
Chapter 2 Effective Approaches for Higher Education

Four development objectives:

- Improvement of Educational Activities
- Strengthening of Research Function
- Furthering of Contributions to Society
- Improvement of Management

2-1 Four Development Objectives for Higher Education

If one considers the environment surrounding higher education and changes in the roles demanded of higher education mentioned in Chapter 1, the following sorts of key words come up regarding education reform in developing countries:

- Diversification of higher education institutions
- Promotion of lifelong learning
- Expansion of higher education and rectifying of inequities among groups
- Distance education and regional education through the application of information and communication technology
- Evaluation of higher education institutions and improvement of quality
- Networking of higher education institutions
- Cooperation with industry
- Promotion of private education
- Diversification of funding for higher education
- Governance, university self-government, and academic freedom

Touching upon these actual approaches to higher education reform, we will put forth four development objectives in this chapter: **Improvement of Educational Activities, Strengthening of Research Function, Promotion of Contributions to Society, and Improvement of Management.**

Details regarding each will follow.

2-2 Effective Approaches for Higher Education²⁵

Development Objective 1
Improvement of Educational Activities

Development Objective 1: Improvement of Educational Activities

The central function of higher education is education. Through educational activities, human resources necessary for socio-economic development are turned out for society and, for individuals, opportunities in higher education that match individual needs and abilities are offered-the objectives of higher education institutions. Thus, the improvement of educational activities in higher education is important.

As directions for improvement, first, by diversifying higher education institutions, broader access can be secured and diverse needs in higher education can be responded to. Second, the quality of higher education must also be improved. Third, planning for the expansion of higher education opportunities for women and other vulnerable groups must take place so that inequities in higher education can be rectified.

Mid-term Objective 1-1:
Response to Diverse Educational Needs by Diversifying Higher Education Institutions

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Recently, together with the diversification and increasing level of socio-economic activities, a greater diversity in the ways higher education is structured is demanded. Also, from the perspective of the creation of a knowledge society, it is necessary to provide various forms of higher education to the whole society and to develop a broad population who can receive and apply knowledge. Furthermore, if one looks at the current situation of higher education in developing countries, as with industrialized countries, they are moving steadily down the road to mass education. Naturally, the spread of primary and secondary education pushes up the demand for enrollment in higher education, and therefore many countries are moving in the direction of expanding higher education. Demand is to guarantee opportunities widely in a way that meets individual needs and abilities.²⁶ Expansion of access to higher education is also important from the perspective of individual self-realization. **Through the**

Higher education institutions must be diversified so that higher education can respond to diversifying needs in the society and so that access to higher education can be expanded.

²⁵ 2-2 “Effective Approaches for Higher Education” aims to discuss the various issues in the field of higher education in developing countries and various approaches for improving the situations analytically and comprehensively. In particular, the focus of the work is on clarifying the mutual relationships between objectives and means by looking at development objectives, then mid-term objectives, followed by sub-targets of mid-term objectives and examples of project activities. As a result, for each development objective, for each mid-term objective and for each mid-term objective sub-target, it becomes difficult to see the lateral connections. However, in actuality, those individual policies do not exist independently. It is hoped that care has been taken to design projects where these measures are effectively combined. For example, in many cases, in a project for assisting with the establishment of a university one should address the reform of educational activities, the research function and management at once. In order to strengthen the research function, in addition to the development of researchers, setting up a good research environment is necessary. In such a way, several strategic objectives and sub-objectives must be put together or there will be many cases where results are not achieved.

²⁶ In the World Declaration of Human Rights (1948): “Everyone has the right to education.... higher education shall be equally accessible to all on the basis of merit.” (Article 26, Item 1).

diversification of higher education institutions, it is important for access to be expanded and for people’s diverse needs to be met.

Diversification of higher education institutions is also necessary from the perspective of promoting lifelong learning.

In addition, recently, the speed of innovation in knowledge and technology is getting faster and faster, and it is becoming necessary not only to receive higher education in the period following secondary education and before going out in society, but on an as-needed basis throughout ones life in order to acquire new knowledge and skills. A higher education where entrance requirements and course of study are flexible and there is “freedom of entry and departure” throughout ones life is needed as a place for lifelong learning, and diversification of higher education institutions for this purpose is progressing.

Diversification of higher education institutions:
Diversification in courses of study, distance education making use of information and communication technology, promotion of private education, regional universities that encompass several countries, etc.

The first type of **diversification** is **in the form of courses of study**. For example, one can set up a 2- or 3-year short-term higher education institution, set up a part-time program at night targeting adults, or have an open university using correspondence education and having no selection process for entrance. The second type of diversification is in **distance education making use of information and communication technology**. In addition to broadcast universities making use of TV or radio, computers and the Internet have caused the rapid development of distance education that is able to communicate a large volume of information at high speed, and this has led to the birth of online and virtual universities with no physical campus. The issues of the digital divide remain, but information and communication technology has made it possible for people to obtain higher education anytime, anywhere at a cheap price, which has contributed to expansion of access to higher education. In addition to this, one must develop diverse higher education institutions. **The promotion of private education** will diversify financial resources available to higher education and increase higher education opportunities. Also, for regions like the South Pacific and southern African regions where there are a number of small countries, one must **establish regional universities that cover several countries**.

The expansion of higher education enrollment adds a new financial burden for the finance of education, but by diversifying higher education, establishing short-term courses of study and by applying IT to conduct correspondence courses it is possible to expand higher education with less of a financial burden. From the perspective of educational finance, diversification of higher education is also necessary.

