
Chapter 3 JICA's Cooperation Policy

This chapter presents JICA's basic way of thinking concerning higher education cooperation. In order to designate clearer priority areas for cooperation, more discussion within JICA needs to occur along with more experience implementing projects.

3-1 JICA's Priorities

3-1-1 Principles

JICA has had a long history of cooperation in the higher education field. One would not exaggerate in saying that representative higher education projects such as assistance to institutions such as Jomo Kenyatta University of Agriculture and Technology in Kenya and King Monkut's Institute of Technology in Thailand which began in the 1960s and 1970s truly carved out a historical path along with JICA. These projects succeeded in developing first-rate universities in developing countries and contributed greatly to the provision of human resources necessary for national development. However, with the exclusion of several recent exceptions, many of these JICA projects to establish or expand university departments were not implemented with a conception for the reform of the higher education sector as a whole based on a broad view of higher education in developing countries and the best shape for this sector. Rather, these projects originated with the goals of compensating for a lack of skilled persons in specific technical fields and producing research results concerning specific technological issues. Thus, JICA's higher education cooperation thus far took a somewhat different perspective - perhaps one could say a more partial or limited perspective - towards the higher education field than what was presented in the Development Objectives Chart in Chapter 2.

The Development Objectives Chart in Chapter 2 analyzed the current situation of the higher education sector in developing countries, and tried to bring out various issues and to systematize methods for development in this area. However, if JICA is to continue cooperation in higher education on the same scale in the future, a clearer assistance strategy, in other words, a prioritization of the cooperation areas on the Development Objectives Chart, is necessary. However, in order to prioritize objectives at the mid-term objectives level, **first the higher education Development Objectives Chart and the understanding of higher education that forms its foundation need more internal discussion at JICA. Then JICA needs to get more experiences implementing projects based on the understanding. Through such a process, JICA can clarify priority areas and JICA itself will accumulate "wisdom" in this field.**

Thus, in this chapter we will dare not to clarify JICA's priorities down to the level of mid-term objectives in the Development Objectives Chart, but will

attempt to put out a basic way of thinking concerning higher education cooperation. For more concrete priorities, we look forward to the deepening of debate at JICA and knowledge gained from implemented projects.

3-1-2 Cooperation for Basic Education and Higher Education

If one looks back on trends in educational development in developing countries, one can see a great change from a focus on specialized education and higher education starting in the 1960s to an emphasis on basic education in the 1990s. During this time, the budget for education development was invested more in basic education and higher education stagnated in many countries. Aid from the main donors turned toward the area of basic education and higher education was eclipsed from their priority areas of aid. However, from the latter half of the 1990s, together with the birth of a knowledge society led by the development of information and communication technology, the importance of higher education has been reevaluated.

In this section, when we think of higher education cooperation first we'd like to think about the positioning of higher education within the overall education sector and particularly the relative priority given to basic education or higher education. When we think about this, the following several points should be kept in mind:

- In many situations, given the need to divide up a limited education budget, basic education and higher education are in a relationship where trade-offs will occur.³¹
- Nonetheless, basic education, which should be guaranteed as a basic human right to all persons, and higher education, which builds the foundation for a knowledge society, have different significances and roles, and every society needs both.
- Additionally, basic education and higher education need to complement each other as part of a single pyramid of education development; higher education stands on the wide spread of basic education, and the training of teachers done through higher education and educational research enable basic education to expand.
- Also, if one looks from the perspective of educational finance, public education expenditures for one person (the unit cost) of higher education is far greater than that for basic education. Also from a cost-benefit analysis, a balance between basic education and higher education appropriate to a country's educational developmental stage is necessary.³²

³¹ In developing countries, the higher education share of the overall education budget is generally 15-20%. In countries where the diffusion of basic education is lagging and where the share of the higher education budget is greater than 20%, the fear is high that a fair distribution of the education budget is being lost (for example, Mauritania and Niger). (World Bank (2002b))

³² The public expenditure for one higher education student, as compared to one primary education student, is 179 times higher in Malawi and 50 times higher in Togo. The average ratio for industrialized countries is closer to 2 to 1.

Considering these points, we would like to make the following proposals with regard to education cooperation in the higher education field.

In countries where development of basic education lags behind, basic education should be given priority.

