Meta Analysis of Ex-Post Evaluation Reports
by Country and Sector

Sector Review Report

Human Resource Development Sector

Final Report

July 2003

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Foreword

Of the various projects in the Human Resource Development Sector (the Education Sector, which includes primary and higher education, professional education, and vocational training) supported by the Japan Bank for International Cooperation (JBIC), this review report analyses the 17 projects that have undergone ex-post evaluation. This report is meant to provide useful lessons for Human Resource Development Assistance, one of the priority areas in the Overseas Economic Cooperation Operations Policy of JBIC.

In order to improve the quality of aid projects in developing countries, JBIC has conducted ex-post evaluations of completed projects. An ex-post project evaluation is an assessment of how a project was implemented and administered in comparison to initial plans, and whether the expected results were realized after completion of the project. The ex-post evaluations are conducted with two goals in mind. The first is to compile lessons learned from the project evaluations, and use these lessons in the implementation of future projects. The second goal is to improve transparency of aid projects, and to increase the accountability to people both in Japan and the borrowing countries through disclosure of evaluation results.

The goal of this review is to create an overview of the performance of the completed projects in the Human Resource Development Sector using ex-post evaluation reports, to analyze the data to determine the cumulative effect of the Japanese ODA loan projects to the Human Resource Development Sector, and to derive possible lessons or recommendations for future yen loan projects. In addition, by reviewing and studying the evaluation indices, it is hoped that reference material for future appraisals, administration and evaluations will be provided.

This report consists of three chapters. The first chapter is a summary of Japanese ODA loans to the Human Resource Development sector. Chapter Two analyzes the performance of 17 projects based on the evaluation reports. Chapter Three presents the comprehensive results of the analysis, and offers lessons learned and recommendations for future projects to Human Resource Development Sector.

In the analysis, remarks in ex-post evaluation reports were uniformly compiled and examined in reference to DAC Criteria, as laid out in the DAC Principles for Evaluation of Development Assistance (relevance, efficiency, effectiveness, impact, and sustainability), which were further divided into 23 more detailed sub-criteria. However, the past evaluation reports targeted for analysis were not subject to

uniform ex-post evaluations, and there were some that were conducted prior to the introduction of DAC's five principal criteria. In particular, the level of detailed analysis contained in the ex-post evaluation results differed in the detailed evaluations (detailed analysis conducted by JBIC staff along with outside experts) and desk evaluations (called desk evaluations for expediency, and are detailed evaluations were conducted on a portion of the projects by JBIC staff within Japan). For this reason, the spectrum of evaluation remarks covered in early reports and those of the present day are different, and in such cases, notations such as "not clear in the (past) evaluation report (in regards to a certain evaluation criteria)" have been included.

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1. Japanese ODA loan projects to the Human Resource Development Sector

Cumulative Japanese ODA loan projects to the Human Resource Development Sector was 364.1 billion yen as of the end of fiscal 2002, spread over 57 loan agreements. Within total JBIC project loans committed, project loans make up 2.0% of total monetary value, and 1.6% of the total number of agreements.

The provision of Japanese ODA loans to the Human Resource Development Sector began in 1977 with a loan to Indonesia. Since then, within a matter of 30 years, loan recipient countries have expanded to include the Philippines, Korea, Thailand, Jordan, Malaysia, Pakistan, Uzbekistan, and China. Thus, the number of countries to which aid has been extended now stands at nine. As shown in Tables 1-1 by country, the amount of funds extended to Indonesia is disproportionately large, making up 27.5% (16 projects) of the total. Korea is the recipient of the next largest amount of loans, with 20.0% (12 projects). Malaysia and the Philippines received 43.4 billion yen and 42.5 billion yen respectively, and 58.2 billion yen was extended to China. China signed six agreements for ODA loans to the Human Resource Development Sector at the end of fiscal 2001, which was the first time for money was made available to this sector in China.

The defining characteristic of ODA loans to the Human Resource Development Sector in Indonesia and Korea is that regardless of the amount, ODA loans continued to be extended over a given period of time. For Indonesia, ODA loans to the Human Resource Development Sector were provided each year without interruption from 1988 to 1996, For Korea, ODA loans were provided each year from 1980 to 1988. ODA loans have not been provided to the Human Resource Development Sector in any countries in Central and South America, nor in Africa.