On the other hand, the expansion and diversification has resulted in part in a lowering of quality. In expanding higher education enrollment, it is also important to establish a public mechanism to prevent the lowering of higher education quality at the same time in addition to each institution’s own efforts to raise quality. This should include the establishment and application of accreditation standards for higher education as well as evaluation and guidance. This point will be covered later in “Development Objective 4: Improvement of Management.”

**Mid-term Objective
1-2:
Raising the Quality
of Educational
Activities**

**Mid-term Objective 1-2: Raising the Quality of Educational
Activities**

Over the last half-century, enrollment in higher education in developing countries has risen immensely, but there are still many problems related to quality. Excluding a few exceptional cases, many higher education institutions in developing countries are only able to offer a less-than-adequate quality of education compared to industrialized countries. Classrooms and laboratories are in poor condition, overflow with students, and libraries are old and cannot provide adequate information. In addition, the number of computer facilities is lacking and it is impossible to access necessary information such as academic journals, the curriculum is out-of-date, the quality of both teachers and incoming students is low and there is no system for evaluating the educational activities. Among these problems, the lack of highly capable teachers exerts a big influence on higher education. The expansion of higher education of inadequate quality has no meaning from the very point that it cannot develop the human resources required by society. Moreover, it is a gigantic loss for the governments of developing countries making huge investments in education and for students who waste several years of opportunity cost. Thus, always looking at the quality issue is essential.

Raising the quality of education through improving teachers, students, curriculum, educational materials, facilities and equipment, etc. is necessary.

To address the issue of raising higher education quality, **improvements must be made in all the inputs such as teachers, students, curriculum, educational materials, and facilities and equipment.** Teachers must have appropriate qualifications, receive ongoing training opportunities, have a system set up where they can conduct enough educational and research activities and be provided with appropriate incentives, including adequate compensation. In addition, because the quality of students is an important factor affecting the internal efficiency²⁷ of higher education, it is necessary to have a fair selection mechanism for selecting high quality students, and appropriate guidance after entry is necessary. However, even if efforts are made to address issues in higher education, if a high enough quality of primary and secondary education do not take place and students do not enter prepared with the necessary basic academic capability, it will be difficult to improve the quality of higher education. From this perspective, one should recognize coordinated reform of the entire education system is also important.

A quality assurance system that has standards for accrediting higher education institutions is necessary.

In order to guarantee and raise the quality of diverse forms of higher education and make sure of its international compatibility, together with improving inputs such as teachers, students and educational facilities, it is becoming necessary to have **an accreditation system in which proper agencies**

²⁷ Internal efficiency is the relationship between input (investment) and output (results). In the education field, student repetition rates and graduation rates are often used as indicators. In contrast to this, external efficiency reflects the relationships between education and employment (labor).

evaluate educational activities. However, among developing countries, there are some that still have no public agency that authorizes and accredits higher education institutions. On the other hand, higher education in developing countries is riding a rapid wave of globalization, and not only teachers, but students and graduates often relocate within the region or internationally. Because of this as well, the quality of higher education institutions must be assured. In the Development Objectives Chart in this section, quality assurance is connected not only with educational activities but with the institutions themselves, including their research activities. Thus, the issue is included in “Development Objective 4: Improvement of Management.”

**Mid-term Objective
1-3:
Expansion of
Female Enrollees
and Enrollees from
Other Vulnerable
Groups**

It would be best to increase the number of enrollees from vulnerable groups including women and minorities, in order to rectify educational inequities.

Mid-term Objective 1-3: Expansion of Female Enrollees and Enrollees from Other Vulnerable Groups

In many cases, circumstances for moving on to higher education are favorable for children of wealthier classes in the society and there is a gap with the poor, and certain castes, ethnic groups, speakers of certain languages, between the urban and rural dwellers and in terms of gender. The main causes of vulnerable groups being excluded from higher education are the academic gap that impacts on the selection process for entry, the burden of tuition and living expenses, and other factors like the discriminatory social environment for employment. Not only are these higher education gaps socially unfair but they mean that human resources with hidden abilities are not able to be absorbed appropriately into the institutions and given appropriate training. Therefore, **the inequalities in higher education must be rectified and one must plan to expand higher education enrollment opportunities for women, minorities and other vulnerable groups.**

In terms of concrete policies, in addition to providing higher education services that meet the needs of women and other vulnerable groups and diversifying higher education institutions in ways that meet their needs, it is also necessary to prepare the social environment to respond to these people by having a facility to assist with employment after graduation and advocacy to enlighten the publics. Also, there is a necessity, where appropriate, to consider affirmative action²⁸ policies such as a relaxation of entrance standards for women and other vulnerable groups and subsidization of tuition fees. Also important to the promotion of enrollment of vulnerable persons is improvement of governance of the institutions and promotion of democracy in that governance, and participation of various actors in the management of the institutions. However,

²⁸ Affirmative action policies like relaxation of entrance standards and setting aside places for certain groups invites the possibility of a reduction in quality. Therefore, these policies need to be coupled with care after entry for students receiving the preferential treatment. Also, whether each type of preferential treatment is truly fair will often be judged differently by different people and there needs to be enough debate in applying certain policies.

the biggest cause of the enrollment inequalities is the gaps in academic abilities at the entry point which is caused by the gaps at the levels of primary and secondary education, so if such gaps are removed at an early stage, inequalities in higher education will close significantly.