(1) In Countries where Development of Basic Education Lags Behind, one Should Emphasize Cooperation for Basic Education rather than Higher Education

The spread of basic education is essential for the resolution of development issues generally. In addition, arising from the fact that basic education occupies the bottom of the education pyramid both in terms of volume and quality, in those countries where basic education development still lags behind,³³ one should first put the emphasis on development of basic education.³⁴ Based on an understanding of the importance of basic education in these countries and because one cannot make these countries increase their higher education budgets, one should avoid large-scale higher education cooperation that requires a large financial burden and consider methods for higher education cooperation with more limited goals and sphere such as teacher training colleges and correspondence education.

One should conduct higher education cooperation that balances the needs of the education sector as a whole.

(2) Pursue Higher Education Cooperation that Achieves Balance in the Education Sector as a Whole

On the other hand, in low-income countries and small-scale countries, too, some type of higher education function is necessary, if one considers that higher education institutions are the source of a society's knowledge and a place for the development of leaders. Also, higher education is necessary for training teachers for basic education and for educational research. Therefore, it is necessary to duly consider the significance of aid to higher education in these countries and to engage in higher education cooperation that balances the needs of the education sector as a whole.

Higher education needs are diverse. It is important to choose the appropriate direction for higher education development based on the country's level of educational development and socio-economic situation.

3-1-3 Higher Education Cooperation Appropriate to Conditions of the Target Country

Basic education, which should be guaranteed to all persons equally as a fundamental human right (mainly primary and lower secondary education), is discussed in terms of the necessity of responding to diverse needs, but actually, no matter what the country or region, basic education has a very unified concept and content. In contrast, higher education's significance and forms of institutions and educational content can show great diversity. The roles

³³ It is difficult to draw a clear line, but we propose a primary enrollment rate of 70%. The average primary school enrollment rate in developing countries is 81.8%, while the average in sub-Saharan Africa is 56.9% (1999/2000).

³⁴ The Millennium Development Goals (MDGs), which were internationally agreed upon as priority development goals, stated that universal primary education regardless of gender should be provided by 2015. The Japanese government has also expressed its active support for the MDGs and EFA, both international goals emphasizing basic education.

demand of higher education vary depending on each country's socio-economic situation and range from developing the human resources necessary for development, to securing of educational opportunities for self-realization, to being a base for knowledge in a knowledge society, to contributing to society through the application of accumulated knowledge. Because of this, higher education policies and development strategies are not uniform across countries. For example, Thailand has a higher education enrollment rate of over 20% and Mozambique a rate of 0.5%. Naturally, the type of higher education institutions and development strategy are different. India, a country of 900 million people, and Pacific Island nations which each have populations of only a few hundred thousand have different types of higher education institutions. However, at the same time, in our recent internationally competitive society, the same knowledge is demanded in developing and industrialized countries, and securing a high level of education and research is necessary. Therefore, in terms of higher education cooperation in developing countries, **one must be conscious of the internationalization of higher education, respond to the conditions of higher education development in the country and the overall development level of the education sector as well as the country's needs for human resource development and the country's own development strategy. Based on each of these things, one will need to select the most appropriate objective for cooperation from the higher education Development Objectives Chart mentioned presented in Chapter 2.**

Points to be considered:

- 1) From higher education for technical training to more diversified higher education.
- 2) From the development of higher education institutions to reforms in higher education sector as a whole.
- 3) In addition to assistance for COE, support for the bottom of higher education, including regional universities, is necessary.

When making this selection, the following three points especially need to be kept in mind.

The first point is that the goals of higher education are diversifying. In JICA's cooperation in the higher education field up until now, a comparatively large number of projects were in the area of developing technologists. However, **along with the diversification of society, mass education has emerged as well as a demand to secure higher education for vulnerable groups in the society and a need to respond to the information society. Thus, demands outside the development of technologists have been made of present-day higher education.**

The second point is that in developing higher education, it is insufficient simply to install facilities or equipment for individual universities or departments or train instructors for those departments. Rather, there is a need to address the structural issues being faced by the higher education field as a whole.³⁵ For example, by reforming educational finance, including the cost

³⁵ These kinds of structural issues in the higher education field began to be recognized by the donor community in the latter half of the 1980s. In the past, the World Bank had put efforts into the development of higher education institutions (especially polytechnics). However, based on reflection that development of an individual higher education institution results in the creation of an academic oasis and that sustainability is lacking, the focus of cooperation was shifted to assistance for policy-oriented approaches to the higher education sector as a whole (World Bank (2002b)).