Table 1-1: Japanese ODA loan contract amounts by country and year of contract approval

(unit: million yen)

L/A year	Indonesia	Uzbekistan	Thailand	Pakistan	The Philippines	Malaysia	Jordan	Korea	China	Total
1977	2,800									**2,800**
1980					1,100			10,000		**11,100**
1981								6,000		**6,000**
1984			1,664					5,700		**7,364**
1985	5,013							22,000		**27,013**
1987								12,911		**12,911**
1988	6,067							14,223		**20,290**
1989	6,946									**6,946**
1990	12,439						10,381	2,160		**24,980**
1991	1,310				20,020					**21,330**
1992	1,609					5,493				**7,102**

L/A year	Indonesia	Uzbekistan	Thailand	Pakistan	The Philippines	Malaysia	Jordan	Korea	China	Total
1993	5,467				3,055					**8,522**
1994	15,069		7,806							**22,875**
1995	32,438		7,308							**39,746**
1996	3,319									**3,319**
1997				3,917	11,122		7,123			**22,162**
1998	7,499		2,573							**10,072**
1999					7,210	37,860				**45,070**
2001		6,347								**6,347**
2002									30,722	**30,722**
2003									27,504	**27,504**
Total	**99,976**	**6,347**	**19,351**	**3,917**	**42,507**	**43,353**	**17,504**	**72,994**	**58,226**	**364,175**
	27,45 %	1.74 %	5.31%	1.08%	11.67 %	11.90 %	4.81%	20.04 %	15.99 %	**100.0%**

Table 1-2: Number of Japanese ODA loan contracts by country and year of contract approval

L/A year	Indonesia	Uzbekistan	Thailand	Pakistan	The Philippines	Malaysia	Jordan	Korea	China	Total
1977	1									**1**
1980					1			1		**2**
1981								1		**1**
1984			1					2		**3**
1985	1							3		**4**
1987								1		**1**
1988	1							3		**4**
1989	1									**1**
1990	1						1	1		**3**
1991	2				1					**3**
1992	1					1				**2**
1993	1				1					**2**
1994	2		1							**3**
1995	3		1							**4**
1996	1									**1**
1997				1	1		1			**3**
1998	1		1							**2**
1999					1	3				**4**
2001		1								**1**
2002									6	**6**
2003									6	**6**
Total	**16**	**1**	**4**	**1**	**5**	**4**	**2**	**12**	**6**	**57**

2. Performance Analysis

2.1 Outline of projects under review

This review targets the 17 ODA loan projects to the Human Resource Development Sector that were subjected to an ex-post evaluation, up to and including fiscal 2001[1]. A table attached at the end of this document presents the project names, beneficiary countries, date of loan approval (L/A)..

The loan agreements for the 17 projects were signed from 1977 to 1992, and were extended to five countries: Korea, Indonesia, the Philippines, Thailand and Jordan (see Table 2-1 below). By country, Korea received the most funds with nine loans, followed by seven loans to Indonesia, two loans to the Philippines, and one loan each in Thailand and Jordan.

Table 2-1: Japanese ODA loan agreements by country and year of contract approval

	1977	1980	1981	1984	1985	1988	1989	1990	1991	1992	Total
Korea		1	1	2	3	1		1			**9**
Indonesia	1				1	1	1	1	1	1	**7**
The Philippines		1							1		**2**
Thailand				1							**1**
Jordan								1			**1**
Total	**1**	**2**	**1**	**3**	**4**	**2**	**1**	**3**	**2**	**1**	**20**

[1] Seventeen projects based on the number of evaluation reports. Although there are twenty approved loans, those that were similar to other projects or that followed up other projects were evaluated together. Thus, the number of evaluation reports is less than the total number of loan agreements.

2.2 Analysis of the five evaluation criteria

This chapter consists of a performance analysis of 143 projects based on the ex-post evaluation report for each project. The framework for analysis consists of five primary criteria. These five criteria are based upon the "Principles for Evaluation of Development Assistance" established by the Development Assistance Committee (DAC) of the Organization for Economic Co-Operation and Development (OECD) in 1991, which evaluates a project from the standpoint of project relevance, efficiency of implementation, effectiveness, impact and sustainability. To perform a more detailed analysis for this report, each of the five parameters was broken down into 23 "evaluation check items" listed in table 2-2. Also, the effects parameter has come to include the operation and effect indicators.

In preparation for conducting the performance analyses, the information in the project evaluation reports was checked against the 23 evaluation check items.