JICA's Activities:

- Recently, examples of JICA cooperation to diverse forms of higher education are increasing
- Raising the level of educational activities has long been a centerpiece of JICA higher education cooperation
- There are no examples yet of JICA cooperation to expand higher education enrollment of women and other vulnerable groups

JICA's Activities

There are several examples of approaches in JICA's assistance, though few, in the area of Mid-term objective 1-1, "Response to diverse educational needs through diversification of higher education institutions." These include cooperation with engineering polytechnics with the aim of developing technologists (Indonesia: Electronic Engineering Polytechnic Institute of Surabaya, Saudi Arabia: Riyadh College of Technology, etc.); cooperation for various types of short-term educational courses of study (Laos: Lao-Japan Center for Human Resource Cooperation, etc.); cooperation with distance education making use of information and communication technology (Malaysia: Multimedia University, Sri Lanka: University of Colombo School of Computing); and cooperation with regional universities that cover several smaller countries (Fiji: South Pacific Distance Education, etc.). Recently, higher education needs in developing countries have been rapidly diversifying, so JICA has been working to respond to these diverse higher education needs, and **examples of cooperation to diverse forms of higher education institutions are increasing.**

Mid-term objective 1-2, "Raising the quality of education activities," has long been a central area for JICA cooperation in higher education. **There are many examples of cooperation to expand or improve education in university departments.** The cooperation with Jomo Kenyatta University of Agriculture and Technology in Kenya and King Monkut's Institute of Technology in Thailand are not only good examples of higher education cooperation but are frequently mentioned as representative examples of Japanese ODA. There are more examples. Many of these cooperation examples target the agriculture, engineering and medical departments of universities, and facilities and/or equipment are provided through grant aid and as a part of technical cooperation. In other cases, long-term experts are dispatched to provide technical guidance to counterpart teachers, improve curriculum or develop educational materials. Also, a new approach increasing in frequency is not to target a single university but to make use of a network of several universities with a project aiming to improve education and research capacity. For example, the "Higher Education Development Study" project in Indonesia involves cooperation of 11 domestic universities, the "Southeast Asia Engineering Education Network" project involves cooperation of 19 universities in the ASEAN countries, and the "National University of Laos Engineering Diploma Program," by linking National University of Laos and King Monkut's Institute of Technology,

Lakrabang in Thailand, aims to raise teacher capabilities and improve curriculum.

JICA has almost no examples of cooperation under Mid-term Objective 1-3: “Expansion of female enrollees and enrollees from other vulnerable groups.” JICA’s higher education cooperation up until now has not approached higher education from the aspect of gender and educational inequalities, but one can look forward to this kind of approach in the future.

Development Objective 1 Improvement of Educational Activities

Mid-term Objective 1-1 Response to Diverse Educational Needs by Diversifying Higher Education Institutions			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA’s Main Activities
Diversification of Courses of Study	Promotion of establishment and expansion of community colleges and polytechnics Promotion of establishment of short-term programs (e.g. technician training course, business course, etc.) × Promotion of establishment of part-time programs (evening classes, etc.) × Promotion of establishment of open universities	1,3,9 11,15,20	• Assistance for establishment and expansion of polytechnics, business courses, etc. (Technical Cooperation, Grant Aid)
Promotion of Distance Education by Making Use of Information and Communication Technology	× Distance education making use of television, radio and telephone Building and operation of distance education systems making use of information and communication technology or satellite broadcast	11,15,28	• Assistance for establishment and management of distance education systems (Technical Cooperation)
Promotion of Private Education	× Promotion of establishment of private higher education institutions		
Provision of Higher Education through Regional Cooperation	Establishment of regional universities	28	
Adjustment of Systems to Make Diversification of Higher Education Possible	× Relaxation of standards for establishing higher education institutions × Arrangement of laws and tax systems to promote private education		

Mid-term Objective 1-2 Raising the Quality of Educational Activities			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA’s Main Activities
Improvement of Teacher Quality	Implementation of programs for technical guidance and training of teachers, and for them to obtain degrees Implementation of appropriate teacher evaluation × Establishment of a bonus system for teachers × Improvement in the benefits and security system for teachers (salary, various allowances, promotion, retirement pay, etc.)	1, 5, 6, 9, 12, 13, 16, 20, 22, 23, 25, 26, 27, 28 20	• Assistance for establishment and expansion of university faculties/departments (Technical Cooperation, Third-country Training)
Improvement of Student Quality	Implementation of guidance and counseling for students Review of the entrance examination system (e.g. making entrance standards and the selection process more appropriate) × Appropriate provision of scholarships and loans	9	

Approaches for Systematic Planning of Development Projects / Higher Education

Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Improvement of Curricula	Establishment of appropriate curriculum (e.g. yearly teaching plan, unit planning, content of subjects taught, exercises, evaluation methods, etc.) Ensuring compatibility of courses of study among higher education institutions within a region or country through collaboration (networking, etc.)	1,4,5,6,8,9,10,11,12 10,25	
Improvement of Teaching Methods	Proposals and training on effective and efficient teaching methods Planning, establishment and implementation of teaching methods using information and communication technology	4,5,6,8,9,10,13,15,16 15,25,28	• Assistance for establishment and expansion of university faculties/departments (Technical Cooperation)
Improvement of Textbooks	Promotion of development of multimedia educational materials and teaching methods making use of information and communication technology Development and improvement of educational materials (e.g. teacher guidebooks, translations of works in local languages, creation of manuals, lecture materials)	25,28 1, 5, 6, 8, 9, 11, 19,20, 22, 25, 28	• Assistance for establishment and expansion of university faculties/departments (Technical Cooperation)
Improvement of Facilities and Equipment	Extension and rebuilding of classrooms and laboratories Provision of machinery for experiments and hands-on learning Equipping of libraries × Provision of student dorms and other accessory facilities	3 1, 3, 5, 9, 10, 12, 13, 14, 19, 20, 22, 23, 28 11	• Furnishing and improvement of educational facilities and practical training equipment (Technical Cooperation)