sharing by those receiving the education, one can construct a mechanism for raising funds for educational and research expenses. Also, scholarships and student loans can both secure fairness in educational opportunities and guarantee places for superior students. An evaluation and bonus system can provide incentives to teachers for their research and educational activities. **Without these kinds of reforms in the higher education sector as a whole it will be difficult to develop higher education institutions.** Therefore, one should not just simply provide assistance to develop individual education institutions but also offer cooperation aimed at the reform of the higher education system. Also, one must approach assistance for the development of individual institutions with sufficient understanding of the legal, institutional and financial frameworks supporting the sector as a whole.

The third point is the diversification of the target higher education institutions. In addition to those institutions which occupy the apex of a country's educational pyramid, **institutions targeted for cooperation should be broadened to include regional universities and junior colleges that carry the burden of mass higher education.**

Unfortunately, due to the diversity in higher education development and the limits of JICA's accumulated experiences, discussion at JICA has not yet reached the stage of being able to present a menu of higher education cooperation mechanisms to match different types of target countries. In the future, JICA should work to accumulate this knowledge through pursuing various types of higher education cooperation to meet the needs of different target countries.

**Box 3-1 World Bank Categorization of Assistance for
Higher Education Based on Type of Target Country**

The World Bank's *Constructing Knowledge Societies: New Challenges for Tertiary Education* (2002) presents the World Bank's approach to assisting higher education and areas of focus for different types of target countries. For reference, these are:

Middle-income countries:

- Diversification of higher education institutions and promotion of lifelong education in order to increase enrollment rates
- Raising scientific and technological development capacity in areas agreed upon as the country's development priorities
- Improvement of the relevance and quality of higher education
- Construction of a mechanism to create equity through provision of scholarships and student loans
- Reform of educational finance
- Improvement of higher education administration and management of higher education institutions through introduction of information management system
- Improvement of IT capacity to rectify the digital divide

Transition countries (Eastern Europe, Central Asia):

- Introduction of more flexible educational institutions and curricula
- Improvement of access of students to financial assistance
- Improvement of management of higher education institutions

Low-income countries:

- Development of human resources (training of teachers) and promotion of research for development of basic education
- Development of technologists and specialists at junior colleges and other non-4-year institutions
- Promotion of graduate education and research activities in fields limited to those where there is a comparative advantage

Small countries:

- Establishment of regional universities through linkages with neighboring countries
- Human resource development extremely limited in field and volume based on the country's economic development needs
- Human resource development using higher education institutions of other countries

To develop higher education institutions, it is necessary to offer technical guidance in specialized fields together with pursuing improvements in the management of the targeted institutions.

3-1-4 From Assistance for Specialty Education to Assistance for Higher Education Management

In JICA's cooperation in the higher education field thus far, there have been many projects to establish or expand university departments or graduate schools. In these projects, the focus of cooperation has been transferring knowledge and skills in education and research to teachers and researchers in specialty fields such as agriculture, engineering and medicine. In order to do this, professors and researchers in specialty fields in Japan were dispatched as technical cooperation experts, university laboratories were outfitted with research equipment, and funds for research expenses were allocated.

However, in the midst of engaging in technical guidance and training in their specialties, what the experts struggled with and what took the most of their time were actually items in the area of management such as securing regular participation of counterpart instructors in the countries, securing of funds to cover research costs, negotiations within the university and with the responsible government agencies or ministries, and building partnerships with industry. Also, if one looks at the successful cooperation projects, it seems that one reason for the success was that the experts went beyond the originally planned activities of the projects and aggressively took on issues in management within and outside the academic institution.³⁶ Based on these results as well, **it seems that the expansion of higher education in developing countries requires, in addition to technical guidance in specialty fields, the management of higher**

³⁶ JICA/IFIC (2000) p. 75.

education institutions themselves (for example, execution of securing a budget, management of an incentive system for instructors, creation of the necessary physical facilities for education and research, strengthening relations with industry and the community).

Therefore, JICA's future higher education cooperation will not aim only at transfer of technology in specific specialized areas. Rather, the overall management of education and research at the targeted institutions must be examined, and improvement in management actively pursued.

