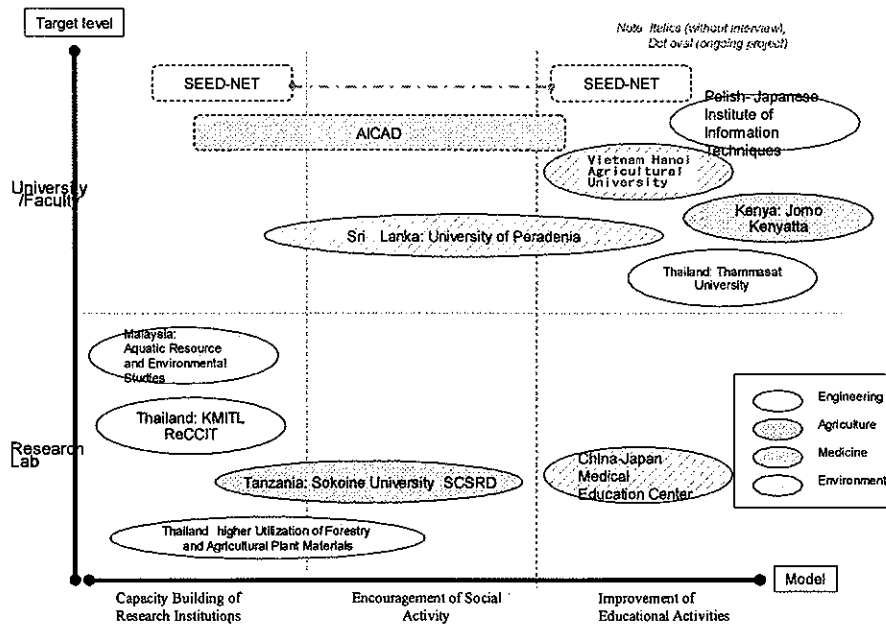


Chart 2 The projects categorized in the models and target Levels

3. Evaluation Results on “Improvement of Educational Activities”

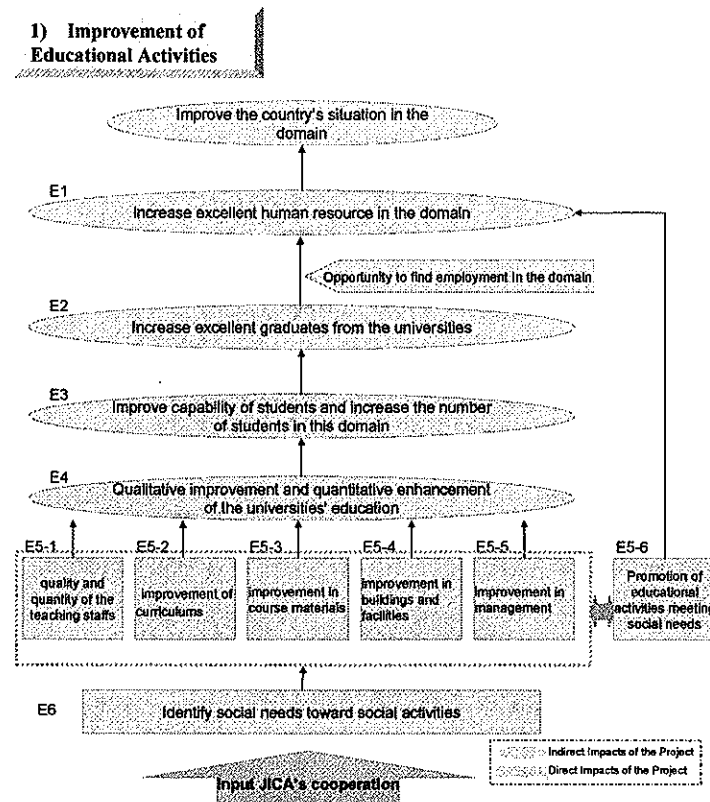


Chart 3 “Improvement of educational activities” model

3.1 Characteristics of the “Improvement of Education” category

Identification of social needs for educational activities is the prerequisite for “Improvement of Educational Activity” projects. Under this category, the project objective tends to be the qualitative improvement and quantitative enhancement of the universities’ education (E4). The objective is achieved through the approaches such as; 1) improvement in the quality and quantity of the teaching staffs (E5-1), 2) improvement of curriculums(E5-2), 3) improvement in course materials (E5-3), 4) improvement in buildings and facilities (E5-4), and 5) improvement in management (E5-5). The higher goal is set to bring large numbers of excellent graduates from the universities (E2). As a result of the increase in excellent human resources engaged in the domain (E1), the problematic situation would be alleviated. In order to bring a large number of excellent graduates (E2) into the excellent human resources engaged in the domain (E1), the need for educational activities (E6) continues and an appropriate level of employment opportunity in this field is required. Other than these preconditions, the “Improvement of Education” logic model is relatively linear. Therefore, in many cases, process from goal setting to achievement of goal can win understanding. The projects categorized as “Improvement of Educational Activity” are as follows:

Table 2: List of Projects under “Improvement of Educational Activity”