Table 2-2: The Five Evaluation Criteria and Evaluation Check Items

Project Relevance	Does the goal and the approach to the project match the priorities and policies of the target group, counterpart country and the donor?
A1. Consistency with Development Policy and Priority Issues	Do the project goals and overall goals of this project match the development policies (including the national policy and master plan) and priority issues of the country or region in question?
A2. Relevance of Project Scope	Was the project plan (scope and approach) at the time of appraisal judged appropriate to achieve the overall and project goals?
A3. Relevance of Project Scope Alteration	In cases where project scope was altered after the project was implemented, were the alterations relevant?
A4. Relevance of Project Goals at the Time of Evaluation	In cases where terms and conditions were altered after the planning stage, are the project goals still valid at the present?
Efficiency of Implementation	Was the input appropriate and achieved as planned in terms of quality, quantity and timing? Was the method used the most efficient in regard to output?
B1. Completeness of Output	Was the output (project results) completed as planned?
B2. Implementation Schedule Efficiency	Were there any problems in the project that caused the implementation schedule to exceed original plans?
B3. Project Cost Efficiency	Were there any problems in the project that caused the project costs to exceed original plans?
B4. Project Implementation System	Was the system appropriate for decision-making, monitoring and troubleshooting during the project?

Effectiveness	Achievement of Project Purpose. To what extent did the project output achieve its purpose?
C1. Output Utilization	Is the output (project results) being used adequately? (Determined primarily using the operation indicators. In cases where there is no planned value, sufficiency will be determined using absolute values.)
C2. Project Goal Realization	Was the direct effectiveness of the project sufficiently realized, and was the project goal sufficiently achieved? (Determined primarily using the effect indicators. When there is no planned value, sufficiency will be determined using absolute values)
C3. Achievement of IRR	Is the Internal Rate of Return sufficient when compared with initial project values?
C4.Effect of Technical Assistance	Were the training and technological instruction component effects sufficiently realized?
Impact	Was the intended overall goal of the project achieved? Direct, indirect and subordinate results in terms of technical, economical, socio-cultural, institutional and environmental aspects.
D1. Contribution to Overall Goal Achievement	To what level were the original overall goals of the plan achieved, and to what extent did the project contribute to their realization.
D2. Impact on Policy and Institutional System	What impact did the project have upon development policy of the country in question and the institutional system of the sector in question? Was the impact positive or negative?
D3. Socio-Economic Impact	What kind of impact was there on the regional society and economy? Was the impact positive or negative?
D4. Impact on Technology	What contribution did the project make to technological innovation and improvement in the country in question?
D5. Impact on Natural Environment	What impact was there on the regional environment? Was the impact positive or negative?
D6. Resident Resettlement and Land Acquisition	What impact was there on regional society in terms of resident resettlement and land acquisition?
Sustainability	After completion of aid, to what extent will the agencies and organizations of the counterpart country be able to sustain the output and effects of the project?
E1. Output Condition	Is the output (project results) being maintained and operated appropriately? Is facility in good condition?
E2. Operation and Maintenance System	Are the systems, human resources (quality and quantity), work procedures (manuals) technology, maintenance facilities and equipment, and stock and procurement of spare parts for operation and maintenance sufficient?
E3. Financial Resources for Operation and Maintenance	Are sufficient financial resources available for appropriate operation and maintenance? Are those resources expected to remain available in the future?

E4. Continuation of Needs	Is it expected that need for the project will continue in the future?
E5. External Factors	What external factors will have a major effect on project effects and sustainability (environment, politics, policy, institutional systems, market, other related projects, etc.)? Is it expected that positive factors can be maintained in the future?

2.2.1 Project Relevance

In this document, the words “plan” and “objective” refer respectively to the initial plan and its objectives (in principal, at the time of appraisal). However, in cases where plan alterations were approved during project implementation, the terms then refer to the altered plan and objectives. These definitions will hold true throughout the remainder of this review, unless otherwise specified.

(1) Consistency with development policy and priority issues

Fifteen of the 17 target projects were judged to conform to government development policies or priority development issues. Of the remaining 2 projects, it has been concluded that 1 similarly conforms[2], while no judgments based on the evaluation report can be made in the other project[3].

(2) Relevance of project scope

One project contained remarks regarding the relevance of the project plan[4], and in 12 other projects plan relevance was judged based on inference from other information. The plan relevance of the remaining 4 projects could not be judged using only the comments contained in the reports.

(3) Relevance of project scope alteration

Project plans for the targeted projects to the Human Resource Development Sector are generally compiled from the following three components. These components are developed independently, and are then combined to form a single project.

① Purchasing of materials and equipment for educational or research purposes
② Development of educational facilities (schools, research centers, etc.)
③ Training, and international / domestic degree acquisition (study abroad / domestically) programs

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[2] This was the Equipment Supply for Educational & Research Laboratories Project in Indonesia. The projects for which the loan agreements were signed in 1977 and in 1985 were evaluated collectively. There were repeated comments that were gleaned from the evaluation reports for other projects dating from the mid-1970’s, which indicated a shortage of people in the science and technology fields. Given this, it can thus be inferred that the projects in question conformed to priority development issues.

