Introduction

Japan Bank for International Cooperation (JBIC) was founded on October 1, 1999 through the merger of the Export-Import Bank of Japan (JEXIM) and the Overseas Economic Cooperation Fund (OECF). JBIC implements the International Financial Operations previously carried out by JEXIM and the Overseas Economic Cooperation Operations conducted by OECF. In the field of Overseas Economic Cooperation Operations, JBIC handles the bilateral government loan (ODA loan) portion of Japan's ODA. ODA loans are not only answer to the wide-ranging development needs of developing countries, and they provide important feedback on individual projects in the form of ex-post evaluation and monitoring after the project is completed. This point is in line with the "Med-term Policy on ODA" released by the Ministry of Foreign Affairs in August 1999. The promotion of ex-post evaluation was also stated as an important element of JBIC's project implementation and operation in the Medium-term Strategy for Overseas Economic Cooperation Operations, prepared by JBIC in December 1999. The aim of ex-post evaluation work is to apply the experience and lessons learned from previous projects to future projects, and to improve transparency and accountability through disclosure of project evaluation results. The importance of this kind of work has been growing in recent years.

JBIC's ex-post evaluation aims not simply at investigating the effects generated by individual projects, but also at using the diverse body of evaluation records and experiences accumulated from all previous projects to build up the high-quality development assistance that brings sustainable development. In order to increase the effectiveness of ex-post evaluation surveys, their findings are used as feedback both inside and outside JBIC. Capacity building on the recipient side (governments and executing agencies in developing countries) is essential for efficient and effective ODA projects, so JBIC makes a particular effort to publish English-language editions of the reports so that they can be shared.

This Ex-post Evaluation Report for Japan's ODA Loan Projects 2001 is an anthology of the ex-post evaluations implemented in FY2000. The most notable points of ex-post evaluation in FY2000 were: 1) a substantial increase in the number of projects evaluated, 2) expansion of third-party evaluation, 3) joint evaluation with JICA, and 4) studies on evaluation methods. In addition, ex-post evaluation has been applied to all projects since FY2001. On that basis, we will strive to establish a consistent evaluation process that extends from project preparation to after completion of the project, with an emphasis on quantitative analysis.

This report comprises summaries of each evaluation report. Separate full-text versions of each report have also been prepared, and are available on the JBIC website (http://www.jbic.go.jp).

I would like to take this opportunity to thank all those who have been involved in our ex-post evaluation activities for their support and cooperation. I also hope that everyone will continue to provide us with their opinions and suggestions in order to keep our ex-post evaluation work at the highest standard we can achieve.

October 2001

Yuji Morimoto

Director General

Project Development Department

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I. Ex-post Evaluation by JBIC

1. Purpose of Ex-post Evaluation

Japan's economic cooperation takes many forms. As part of its Overseas Economic Cooperation Operations, the Japan Bank for International Cooperation (JBIC) has overseen the implementation of most of Japan s ODA loans to developing countries. By providing ODA loans, JBIC has supported a large number of projects, primarily those aimed at developing economic and social infrastructure in developing countries.

In addition to providing loans, JBIC aims to enhance the quality of assistance to developing countries by conducting its ex-post evaluation of projects. Ex-post evaluation tests the project retrospectively, comparing the actual implementation, operation and maintenance of projects with the initial plans to examine how the project was conducted and whether it has yielded the anticipated benefits. The primary objectives of this evaluation activity is to enhance the effects of JBIC assistance to developing countries in the future, to promote accountability through disclosure of findings, to better comprehend the success factors and problems of project implementation, its effects and its sustainability, and to subsequently use the lessons learned in project formation, appraisal, implementation and supervision.

2. Ex-post Evaluation Work of JBIC

JBIC (then OECF) began conducting ex-post evaluations of ODA loan projects in 1975. A special section to deal specifically with ex-post evaluations was established in 1981, in response to increasing number of completed ODA projects. Following a number of internal reorganizations, the ex-post evaluation of ODA loan projects is currently overseen by the Development Assistance Operations Evaluation Office, Project Development Department.

JBIC has endeavored to publish the contents of its ex-post evaluation reports so that its work can be understood and recognized as widely as possible. The results are released in the form of yearly reports, entitled Ex-post Evaluation Reports for ODA Loan Projects .

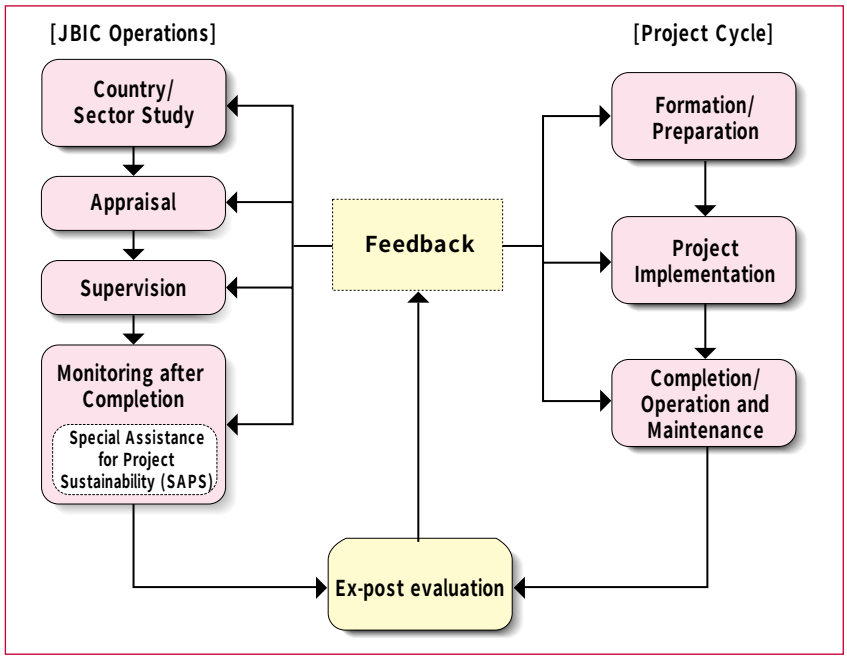
For the convenience of our readers, the summary of each evaluation report is included in this report. Full-text report editions are published separately. These reports can be accessed on the JBIC website (http://www.jbic.go.jp).

3. Ex-post Evaluation in the Context of Project Cycle

3.1 Flow of Development Projects and Ex-post Evaluation

The flow of projects subject to ODA loans from JBIC is shown in the chart on the next page. The process leading to provision of an ODA loan starts with a detailed appraisal, on the basis of a request by the developing country, to determine whether or not the proposed project is a suitable subject for an ODA loan. The appraisal is multi-faceted in approach, covering the project's necessity, urgency and relevance of its implementation, operations and maintenance. Project implementation begins after JBIC decides, based on the appraisal, to provide the loan and is completed after a certain period of time. Ex-post evaluation is carried out for completed projects.