Country	Project name	Main purpose		
		Improvement of educational activity	Capacity building of research institute	Encouragement of social activity
Kenya/ Uganda/ Tanzania	African Institute for Capacity Development (AICAD)	○	○	○
Sri Lanka	Dental Education Project at University of Peradeniya in Sri Lanka	○	△	○
Vietnam	The Education and Research Capability Building Project of Hanoi Agricultural University	○	△	
Thailand	Project to Enhance the Capacity of the Faculty of Engineering at Thammasat University	○	△	
ASEAN	ASEAN University Network/Southeast Asia Engineering Education Network (AUN/SEED-NET)	○	○	
Poland	Polish- Japanese Institute of Information Techniques	○		
P.R. China	The Clinical Medical Education Project for the China-Japan Medical Education Center	○		
Kenya	The Jomo Kenyatta University College of Agriculture and Technology (Undergraduate Programme)	○		

The projects under this category are analyzed in terms of approach, impact, sustainability, and the results are summarized as follows:

Approach

The cooperation methods¹ for “improvement in the quality and quantity of the teaching staffs (E5-1)” include joint research, hosting research seminars, guidance on research, and provision of research equipment. These methods overlap with those used in the “Capacity Building of Research Institutions” projects, and based on the idea that the improvement of research capability of teaching staff would improve the quality of teaching staffs. The assistance for teaching staffs to study abroad was another method to improve the quality of teaching staffs used by the projects under review. In many projects, educational equipment was provided to achieve “improvement in buildings and facilities (E5-4)”, so was the guidance on management and operation to achieve “improvement in management (E5-5).” Examples of cooperation for “identification and promotion of educational activities corresponding to the social needs (E5-6)” include the cooperation activities for training program under “AICAD” and the open lectures hosted in the “Peradeniya in Sri Lanka” project. Under this category, the project objectives are often set in the qualitative improvement and

¹ In this study, the term of “the cooperation method” means an activity to produce an approach.

quantitative enhancement of the universities' education (E4), and the goals are set at "improvement in the situation in a particular field."

Impact

In the project under this category, the objective from "the qualitative improvement and quantitative enhancement of the universities' education (E4) to "a large number of excellent graduates (E2)" has been achieved relatively satisfactory by following the linear logic model. The graduates from the universities find employment without difficulty in many projects. However, it is not easy to determine the extent to which nurturing students and graduates contributes directly to enriching the human resources engaging in the concerned sector. This is because it is not easy for the universities in developing countries to collect information on employment situation of the graduates in the concerned sector in the first place. Secondly, it is difficult to evaluate to what extent the university education contributed to the employment of the students. As for the first issue, it is pointed out that the progress of the goal achieving process can be ensured through the efforts observed under the "Jomo Kenyatta" project in Kenya, such as recommending students to corporations, visiting companies, and holding corporation seminars on campus. Regarding the second issue, approximately 80 percent of the corporations and organizations in Kenya, Thailand and Laos, where this evaluation team visited, appreciated the competency of students from the universities assisted by JICA projects. The companies and organizations hiring the students also appraised the diligent, independent and proactive attitude of the students, rather than the knowledge or skills acquired through practical education.

As for "the qualitative improvement and quantitative enhancement of the universities' education" (E4), some cases showed positive impacts such as provision of equipment (E5-4) improving reputation of the university as seen in the "Jomo Kenyatta" projects in Kenya.

Sustainability

The sustainability of projects under this category is analyzed from the aspects of finance, technology, policy and organization.

One of the issues in the financial sustainability is securing funds. The project under study tends to increase revenue by launching new faculties or program courses after the projects. For example, the Jomo Kenyatta University College of Agriculture and Technology started an off-campus course and increased revenue from tuition fee.

From the technological aspect, maintenance and improvement of the quality of education is as important as, or more important than, fund sourcing for sustainability. In this post, some students from the "Jomo Kenyatta" project in Kenya expressed concern that the increase in the number of students might devalue the degree. In other projects, the Japanese partner universities continued the relations with the institutions even after the project, and contributed to the sustainability of the institutions. For example, the Japanese partner university continues to extend the assistance in

teaching methods to the Dental Department of the University of Peradeniya in Sri Lanka, while the memorandum of understandings between universities were concluded to continue collaboration for the Faculty of Engineering of the Thammasat University in Thailand.

Further more, in recent years, there is increasing number of cases where the universities launch new activities beyond the conventional educational activities for students. The Hanoi Agricultural University in Vietnam started the seminars for farmers and the summer volunteer program. The Institute of Information Techniques in Poland engages in the off-campus capacity development such as IT lectures for citizens, remote education, and trainings to neighboring countries.

For the organizational sustainability, there are many projects providing assistance in management (organizational management, drafting plans, financial management, maintenance and management of facilities). Since the scope of the projects under this category is wide, implementation of appropriate management is important for the sustainability of the institutions. Less than 50 percent of the projects under this study adopted management of equipment, though all projects provided equipment as part of cooperation. For the projects such as the “Jomo Kenyatta” project in Kenya and the “Peradeniya” project in Sri Lanka, where provision of equipment contributed to improving reputation of the universities, sourcing funds for repair and other related cost is a challenge.