[3] The Philippines “Nationwide Information-Education Dissemination Project”

[4] Korea “Educational Facilities Expansion Project”

The configuration of project plans include the types and quantity of materials and equipment, the name of the institution chosen as the target of development, and the number of people to be trained or to study overseas. Each of these factors can change during the project implementation period in response to changes in local conditions.

In general, there are two basic patterns relating to plan alterations. One of these is alterations during project implementation in order to respond to changes in the educational or technological environment. This includes changes to prevent obsolescence during the procurement of equipment or to improve the educational curriculum or technological level. The other alteration pattern is expansion of the project plan, including additional acquisitions made possible by the appreciation of the yen.

Given this background, all 17 projects targeted for review experienced plan alterations. Of these, the reasons for the changes were deemed relevant in 9 projects, generally relevant in 5 others, but problems were deemed to have occurred in 2 projects. There was 1 project where there was no apparent mention of plan alterations in the evaluation report.

Of the projects where problems were deemed to have occurred, one was the "Nationwide Information-Education Dissemination Project" in the Philippines. The project plan called for the installation of video cassette tape recorders (VCRs) in local governments throughout the nation. As for the 30 VCR vans for areas without electricity, which had been planed to be purchased with the assistance by JBIC were supplied as planed. As for the vans which had been planed to be purchased with Philippine Government's own fund, the original plan was to procure 82 VCR vans. However, inflation and the financial state of the government of the Philippines resulted in only 2 being procured (remodeled). This situation caused the project results to be severely compromised. The other project was the "Multipurpose Ocean Research Vessel Construction Project" in Korea. Deficiencies in the implementation system caused procurement to be greatly delayed. In the interim, the international standards for ocean research vessels rose, and the project specifications had to be adapted

(4) Relevance of Project goals at the time of evaluation

Of the 17 projects, the goals of 8 projects were determined to be relevant at the time of evaluation[5]. The evaluation reports of the remaining 9 projects did not mention this item.

[5] "Science and Technology Manpower Development Program," "Bogor Agricultural University (IPB) Development Project," "Professional Human Resource Development Project," "Environmental Study Centers Development Project," "Development Project of the Institute of Technology in

The 8 projects judged to be relevant can be broken down into either projects involving ① on the job training or study exchanges relating to higher education, or ② a special technological field. Two projects in Indonesia, the "Science and Technology Manpower Development Program" and the "Professional Human Resource Development Project" were related to job training projects or study exchanges. The remaining 6 projects were in a designated or special technological field.

Bandung (1)," "Agricultural and Fisheries Research Equipment Modernization Project," "Chemical Research and Metrology Research Equipment Reinforcement Project," and "Fisheries and Maritime Education Facilities Expansion Project."

2.2.2 Efficiency of Implementation

(1) Completeness of output

Of the 17 target projects, the output was completed almost as planned. However, in the "Nationwide Information-Education Dissemination Project" in the Philippines, the distribution of VTRs was not yet complete but held the promise of eventually being concluded. Although 112 VTRs were to be acquired and installed in vans for use in regions without electricity, 80 had not yet been distributed, and the outlook for their distribution was uncertain. Also, there were 4 projects where no mention was made of the degree of output completion[6].

(2) Implementation schedule efficiency

Of the 17 projects, 12 projects experienced problems, which caused construction delays. Seven of the projects experienced delays of one to three years, while significant delays of over three years occurred in 5 projects. Four of these 5 projects were in Korea.

The main reasons for the delays are as follows.

- Alterations in specifications, quantity, goods, etc., causing delays in the procurement cycle (1 in Indonesia, 5 in Korea)
- Delays in construction (2 in Indonesia, 1 in Korea)
- Domestic budgets (1 in the Philippines)
- Alterations in project scope (1 in Indonesia)
- The Gulf War (1 in Jordan)

An examination of this breakdown of delay factors reveals that the major causes for delays in project implementation are delays in procurement procedures resulting from alterations in specifications or goods. Even for those projects where construction was delayed by nearly one year, the main cause of the delays were changes in the goods to be acquired.

(3) Project costs efficiency

[6] Indonesia "Environmental Study Centers Development Project," "Development Project of the Institute of Technology in Bandung (1)," "Korea: Fisheries and Maritime Education Facilities Expansion Project," Jordan "Human Resources Development Sector Investment Loan."

Of the 17 projects, 10 were judged to have no problems related to project costs with costs under-run or with costs over-run costs being covered by implementing country's government, while 5 were deemed as generally good. Of these 15 projects where the efficiency of the project costs was generally considered to be problem free, there were only 8 projects where problems did not develop following adjustments in the procurement or quantity of goods[7].