Project Cycle and Ex-post Evaluation



3.2 Monitoring after completion and ex-post evaluation

Some projects require long periods of time before their effects are manifested. Accordingly, follow-up for a certain period after project completion is required to observe the effects and whether or not they are sustainable. As for the projects that require improvements, JBIC tries to pursue the possibility of additional assistance, while still placing priority on the developing country s own efforts.

Examining operation and maintenance conditions and providing additional assistance whenever necessary are generally termed Monitoring after completion . The aim of monitoring after completion is to grasp the status of operation and maintenance of a project after its completion, and to maintain or enhance its benefits by considering suitable countermeasures when improvements are necessary. As part of its monitoring after completion work, JBIC conducts regular investigations to keep track of the status of completed projects. In addition to these investigations, Special Assistance for Project Sustainability (SAPS) and rehabilitation grants are considered to sustain and extend project effects.

(1) Special Assistance for Project Sustainability (SAPS)

SAPS is a form of intellectual assistance to propose specific solutions or improvements, through a detailed field survey, when the existence of a problem that impairs project s effects or prevents its improvement becomes clear. The operations and maintenance of completed projects are the responsibility of the country concerned. But if the results of a project s ex-post indicate the need for some improvement measures and the developing country requests assistance with the implementation of such measures, they will be implemented, after considering the necessity and urgency of the assistance.

(2) Rehabilitation Grant

When changing circumstances affect a completed project, necessitating additional funding, rehabilitation grants can be provided as grant-type financial assistance in cases where it would be difficult to use an ODA loan for reasons such as urgency, profitability or scale. The rehabilitation grant scheme was introduced in 1998, and the grants are implemented in close cooperation with JICA.

4. Types of Ex-post Evaluation

Types of ex-post evaluation are classified by JBIC as below.

4.1 Evaluation by Theme

These evaluations focus on a certain theme (regional development, environmental considerations, social development, etc.) and are carried out mainly by external experts and agencies, using their knowledge and experience.

JBIC conducts the following three types of evaluation as a variation on the evaluation by theme.

- Impact evaluation, which evaluates multiple projects to better grasp the overall effects on a certain region or sector
- Joint evaluation, which is implemented with other aid agencies or other parties (jointly evaluating same project)
- Mutual evaluation, in which each agency evaluates the counterpart agency s projects

These evaluation types are employed as appropriate.

4.2 Project Evaluation

Projects that fall outside the theme categories described above are evaluated generally. JBIC staff (including those posted overseas) conduct project evaluations. As a rule, field surveys are normally conducted.

● Expansion of third-party evaluation

In recent years, JBIC has been making increasing use of third-party evaluations conducted by external experts and agencies, particularly for evaluation by theme. The introduction of third-party evaluation is expected to enhance the objectivity of evaluations, and provide deeper insights and observations, especially in the analysis of project impact, through expert knowledge. Because it is important to enhance the neutrality and objectivity of the evaluation, if there is difference of opinion, JBIC s view will be reported alongside the opinions of the evaluators, and so labeled. Third-party evaluators are selected with reference to the content of the evaluation work. JBIC is striving to expand the range of commissioned evaluators to include Japanese and foreign university researchers, private sector research agencies, NGOs and others.

The third-party evaluations conducted in 2000 are reported in the following section II.2 Summary of Third-party Evaluations and Introduction of their Contributors .

5. Selection of Projects for Ex-post Evaluation

While JBIC tries to cover all the completed projects with project evaluation , one of the following criteria are applied, with due attention to the region-wise, country-wise, and sector-wise balance, when JBIC selects evaluation by theme :

① Projects able to provide valuable hints and lessons for the implementation of future ODA projects.

② Projects that have large and measurable impacts in their sectors or regions.

③ Projects that provide specific research themes.

④ Projects concerned with environmental and social development.

6. Criteria Considered in Ex-post Evaluation

Until recently, the content of the ex-post evaluations carried out by JBIC was based loosely on the five evaluation criteria set by the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD), examining Project scope, Implementation schedule, Project cost, Project implementation scheme, Operations and Maintenance scheme, Operations and Maintenance, and Project effects. Starting with last year s evaluations, JBIC revised its evaluation report forms, from the point of view of consistency with other agencies, so that they are based clearly on the five DAC evaluation criteria. The main content of the five evaluation criteria is described below. All five DAC evaluation criteria, however, will not necessarily be applied in the case of evaluation by theme.

(1): Relevance	This point examines the relevance of the project's objectives both at the time of appraisal and of evaluation. The current relevance of the project is also examined, considering changes in the background to the project and in external conditions. If there was any major change in the project scope, the project is examined to determine whether there has been any major deviation from the original objectives.
(2): Efficiency	This point examines the efficiency with which the resources input to the project led to the project's output. If there was any problem with the project scope, implementation schedule or project cost, the nature of the problem, the countermeasures taken, if any, and their relevance are also examined. The efficiency of the project implementation is analyzed, judging from such points as notable factors leading to the success of the project.
(3): Effectiveness	This point examines the degree to which the project objectives have been attained. For aspects of project effectiveness that can be quantified, the planned and actual values of indicators measuring operation and effect are compared and, in principle, the internal rates of return (IRR)[1] are calculated. As a result, the degree of attainment of project objectives is examined.
(4): Impact	This point examines the degree of direct, indirect and secondary impact on macro-economic, social, and environmental aspects and other factors. It also examines whether the ultimate goal of the project has been realized, and the project's positive and negative impacts on society and the environment, including the relocation of residents and the acquisition of land.
(5): Sustainability	This point examines the degree to which the results, effects and impacts of the project will be sustained after its completion. It analyzes whether or not the maintenance system is adequate and is properly implemented, examines whether project effects can be expected to continue in future, and proposes what countermeasures are required to solve problems.

When new lessons have been learned from a project through ex-post evaluation, they are also included in the report.

1 Internal rate of return (IRR): One of the indices of profitability, which is the discount rate required to make the present value of the project's benefits equal to the present value of its costs. In the case of ex-post evaluations, it is the cost (achievements) required for the project's implementation and the profits (projections based on achievements of several years after start of operation) obtained for the entire period of the project's operation (project life). There are two types of IRR: the economic internal rate of return (EIRR), which measures social benefit of the project from the viewpoint of the national economy, and the financial internal rate of return (FIRR) that measures profitability of individual projects, in other words, FIRR obtained based on the profits of the project's executing agency. Whether EIRR or FIRR is applicable depends on the nature of the project (depending on the project, it may also be possible to obtain both).
However, in many cases qualitative aspects that cannot be quantified are also involved. Moreover, in some cases it may be difficult to obtain the rate of returns due to the nature of the project, (for instance in social development projects, medical care projects, education projects, environmental projects, etc.), and in such cases, the rate of return is not calculated.