From the policy aspect, change in educational policy will possibly cause an issue of government grant, but there are no projects reported to face such an issue.

4. Evaluation results on “Capacity Building of Research Institution” model

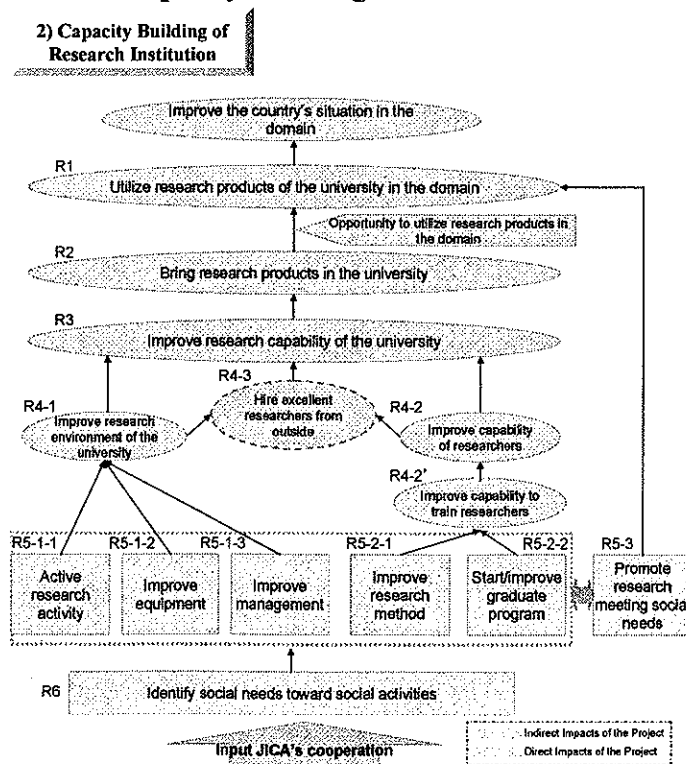


Chart 4 “Capacity Building of Research Institution” model

4.1 The Characteristics

Under the category of “Capacity Building of Research Institution”, firstly the needs toward research activities are identified (R6). This is followed by two approaches. (Chart 2) The first approach is improvement in the research environment (R4-1) which is achieved through “encouraging research activity (R5-1-1), improvement of equipment (R5-1-2), and improvement of management (R5-1-3). The second approach is the improvement in abilities of the researchers through the improvement of research methods (R5-2-1) and establishment and improvement of graduate programs (R5-2-2). Through these two approaches, the research capability of the university under the project is improved (R3), which bring research products in the university (R2), and thus the project can improve the situation in the concerned sector.

In order that the “Capacity Building of Research Institutions” projects may achieve the higher goals, in other words, to bridge from enhancement of the research products in the university (R2) to utilization of research products in the domain, it is necessary that the needs to research activities (R6) still exist and that there are opportunities to utilize research products of the universities.

Table 3: List of projects under “Capacity Building of Research Institutions”

Country	Project name	Main purpose		
		Capacity building of research institute	Improvement of educational activity	Encouragement of social activity
Thailand	The Research Center for Communication and Information Technology (ReCCIT), King Mongkut’s Institute of Technology, Ladkrabang, (KMITL)	○		
Malaysia	The Project for the Aquatic Resource and Environmental Studies of the Straits of Malacca in UPM	○		
ASEAN	ASEAN University Network/Southeast Asia Engineering Education Network (AUN/SEED-NET)	○	○	
Kenya/ Uganda/ Tanzania	African Institute for Capacity Development (AICAD)	○	○	○
Thailand	The Research Project for higher Utilization of Forestry and Agricultural Plant Materials, Kasetsart University (Faculty of Forestry/ Kasetsart Agricultural and Agro-Industrial Products Improvements institute – KAPI)	○		○
Tanzania	The Project on Sokoine University of Agriculture for Sustainable Rural Development (SCSRD)	○		○

The projects under this category are analyzed in terms of approach, impact, sustainability and the results are summarized as follows:

Approach

Under the “Capacity Building of Research Institutions” projects, the goals are set at different levels from improvement of research capability (R3) to utilization of research products in the domain (R3). However, the goals of projects are often set at improvement of research capability (R3). The external factors required to achieve the project goals include the stability in the social environment, the continuation of government’s policy in the concerned sector. This is because the existence of opportunity to utilize research products is the precondition to bridge from production of research product (R2) to utilization of research product in the sector.

There are two approaches toward the improvement of research capability of the university (R3) such as improvement of research environment (R4-1) and improvement of ability of researchers (R4-2). Both approaches are adopted in all projects under this study. When new organizations are established under the projects, as is seen in the “Sokoine” project in Tanzania and “AICAD,” an emphasis is placed on strengthening the management, and improvement of administrative or financial management is likely to be contained in the project components. On the other hand, managerial issues are not addressed during the projects implemented on the existing research centers and laboratories.