Mid-term Objective 1-3 Expansion of Female Enrollees and Enrollees from Other Vulnerable Groups			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Research and Outreach Activities on Higher Education Enrollment of Females and Other Vulnerable Groups	× Research, field surveys, and surveys of consciousness on the enrollment of females and other vulnerable groups in higher education × Implementation of various types of outreach activities concerning higher education enrollment of females and other vulnerable groups × Use of females and members of other vulnerable groups who have completed higher education as role models		
Introduction of Affirmative Action Enrollment Policies for Females and Other Vulnerable Groups	× Introduction of quota systems for higher education entry of females and members of other vulnerable groups × Relaxation of academic standards for higher education entry for females and members of other vulnerable groups × Priority scholarship consideration for females and members of other vulnerable groups		
Diversification of Higher Education Institutions to Meet the Needs of Females and Other Vulnerable Groups	× Provision of low-cost courses of study (correspondence education, short-term courses, etc.) Provision of courses for people in remote areas (distance education, etc.) × Provision and expansion of educational facilities that pay attention to gender issues (dorms, satellite facilities, etc.) × Increased flexibility in courses of study (part-time courses, short-term courses, etc.)	25,28	

Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Employment Assistance after Graduation for Females and Members of Other Vulnerable Groups	<ul style="list-style-type: none"> × Shaping of a labor market that is fairer and more open × Priority provision of employment information to females and members of other vulnerable groups 		
Rectification of Inequities in Primary and Secondary Education for Females and Members of Other Vulnerable Groups	*Refer to JICA/IFIC(2002)		

Examples of Activities:
 = JICA has considerable experience
 = JICA has certain experience
 = JICA has experience as a component of projects
 × = JICA has little experience

Development Objective 2: Strengthening of Research Function

“Strengthening of research function” is an essential issue, particularly for science-related universities and graduate schools

Development Objective 2: Strengthening of Research Function

As expressed earlier, along with educational activities and contributing to society, research is one of the important functions of higher education institutions. Research activities develop human resources in higher education and, moreover, are activities that are indispensably connected with improvements of educational activities. Also, the dissemination of the results of research activities contributes to society. However, in developing countries, there are many higher education institutions whose research capacities are inadequately developed, and this exerts a big drag on the other functions of education and contributing to society. Therefore, **strengthening of the research function is an issue that cannot be avoided in strengthening higher education institutions in developing countries, particularly institutions focusing on the sciences.**

Mid-term Objective 2-1: Development and Strengthening of the Capacity of Researchers

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Mid-term Objective 2-2: Improving the Research Environment in order to Strengthen the Research Function

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Regarding the former, one should increase the number of teachers who hold Master’s Degrees and Ph.D.s, and it is essential to promote the systematic development of researchers, using study away opportunities domestically or internationally and exchange programs with other higher education institutions. However, research activities cannot be accomplished overnight even if one promotes the development of researchers. It is needed to improve and vitalize research activities on a continuing basis, one must assist by providing follow-up guidance and advice to researchers after training/study through the dispatch of professors from Japanese universities or information and commutation technology, or through the human networks developed through higher education

In order to “strengthen the research function,” it is necessary to approach from two sides - by developing and strengthening the human resources who conduct research activities and by concrete improvements to the institutional environment that will make research activities possible.

There are many cases in developing countries where there is no consciousness of the importance of research activities. Thus, it is important to cultivate a ground where research will be pursued actively.

JICA's Activities:

The main means has been through a combination of technical cooperation and grant aid. Recently, long-term training and grant aid for foreign students in which participants are able to obtain academic credit in Japan are becoming more popular.

study at other institutions.

Also, in developing countries, because basic infrastructure for academic activities - such as libraries and laboratories and laboratory equipment - are insufficient, there are not a few cases in which it is physically impossible to conduct research activities. Therefore, along with the development of researchers, it is important to raise the quality of research by building the foundation for research activities in a research environment with the needed facilities and equipment. However, if one doesn't take care to consider the level of research at the institutions before providing these facilities or equipment, there is a chance they will not be used appropriately. Thus, one must take special care on this point. Also, recently, along with the above kinds of traditional facilities and equipment, securing access to online journals and appropriate research networks have also become a key part of the infrastructure for research.

In addition, in developing countries, there are many cases where even at graduate schools in the sciences **there is little consciousness of the importance of research and where research activities are not taking place. Therefore, it is important to emphasize the significance of the research function to higher education institutions and cultivate a ground where research will be pursued actively.** In order to do this, as an incentive for research activities, useful policies one can think of are provision of research funds and promotion of collaborative research. In addition, expanding opportunities to present research findings such as presentations at meetings of international academic societies and submissions to international academic journals are indispensable to encouraging and raising the quality of research. Together with this, on a domestic level, assistance for publication of university journals and academic journals, and establishment of academic societies can be considered important because they secure a means of presenting research findings to the outside world.