II. Features of This Report

1. Evaluation by Theme

As mentioned above in I.4 Types of Ex-post Evaluation, some ex-post evaluations are conducted on the basis of a specific theme. The evaluations by theme carried out in 2000, and their themes, are listed below.

(1) China Three Urban Water Supply Projects (10 cities) : Evaluation of the water supply sector in China

(2) Philippines Impact Study on Transport Projects in Metro Manila : Overall traffic impact

(3) Thailand Environmental Protection Promotion Program : Evaluation of environmental improvements and economic effect (impact) on water quality

(4) Thailand Large Swamp Inland Fisheries Project : Evaluation of poverty alleviation program

(5) Thailand Small Scale Irrigation Programme (Stage IV ~ VI) : Evaluation of poverty alleviation program

(6) Bangladesh Jamuna Multi-Purpose Bridge Project, Resettlement in JMBP, Assessing Process and Outcomes : Evaluation of relocation project

(7) India Afforestation Project in Aravalli Hills : Evaluating economic and environmental effects and social development impact of forestation project

(8) Sri Lanka Greater Colombo Flood Control and Environment Improvement Project : Evaluating impact of relocation of residents and improvement of living environment

(9) Kenya Joint Evaluation for Water Supply and Sewerage Projects in Nakuru : Evaluation with JICA of impact on ecological environment of lake

(10) Mexico The Mexico City Sulfur Dioxide Emission Reduction Project : Evaluation method of environmental effects of the project

(11) Ghana Joint Evaluation of the Road Sub-Sector Programme 1996-2000 : with DANIDA (Denmark), the World Bank, and others

2. Third-party Evaluation Summary and Introduction of Evaluators

Ten projects are evaluated under the third party evaluation scheme. The following people were entrusted by JBIC as third party evaluators.

(1) For the Three Urban Water Supply Projects (10 cities), Mr. Kenji Hori of NJS Consultant Co., Ltd. and Mr. Tomohiro Miyagawa of Century Ota Showa & Co. carried out an evaluation focused on water changes and profitability, including surveys of residents regarding the quality of water service and how the projects affected them.

Kenji Hori

Graduated from Waseda University, 2nd Faculty of Science and Engineering. Currently director of the Technical Dept., NJS Consultant Co., Ltd. Specializes in planning and design of water supply and sewage. Has been engaged in preparation of master plan, design and project monitoring of water supply and sewage projects by JICA and JBIC in the Philippines, Thailand, Bangladesh and elsewhere.

Tomohiro Miyagawa
Graduated from Nagoya University, Faculty of Law. Currently serves as manager of Century Ota Showa & Co., No. 8 Division. Specializes in auditing and analysis of financial surveys. Has been involved with auditing and financial survey analysis, including auditing of financial statements and cashflow analysis, for both domestic and overseas projects (China, USA and Europe).

(2) In the Impact Study on Transport Projects in Metro Manila in the Philippines, ALMEC Corporation conducted a simulation of the project s traffic model and a participatory social survey to study the social impact on residents. Prof. Hitoshi Ieda of the University of Tokyo Graduate School, Prof. Shoushi Mizokami of Kumamoto University and Associate Prof. Tetsuo Kidokoro of the University of Tokyo Graduate School, who are members of a separate third-party evaluation committee, carried out the evaluation. They also assessed the evaluation methods used in the ALMEC survey, and provided recommendations for future projects.

Hitoshi Ieda
Graduated from the University of Tokyo, Faculty of Engineering and obtained a Ph.D. in engineering and qualification as a consultant engineer. Currently works as a professor of social infrastructure engineering at the University of Tokyo. Expertise in traffic and urban infrastructure planning. Authored Infrastructure in Tokyo (Gihodo, 1997) and others.

Shoushi Mizokami
Completed first half of Ph.D. course at the Department of Engineering Research, Graduate School, Nagoya University and received Doctor of Engineering. Currently serves as a professor in the Department of Environmental System Engineering, Faculty of Engineering, Kumamoto University. An expert in traffic planning. Major papers include Prediction System for Sightseeing Traffic Demand in Consideration of Degree of Attractiveness of Scenic Spots and Pleasure Trip Behavior (Civil Engineering Association Review , No.639/IV-46, pp.65-75, 2000.1.)

Tetsuo Kidokoro
Graduated from Faculty of Engineering, the University of Tokyo and obtained doctorate in engineering. Currently serves as an associate professor in Department of Urban Engineering, Graduate School of Engineering, the University of Tokyo. Specializes in urban and regional planning. Authored Global Environment and Giant City (co-authored/Iwanami Shoten, 1998) and others.

(3) Mr. Toshiharu Sasaki, Mr. Kingo Hayashi and Mr. Takeshi Takagi, Mitsubishi Research Institute, Inc. performed ex-post evaluation using economic evaluation of the effects of environmental improvements on water quality for Environmental Protection Promotion Program in Thailand. They also conducted ex-post evaluation and development of evaluation method using a cost-benefit analysis of environmental projects for The Mexico City Sulfur Dioxide Emission Reduction Project in Mexico.

Toshiharu Sasaki

Graduated from Department of Social Engineering, Faculty of Engineering, Tokyo Institute of Technology. Currently serves as a senior researcher and director of Global Environment Research Division, Mitsubishi Research Institute, Inc. An expert in environmental and regional planning. Authored Environmental Assessment (co-authored/Gihodo, 1988) and others.

Kingo Hayashi

Graduated from the University of Tokyo, Faculty of Engineering, Department of Urban Engineering and completed master s course in urban engineering at the Engineering Research Dept., the University of Tokyo. Currently serves as a senior researcher of Global Environment Research Division, Mitsubishi Research Institute, Inc. Specializes in environmental sanitation engineering, and environment and energy technology. Authored Social Assessment — Methodology and Integration of Public Works Evaluation (co-authored/Toyo Keizai Shinposha, 1999)

Takeshi Takagi

Graduated from the University of Tokyo, Faculty of Liberal Arts, Department of Liberal Arts. Currently works for Global Environment Research Division, Mitsubishi Research Institute, Inc. An expert in environmental economics, and agriculture and forestry. Major papers include Evaluation of External Economic Effects in Agriculture , (Gekkan Youchi vol. 27, No. 332, 1994) and others.