For identification and promotion of researches corresponding to the social needs (R5-3), two cooperation methods are considered to apply, such as research grants to the institutions and cooperation in the activities to promote research. As is observed in the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand and “AICAD,” the research themes subject to research grants are designated to accommodate the objectives of the projects, and the research products are expected to be utilized in the society (R1).

There are two types of issues addressed in this category such as “necessity to develop the global leading technology” and “necessity to solve social issues in the region and country.” For the latter issue, “strengthening research function” and “strengthening social function” are addressed as the purpose of the project. As is seen in the “Aquatic Resource” project in Malaysia, it is possible to implement the approach focused solely on “strengthening research function” and to respond to the social needs.

Impact

Improvement of research ability is not easily visible and measurable, depending on the existing capacity of the institutions under project. It is assumed that the project purposes are achieved through improvement of research environment (R4-1) and improvement of ability of researchers (R4-2). However, it is difficult to understand the progress in some projects. The new model was developed for the agro forestry under the “Higher Utilization of Forestry and Agricultural Plant

Materials” project in Thailand. The “Aquatic Resource” project in Malaysia brought about a number of research products in the Marine Biology. However, if the institutions had already owned high level research capability before the projects, it is difficult to evaluate whether the research products are derived directly from the inputs of the project.

In the “Capacity Building of Research Institutions” projects, the conditions on the opportunity to utilize the research products are likely to become bottlenecks in achieving higher goals. Under the projects highlighting the “necessity to develop the global leading technology,” the opportunity to utilize the research products is influenced by the research subjects and by the degree of deepness of the relationship between the university and the industry. Therefore, sector analysis needs to be conducted in advance of the project to bring about the future impact.

When the research themes are addressed to meet the “necessity to solve social issues in the region and country,” it is difficult to evaluate the research products conducted based on a longer-term demand, which is different from that of the needs in the industries. This is observed in the agro forestry research in the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand. Therefore, it is necessary to review the needs for the cooperation project from a mid-to-long term perspective.

It is also revealed, in the KMITL-ReCCIT project and the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand, that the existence of the Japanese partner university has major implications on the impact of the projects and ex-post development. This is because the collaborations with the Japanese universities are formed while the lecturers of recipient countries are studying in Japan, research assistance is voluntarily extended, exchanges of researches and students are facilitated, and the knowledge and the know-how acquired through the projects tend to spread better to the neighboring countries in the region.

Sustainability

The sustainability of this type of projects is analyzed from the aspects of finance, technology, policy and organization.

In all projects, the financial sustainability is the most serious. Sourcing funds is required for all research implementation. The existence of the donors’ support, the governments’ grants, and the ties with industries poses a major impact on the ex-post conditions. In the projects such as the KMITL-ReCCIT project and the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand and the “Aquatic Resource” project in Malaysia, the counterpart institutions were funded by the grants from the governments and the private sector. In addition, the efforts have started to raise funds on their own for the operation and management of the research institutions. The efforts include hosting international conferences in the KMITL-ReCCIT in Thailand and engaging in sideline businesses in the KAPI of the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand.

From the technological sustainability, provision of equipment to the institutions can contribute not

only to conduct researches, but also to attracting excellent human resources from outside. According to the comments by younger researches involved in the KMITL-ReCCIT project in Thailand, the brain drain stopped because the research equipment and environment improved through the cooperation. The effectiveness of equipment seems significant. In addition, the collaboration with the Japanese partner universities has an important implication on the impact of the project and the development after the project. In the KMITL-ReCCIT project in Thailand, the Japanese partner university extended various supports such as conducting joint researches and providing the exchange program, and the close ties among researchers have been created.

A policy aspect is relevant to the finance issue, because the government grants are major source of funds for the researches. The trend in the government's policy is a factor affecting the sustainability of the institution.

From an organizational aspect, many institutions under the projects are research laboratories, rather than universities or faculties. There are uncertainties over the organizational continuity after the project. Positioning of the institutions within the university is another factor affecting the sustainability of the institutions.