In order to do this, JICA must, from the project planning stage, include the aspect of management and include management experts among the technical cooperation experts who are dispatched. Together with this, JICA must also accumulate wisdom and experience concerning the management of higher education institutions.

3-2 Points of Concern in Higher Education Cooperation

In higher education development, political power is likely to be at work. Therefore, it is necessary to have strong and consistent commitment of the government, as well as ongoing opportunities for bridging opinions with the various parties with vested interests.

3-2-1 Higher Education Development and Political Interference

In higher education development, political power is at play in many cases - for example, in the invitation to establish a university or the selection of the university president. In the final analysis, there are aspects decided based on political factors. Moreover, in developing countries, higher education reforms such as revision of educational finances to reform scholarships and systems for tuition, establishment and closure of universities, and changes in the framework for entry to universities not only involve politicians, but cause large-scale political issues to develop involving university professors and students-many of which have to be resolved by virtue of a political decision. This is due not only to the fact that higher education institutions themselves stand out in the society, but also to the fact that in many cases higher education opportunities have been exclusively enjoyed by the highest classes in the society which strongly make use of their power to speak up. This political resistance is strongest when trying to reform the structure of the already existing higher education system. Therefore, **in the cooperation for the higher education sector, it is first necessary to have the strong and consistent commitment of the government and, in addition, to take care to have ongoing opportunities for exchanging opinions and bridging those opinions among those with vested interests.**

3-2-2 Globalization and Higher Education

In this era of rapid globalization, developing countries are exposed to the same kind of international competition in various fields as industrialized countries, and their higher education institutions are

The progress of globalization has increased the "brain drain" from developing countries and given rise to new forms of higher education using information and communication technology and led to increased internationalization of higher education institutions. Thus, it is necessary to pursue higher education cooperation based on an international trend.

expected to contribute to the countries' international competitiveness. In addition, globalization is influencing higher education in the following ways:

First, the increasing mobility accompanying globalization has promoted exchange among researchers and instructors necessary to raise the quality of higher education institutions; however, at the same time, it has increased a "brain drain" of human resources from developing countries. The brain drain not only leads to a lack of professors and researchers for higher education institutions in developing countries, but its influence is felt across all sectors. In addition, educational investment in the primary, secondary and higher education levels, for these human resources who have left, cannot be said to be being generating appropriate returns for the country's development, and this exerts further pressure on education financing in developing countries.

The second influence has been brought about with the development of information and communication technology. The rapid spread of computers and the Internet has brought about revolutionary changes in the circulation of information and in one aspect has contributed greatly to raising the quality of higher education institutions. It has made new methods of higher education such as online universities and virtual universities possible and, as a result, higher education, which had been the province of particular countries, cannot now be confined within the framework of control of a particular country. Online universities of international institutions and some private providers as well as franchise universities and off-shore campuses of universities in industrialized countries have started to appear.

The third influence is that as a result of the globalization of people and information, higher education institutions themselves have had to internationalize. For example, issues such as creating common standards of accreditation for higher education institutions across regions and globally, raising the quality of education and research by promoting university networks,³⁷ and having credits at one higher education institution applicable to others have started to be discussed frequently.

Each of these issues is not one that can be solved through one country's efforts at higher education development; it is necessary that they be debated and addressed through international agreement. For Japan, too, **it is necessary to be involved with higher education development paying heed to the international discussion and the several efforts that have already begun.**

3-2-3 Privatization of Higher Education

In developing countries privatization of higher education is progressing just as in industrialized countries. The proportion of private

³⁷ Among the international higher education networks are IAU (International Association of Universities) and AAU (Association for African Universities).

Privatization of higher education is progressing. At JICA as well, it is probably necessary to discuss cooperation through private educational institutions.

higher education institutions in a country varies and depends on factors such as the existence of policies for promoting private education, the extent to which conditions and procedures for setting up higher education institutions have been relaxed, the demand for higher education, etc. For example, in the Philippines 80% of higher education students attend private institutions, and the percentage in Indonesia is 60%. Regions where there are many private higher education institutions are Latin America and Asia. Many of these institutions were rapidly established as places to take in students when mass education created new demand for higher education. Therefore, many of the private higher education institutions are not the top universities in a country and there are a large number of small schools. Also, even if we call them “private,” the managing parent ranges from private companies purely in pursuit of profit to public benefit corporations, religious organizations and charitable groups.