(4) Akira Matsumoto (moved to another institution after the evaluation) and Mitsuyasu Ida, IC Net Ltd. evaluated impact on beneficiaries of Large Swamp Inland Fisheries Project and Small Scale Irrigation Programme (Stage IV ~ VI) in Thailand, mainly from the point of view of alleviation of poverty.

Akira Matsumoto

Graduated from Ritsumeikan University, Faculty of Economics, completed master s course at Development Project Planning Center, Bradford University Graduate School. Currently in Vietnam as a JICA expert. Specializes in evaluation methods and development planning. Has conducted many surveys and evaluations centering on poverty alleviation and gender.

Mitsuyasu Ida

Graduated from Tokyo University of Foreign Studies, Faculty of Foreign Studies, Department of Indo-China, and subsequently, Ottawa University, Graduate School, Faculty of International Development Cooperation. Currently serves as a researcher at IC Net Co., Ltd. An expert in social development and participatory study methods. Has drafted many participatory plans and studies, and conducted many evaluations especially in Southeast Asia.

(5) Hossain Zillur Rahman of Power and Participation Research Centre (PPRC), a local research agency, was entrusted to evaluate the influence on relocated residents of the Jamuna Multi-Purpose Bridge Project, Resettlement in JMBP, Assessing Process and Outcomes in Bangladesh.

Hossain Zillur Rahman

Received a master s degree in economics at Dacca University and a Ph.D. in political sociology at Manchester University. Currently serves as Executive Chairman of PPRC and senior research fellow at Bangladesh Institute of Development Studies. Expertise in poverty study, land policies, etc. Authored Re-thinking Rural Poverty: Bangladesh as a Case Study, (co-authored/SAGE Publications India Pvt. Ltd., 1995) and others.

(6) The Japan Society for International Development, which recommended the evaluators listed below, evaluated Afforestation Project in Aravalli Hills in India. The evaluation focused on environmental and economic effects and social development impact. The local consultant, Tata Consulting Services, and the local NGO, Gramin Vikas Trust, also conducted a survey of the activities of the residents in the Forest Preservation Committee.

Shoichi Yamashita

Graduated from Waseda University, Faculty of Political Economics, Department of Economics and received a Ph.D. in economics at Pennsylvania University Graduate School. Worked for Institute of Developing Economies, and currently serves as professor of Graduate School for International Cooperation, Hiroshima University as well as Chairman of the Japan Society for International Development. Specializes in economic development and international environmental cooperation.

Shunji Matsuoka

Graduated from Osaka University of Foreign Studies, Faculty of Foreign Studies and completed doctorate course at Dept. of Economics Research, Graduated School of Kyoto University. Currently serves as associate professor in Graduate School for International Cooperation, Hiroshima University as well as Secretary of the Japan Society for International Development, and is a scientific doctor in environmental planning. An expert in environmental economics and project evaluation theory. Major papers include Economic Growth and Environmental Problems in the Developing Countries: Does Environmental Kuznets Curve Effectuate? co-authored by Shunji Matsuoka, Reishi Matsumoto and Ikuho Kawauchi, (Environment and Science Journal 11 (4) pp.349-362, 1998) and others.

Hiroshi Sato

Graduated from the University of Tokyo, Faculty of Literature. Currently serves as senior researcher at Japan External Trade Organization, Institute of Developing Economies, Economic Cooperation Research Division is the permanent director of the Japan Society for International Development. Specializes in developmental sociology and regional studies (Yemen). Authored Introduction of Aid Study (Institute of Developing Economies, 1996) and others.

(7) Prof. Mitsuhiko Hosaka of Japan University of Social Welfare and Ms. Tomoko Ogura, Graduate School of Japan University of Social Welfare, carried out an evaluation, with the emphasis on relocation of residents and improvement in their living environment, of the Greater Colombo Flood Control and Environment Improvement Project in Sri Lanka. K.A. Jayaratne,

consultant of urban environmental problems in Sri Lanka, and Nandasiri Gamage, president of Women s Bank in Sri Lanka (NGO), conducted a social survey of the project s impact on relocated residents.

Mitsuhiko Hosaka

Received a doctorate in urban engineering, Engineering Research Dept., Graduate School, the University of Tokyo. Currently serves as a professor at Japan University of Social Welfare, Faculty of Economics. Experienced in conducting studies and research, particularly from the viewpoint of participatory development. Major writings include Asian Town — My Home , (Akashi Shoten, 1994) and others.

Tomoko Ogura

Enrolled in Japan University of Social Welfare, Graduate School, Department of Management Development and Information Systems (at the time of this report). Engaged in life improvement activities in Badowita district, (one of the places where residents were relocated as part of this project), as a Japan Overseas Cooperation Volunteer and as a member of extending development of villages from 1995 to 1998.

(8) JBIC and JICA (Japan International Cooperation Agency) decided to conduct Joint Evaluation for Water Supply and Sewerage Projects in Nakuru to better evaluate the total impact of the project. Masahisa Nakamura and Shigeo Tsujimura of Lake Biwa Research Institute and Ryozo Kakizawa of Yamashina Institute for Ornithology evaluated the impact of the project on the water quality, environment and ecology of Lake Nakuru, in Kenya. In addition, Partnership in Management Assistance and Training (PMAT), which is a Kenyan consulting company, carried out a social survey to study its effects on the intended beneficiaries of the water supply project.

Masahisa Nakamura

Graduated from Hokkaido University, Faculty of Engineering, Department of Sanitary Engineering, and completed master s degree course at Department of Environmental Engineering, Graduate School of Washington University and Ph.D. course at Department of Environmental Engineering, Graduate School of University of Illinois. Currently serves as Director of Lake Biwa Research Institute. An expert in environmental policy and system engineering. Major papers include Past and Present of Research in Biwa Lake: Transition from Water Resource Development to Environmental Resource Recovery , (Lake Country and Culture , No.78, 1997) and others.

Shigeo Tsujimura

Graduated from Kyoto University, Faculty of Agriculture, Department of Fisheries and received a Ph.D. from the Department of Agricultural Research of the same university. Currently serves as a research fellow at Lake Biwa Research Institute. Specializes in ecological environments in lakes. Major papers include Function and its Usage of Soil Seaweeds , (Compiled by Soil Microorganism Council, New: Microorganism in the Soil (7) Protozoan in the Soil and Seaweeds from Ecological Viewpoint , 2000, Hakuyusha, pp127-158) and others.

Ryozo Kakizawa

Graduated from Yokohama City University, Faculty of Humanities and Sciences, Department of Biology. Completed master s and doctoral degree course at Department of Forestry, Faculty of Agriculture, Tokyo University of Agriculture and Technology. Currently serves as a senior researcher and director of Data and Statistics Division at Yamashina Institute for Ornithology. An expert in ornithology and ecology. Major writings include Bean Goose in Kasumigaura , (Nikkei Science, 1995) and others.