5. Evaluation Analysis on “Encouragement of Social Activity” model

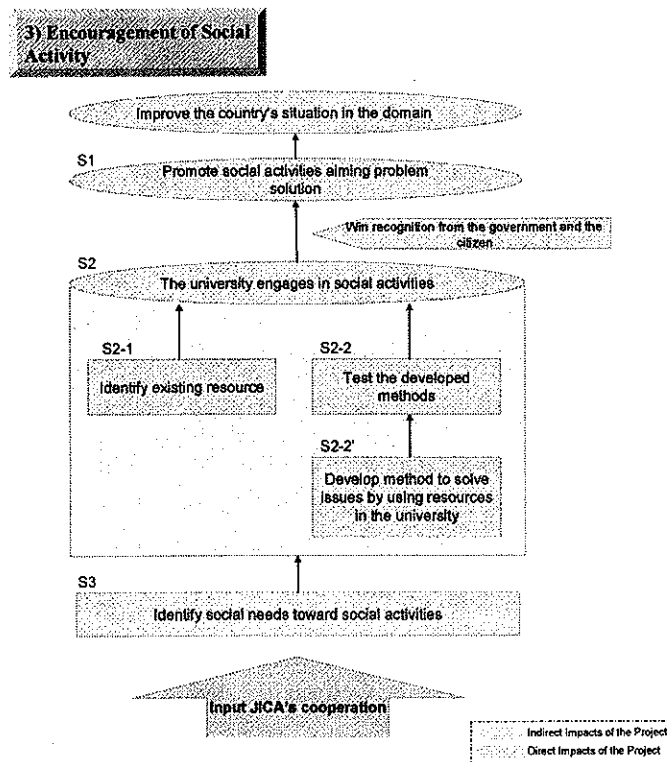


Chart 5 “Encouragement of Social Activity” model

5.1 The Characteristics of the “Encouragement of Social Activity” model

The “Encouragement of Social Activity” projects assume that the universities engage in the activities relatively directly serving for the social needs, in addition to the conventional basic roles such as education and research.

Under this category, the projects start from “identification of the needs of social activities (S3).” This assumes a wide range of survey including identifying the target institutions. In some cases, universities’ researchers start to participate in the projects from this stage.

The universities directly or indirectly utilize the existing resources, and address the challenges in the society (S2-1). In addition, the university utilizes the resources to develop methodologies for the betterment of the situation (S2-2’), and tests such methods. The resources available to the universities may not be sufficient, thus in many cases, the universities acquire new equipment and facilities, expertise, and know-how from outside. These processes are summarized in the two routes shown above, but in reality, some projects combine the two routes.

When the universities engage in social activities (S2) through those two routes, the success of such activities in terms of permeating well into the society and improving the situation relies on the external factors such as the extent of acknowledgement by the administration and the citizen of the universities’ social activities. Therefore, in order for social activities aiming at the improvement of the situation to permeate into the society, the activities such as diffusion and enlightenment as well as provision of information are important. The projects categorized as “Encouragement of Social Activity” are as follows:

Table 4: List of projects under “Encouragement of Social Activity”

Country	Project name	Main purpose		
		Capacity building of research institute	Improvement of educational activity	Encouragement of social activity
Kenya/ Uganda/ Tanzania	African Institute for Capacity Development (AICAD)	○	○	○
Sri Lanka	Dental Education Project at University of Peradeniya in Sri Lanka	○	△	○
Tanzania	The Project on Sokoine University of Agriculture for Sustainable Rural Development (SCSRD)		○	○
Thailand	The Research Project for higher Utilization of Forestry and Agricultural Plant Materials, Kasetsart University (Faculty of Forestry/ Kasetsart Agricultural and Agro-Industrial Products Improvements institute – KAPI)		○	○

The projects under the category of “Encouragement of Social Activity” are analyzed in terms of approach, impact, and sustainability. The results are summarized as follows:

Approach

Under this category, the projects are formed on the recognition of “necessity to solve social issues in the region and country.” Public health, environment, poverty and others are common issues in the world. However, solutions for such common issues depend on the factors unique to the region, society and natural environment. Therefore, the knowledge of the universities familiar with the region becomes important.

Higher goals for this type of projects are often set at “improvements in the situation,” however, higher goals for the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand and the “Sokoine” project in Tanzania, are “diffusion of social activities aiming at improvement of issues” and “diffusion of methods developed by utilizing the resources of the university” respectively. The project objective of these two projects is “implementation of developed methods (S1).”

When the expertise required in the social activities matches with those owned by the researchers in the university, the purpose is to identify and utilize the resources in the university (S2-1).

The external factors for achieving higher goals include those related to the governments’ policies and policy environment in the concerned domain. The presumption of “acknowledgement by the administration and the citizen” is assumed between “Direct engagement in social activity (S2) and “diffusion of social activities about the issue (S1).”

The universities’ direct support to the direct social activities can be categorized into two approaches. One approach is the provision of services corresponding to the society’s needs such as the clinical services under the “Peradeniya” project in Sri Lanka. Another approach is to widely share the information about the social issues and their solutions, through the publicity and policy recommendation activities by using knowledge gained by the universities, as is seen in the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand, “AICAD.”

Impact

Many “Encouragement of Social Activity” projects are combined with the “Improvement of Educational Activities” and “Capacity Building of Research Institutions” models. There are many “Encouragement of Social Activity” projects particularly combined with the “Capacity Building of Research Institutions” model. This type of projects has two different viewpoints such as the improvement of research capability and the diffusion and enhancement of research products. Therefore, the evaluation viewpoint may depend on the evaluator or the timing of evaluation. As is observed in the “Sokoine” project in Tanzania and the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand, the evaluation viewpoint is not focused. This is illustrated in the evaluation report stating that, although the capacity building of research institution

was achieved, the diffusion and enhancement of social activities were not enough.

Another characteristic of this category is that there are unexpected ripple effects. All projects resulted in diffusion to the countries and regions outside of the scope of the projects.

A factor affecting impacts is the consistency between the activity and the organizational mission of the institution. Appropriateness in target group setting also affects the achievement of goals. In this respect, the projects in medicine and dentistry always have a match between the activity and the organizational mission of the institution because the organizational mission addresses provision of medical service.