Private education grows based on market principles and there are many institutions that respond to society’s short-term human resource demands. In comparison to public higher education institutions, which did not respond enough to changes in socio-economic needs, private education is more efficient on the point of truly reacting to short-term market needs. One other benefit of private higher education is that it is connected to an alleviation of financing for higher education. There are examples of private education like that in Japan where it is managed by virtue of government subsidies, but in many cases it has lightened the government's education burden and, as a result, contributes to the expansion of higher education.

Up until now, JICA has targeted cooperation mainly to public higher education institutions, but based on the aims of the cooperation - a quick response to mass education and socio-economic needs - **if cooperation through private higher education institutions is more efficient, JICA should discuss private school as potential counterparts in addition to public schools.** In addition, compared to public higher education institutions which are restricted by rigid management structures, there are many private schools which take more flexible and efficient management structures, and this point should be noted.

However, the following two problems must also be borne in mind. The first is a problem with educational quality. Private schools form the bottom of the higher education pyramid, and there are many cases where they cannot offer an adequate level of quality. While a government promotes private education, a system of quality assurance must be constructed. One more problem is that of fairness of educational opportunities. Many private schools are run using the tuition fees paid by the students. Because of this, access is limited to the wealthier social classes.³⁸ Thus, it is hoped that a policy preserving fairness of

³⁸ When JICA selects a private school as a counterpart institution, it must confirm beforehand what kind of social classes the institution targets.

educational opportunities through such things as provision of scholarships and students loans should be planned simultaneously.

By introducing the principle of competition among higher education institutions and researchers and instructors, incentives can be drawn out and quality raised.

3-2-4 Introduction of Competition into Higher Education

Higher education is traditionally a static system with little competition. However, recently, the way of thinking has spread that **one should try to raise the quality of higher education through bringing the principle of competition into higher education.** This means allocating budgetary resources in response to results of competition among higher education institutions, among instructors and researchers, and among students, and thereby drawing out one more incentive. In particular, because the quality of instructors and researchers so affects the quality of higher education, one can improve education and research activities by connecting performance to allocation of research funds and improvements of salary and other treatment, or also by increasing the fluidity of instructors and researchers through competition. In JICA's HEDS ("Higher Education Development Study") project in Indonesia, the principle of competition was introduced by having research funds allocated based on a selection from proposals submitted, and there are examples where this has promoted the research activities of participating universities. In JICA's future cooperation, JICA should introduce the principle of competition within and among institutions to secure incentives and raise quality.

In order to secure sustainable development, from an early stage of the project, it is necessary to discuss using outside funds and systems. Also, through arrangements like subcontracts with Japanese universities and other institutions, the building of a direct cooperation relationship between higher education institutions in Japan and other countries can help secure sustainable development. Providing funds to Japanese universities for this is an issue that should be explored.

3-2-5 Securing of Sustainability

In higher education cooperation, the number one problem is securing sustainable development once the cooperation is completed. Particularly with research activities, there are not a small number of cases where, with the cessation of cooperation and the guidance and advice of Japanese university instructors and the allocated funds for research activities and participation in academic societies, the activities become difficult to continue with the country's (or institution's) own budget.

In order to deal with this type of situation, it is necessary at an early stage of the cooperation to discuss a policy for securing a sustainable budget and then to include this policy within the project activities. For example, in the "Higher Education Development Study" project in Indonesia, through things like guidance in the writing of proposals for research activities, capacity of higher education institutions to secure research funds was strengthened and the institutions applied more for the competitive open applications for research funds provided by the Indonesian government (similar to a Japanese scheme of national subsidies for scientific research). Also, regarding study abroad, higher education institutions not only depended on the JICA scheme for "long-term training," but actively used the Japanese Government Scholarship (Monbukagakusho Scholarship) and other countries' scholarship programs. In

this way, **the use of outside funding and systems can be considered an indispensable angle for the securing of autonomous development in international cooperation. Also, relationships with local industry are an important angle for securing sustainable development of higher education institutions in developing countries.**

In addition to these actions, an item that should be discussed in the future as a policy to secure sustainable development after the completion of a cooperation is subcontracting of work with Japanese universities and other institutions. When implementing cooperation through subcontracting, there is the merit that for the higher education institution in the developing country, it becomes easy to continually receive assistance from the particular Japanese higher education institution (university). Also, for the Japanese university, through implementing cooperation by means of a subcontract, they can secure their own income, secure superior foreign students and, furthermore, conclude academic agreements with other schools. It can be considered a way of making possible the strengthening of the university structure. If these kinds of merits become clear both to the recipient country and to Japanese higher education institutions, the continued relationship between the two will continue even after JICA's cooperation ends and can be considered effective as a policy for securing autonomous development. Especially after 2004 when national universities in Japan can become "independent administrative institutions," JICA should actively discuss the use of this kind of subcontracting.