In the evaluation reports, acknowledgement was also made of the increased acquisition of goods, or the increased number of trainees or degree students due to the appreciation of the yen.

The "Nationwide Information-Education Dissemination Project" in the Philippines and the "Medical Facilities Expansion Project" in Korea received low evaluations. In the first, a shortfall in the domestic budget led to a drastic reduction in project scope, which caused a very negative effect on the project effectiveness. In the latter project, construction costs rose dramatically during the substantial delays that occurred during the implementation period.

(4) Project implementation system

There were 6 projects that had no problems in the implementation system, while 2 projects had problems judged not to have had a grave impact on the project implementation, and 1 project had significant impact. There were no remarks for the remaining 8 projects, all of which were projects to provide equipment and materials[8]. In Korea, 4 projects contained no mention in regard to the implementation system, but project implementation was delayed in 3 of these projects.

The project that had major problems was the "Korean Safety Research Center Project of the National Institute of Health." Completion of this project was five and a half years behind schedule. The Public Procurement Service handled procurement. It was indicated that the problems resulted from delays caused by efforts to coordinate their purchasing methods (buying items separately) with the method recommended by JBIC (buying a certain amount of items together). There were also remarks that there were systematic changes that occurred at the same time during the implementation period, which appeared to have an impact on the project implementation system.

[7] 3 in Indonesia, 4 in Korea and 1 in Jordan.

[8] 1 in Thailand, 3 in Indonesia, and 4 in Korea. The evaluation reports for these projects did not mention any concerns regarding the implementation agencies.

2.2.3 Effectiveness

(1) Output utilization

There are mentions about the usage of output 13 out of 17 project evaluation reports. Output utilization was considered good in 8 projects[9], with the 5 Korean in the majority in this area. Given that only a total of 7 projects were implemented in the Human Resource Development Sector in Korea, the majority were accordingly judged as being well utilized. By considering this in conjunction with the results of the projects to be discussed later, it is clear that Japanese ODA loan projects in the Human Resource Development Sector in Korea all exhibit effectiveness. The 2 other projects that were evaluated highly on this item were in Indonesia[10]. In the "Professional Human Resource Development Project," a loan for exchange students, a comprehensive evaluation was undertaken looking at both the change in the qualifications for those who would be eligible for the program and their future contributions to the nation. This evaluation was based on the results of a questionnaire survey of both the agency of the exchange students and the students themselves.

There were a total of 3 projects where evaluation of the outputs indicated that there were problems, one each in Thailand, the Philippines and Jordan. In the "Basic Education Improvement Project" in Thailand, a gap was identified in the frequency of utilization of equipment and materials. In the Philippines in the "Nationwide Information-Education Dissemination Project," there was a large amount of unused equipment and materials at the time of evaluation (VCRs, VCRs to be installed in mobile vans, and video tape editing equipment). The plan's evaluation was generally satisfactory. In the "Human Resources Development Sector Investment Loan" in Jordan, there were several schools that had a low rate of filled vacancies (the ratio of students to staff).

A project where problems were clearly indicated was the "Equipment Supply for Educational & Research Laboratories Project" in Indonesia. There were nearly new goods that were being stored, a lack of electricity, a deficiency of spare parts, and not enough technicians to operate the equipment, all of which caused some items not to be used. Thus, it was deemed that the equipment and materials acquired were not always effectively used.

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[9] The status of output utilization in projects in the Education Sector targeted for this review was evaluated using a sampling method of the total.

[10] "Bogor Agricultural University (IPB) Development Project," "Professional Human Resource Development Project"

(2) Project goal realization

Of the 17 projects, 12 were judged to have realized their project goals, while 3 other projects only realized their goals somewhat. There was one project where the goal achievement was questionable, and 1 where there was no mention of this item in the evaluation report. By country, projects in Korea were the most successful, with all 7 projects deemed to have attained their goals. At the same time, in Indonesia, another country with many projects in the Human Resource Development Sector, 2 of the 6 projects realized their goals[11], and 2 others were considered to have, for the most part, achieved their goals. One project each in Thailand and the Philippines were considered to have realized project goals[12].

The projects in both Korea and Indonesia in which evaluations indicated that project goals had been realized were all in higher education or related to research in special fields.

In Japanese ODA loans, operational and effect indicators were officially introduced as of fiscal 2001 for newly approved projects. This ensures that the indicators that will be used in the ex-post evaluation of the projects are clearly established during the pre-evaluation stage. Of the projects targeted for this general review, attempts to follow this were only made in two projects; the "Fisheries and Maritime Education Facilities Expansion Project" in Korea and the "Development Project of the Institute of Technology in Bandung (1)" in Indonesia.