JICA's Activities

Looking at JICA's assistance up until now, there has been little assistance focused solely on strengthening research activities. However, there are many projects where this area has been addressed together with improvement in educational activities. As a strategy for strengthening research activities, **the main focus has been on guidance and advice from Japanese instructors dispatched for short or longer terms or provision or improvement of facilities and equipment through funding schemes such as grant aid.** The HEDS (Higher Education Development Study) project implemented in Indonesia from 1990-2002 involved innovative forms of cooperation such as giving teachers at the targeted universities the opportunity to study at the top schools within Indonesia or conducting collaborative research between universities in Japan and the targeted universities in Indonesia. However, this

example could be said to be rather exceptional.

However, after this, **the long-term training and grant aid for foreign students funding schemes were started, and credits from academic institutions in Japan could be obtained. Thus, having trainees study in Japan was actively employed as a way of strengthening the research function at higher education institutions in developing countries.** Also, the Southeast Asia Engineering Education Network project (AUN/ SEED-NET) was started in 2002, and through building a network of 19 universities in ASEAN countries and 11 within Japan, it aimed to strengthen the targeted educational institutions. This was done through a combination of inter-regional study abroad experiences (for example, someone at Cambodia Science University would study at Chulalongkorn University in Thailand), and chances to study abroad in Japan. Also, there is a trend of expanding assistance towards things like research funds and participation and academic presentations at international academic conferences now that recognition of their importance has deepened.

Development Objective 2 Strengthening of Research Function

Mid-term Objective 2-1 Development and Strengthening of the Capacity of Researchers			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Training of Researchers	Establishment and expansion of graduate-level courses of study and research centers	2,7,11,12,29	<ul style="list-style-type: none"> • Assistance for expanding and equipping graduate schools (Technical Cooperation) • Equipping and strengthening research institutes (Technical Cooperation) • Implementation of student exchange programs (Technical Training of Overseas Participants, Grant Aid)
	Implementation of short-term training (e.g. organization of technical guidance, seminars, short training courses, workshops, symposia; implementation of mutual exchange projects, etc.)	2,6,7,8,18,23	
	Implementation of "study away" programs (abroad, regionally, nationally)	7,23,26,29	
	Improvement of research content and methods	2,6,10,12,17,18,21,29	

Mid-term Objective 2-2 Improving the Research Environment in order to Strengthen the Research Function			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Improvement of Facilities and Equipment	Provision of research equipment (implements for experiments, etc.)	7,12,18,23,26	<ul style="list-style-type: none"> • Furnishing of research facilities and equipment (Technical Cooperation)
	Provision of research facilities and equipment (laboratories, etc.)	7,18,23	
	<ul style="list-style-type: none"> × Promotion of access to online journals × Promotion of international joint use of research facilities 		
Securing of Opportunities for Presentation of Research	Attendance and academic presentations at meetings of international academic societies	6,23	<ul style="list-style-type: none"> • Assistance for expanding and equipping graduate schools (Technical Cooperation) • Assistance for expansion and solidifying university education (Technical Cooperation)
	Organization of seminars and workshops on research results	2,23,26	
	Promotion of establishment of academic associations and of institutional publications	26	
	<ul style="list-style-type: none"> × Promotion of presentations through means such as the use of online journals 		

Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Vitalization of Research Activities	Building of domestic and international inter-university networks	23,26	<ul style="list-style-type: none"> • Assistance for expanding and equipping graduate schools (Technical Cooperation) • Assistance for expansion and solidifying university education (Technical Cooperation)
	Planning and initiation of functional units for developing joint research	23,26,29	
	Creation of a system for securing research funds (e.g. competitive funds)	23	
	× Creation of an incentive system for research activities (e.g. research allowances)		

Examples of Activities:
 = JICA has considerable experience
 = JICA has certain experience
 = JICA has experience as a component of projects
 × = JICA has little experience

Development Objective 3: Promotion of Contributions to Society

Development Objective 3: Promotion of Contributions to Society

Along with educational and research activities, the important functions of higher education institutions include activities to contribute to society by returning the accumulated knowledge directly back to society. As the role of higher education has become reevaluated in society, these kinds of societal contributions have become demanded more and more. In this section, we will discuss the relationship between society and higher education from two perspectives-that of assistance to community development activities and that of cooperation with industry.

Mid-term Objective 3-1: Assistance to Community Development Activities

Mid-term Objective 3-1: Assistance to Community Development Activities

Many issues in development have become more diversified and complicated, and it has become necessary to search for development solutions that match the socio-economic situations in different local societies. Within this context, **higher education institutions cannot be isolated from society, but must be actively involved in the issues society faces and contribute to their solution.**

Higher education institutions must be actively involved in the issues their local community face and directly contribute to their solution.

Education and research activities do not only deal simply with universal truths and issues. People are looking at development issues in their communities and taking them on in the educational curriculum and as research subjects. Also, not only through education and research, but the number of higher education institutions implementing local development activities directly or providing community development organizations with technical guidance and information is increasing. This way of involving teachers and students directly in community development activities is also useful for helping higher education institutions to direct their education and research interests more towards addressing society's problems.

**Mid-term Objective
3-2:
Strengthening of
Cooperation with
Industry**

Together with developing human resources that match the needs of industry, strengthened cooperation with industry such as collaborative research and human resource exchange have been demanded.