3. Enhancement of Feedback

Two of the most important objectives of ex-post evaluation are to provide the project executing agency with feedback, in the form of evaluation results, and to make recommendations for improvements of the operation of the current project and for implementation of future projects. JBIC prepares English-language translations of all ex-post evaluation reports, which are presented to borrowers and project executing agencies. On-site seminars are conducted in cases where it is particularly necessary to share and deepen the understanding of the evaluation results among the people concerned. In FY 2000, feedback seminars were held in Vietnam (June 2000) and Jordan (September 2000) to share the evaluation results from two projects evaluated the year before in Thailand (Eastern Seaboard Development Plan and Tourism Development Project). These seminars were conducted with a view to south-south cooperation, to enable other countries to benefit from the lessons of ODA projects in Thailand.

In September 2000, JBIC co-hosted an ODA Evaluation Seminar in Japan with JICA and the Ministry of Foreign Affairs to coincide with the DAC Evaluation Group Tokyo Workshop. And in March 2001, it aimed for feedback in the form of cooperation and participation from World Bank evaluation experts invited to the Evaluation Forum on International Cooperation (sponsored by the Ministry of Finance). In June 2001, JBIC co-hosted an ex-post evaluation feedback meeting with the Japan Society for International Development to report on the Afforestation Project in Aravalli Hills (featured in this report). In July, an ODA Loan Project Evaluation Seminar was held to explain project evaluation to aid-related bodies and private companies, using two recent evaluations as examples. These events are part of ongoing efforts to provide feedback.

4. Study on Evaluation Methods

To date, JBIC has both evaluated individual projects and also carried out program-level evaluations, such as impact evaluation. Based on the advice for improving ODA evaluation systems, received from the ODA Evaluation Reviewing Panel in March 2000, JBIC also conducted the following four studies of evaluation methods in FY 2000 in an effort to develop policy-level and program-level evaluation.

- The direct impact of ODA loan projects on the alleviation of poverty.
- The macro-economic effects of ODA loan projects.
- Project effects of environmental projects.
- Structural Adjustment Loan.

(Evaluation methods summarized in the section titled Column .)

III. Projects Subjected to Evaluation

1. Evaluation Reports Included in this Report

The results of all evaluations (evaluations by theme and project evaluations) reported in fiscal 2000 are included in this report.

2. Summary of the Ex-post Evaluation Report of 2000

The number of evaluations reported in fiscal 2000 amounted to 110.

Distribution of the 110 projects by geography shows that the great majority of projects are located in Asia. This is due to the fact that many of the recipients of JBIC loans are in Asia. This is a trend seen every year.

Number of Projects by Sector and Region Evaluated in Fiscal 2000

Sector/ Region	Asia	Middle East	Africa	Central & South America	Total
Electric Power and Gas	5				5
Transportation	35	2	6	3	46
Telecommunications	4	1	2	1	8
Mining and Manufacturing	6	1	1	1	9
Agriculture, Forestry and Fisheries	4		1		5
Irrigation and Flood Control	20		1		21
Social Services	15		1		16
Others					
Total	89	4	12	5	110

Studies Into Evaluation Methods

Research Into Evaluation Methods was conducted as an investigation of evaluation methods at the level of policies and programs , based on the proposals for the improvement of ODA Evaluation Systems presented by the ODA Evaluation Reviewing Panel in March 2000. The themes of the study were based on the key points listed in the Medium-term Strategy for Overseas Economic Cooperation Operations report, which was adopted by JBIC in December 1999. In FY 2000, the four themes researched were:

- Direct impact of ODA loan projects on the alleviation of poverty.
- Macro-economic effects of ODA loans.
- Project effects of environmental project.
- Structural adjustment loan.

Each stage during the study of methods was reviewed by a panel of experts with advanced academic or practical experience, and the content of the research was further upgraded in line with their expert advice and opinions. The four evaluation method studies are summarized below.

Ⅰ. Summary of the Evaluation Method Study on "Direct Impact of ODA Loan Projects on the Alleviation of Poverty"

1 Background and purpose of the study

Medium-term Strategy for Overseas Economic Cooperation Operations (December 1999) places an emphasis on cooperation for social development and the reduction of poverty. As a result, an increasing proportion of future projects is expected to have a direct impact on the alleviation of poverty, i.e. social or economic development projects to directly meet the needs of the poor with targeting the poor people or area, or the same to contain such components. (These projects include not only those that will clearly state the alleviation of poverty as an objective, but also those expected to contribute to poverty alleviation even without clear statement). At the same time, ex-post evaluation is expected to properly evaluate how the project contribute to the alleviation of poverty. The goal of this study was to prepare a handbook that would serve as reference material for JBIC evaluators examining a project s contribution to the alleviation of poverty (poverty alleviation projects), especially its direct impact on poverty.

2 Study Method

In line with the above objectives, the following points were considered necessary for the handbook.

(1) Characteristics of ODA loan projects that make direct contributions to the alleviation of poverty.

(2) Detailed explanations of methodology, concrete operations and steps that should be taken in planning and carrying out the evaluation of (1) above.

(3) Concrete examples.

At the same time, third-party evaluations of the Large Swamp Inland Fisheries Project and the Small Scale Irrigation Programme (Stage IV~VI) in Thailand were conducted to serve as examples of poverty alleviation project evaluations (impact evaluations). Using these cases made the handbook more effective.

3 Study Results

The handbook, which contains the results of the study, comprises the following sections:

(1) Properties of poverty alleviation projects.

(2) Items to be studied in ex-post evaluation (the degree to which the project contributed to poverty alleviation, analysis of the factors behind its success or failure, recommendations and lessons learned).

(3) Approaches to the preparation of an evaluation plan (the objectives of ex-post evaluation, examination of major issues and questions, examination of study implementation plans).

(4) Guidelines and points for study implementation (composition of the evaluation team, operating procedures and schedules).

(5) Study approaches that take into account specific characteristics of the target project (simple, general and multiple-type projects; regionally dispersed projects; structural adjustment loans and sector adjustment loans; targeting methods).

(6) Survey analysis methods (quantitative survey methods based on questionnaire surveys, qualitative survey methods based on RRA and other methods).

(7) Case studies (examples of evaluation plans for specific projects).

The impact evaluations (studies of impact on beneficiaries regarding poverty alleviation) for Large Swamp Inland Fisheries Project and Small Scale Irrigation Programme (Stage IV~VI) , which were based on the above content, employ a participatory survey that combines questionnaire and Rapid Rural Appraisal (RRA) survey.