(3) Achievement of IRR

Internal rates of return were not calculated for any of the projects.

[11] "Bogor Agricultural University (IPB) Development Project" and the "Development Project of the Institute of Technology in Bandung (1)." However, in regard to the "Institute of Technology in Bandung," there are no comments regarding the utilization of the output, or the present state of output (one of the items in sustainability), and there are problems with the maintenance and operation costs of equipment. Despite this, the evaluation indicates that the project goals have been realized, which makes this evaluation questionable.

[12] These are the "Basic Education Improvement Project," and the "Elementary Education Project," respectively.

2.2.4 Impact

Overall, the evaluation reports contained no references to impacts. There are many projects where there is no way to judge how the overall goals were established when only looking at the project goals. In the same manner as with project effects, impacts need to be established, and standards for evaluation must be set forth during the project formation stage.

(1) Contribution to overall goal achievement

The 7 projects in which overall goals were established and mention of project contributions to their achievement are as follows. The “Bogor Agricultural University (IPB) Development Project” in Indonesia; the “Educational Facilities Expansion Project,” the “Safety Research Center Project of the National Institute of Health,” the “Agricultural and Fisheries Research Equipment Modernization Project,” the “Chemical Research and Metrology Research Equipment Reinforcement Project,” the “Medical Facilities Expansion Project,” and the “Fisheries and Maritime Education Facilities Expansion Project in Korea.” Of these, 5 projects were deemed to have contributed to the realization of overall objects, and both the “Safety Research Center Project of the National Institute of Health” and the “Fisheries and Agricultural and Fisheries Research Equipment Modernization Project” were deemed to have had an impact to some degree. Projects in which overall objectives were established and some degree of contribution to these same goals was seen were projects related to higher education or to research. No remarks were made in reference to impacts in the remaining 10 projects, or more than half of the total projects targeted for review.

(2) Other impacts

In addition to contributions to overall goal achievement, the evaluation items for impacts include policy and organization systems, socio-economic, technical, environmental and resident resettlement and site acquisition. However, in the main, these items were not discussed in the evaluation reports (there were only 9 remarks on a total of 85 items (5 items times 17 projects)). Therefore, details regarding each of the main impacts are listed below.

The socio-economic impacts of the “Chemical Research and Metrology Research Equipment Reinforcement Project” (Korea) were strengthened international cooperation and promotion of projects based on technology / intellectual property. In

addition, the project also served to advance the level of metrology, increase the operation rate of precision machinery, and decrease the degree of dependence on overseas repairs, all of which were technical impacts.

The “Multipurpose Ocean Research Vessel Construction Project” (Korea) contributed to the promotion of the ocean / aquatic resource development, and increased exchanges with research vessels in other countries.

In the “Medical Facilities Expansion Project” (Korea), socio-economic impacts were seen on the provision of medical services (number of beds, number of outpatients accepted) and on the salaries of health care workers.

The “Bogor Agricultural University (IPB) Development Project” (Indonesia) also had a socio-economic impact, with its contribution to the improvement of rice farming methods during the economic crisis.

2.2.5 Sustainability

(1) Output condition

The current state of output in many of the projects was considered good. Of the 17 projects, there were 13 projects where in general there were no problems. There was 1 project in which concerns were indicated, and 3 others in which there were no remarks regarding this item in the evaluation reports.

The project where problems were identified was the Indonesian Equipment Supply for Educational & Research Laboratories Project. It was reported that there were unused equipment, and that some of the equipmentsupplied broke down, or there was a lack of spare parts, which made it impossible to use them.

(2) Operation and maintenance system

In regard to the administrative and maintenance systems, many were judged following interviews or visits to some of the sites. While the remarks about the administrative and maintenance systems were not supported by data, such as utilization management reports or inventory charts, most were deemed to be problem free. Of the 17 projects, only one was identified as having problems, and the evaluations of 13 other projects stated that they were in general, without problems. The evaluation reports of the remaining 3 projects contained no comments on this item.

However, there were some projects in Korea with relatively detailed explanations[13].

A concrete administrative and maintenance system, including such things as the method of managing equipment usage control reports, and equipment ledgers, should be incorporated into the project design at either the formation stage or the appraisal stage.

(3) Financial resources for operation and maintenance

In comparison with the previous two items, there were many problems with this item. Projects where securing financial resources was judged to be problematic are as

[13] The “Chemical Research and Metrology Research Equipment Reinforcement Project,” and the “Multipurpose Ocean Research Vessel Construction Project.”

follows: the “Equipment Supply for Educational & Research Laboratories Project,” the “Bogor Agricultural University (IPB) Development Project,” and the “Development Project of the Institute of Technology in Bandung (1)” in Indonesia; and the “Human Resources Development Sector Investment Loan” in Jordan. In Korea, excluding the 1 project that contained no comments on this item, all projects were described as having no problems.