Mid-term Objective 3-2: Strengthening of Cooperation with Industry

One of the important roles of higher education is to develop the human resources necessary for socio-economic development and, by sending them out into the world of work, to contribute to economic growth. Also, **other contributions of higher education to industry have been demanded such as not only providing human resources with skills and knowledge, but cooperating directly with industry in conducting collaborative research and engaging in human resource exchange between teachers and industry technical specialists.**

First, if one looks at the provision of graduates to industry, over the last half-century of higher education turning out graduates in developing countries, in many countries, the hoped-for economic growth has not been achieved and the stubborn reality is of unemployment and underemployment of higher education graduates. Regardless of the economic situation, the number of people hoping to enroll in higher education has increased greatly and there is the dilemma that, while there is a need to widen the doors and accept more enrollees, on the other hand, the greater the number of graduates, the worse off the unemployment problem will be.

Also, with rapid technological innovation and structural changes in industry, the human resource needs of industry are also changing. Yet, despite this, one cannot deny that higher education has been unable to respond to these changes.

In the world of industry, the speed of innovation in technology and information has accelerated. In this situation, there is demand for human resources completing higher education who are generalists and have mastered knowledge and skills that enable them to respond to changes in the structure of their job or technological content. On the other hand, specialists who can respond to a higher level of work and greater complication of a specific type of job are also necessary.

The issues in the relationship between higher education and industry not only differ depending on the country, region and type of industry; they also vary based on future economic and societal prospects. However whatever the case, to solve the problems, strengthening cooperation between higher education and industry is necessary. Because the needs of industry are varied and change very easily, the building of mechanisms to prevent miscommunication are necessary such as having industry participants in the managing apparatus of higher education institutions and human resource exchange between university researchers and industry technologists. Also, it is necessary to conduct education and research aligned with the needs of industry-which can be accomplished by having people affiliated with industry join in discussions about curriculum

development of higher education institutions, by the promotion of collaborative industry-university research and by discussion of a plan for long-term human resource development in collaboration between higher education institutions and industry. Furthermore, cooperation with industry is necessary for improving the employment situation of graduates. Industry must provide employment information, implement internship opportunities and moreover, teach and develop entrepreneurial skills.

JICA's Activities:

- JICA has some pioneering examples of projects to assist community development activities
- Concerning strengthening cooperation with industry, there are examples of JICA projects involving engineering cooperation, but JICA's project experiences in this area have not been systematized.

JICA's Activities

Concerning mid-term objective 3-1 "Assistance to community development activities," there are not a large number of JICA projects, though there are several. "The Sokoine University of Agriculture Centre for Sustainable Rural Development" in Tanzania a pilot project involved cooperation to develop a plan for alleviating rural poverty, and in the project "African Institute of Capacity Development" in Kenya, issues common to Africans across the continent are taken up and, through the cooperation of other African universities, collaborative research and training has been implemented. Examples of JICA cooperation in higher education in which regional issues are taken up and collaborative research and human resource development are conducted have increased recently, and this is probably because university contributions to society have been demanded more and more strongly.

Concerning Mid-term Objective 3-2 "Strengthening cooperation with industry," there are various examples centering on cooperation projects in the engineering fields. For example, in Indonesia, "Higher Education Development Study" and in Thailand "Pathmuwan Technical College Improvement Plan" in which collaborative research between the school and industry was supported, and also in Thailand, KMITL (King Monkut's Institute of Technology Ladkrabang) in which students were provided with internships in industry. Also, in Indonesia's "The Strengthening of Polytechnic Education in Electric-Related Technology Project" and "Higher Education Development Study," job placement centers were established within the schools and, while supporting students' securing of employment, also served as a means for the schools to understand the needs of industry.

However, each of these activities is pursued in a separate project conducted experimentally, and the experiences have not yet been gathered and shared more widely. In engineering-type projects that seek to make up for a deficit of technologists in industry, developing cooperation with industry is essential, and in the future the accumulation and sharing of these experiences and wisdom will be important.

Development Objective 3: Promotion of Contributions to Society

Mid-term Objective 3-1 Assistance to Community Development Activities			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Understanding of Needed Community Development Activities	Survey research to determine development issues based on the special characteristics of the community and specific areas for training	21,24,28,29	
Improvement of Education and Research Curricula so that Education matches Community Development Needs	× Participation of community development practitioners in curriculum development Research on appropriate technological development that meets the needs of the community	21,18,28	• Promotion of educational and research activities matching community development needs (Technical Cooperation)
	Provision of education and establishment of training capacity that meet the needs of the community	9,15,22,28	
Planning, Technical Assistance and Provision of Information Related to Community Development Activities	× Implementation of community development activities, technical guidance for the implementation of community development activities, and expansion of consultancy services (Extension and Consultancy Services) × Establishment of different types of open courses for adults (IT, English, etc.)		