II . Summary of the Evaluation Method Study on" Macro-economic Effects of ODA Loans "

1 Background and purpose of the study

In contrast to individual projects, for which there are well established methods for gauging the effects of assistance, there are currently no widely used macro level evaluation methods, despite the importance of such measurements. This study examined the development of methods for quantitatively gauging the macro-economic impact of assistance. Specifically, it aimed to develop a model for quantifying the effect of ODA loans on economic growth, then applied the model to projects in Thailand and the Philippines.

2 Study Method (evaluation framework)

This study constructed a model to measure the effects of ODA loans on Thailand and the Philippines. It attempted to gauge the impact of assistance by calculating the difference based on recorded figures for economic growth (1980~1999), between situations where ODA loans were provided, and those where they were not provided.

The basic framework of the model is shown in the flow chart on p. 15. It is based on the assumption that the effects of ODA loans will influence the economy mainly through the gross fixed capital formation, exports, government financial balance and international balance of payments sectors. Creating a macro-model that could analyze each major field of the economy separately required 70~90 equations for each country. Those creating the model were especially careful not to overestimate the impact of ODA loans.

The major macroeconomic indices (GDP, consumption, investment, etc.) were calculated for The case without ODA loans (calculated values) and The case with ODA loans provided (the recorded values) . The indices were then compared using the formulas below in order to analyze the effect of ODA loans on economic expansion.

(1) **Value of Increase and the Increase Ratio:** Economic indicators calculated for the ODA and no-ODA cases were compared to gauge the effect of quantitative expansion caused by the ODA loans.

Value of the increase yielded by ODA loans = Figures for the case with ODA - Figures for the no-ODA loan case

$$\text{Increase rate due to ODA} = \frac{\text{Value of the increase yielded by ODA loans}}{\text{Figures for the no-ODA loan case}} \times 100\ (\%)$$

(2) **GDP utilization rate:** The utilization rate of GDP[1] shall be defined as the ratio of demand GDP to potential GDP. It represents the level the real economy has reached, relative to its potential. If the gap in utilization rates of GDP between the case with ODA loan and the no-ODA loan cases is positive, it indicates a desirable situation in which the ODA loan has encouraged the effective use of economic resources.

Utilization rate of GDP= (Demand GDP) ÷ (potential GDP) x 100%

Gap in utilization rate of GDP =

Utilization rate for the ODA loan case — utilization rate for the no-ODA loan case.

(3) **Effect on annual growth rate:** First, the average annual growth rate is calculated for the period for which the economic indicators were analyzed. The difference in growth rates between the ODA loan case and the no-ODA loan case will show the effect of ODA in increasing the speed of growth.

Effect on annual growth rate =

$$\left[\sqrt[\text{No. of years}]{\frac{\text{Figure for the last analyzed year in the ODA loan case}}{\text{Figure for the first analyzed year in the ODA loan case}}} - 1\right] \times 100\ (\%)$$

$$- \left[\sqrt[\text{No. of years}]{\frac{\text{Figure for the last analyzed year in the no-ODA loan case}}{\text{Figure for the first analyzed year in the no-ODA loan case}}} - 1\right] \times 100\ (\%)$$

(4) **Effect on economic expansion per unit of ODA loan:** This gauges how much the economy grew per unit of ODA loan (equal to 1% of GDP) during the analyzed period.

1 "Demand GDP" refers to general GDP, which in this model is estimated as the total of all GDP elements, such as consumption and investment. "Potential GDP" is the GDP which would be realized if all labor and capital in the economy were fully employed. It is estimated from production function.

3 Study results

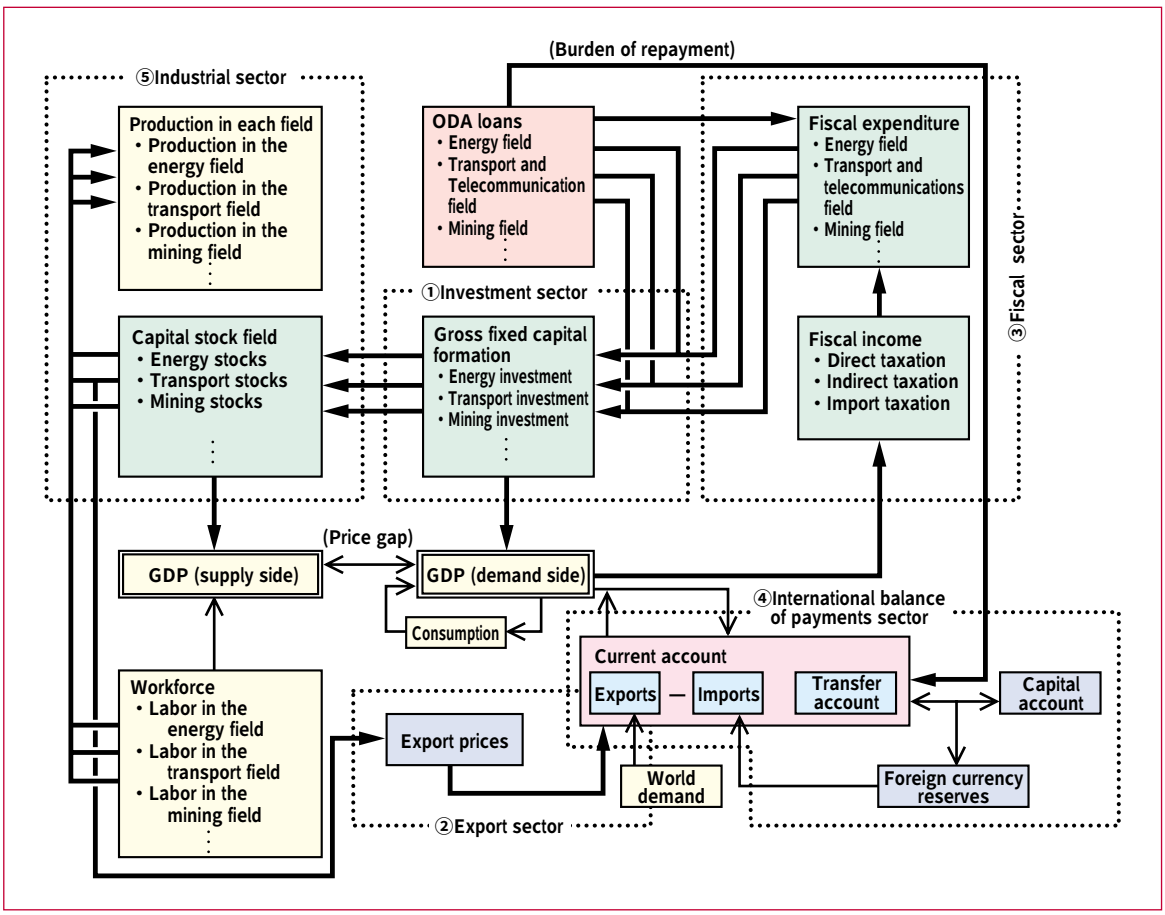
• Effect on the economy as a whole — Positive effects on the recipient country

The most important result from this study is the quantitative indication by the model that ODA had effect of boosting the economies of Thailand and the Philippines. Calculations showed that between 1980 and 1999, GDP increased by 3.2% in Thailand and by 1.4% in the Philippines as a result of ODA loans. The model also confirmed that in addition to expanding the potential GDP of the two countries, the loans also had a strong tendency to encourage the effective use of the economy s potential.

