

2017

JICA

JICA Annual Evaluation Report

Leading the world with trust

Japan International Cooperation Agency

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JICA Annual Evaluation Report 2017 — INDEX

Part I Operations Evaluation System of JICA

JICA's Operations Evaluation System	02
Pre Implementation Stage (Ex-ante Evaluation) /	
Post Implementation Stage (Ex-post Evaluation)	04
Comprehensive and Cross-Sectoral Evaluation and Analysis /	
Impact Evaluation	05
Advisory Committee on Evaluation	06
Efforts to Improve Operations Evaluation	07

Part II Ex-post Evaluation Results

Overview of the Ex-post Evaluation System	08
External Evaluation Results for FY2016	10
List of Ratings for External Evaluations	11
External Evaluation: Highlights	12
India(ODA Loan): Purulia Pumped Storage Project (I) (II) (III)	12
People's Republic of China(ODA Loan): Henan Province Afforestation Project	14
Socialist Republic of Viet Nam(ODA Loan):	
Saigon East-West Highway Construction Project (I)(II)(III)(IV)(V)	16
Republic of Peru (ODA Loan): Provincial Cities Water Supply and	
Sewerage System Improvement and Expansion Project	18
Bhutan(Grant Aid): The Project for Restoration and Improvement of	
Vital Infrastructure for Cyclone Disaster	20
Uganda(Grant Aid): The Project for Construction of Rice Research and Training Centre	22
Democratic Republic of the Congo(Grant Aid): The Project for Development of	
the Institute of Medical Education Kinshasa	24
Republic of Kenya(Technical Cooperation):	
Strengthening of Mathematics and Science Education (SMASE)	26
Republic of Indonesia(Technical Cooperation): The Project on Enhancement of Civilian	
Police Activities/The Project on Enhancement of Civilian Police Activities (Phase 2)	28
Arab Republic of Egypt(Technical Cooperation): The Project for Establishment of	
Egypt-Japan University of Science and Technology (E-JUST)	30
Measures for Projects Evaluated as Having Issues	32
Collaboration with Experts for Operations Evaluation	35
Internal Evaluation Results for FY2016	38

Part III Utilization and Learning of Evaluation Results

Identification and Analysis of Lessons Learned	42
Efforts to Improve Evaluation Methodology	46
Process Analysis	50
JICA's Efforts in Promoting Impact Evaluation	54
Statistical Analysis on External Evaluations	56

Guide to JICA's Website	60
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Preface

In 2015 we witnessed great progress toward enhanced international cooperation, exemplified by the adoption of the Sustainable Development Goals (SDGs) at the United Nations Sustainable Development Summit in September, as well as the adoption in December of the Paris Agreement at COP 21, the 21st Session of the Conference of the Parties to the UN Framework Convention on Climate Change. However, the global trajectory took a turn in 2016 when the world showed greater signs of uncertainty through the decision by the United Kingdom to leave the European Union and by the United States' presidential election. In light of these changes, in 2017 JICA adopted a new vision for its operations, dubbed "Leading the World with Trust." We believe trust is the key to Japan's international development cooperation approach. Trust signifies that JICA will stand in our counterparts' shoes, respect their ownership, and cooperate with our partners fully as equals. As we aspire for a freer, more peaceful and prosperous world, we hope to join hands with our partners to carry out the vision so that people can enjoy a better future capitalizing on the potential of their diversity.

JICA strongly believes that a well-managed project evaluation can effectively enhance both the quality and the strategic focus of international cooperation efforts. With this in mind, JICA is committed to evaluating its projects under two main objectives: (1) Improve and enhance project operations and strategic cooperation by compiling a list of lessons learned; and (2) Ensure organizational accountability and transparency by publicizing evaluation results.

This Annual Evaluation Report compiles the results of JICA's evaluations on its projects conducted in 2017 and also includes an outline of JICA's evaluation mechanisms and results of ex-post evaluations that have been conducted by third-party evaluators. This year, we took several strides to enhance our evaluation efforts to better respond to the diverse array of our projects – some of which are highlighted in this report. These efforts included devising evaluation methods for both private-sector investment finance projects and for cooperation in vulnerable countries, expanding the analysis of project processes, piloting the application of impact evaluations to public-private partnership projects, and developing a globally applicable best-practices system with the World Bank and other partners. Additionally, JICA has also focused on appropriately implementing ex-post evaluations and utilizing feedback from the lessons it has learned.

Of course, not all JICA projects achieve high ratings on each evaluated metric. This is particularly the case in areas where JICA provides project support in very challenging environments. Given the difficulties and ambitious goals of these projects, some may require JICA to expand upon its already innovative solutions to promote further economic and social progress in these countries. Still, we are determined to continue challenging ourselves to make the best use out of the lessons learned, as well as the accountability imposed by our evaluation results to maximize our cooperation efforts.