Because domestic resources for higher education cooperation, especially experts in higher education administration and university management, are insufficient, it is necessary to use means such as training to develop Japanese human resources, employing experts from other countries, using a number of short-term experts, compensating for lack of human resources through subcontracting and making use of inter-institutional networks.

3-2-6 Lack of Domestic Resources for Higher Education Cooperation

Among the human resources in Japan who will carry the burden of higher education cooperation are university instructors and researchers, educators, development consultants and employees of the Ministry of Education and higher education institutions. However, there are not enough of these human resources available. For example, in higher education cooperation thus far, university professors have played the central role. However, there were many cases where it was difficult for them to be dispatched to developing countries for long periods, so most of the dispatches were for short periods. Among development consultants from Japan, there are many who have experience with Japanese loan projects but there are not necessarily many who thoroughly understand higher education administration. Administrators and office staff of the Ministry of Education and universities have personal experience with higher education administration and with higher education management. However, few of them understand the special circumstances of developing countries. In particular, for future higher education cooperation, in addition to projects for dispatching Japanese university personnel to assist with education and research activities, projects focusing on administration and management will increase. However, the

present situation is that the number of Japanese experts with knowledge and expertise of higher education administration and university management in developing countries is extremely limited.

Therefore, in developing projects in the higher education field, JICA must pay attention to **the securing of these human resources**. To compensate for the insufficiency of domestic resources, JICA must do things such as **develop Japanese human resources for higher education cooperation through appropriate training**, aggressively **make use of local and third country experts**, **use short-term experts multiple times** instead of long-term experts, and use **new project implementation methods such as open requests for proposals and subcontracting** as well as **make use of networks of Japanese, third countries' and regional higher education institutions**.

It is beneficial if cooperation enables Japan's higher education institutions serving as counterparts for higher education cooperation also to benefit from the cooperation.

3-2-7 Mutually Beneficial Measures of Cooperation for Higher Education Institutions Both in Japan and Developing Countries

Japan's higher education institutions participate as partners in most cases of higher education cooperation. Their major roles up until now were providing advice on higher education management and in specialized fields, and in providing technical cooperation experts and other human resources. However, in the future one can expect more varied types of cooperation such as implementation of projects through JICA subcontracting with Japanese higher education institutions. In higher education development in this era of globalization it is necessary to raise quality by exchanging information and people through networking among higher education institutions, and for this reason as well, it is important for Japanese higher education institutions to participate in the planning of JICA's higher education cooperation.

Many of Japan's higher education institutions, with the goal of improving internationalization and quality and rationalizing management, are working to engage in human resource exchange with foreign higher education institutions, secure superior researchers and students, and develop diverse financial resources. The higher education cooperation implemented by JICA is naturally based on the needs of the developing countries. At the same time, though, it is beneficial to look at the cooperation in light of the present conditions and needs of Japan's higher education institutions and have **cooperation where higher education institutions from developing countries and Japan both feel the merits of reciprocal cooperation**. Furthermore, the fact that JICA's higher education cooperation can contribute to improvement of Japan's higher education institutions can – looking from a longer-term perspective – be thought to be connected to the improvement of JICA projects.

On the other hand, many issues faced by higher education in developing countries are also issues faced by Japan's higher education institutions and there

is an argument that Japan's higher education institutions have a comparative advantage as counterparts for cooperation compared to U.S. or European higher education institutions. Therefore, as JICA pushes on with higher education cooperation in the future, it is necessary first to adequately understand the present situation of higher education in Japan and grasp whether there is comparative advantage, and then plan cooperation based on this. Also, on the occasions when a comparative advantage is unfortunately not recognized, it is necessary to plan a method for compensating through relationships with higher education institutions in other industrialized countries or third countries.