・Effects in individual economic sectors — Maximum effect occurs in the investment sector

Among the sectors, the ODA loans had the greatest impact on the investment sector. The fact that there was a relatively large impact on private sector investment, as well as on government investment, shows that ODA loans have an inductive effect. On the contrary, the impact of ODA loans on the export sector was not large in either Thailand or the Philippines. However, these estimated figures are closely related to the structure of the model, and therefore it is not possible to make sweeping judgments about the success or failure of ODA loans in building up any given sector.

(Reference) Flow Chart for this Model



・Effects in each country and time frame

The effect on annual growth rate in real GDP with ODA loans, and the effect on economic expansion per unit of ODA loan (assistance efficiency) as calculated from this model show that, as far as can be judged from these calculations, the effects were generally stronger in Thailand than in the Philippines. However, when figures are examined separately for the 80s and the 90s, there are differences between the two countries, with effects improving in the Philippines and declining in Thailand.

・Future tasks

It is important to note that this model has certain limitations. It does not adequately reflect interactive effects among sectors, the effects of relieving restrictions on fiscal balance and international balance of payments, and the effects of enhanced productivity. It also fails to take into account the effects of qualitative improvements in society and in people s lives, which are an important part of ODA loans. The model should be developed further include more countries, which would enable better comparison between countries and more detailed analysis.

Ⅲ. Summary of the Evaluation Method Study on "Project Effects of Environmental Projects"

1 Background and Purpose of the Study

Medium-term Strategy for Overseas Economic Cooperation Operations (December 1999) sets encouraging developing countries to take stronger actions against global environmental problems, enhancing their capacity to deal with such problems, and supporting their sustainable development as one of JBIC s priorities. In addition, a new category for ODA Loans for Special Environmental Projects has been established for projects that tackle global environmental problems and pollution. The new designation has resulted in an increasing number of environmental projects. However, few environmental projects were evaluated in the past, and it is generally difficult to quantitatively evaluate the effects of efforts to improve or conserve the environment. As a result, evaluation methods have not been well established for such projects. This study aimed to draw up a framework for the ex-post evaluation of environmental projects implemented by JBIC, using cost-benefit analysis.

2 Study Method

Based on the above objectives, this study examined and proposed applicable evaluation methods for each sub-sector in the environmental field (atmosphere, water quality, etc.) through the following steps:

① Identify the effects of each sub-sector to be grasped.

② Draw up a methodology for quantifying benefits in order to evaluate ecological, environmental and social impacts, and propose the applicable evaluation methods.

The study shall include concrete methods and steps (quantification of impacts, methods for conversion into monetary value, data collection methods) to be employed in their implementation. Based on the study findings, the cost-benefit framework was tested by evaluating projects related to the air pollution reduction in Mexico City.

3 Study Results

The study results were grouped as follows:

(1) A framework for cost-benefit analysis in the ex-post evaluation of environmental projects.

(2) Examination of the mechanisms for the environmental and social impact of implementation of environmental projects, and the evaluation method.

(3) Review of economic evaluation methods (Contingent Valuation Method (CVM), the travel cost method, production volume changes, opportunity costs etc.) for measuring social impact generated by the implementation of environmental projects (deaths due to environmental pollution, reduction of epidemics, impact on agriculture, forestry and fisheries, increased recreational opportunities, conservation of rare species, etc.).

(4) Examining methods to solve the problems of cost-benefit analysis for environmental projects (such as benefit transfer of CVM).

(5) Verifying the cost-benefit framework through the case study evaluation for the Mexico City Sulfur Dioxide Emission Reduction Project.

The ex-post evaluation of the Mexico City Sulfur Dioxide Emission Reduction Project , which was conducted using the cost-benefit framework produced by this study (refer to the later evaluation by theme), employed two methods to evaluate the benefit yielded by the installation of desulfurization equipment to improve the air pollution problem in Mexico City. One calculated the benefit of reduced damage to human health due to the cut in SO_2 emissions by evaluating the reduction of income losses and medical costs associated with persistent coughing and phlegm. The other method was to calculate the cost of a substitute means of bringing about an equivalent reduction in air pollution. The IRR values for each method were calculated.

IV. Summary of the Evaluation Method Study on "Structural Adjustment Loans"

1 Background and Purpose of the Study

Medium-term Strategy for Overseas Economic Cooperation Operations (December 1999) lists support for economic structural reform as a priority field. On the other hand, many countries which have been provided with Structural Adjustment Loans to date have become candidates for the debt reduction initiative agreed to at the K ln Summit, which has heightened interest in the effects of Structural Adjustment Loans. This study attempts to analyze the multi-faceted effects of assistance through Structural Adjustment Loans and to reflect the findings for future assistance for economic structural reform.

2 Survey Method

Based on the above objectives, JBIC analyzed the evaluation methods for Structural Adjustment Loans employed by other agencies such as the World Bank and the Asia Development Bank, and the problems of those methods, and aimed to evaluate Structural Adjustment Loans provided by JBIC, utilizing a logical framework in line with the DAC s five evaluation criteria. Particular emphasis was placed on the project effectiveness, with analysis of the linkage between loan provision and the macroeconomic situation, and between attainment of conditionalities and the macroeconomic situation. Costa Rica Structural Adjustment Loan II, Ghana Structural Adjustment Loans I and II, and the Morocco Structural Adjustment Loan evaluated using the evaluation methods examined.

3 Characteristics of the Study and Results

The characteristics of the study are as follows:

(1) The Structural Adjustment Loan scheme could be divided into the provision of funds and the economic structural reform program, and the focus in this study was placed on the results and effectiveness of the latter.

(2) The economic structural reform program was evaluated in two stages, first by major policy and sector fields, and then as a whole.

(3) DAC five evaluation criteria (particularly effectiveness, impact and sustainability) are commonly applied to the first and second stage evaluation.