It is our great hope that this report helps deepen your understanding of JICA's activities, and we thank you for your continued support and trust in JICA.



March 2018

Shinichi Kitaoka, President
Japan International Cooperation Agency (JICA)

JICA's Operations Evaluation System

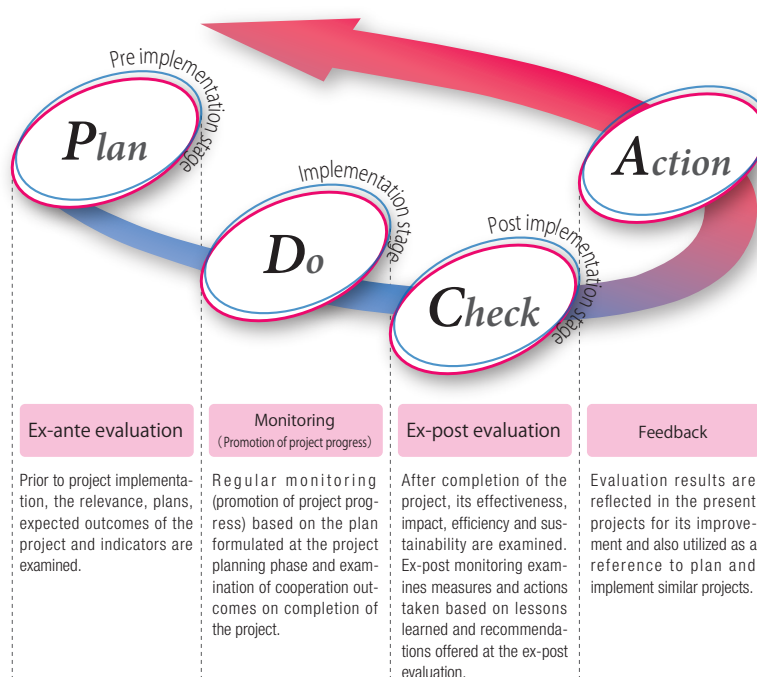
To improve its projects and ensure accountability to stakeholders, JICA implements operations evaluation and comprehensive and cross-sectoral thematic evaluation for Technical Cooperation, ODA Loans and Grant Aid projects.

1

Evaluation throughout the project's PDCA cycle

The PDCA cycle is a management tool that promotes continuous improvement of project activities and JICA's operations. It has four steps: Plan, Do, Check and Action.

For all projects, JICA's operations evaluation is conducted based on the PDCA cycle, regardless of the scheme of cooperation. Considering characteristics of the scheme of cooperation, such as the assistance period and timeframe to obtain expected results, JICA monitors and evaluates at each project stage (planning, implementation, post-implementation and feedback) within a consistent framework. By evaluating and monitoring projects at each stage of the PDCA cycle, it aims to improve the development effects. Details of the types of evaluation are introduced in p.4-5.



2

Coherent methodologies and criteria among three schemes of cooperation

JICA adopts an evaluation system using methodologies and criteria applicable to all schemes of assistance. JICA aims to conduct the evaluation and utilize the findings based on a consistent philosophy and a standard evaluation framework, while taking the differences in characteristics among each assistance scheme (Technical Cooperation, ODA Loans, and Grant Aid) into consideration.

Specifically, the evaluation framework reflects: (1) Monitoring and evaluation based on the PDCA cycle; (2) Evaluation applying the Five DAC Criteria for Evaluating Development Assistance laid out by the OECD-DAC (Organisation for Economic Co-operation and Development/ Development Assistance Committee) and internationally accepted as an ODA evaluation methodology; and (3) Publication of evaluation results in a uniform style by utilizing a rating system developed by JICA. The rating system and results are introduced in p.8-11.

Evaluation Perspectives Using the Five DAC Criteria for Evaluating Development Assistance

Relevance	Examine the extent to which the cooperation objectives are suited to the priorities and policies of the target group, recipient and donor: Does the goal of the projects meet the needs of beneficiaries? Are the activities and outputs of the program consistent with the overall goal and the attainment of its objectives?
Effectiveness	Measure the extent to which the program or project attains its objectives.
Impact	Examine positive and negative changes as a result of the project. This includes direct and indirect effects and expected and unexpected effects.
Efficiency	Measure the outputs in relation to the inputs to determine whether the project uses resources effectively to achieve the desired results.
Sustainability	Examine whether the benefits of the project are likely to last after the completion of the project.

The JICA operations evaluation system has the following five features:

- 1 Evaluation throughout the project's PDCA cycle
- 2 Coherent methodologies and criteria among three schemes of cooperation
- 3 Comprehensive and cross-sectoral evaluation and analysis
- 4 Ensuring objectivity and transparency
- 5 Emphasizing the utilization of evaluation results

3

Comprehensive and cross-sectoral evaluation and analysis

JICA conducts thematic evaluation to assess a group of projects comprehensively and cross-sectorally or analyze a specific development issue or assistance scheme. The thematic evaluation is conducted by selecting projects based on a specified theme and analyzing them from perspectives that are different from individual operations evaluations to derive common recommendations and lessons learned from those projects.