Sustainability

The sustainability of this type of projects is analyzed from the aspects of finance, technology, policy and organization.

As seen in the other two categories, financial sustainability is also the most serious in this category. In all projects, the formulation of the projects begins with the “necessity to solve social issues in the region and country,” and it is more difficult for this type of activity to obtain private funds than for activity of “Capacity Building of Research Institution” which can contribute to development of high technology. Therefore, sources of funds are primarily the beneficiaries from the social services, or the public fund.

From technological aspect, the “Encouragement of Social Activity” projects are often expected more immediate effects to the society than the “Capacity Building of Research Institutions” projects, because the issues are addressed directly from the social issues and the universities themselves engage in solving the problems. Particularly in Africa, where issues of poverty and insufficient social capacity are addressed, the needs to the university’s proactive engagement into social activities are considered high, as is seen in the efforts to the regional society in the “Sokoine” project in Tanzania.

From a political aspect, the issue that the university should directly respond to the social needs has been on the global agenda. Particularly in Africa, the universities are expected to address the poverty issue. Therefore, the current policy environment is in the direction to promote the social activities by institutions of higher education.

From an organizational aspect, it should be noted that the sustainability is guaranteed only if the organizational missions of the institutions and identity of researchers match with the activities. Under the “Higher Utilization of Forestry and Agricultural Plant Materials” project in Thailand, diffusion of research results on paper mulberry to farmers was not in the scope the mission of the university. Therefore, this was regarded as activities based on the discretion of an individual researcher. There was no framework to ensure the continuation of this activity. In order for the institutions to continue social activities as an organization, it is important to clarify why the institutions need to involve in social activities, and what are the expectations in the projects.

6. Summary and Lessons

6.1. Features of and Comparisons among the Three Models

6.1.1. Features of the Three Models

Similarities and differences among the three models are summarized as follows:

(1) Approach of the project

When compared among the three models (Chart 1, P23) it is assumed that the project categorized as “Improvement of Educational Activities” and the projects categorized as “Capacity Building of Research Institutions” adopt a mid-to-long term approach, while the projects categorized as “Encouragement of Social Activity” aim to produce outcomes in a relatively shorter term, and universities directly take actions for the objective. The “Encouragement of Social Activity” approach, when being implemented alone, can be interpreted as the social development activities. However, it is recognized as “Projects for Higher Education” when being adopted to complement and reinforce the impact of the “Improvement of Educational Activities” projects and the “Capacity Building of Research Institutions” projects. In this manner, the higher education projects under study which are categorized as “Encouragement of Social Activity”, are basically implemented together with the other two types of projects. For example, the Sokoine University project in Tanzania and the Research Project for Higher Utilization of Forestry and Agricultural Plant Materials in Thailand are the “Encouragement of Social Activity” projects implemented with the “Capacity Building of Research Institutions” approach, while the University of Peradenia project in Sri Lanka is implemented together with the “Projects for Higher Education” approach.

A variety of cooperation methods are applied to the “Encouragement of Social Activity” projects depending on the objectives of the projects and issues to be addressed by the project. The other two types of projects adopt relatively similar methods.

The “Improvement of Educational Activities” projects and the “Capacity Building of Research Institutions” projects adopt some of the cooperation methods which are categorized as the broadly-defined social activities meeting the social needs. However, these methods are applied to fulfill the social needs as a part of educational and research activities, only to respond to the requests from outside such as business and industries, and in this case, the institutions do not take initiative or work directly on the social needs. In this sense, the efforts made under these two types of projects are different from those under the “Encouragement of Social Activity” projects.

(2) Impact of the project

There are external factors in achieving higher goal for the “Improvement of Educational Activities” projects and the “Capacity Building of Research Institutions” projects, both of which require a mid-to-long time-span to bring about the impacts. The external factors are; ensuring the

work opportunity for the former, and ensuring the opportunity to utilize the research products for the latter. At the project formulation stage, it is desired to include some types of measures to overcome these external factors such as the collaboration between universities and industries and the efforts to develop the policy channels.

On the other hand, the “Encouragement of Social Activity” projects are planned to produce outcomes in a shorter time-span than the other two types of projects. Some cases under study show that the viewpoints of the impact evaluation are not clearly defined, and that the consensus on the viewpoints is not formed among the stakeholders. Therefore, it is even more important for the “Encouragement of Social Activity” projects, than for the other two types of projects, to set specific objectives and to gain consensus among all parties involved.

Furthermore, this study revealed that the partner universities in Japan play a major role in having impacts. Having the partner universities in Japan, experts from Japan can visit the institutions and several members from the institutions under the projects can study at the partner university in Japan. Due to these exchanges, the Japanese customs and culture penetrate well, and thus the collaboration between the Japanese partner university and the institution is well structured and enhanced. This also has an important implication on the sustainability discussed in the following sub-section.