Mid-term Objective 3-2 Strengthening of Cooperation with Industry			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Understanding of Industry Recruitment and Human Resource Needs	Survey and analysis of graduates' employment data	22,23	
	Survey and analysis of the human resource needs of industry	1,23	
Creation of a Mechanism for Collaboration between Higher Education Institutions and Industry	× Participation of industry representatives in various management and advisory structures of higher education institutions × Exchange between educators and researchers at higher education institutions and industry personnel		
Improvement of Education and Research Curricula to Meet Industry Needs	× Participation of industry representatives in curriculum development Implementation of joint industry-university research × Promotion of recognition of the various types of higher education institutions established by industry	23	• Expansion and strengthening of polytechnics and engineering education (Technical Cooperation)
Improvement of the Employment Situation of Graduates	With the cooperation of industry, provision of employment information and counseling Implementation of internships in industry for current students	1,22,23	• Expansion and strengthening of polytechnics and engineering education (Technical Cooperation)
	× Student participation in industry-university joint research × Development of entrepreneurial skills in higher education programs	7	

Examples of Activities:
 = JICA has considerable experience
 = JICA has certain experience
 = JICA has experience as a component of projects
 × = JICA has little experience

Development Objective 4: Improvement of Management

Development Objective 4: Improvement of Management

Up until now, JICA’s assistance to higher education has centered on transfer of various types of specialist knowledge and technology. However, in order to improve and maintain improvements in the overall quality of the education and research functions of universities, and to respond to the diversification of needs that comes with changes in society, one must look at the higher education sector as a whole, and look at the improvement of management in educational institutions as a whole.

Management is an area that intersects with all the other functions of higher education and is indispensable for all these other functions to work smoothly. Lately, in aid to higher education, assistance for establishing policies and systems across the entire higher education sector and the management system of higher education institutions is gaining attention.

Mid-term Objective 4-1: Establishment of Legal, Institutional and Financial Frameworks

Mid-term Objective 4-1: Establishment of Legal, Institutional and Financial Frameworks

Higher education is intimately connected with a country’s socio-economic situation (wages and income, employment, labor market policies, national science and technology policies, etc.), and the primary and secondary education sector. Therefore, it is necessary to establish policy frameworks that are linked with them. Furthermore, it is important to establish and implement a higher education program that is based on international agreements and goals, the current situation of the country, the content of national development plans, the needs of country’s people, and trends in other sectors. Also, **it is important to build a cooperative relationship between higher education institutions and national-level planning and coordination bodies so that one can establish consistent legal, systemic and financial frameworks for the development of higher education, and take care of the especially important financial appropriations for higher education.**

It is important to establish consistent legal, institutional and financial frameworks for the development of higher education

Mid-term Objective 4-2: Strengthening the Management Function

Mid-term Objective 4-2: Strengthening the Management Function

Many higher education institutions in developing countries face problems such as limited national funding sources, lowering of quality resulting from rapid growth in numbers of students, and an inefficient management system. In order to address these issues, effort by the institution itself in the area of management is necessary. Also, higher education institutions, while being given the chance to administrate their institutions autonomously, on the other hand have a mission to conduct a high level of education and research and to guarantee services for the community. Thus, they have the burden of accountability to government, students and the general public for a clear and

It is important to strengthen the management function by training government administrators and administrative staff of higher education institutions, introducing internal information systems, improving teaching staffs, and developing a system for maintaining and managing facilities and equipment.

Mid-term Objective 4-3: Improvement of Finance

It is important to make efforts to secure diverse financial resources and to use limited budget efficiently.

Mid-term Objective 4-4: Quality Assurance

In order to improve the quality of higher education, it is important to conduct appropriate evaluation of education and research outcomes.

straight-forward explanation of the results they are achieving²⁹ (UNESCO (1998)).

As an approach to the management of higher education institutions, the higher education administrative function must be made more efficient through training government administrators, internal institutional management must be improved through training of administrative employees and introduction of an internal information system, the teaching staff must be improved, and facilities and equipment must be used efficiently and effectively.

Mid-term Objective 4-3: Improvement of Finance

At present, global trends in higher education expenditure include the principle of some burden being borne by the beneficiaries, a comparative increase in private education, and introduction of tuition fees at public institutions or cost increases. In developing countries, too, the establishment of private universities run using private funds is increasing.

In developing countries, based on limited government finances, the financial foundation for higher education institutions is fragile, and there are many cases where efficient use is not made of these limited resources. **Diversification of resources** such as securing funds from the private sector or selling agricultural products in a way that makes use of research results, or consulting work, **is important for securing a financial foundation as well as making use of limited budgets.**

Also, in many developing countries, even through there are scholarships and systems for tuition loans, the low rate of money being paid back demonstrates the problems these systems face. It is important to improve the management of these systems and ensure that gifted students can effectively make use of them.

Mid-term Objective 4-4: Quality Assurance

While on the one hand, the economic situation is gloomy in developing countries, on the other, the number of higher education students continues to increase, and the issue is therefore how, in this severe environment, to maintain the quality of higher education. Especially at newly established private universities and polytechnics and specialty schools, an evaluation system does not function well enough, and these institutions face the problem of declining quality. **In order to raise the quality, an appropriate system for evaluating the quality of education and research at these institutions must be established.** Universities must also fulfill their own responsibilities for

²⁹ World Bank (1998) points out the difficulty of securing accountability, and the necessity of establishing clear guidelines, introducing an effective way of measuring output, and establishing clear standards for evaluating results.

accountability, and to secure society's trust and support, must appropriately evaluate their education and research activities and their financial situation. Information including the results of these evaluations must be actively presented for the outside world.

Also, in order to provide a fixed standard of higher education, a system for authorizing higher education institutions and an accreditation system based in a public, third party institution need to be created.³⁰ Through this, higher education institutions will be evaluated and authorized objectively, and the overall quality of the sector can be guaranteed. However, while they secure a guarantee of quality on one hand, there is the danger that accreditation systems will bring about too much uniformity. Also, when these systems are supported through international cooperation, there can be a reaction that the donor country is pushing its own standards upon the recipient country. Thus, it is important that the situation of the recipient country be fully understood and a flexible system constructed whereby the institutions' autonomy and independence are preserved.