In the “Equipment Supply for Educational & Research Laboratories Project” in Indonesia, there were many references to budget shortfalls, which made it impossible to repair equipment that broke down or to restock spare parts. In the “Bogor Agricultural University (IPB) Development Project” there is no expenses for repairing rainwater damage. In the “Development Project of the Institute of Technology in Bandung (1)” external funding was being obtained through joint research activities conducted by professors, and these financial resources were helping to supplement the budget for administration and maintenance. In the “Human Resources Development Sector Loan” in Jordan, it is reported that there is a serious lack of funds to cover the costs involved in repairing classrooms.

(4) Continuation of needs

Of the 17 projects, there is a continuing need noted for 8 of them, while the evaluation reports of the remaining 9 projects did not contain any mention of this item. Improvement of the research and educational environment is one of the key national policies, which signifies that there will be a continuing need for the projects. However, there were few projects in which a forthcoming evaluation of needs were clearly identified and listed. Below are the projects where a continuing need has been identified.

In the “Nationwide Information-Education Dissemination Project” in the Philippines, the video program is very popular, and so it was judged that the need for the project will continue. The existence of a need for the “Elementary Education Projects” (in the Philippines and Jordan) was also clearly identified. There also appears to be a potential need for exchange students. In the higher education projects in Indonesia (“Bogor Agricultural University (IPB) Development Project” and the “Development Project of the Institute of Technology in Bandung (1)”), there is a continuing lack of researchers, so the evaluation readily identified a continuing need. In Korea, comments indicated that there would be a continuing need for the “Multipurpose Ocean Research Vessel Construction Project” for the next ten years.

(5) External factors

The evaluation reports for Human Resources Development Projects made no reference to this item.

3. Conclusions

3.1 Performance analysis overview

A general overview of the 17 Japanese ODA loan projects in the Human Resource Development Sector that were subjected to an ex-post evaluation reveals that they achieved satisfactory results.

As a whole, “project relevance” of project in the human resource development sector is high. While as this sector’s projects include many procurement items, there are lots of cases of project plan alteration, contents of the project scope alterations are deemed relevant.

The projects implemented in Republic of Korea received high marks in terms of “effectiveness (project goal achievement)” and “sustainability”. The main feature of Korean projects is that they are related to the development and strengthening of the higher education or designated or special fields.

There is a necessity to measure the degree of “project goal realization” based on a large amount of data and also by gaining a wider understanding of the “output utilization.” In order to do so, project design and a data management system for operation and maintenance need to be established.

Below is a summary of an analysis of the performance of the projects targeted for review, by the 5 evaluation criteria.

(1) Relevance

“Consistency with development policies and priority issues” was very high, with all the projects conforming to counterpart countries’ development policies and priority issues. “Project relevance” in light of overall goals and project goal were generally deemed to be relevant. In light of the configuration of project plans, alterations were unavoidable. Thus, it would be advisable to create more flexible project plans based on the premise that plan alterations will occur. There were many evaluation reports that did not contain any reference to the “relevance of project plans at the time of evaluation.”

(2) Efficiency

The degree of completion of outputs was high. All projects were implemented as intended. In contrast, there were many projects that fell behind schedule during implementation. These delays were due to plan alterations and the concomitant delays in the procurement cycle. Most of the project costs remained within the original

scope, with 15 of the 17 projects (or 90%) being for the most part within the budget. Although the types and amounts of procured goods vary widely, the volume of goods acquired was subject to adjustments according to the amount of money available.

(3) Effectiveness

There were 8 projects, making up approximately 50% of the total, in which the "output utilization" was considered good. In addition, the evaluations of 4 other projects indicated that utilization was almost as projected. When taken together, 70% of the projects had good utilization conditions. Projects where the state of utilization was good were concentrated in Korea. By combining 'achieved' and 'mostly achieved', the degree to which "project objectives were achieved" overall was 90%.
As a sample group, 17 projects is not very large. However, projects in the higher education and designated or special fields clearly demonstrated a tendency to achieve a high degree of project results.

(4) Impact

For the most part, "impacts" were not evaluated. This is perhaps due to uncertainty in understanding how to assess overall objectives.

(5) Sustainability

Projects in which "sustainability" received high marks were those in Korea. In addition, the "continuity of needs" was most highly appraised in the Elementary Education Projects (the Philippines, Jordan).