The first stage examines whether the policy conditionalities of the economic structural reform program have been achieved, and sets indicators for the degree to which targets were attained for each policy field and sector. The second stage examines whether the most important targets have been attained on the macroeconomic level, and what degree of impact the program has had, by comparing situations before and after the implementation of the program. Finally, focusing on the attainment of targets in the prior policy fields, an overall evaluation of the two stages is conducted.

The results obtained by applying the above method to Costa Rica Structural Adjustment Loan II, Ghana Structural Adjustment Loans I and II, and the Morocco Structural Adjustment Loan are summarized below.

[Costa Rica]

Analysis of individual policies (sectors) and fields showed that targets in the areas of trade liberalization, reform of state-owned enterprises and the agricultural sector were attained, while those in management of the public sector and external debt management were partially attained. The analysis showed no macroeconomic improvements in the fiscal field, but progress was made on improving the international balance of payments.

[Ghana]

Analysis of individual policies (sectors) and fields showed that targets were reached in the areas of trade liberalization, the cocoa sector and expenditure correction, while in other fields, there were some positive results due to government policies, but they did not meet the targets. In terms of macroeconomic effects, the goal for economic growth was attained, but progress towards other targets was inadequate.

[Morocco]

Analysis of individual policies (sectors) and fields showed that there were remarkable effects achieved in the areas of trade liberalization and external debt management, and that the targets set by most policies and sectors were reached. As for macroeconomic effects, the goals, which were recovery of credit status, reduction of budget deficits and improvement of the international balance of payments, were achieved.

Description of Terminology

Basic Terminology of Development Assistance

1. Loan Agreement (L/A)

A contract made between the lender (JBIC) and the borrower after an Exchange of Notes (E/N) is concluded between the Japanese government and recipient governments. The L/A defines the detailed procedures, the rights and responsibilities of the involved parties, and all other matters regarding implementation of the loan.

2. Exchange of Notes (E/N)

One type of international commitment. Notes (outgoing note and reply), between the Japanese government and the government of the counterpart country, or an international institution, form an agreement stipulating the relationship of rights and obligations under international law. Japan's international commitment over grant aid cooperation takes the form of exchanges of notes, and funds are provided on that basis. ODA loans begin with signature of the exchange of notes, followed by a loan agreement on that basis between JBIC and a recipient government etc.

3. General Untied

This is a type of procurement condition. General untied refers to the case where no restrictions are placed on where aid goods and services are obtained. Also known as "no strings" aid. In the case of ODA loans, the procurement sources of goods and services using ODA loan funds used to be limited to less-developed countries (LDCs) and OECD member states, and these conditions were referred to as "general untied". Following the collapse of the former Soviet Union and the democratization of Eastern Europe, procurement sources for all ODA loans under general untied condition for which the E/N took place after April 1992 have been expanded to all regions and countries without restriction.

4. Partial Untied

This is another type of procurement condition. Partial untied refers to the case where procurement sources for goods and services are all in the developing countries and in the country that provides the aid to less-developed countries (Japan in the case of Japan's ODA loans). For projects in which procurement began after February 1997, "all countries in transition" have been added to the list of possible procurement sources for partial untied Japan's ODA loans.

5. Master Plan (M/P)

This is a plan for the development of a certain region or sector in a developing country. An M/P should clearly state the activities and the priorities among the listed projects, with reference to the specific circumstances of the economic and social development, and any conditions or restrictions, of the country. A master plan (M/P) must also be consistent with the higher-level national and regional development plans. In general, a master plan would be the basis on which the planning of an individual project and the feasibility study is carried out.

6. Feasibility Study (F/S)

This is a prerequisite study or report on technical and economic feasibility of an ODA loan project, carried out by an executor (or a subcontracted consultant). The F/S is essential for the executor to formulate the frame of the project and seek funding sources. The donor also regards the F/S as significant material to decide whether to extend loans or not. The F/S should include market surveys, technical studies, budget plan and economic evaluation of the project.

7. Engineering Service Loan

This is a form of ODA loan that JBIC extends. Once the F/S for a project has been completed and the subsequent project implementation stages have been subdivided into a number of phases (the phasing process), the initial stages (the surveys and design stages necessary for project implementation) are split from the rest of the project construction stages. Loans made for these initial stages are called "engineering service (E/S) loans". The items to be covered by E/S loans include revisions of F/S results, detailed designs and preparation of bidding documents. However, an E/S loan does not automatically guarantee a loan for the subsequent construction phase. A loan decision on the construction portion is made separately, after the completion of the E/S loan.

Description of Terminology

8. Detailed Design (D/D)
A designing plan is used in the preparation of bidding documents and services and is the most important guide in the implementation of the actual construction works. At the completion of the F/S, the executor (or a consultant commissioned by the executor) prepares/gathers the study materials necessary for the implementation of construction works, considers construction methods and makes the design plans and specifications. The detailed design requires site investigations, surveillance, analysis and other detailed works.

9. JBIC Guidelines on Environmental Considerations in ODA Loans
JBIC prepared the Guidelines with reference to the recommendations of the OECD Board of Directors, to check whether environmental measures in development projects are being conducted effectively and efficiently. The first edition was drawn up by the then Overseas Economic Cooperation Fund (OECF) in October 1989. It was reviewed and revised in 1995, and the current edition has been in use since the foundation of JBIC in October 1999. The Guidelines state the environmental matters which must be considered by the borrower in the planning and preparation stages which precede the loan application. Points to be considered in the 17 sectors which are subjected to investment and finance, include pollution and problems in the natural and social environments. These points are organized in a checklist format. JBIC follows the guidelines in appraising development projects and, if necessary, additional measures may be required.

10. Project Completion Report (PCR)
This is a report that JBIC requests the borrower (executing agency) to submit at project completion. The borrower verifies that the project has been completed, and JBIC obtains basic information for efficient ex-post evaluation and post-monitoring.

11. Cost Underrun
When the amount of funds required falls short of the initial estimation.

12. Cost Overrun
When the amount of funds required exceeds the initial estimation.

13. Man Month (M/M)
This concept is generally used in service contracts, particularly for consultants. It is the unit used to calculate human resources and the amount of time required to perform a service. One specialist working for one month constitutes one man month (M/M).

14. Two-Step Loan (TSL)
This name is commonly used for "financial intermediary loan", which is provided to strengthen and develop sectors such as manufacturing or agriculture through a financial intermediary institution within a developing country and to make use of the capacity of that institution. The ODA loan funds are disbursed first to a financial intermediary institution, then sub-loaned to end-users inside the country. This is called a "two-step" loan. These loans assist multiple end-users, such as companies or farmers. It also enhances the financial system of the country through these loans.
The loans to end-users are called "sub-loans", and the projects for which they are provided are called "sub-projects".