JICA's Activities:

There are few examples of JICA cooperation in the area of higher education management, but JICA should implement projects with a focus on this area in the future, and also accumulate knowledge in this area.

JICA's Activities

Improvement of management contributes to the efficient improvement of the quality of higher education.

Thus far, there have been few examples of JICA cooperation in the area of higher education management. However, there are some higher education projects that involve, as one of the activities, guidance and advice about management and training for administrative staff, advice about the use and maintenance of equipment, and provision of scholarships. For example, in the "The Project on Strengthening Training Capability for Technical Workers in the Hanoi Industrial College," guidance and advice on securing of budgetary and human resources as well as management are taking place. Also, from 2002, in Indonesia, an expert in higher education has been dispatched from Japan as a long-term expert with the goal of appropriate administrative decision-making in higher education and improvement of higher education management. Also, provision of information and advice regarding setting of policies and survey research, guidance and advice concerning institutional management have been taking place.

In order to enable projects to produce sustainable results, it is necessary to establish a management system for the efficient implementation of education and research activities and to strengthen the management ability of those involved. In order to do this as well, from now, **it is important to actively**

³⁰ In accreditation, there is accreditation for entire higher education institutions and accreditation for specific educational programs at the institutions. At present, accreditation systems are employed in about 20 developing countries, and in many other countries, there are outside evaluation institutions or committees that have been set up for this purpose. In countries like Columbia and Mexico, depending upon the institution, region, goal or program, different evaluation bodies undertake the evaluation (World Bank (2002b)).

implement projects with a focus on improvement of management and work to accumulate knowledge about management.

In terms of assistance for evaluation of higher education, one type of activity is the “African Institute of Capacity Development” in Kenya and “National University of Laos and Lao-Japan Center for Human Resource Cooperation.” In these cases, monitoring of the management situation and establishment of an evaluation system have been implemented. There are no examples yet of assistance for establishment and solidifying of accreditation systems. In Japan as well, solidification of a system for evaluating higher education institutions is still at an early stage, so the reality is that there is not enough accumulated know-how in this area in Japan. However, in order to raise the quality standards for higher education, active assistance for the establishment of evaluation standards and an evaluation process, as well as the construction of an evaluation system is important.

Development Objective 4: Improvement of Management

Mid-term Objective 4-1 Establishment of Legal, Institutional and Financial Frameworks			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Construction of a Policy Framework	Establishment of a higher education policy based on international agreements and goals, the current situation of the country, the content of the country's national development plan, the needs of the people, and trends in other sectors	24	• Assistance for higher education policy-planning (Dispatch of Long-term Experts)

Mid-term Objective 4-2 Strengthening the Management Function			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Training of Human Resources in Higher Education Administration	× Human resource development of government administrators		
Improving Management Capacity at Higher Education Institutions	× Improvement of university self-government Improvement of internal communication through means such as holding regular meetings Establishment of guidelines and plans for implementing activities at the higher education institutions × Securing of accountability Training for office staff to improve office management skills Sharing of information via an internal university network (e.g. introduction of an internal management information system) Implementation and promotion of public relations activities	11,23 9,29 1,9,11,13, 20, 23 23,29 9,22,23	• Assistance for improvement establishment of university education (Technical Cooperation)
Improvement of Human Resource Management at Higher Education Institutions	Securing and placement of the necessary number of teaching staff Establishment of recruitment and allocation methods for teaching staff	5,9,22 20,22	• Assistance for improvement establishment of university education (Technical Cooperation)
Establishment of Materials Management and Equipment Maintenance System at Higher Education Institutions	Creation of a system for managing and conserving machinery and laboratories	5,8,9,20, 23,25	• Assistance for improvement establishment of university education (Technical Cooperation)

Mid-term Objective 4-3 Improvement of Finance			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Diversification of Financial Resources	Promotion of income-generating activities (e.g. consulting work)	23	
	Promotion of collaboration with local industry and companies (contracted research, etc.)	23	
	× Securing of access to diverse financial resources		
	× Promotion of private education		
	× Promotion of beneficiaries of the education sharing costs (tuition fees, etc.)		
Improvement of Financial Management	Establishment of a mechanism for budgetary allocation	9,22	
	× Establishment of an auditing function		
Review of Scholarship and Loan Systems	× Improvement of scholarship and loan systems		
	× Appropriate selection of scholarship students		
	× Improvement of the loan repayment system		
	× Securing of financial resources for scholarships and loans		

Mid-term Objective 4-4 Quality Assurance			
Sub-targets of Mid-term Objectives	Examples of Activities	Case No.	JICA's Main Activities
Creation of Evaluation System	Development and improvement of appropriate evaluation and monitoring methods	11,20	
	Implementation of regular monitoring and evaluation (quality of the education and research programs, relevance, internal efficiency, budget, etc.)	11,29	
	× Introduction of outside evaluation		
	× Appropriate appraisal and training of evaluators		
	× Creation of a feedback system for evaluation results		
Establishment/Improvement of Accreditation Systems	× Establishment of institutional accreditation		
	× Establishment of professional accreditation		

Examples of Activities:
 = JICA has considerable experience
 = JICA has certain experience
 = JICA has experience as a component of projects
 × = JICA has little experience