3.2 Lessons Learned / Recommendations

(1) Flexible handling in procurement methods (selection of commodities, specifications, and amounts)

In projects in the Human Resource Development Sector, educational equipment and educational facilities (schools, classrooms, bathrooms, laboratories, etc.) are essential. In the future, even if the emphasis shifts to intangibles such as securing the number of faculty, instructors, improving their quality, supporting the creation of educational curricula, and on the job training programs, the equipment and facilities portion of the project must continue to be an integral part of the project. For that reason, it is important to examine here the problems that have surfaced in the evaluation reports regarding projects that focused on the provision of equipment.

Although all of the projects under this review were subjected to plan alterations, the changes were generally considered to be relevant. Project objectives were also regarded as relevant. However, the means by which plan objectives are to be realized is through the project plans (or the project scale in many cases). Judging the relevance of these plans in advance is no easy matter. Given this, projects should be designed on the assumption that project plans will be altered, which will help to ensure that project implementation will go smoothly in the future.

In regard to procurement methods, flexibility is key element[14]. A following idea should be examined; If the implementation agency is highly capable, it should be given further independence and broader authority in procurement of goods, and after project completion JBIC should examine whether procurement was carried out correctly.

(2) Importance in examining the intangibles during project formation

For projects in the social services sector, in order to ensure that acquired equipment is used effectively and to maintain these results, it is vital that more importance be placed on the intangible elements. This includes securing human resources and achieving higher technological levels, and having the capability to develop utilization programs. Also, critical elements include gaining a full

[14] Lessons learned in the evaluation of the Educational Facilities Expansion Project in Korea included the following observations. There must be the ability to respond flexibly to those items that can incorporate technological innovations easily. In order to respond to the most recent needs, the following process should be adopted. The selection criteria for commodities must be established, and then just prior to starting the procurement cycle, the commodity list should be submitted for JBIC agreement.

understanding of the present status of these intangibles and their problem areas during appraisal, and investigations into improvements. In terms of indicators that would reveal the status of these types of intangible elements, problem areas, and conditions in the sectors (sub-sectors), the situation should be pre-assessed as much as possible through sector studies and other methods. By doing so, appropriate systems capable of responding to these conditions can be established during appraisal.

In addition, problem areas occurring in these intangible elements should be understood during the project formation stage or appraisal. At the same time, if it seems likely that the ODA loan recipient nations or implementation agencies are not capable of resolving the problems, there is a need to consider extending support proactively in order to improve these intangible elements and to strengthen organizations. One way to tackle this under the present scheme could include offering Special Assistance for Project Formation (SAPROF) scheme of JBIC, consulting services, dispatching JICA experts, or accepting trainees in Japan.

(3) Configuration of the administration system in regard to equipment utilization and inventory control

There is a need to strengthen the record-keeping system concerning the utilization method, storage and control of equipment provided. This is also tied into the ability to grasp the state of control, or more exactly to measure the implementation capabilities, of the implementation agencies. For the configuration of the utilization, inventory control and other systems should be introduced by the consultant hired by the project, and the implementation agency itself, or as circumstances demand, the application of Special Assistance for Project Implementation (SAPI) should be considered.

Human Resource Development Sector Assistance: Table of target projects

Project Name	Country	L/A
Basic Education Improvement Project	Thailand	Sep-84
Nationwide Information-Education Dissemination Project	Philippines	Jun-80
Elementary Education Project	Philippines	Jul-91
Equipment Supply For Educational & Research Laboratories Projects	Indonesia	Nov-77 - Dec-85
Science and Technology Manpower Development Program	Indonesia	Oct-88
Bogor Agricultural University (IPB) Development Project	Indonesia	Dec-95
Professional Human Resource Development Project	Indonesia	Dec-90
Environmental Study Centers Development Project	Indonesia	Sep-91
Development Project of the Institute of Technology in Bandung (1)	Indonesia	Oct-92
Educational Facilities Expansion Project	R. O. Korea	Jan-80 - Dec-85
Safety Research Center Project of the National Institute of Health	R. O. Korea	Aug-84
Agricultural and Fisheries Research Equipment Modernization Project	R. O. Korea	Aug-84
Chemical Research and Metrology Research Equipment Reinforcement Project	R. O. Korea	Dec-85
Multipurpose Ocean Research Vessel Construction Project	R. O. Korea	Dec-85
Medical Facilities Expansion Project	R. O. Korea	Jun-88
Fisheries And Maritime Education Facilities Expansion Project	R. O. Korea	Oct-90
Human Resources Development Sector Investment Loan	Jordan	May-90

*Note: For projects with multiple loan agreements, loan agreement date shows the dates of the first and the last agreement.