(3) Sustainability of the project

In the sustainability phase after the completion of the projects, securing funds is the most serious challenge for all types of projects. For the “Improvement of Educational Activities” projects, the institutions’ finance management plays an important role. Therefore, the cooperation is extended for this purpose during the project implementation. On the other hand, for the “Capacity Building of Research Institutions” projects, the institutions need to source funds from outside such as the governments and the donors in order to continue their researches. Some institutions are the research centers organized under universities, and they lack in a solid organizational foundation. Therefore, the “Capacity Building of Research Institutions” category has more cases of facing fund-sourcing problems than the “Improvement of Educational Activities” category.

On the other hand, there are more relatively well-endowed projects under the “Encouragement of Social Activity” category than under the other two categories. This is because under the “Encouragement of Social Activity” projects, the universities influence directly on the society and this type of effort is consistent with the recent global trend. For this reason, together with other factors, some institutions under the “Improvement of Educational Activities” projects voluntarily started social activities. The needs for the “Encouragement of Social Activity” projects are expected to grow in the future. However, there are issues to address in terms of the sustainability of this type of projects such as the difficulty in continuing activities with maintaining an appropriate balance between research activities and social activities as a university and adapting flexibly and timely to changes in the social needs.

In addition, storage and maintenance of equipment and facilities provided under the projects is the

common issue of sustainability for all types of projects. In general, the service life of equipment and facilities varies according to the academic disciplines. The equipment used in Agronomy serves longer than that in Engineering. For the “Capacity Building of Research Institutions” projects, a careful review on utilization and durability of equipment to be installed is required to select appropriate research equipment, otherwise equipment could become obsolete very quickly. In some cases, the installation and maintenance of equipment itself attracts further assistance from other organizations and promotes further organizational development after the projects. The importance of equipment selection during the project implementation needs to be better recognized. As is described above, the partner universities in Japan play an important role in the sustainability after the project. It is highly likely that, after JICA’s cooperation projects ended, the partner universities will contribute to development of activities of the institutions under the projects as well as of other relevant institutions through the collaboration between the two universities.

6.1.2. Lessons from the Three Models

Lessons described in the chapters from 3 to 5, relating to the project goal setting, cooperation method and follow-up after project completion, are summarized as follows:

Table 5: Implications of the three models

Improvement of Educational Activity	Capacity Building of Research Institutions	Encouragement of Social Activity
Promoting practical education: Cooperation Method	Selecting cooperation scheme corresponding to capacity of target institutions: Goal Setting/Cooperation Method	Clarifying the expectations for project and institution: Goal Setting/Cooperation Method
Identifying employers’ needs and introduction of career guidance for students: Goal Setting/Cooperation Method	Designing a project to achieve goals: Cooperation Method	Accurately identifying where the social needs exist: Goal Setting/Cooperation Method
Improving and enhancing of management capacity: Cooperation Method	Selecting cooperation theme from a mid-to-long term perspective: Goal Setting	Spreading the social activities to other regions: Follow-up
Developing continuing relationship with the partner universities in Japan: Cooperation Method	Capacity building for the whole organization: Cooperation Method	
	Developing continuous relationship with the partner universities in Japan: Cooperation Method	
	Developing into South-South cooperation: Follow-up	

6.2 Features of Hybrid Models

Many projects under study are designed as the combination of multiple categories (hereafter, defined as Hybrid Projects.). The Hybrid Projects are designed to achieve goals more effectively, by combining more than one logic models, and by incorporating some of the assumptions and external factors defined by respective logic models.

On the other hand, in the Hybrid Projects, there is a risk of losing directions of the projects since

multiple logic models exist in one project. It is important to clearly define the project goal and the paths to achieve the goal, by considering all of the logic models of a project at the beginning of the project.

6.3 Recommendations

Based on the synthesis study, the recommendations on projects on higher education overall are summarized as follows:

6.3.1 Recommendations on Goal Setting

(1) Importance of project formation from a mid-to-long term perspective

Due to the uniqueness in the field of education, which requires considerable time to see impact, all project types need a certain period of time to achieve goals. Therefore, the steps in the logic models need to be projected from a mid-to-long term perspective during the project formation. In the future, when projects are being designed, the impacts that the inputs could bring about over a long period of time need to be quantified. Efforts are required to eliminate the constraining factors against the realization of impacts from the beginning of the project.

(2) Identifying the Social Needs

It is crucial to correctly identify the social needs on education, research, and social activities of the institutions of higher education subject to the cooperation projects. Examples of such social needs are; the needs from the people benefited from the social activities offered by the “Encouragement of Social Activity” projects, and the needs of the companies which hire students graduated from the institutions under the “Improvement of Educational Activities” projects. The ability to identify the social needs is also important for the institutions under the projects in order to ensure the sustainability. As the above sub-section (1) shows, the projects should be designed from a mid-to-long term perspective at the project formation stage. The social needs should also be identified from a mid-to-long term perspective, as exemplified in the case of the Sokoine University Project in Tanzania where the university identified the social needs.

(3) Special consideration on the Characters of Research Theme

In this study, the research themes under the “Capacity Building of Research Institutions” projects are categorized into the “World-class Advanced Technology Development” (IT and etc.) and the “Solution to Regional and Domestic Social Problems” (environmental issues and etc.) and analyzed accordingly. In many cases, the characters of the research themes affect in various manners such as; the immediacy of the researches to the social needs, the time required for realizing impacts, whether the expected impacts are easy to understand, and the ability to source funds for the researches after JICA projects. At the project formation stage, the characters of the research themes need to be better considered in selecting the institutions for the projects and setting goals. In

addition, the projects need to be implemented based on the approach appropriate for the characters. As seen in the Research Project for Higher Utilization of Forestry and Agricultural Plan Materials in Thailand, which addressed the environment issue, it is also important for universities to fulfill a role in conducting research from a mid to long term perspective, even if the research theme does not address the immediate needs of the society.

(4) Cooperation suited to the Level of Capacity of the Institution under the Project

In general, unlike the technical cooperation projects, most of the institutions of higher education under the projects have a certain level of educational and research capability even before the beginning of the projects. Therefore, it is important to evaluate the existing capability of the institutions and to clearly identify the sufficient and insufficient capabilities requiring cooperation. It is also required to determine whether the projects should enhance the existing capability or add a new capability, from the perspective of the sustainability after the projects. For example, in the case of the institutions with high educational and research capabilities in the specific field, the projects may include the promotion of social activities to disseminate the educational and research products. It is important to address the cooperation corresponding to the level of the capability of the institutions under the projects.

(5) Formation of the Hybrid Projects based on “Encouragement of Social Activities”

In recent years, there is a new trend in the field of higher education that the institutions of higher education extend support for social activities. There are an increasing number of examples that the universities in developing countries proactively include the social activities from the view point of management strategies, not only from the view point of social missions. In the future, JICA is expected also to enhance the cooperation of the social activities of the institutions of higher education through offering the Hybrid Projects based on “Enhancement of the Social Activities.” This should be regarded as an important effort, from the perspective of strengthening capabilities of the institutions of higher education, and from the perspective of utilizing existing resources. It is also effective, from the project formulation stage, to integrate the utilization of the universities into other types of projects such as the social development, the agrarian development, the public health and health care, and the information and communication technology, as long as the situation of the project sites and the objectives of such projects permit.

6.3.2 Recommendations on Cooperation Methodology

(6) Cooperation to the Institutions

One of the advantages of the Japanese cooperation in higher education is that Japan has assisted the institutions in developing countries as the whole organization. Therefore, there is a mechanism to return the research products to the institution. This mechanism is considered as one of the factors that put the brakes to the issue of the brain drain. The cooperation to the whole organization is the

foundation of promoting collaboration between the Japanese universities and the institutions under the projects. (Refer to sub-section (8)). The cooperation scheme targeting at the whole organization should be recognized as one of the strengths of the Japanese cooperation, and it is desirable to continue and strengthen such format in the future. (To note, in order to expand and sustain the results of the projects, the attention should be also paid to the cooperation to the management, which is discussed in the sub-section (7))

(7) Cooperation for Improving the Management

The cooperation in management such as administration and management, financial management and equipment management are indispensable for ensuring the sustainability of the institutions after the duration of the projects. Among the projects under this study, relatively many “Improvement of Educational Activities” projects offered the cooperation in management in the area of administration and operation, while not so many “Capacity Building of Research Institutions” projects offered this type of cooperation. It is crucial to provide assistance in financial management because the study reveals that it affects sustainability of all the types of projects.

This study shows that the procurement of equipment and facilities in the projects has an impact on project sustainability. For example, the procurement can also improve the reputation of the institutions, offer the opportunities to start the social activities, and have a beneficial impact in maintaining excellent human resources. Therefore, it is required to pay more attention to how to select locally easy-to-maintain equipment and to how to manage equipment after the completion of the projects as shown in the Sokoine University Project in Tanzania.

(8) Sustainable cooperation and collaboration with the Japanese Partner Universities

As is identified in this study, the impact from the collaboration with the Japanese Partner Universities is extremely significant. It is highly likely that the Japanese Partner Universities can make greater contribution to the sustainability of the institutions by continuing the collaboration and offering the assistance even after the project completion. In the future, it is important that the Japanese Universities get involved in the projects from the project formulation stage, and the projects are designed to incorporate their ideas about what collaboration format or theme the partner universities would continue to support after the project completion. Currently, the national and public universities are being incorporated as the Independent Administrative Institutions, and the role of universities in the society is becoming more and more important in Japan. It is expected that more universities in Japan will be interested in participating into the international cooperation in the future.

6.3.3 Recommendations on Follow-up

(9) Promotion of the South-South cooperation

The study reveals that not a few activities of the projects expanded to the regions or countries

outside of the scope of the projects. In some cases, the targeted institutions, particularly those that had received the cooperation from JICA for a long time, became the information center for the training of the third-party countries and the South-South cooperation, and were working to spread education, research, and social activities.

This development was made possible because all the targeted institutions had excellent human resources and capability to implement projects and are well experienced in the global networking. It is desirable for JICA to support the targeted institutions in network building with other institutions inside and outside the targeted country, and in disseminating the project effects beyond scope of the project.