In FY 2017, evaluation methodologies applicable to SATREPS*¹ (p. 48), Private Sector Investment Finance (p. 47) and projects in vulnerable

countries (p. 49) were examined and lessons learned for special economic zone development (p. 42) were identified and analyzed.

*1 Science and Technology Research Partnership for Sustainable Development (SATREPS) is a type of technical cooperation, involving international collaborative research between Japanese research institutions and partner countries. Its aims are to obtain new knowledge and to utilize research outcomes for the benefit of the society with a view to resolving global issues such as environment and energy, disaster prevention, and infectious diseases. In conjunction with this, it also aspires to improve the development of human resources and research capabilities in partner countries by conducting joint research.

4

Ensuring objectivity and transparency

JICA has incorporated external evaluation according to its project size to ensure objectivity and transparency in evaluating effects of project implementation. Moreover, JICA tries to make efforts to increase transparency in its operations evaluation by providing findings of the ex-post evaluation results on JICA's official website.

To improve the quality of evaluations, JICA has established mechanisms

allowing the viewpoints of external parties to be reflected in the operations evaluation system. In this context, JICA receives advice on its evaluation policy, as well as the evaluation system and methodologies from the Advisory Committee on Evaluation consisting of third-party experts. Please refer to p.6 regarding the committee.

5

Emphasizing the utilization of evaluation results

JICA's operations evaluation focuses on utilizing the results for improving the quality of "Action" in the PDCA cycle, which is also utilized to feedback recommendations to improve the projects and lessons learned for ongoing and future similar projects. JICA intends to strengthen the feedback function further to reflect the evaluation results in JICA's cooperation strategies.

At the same time, JICA makes efforts to reflect the evaluation results in its development policies, sector programs and the respective projects of recipient governments by feeding back the evaluation findings.

① Reflection in JICA's basic strategies

Improving JICA Thematic Guidelines, cooperation programs, etc.

② Reflection in projects

Improving target projects, similar projects in progress or in preparation

③ Reflection in partner governments' policies

Feeding back to partner governments' projects, programs, development policies, etc.

Action

Evaluation Results

- ▶ Recommendations
- ▶ Lessons learned

—Results of the operations evaluation are available on JICA's website—

Related link

▶ https://www.jica.go.jp/english/our_work/evaluation/index.html

Pre Implementation Stage (Ex-ante Evaluation)

To examine aspects such as existing needs for projects, JICA conducts ex-ante evaluations.

◇ What is ex-ante evaluation?

JICA conducts ex-ante evaluations prior to project implementation to confirm needs and priorities of projects, examine project outlines and anticipated outcomes, and establish indicators to measure the outcomes from the perspective of the Five DAC Criteria. During the ex-ante evaluation, JICA also checks whether safeguards based on reviewed environmental and social considerations and lessons learned from the past

projects are reflected appropriately in the projects.

◇ Utilization of results of ex-ante evaluations

The results of the ex-ante evaluation are reflected in subsequent decision-making on project designs and approaches. Once projects commence, monitoring and evaluations are conducted based on the evaluation plans and indicators set at the time of the ex-ante evaluation.

Number of Ex-ante Evaluation Performed in FY2016*1

Technical Cooperation	100 projects
ODA Loans	53 projects
Grant Aid	59 projects

Evaluation at Pre Implementation Stage by Scheme

Scheme	Technical Cooperation	ODA Loans	Grant Aid
Timing	Prior to project implementation		
Preparation of Ex-Ante Evaluation report*2	All projects with contributions of 200 million yen or more		Projects with contributions of 200 million yen or more implemented by JICA*3
Principals of evaluation	Operational Departments of JICA, etc. (Internal Evaluation)		
Items evaluated and evaluation method	Confirming existing needs and expected outcomes and verifying the project plans in light of the Five DAC Criteria		

*1 Published as the ex-ante evaluations performed in FY2016 (as of February 2018).

*2 In principle, ex-ante evaluation report is prepared for all projects with contributions of 200 million yen or more and not prepared for those with less than 200 million yen.

*3 Evaluation of projects collaborated with international organizations is conducted by such international organizations.

Post Implementation Stage (Ex-post Evaluation)

JICA conducts ex-post evaluations to evaluate completed projects comprehensively and examine whether the project's effectiveness, impact and sustainability will continue to manifest after project completion.

◇ What is ex-post stage evaluation?

JICA performs ex-post evaluation after completion of projects with contributions of 200 million yen or more, the results of which are immediately presented to the public in an understandable form.

While projects of which contributions are from 200 million to one billion yen*4 are subject to internal ex-post evaluation by JICA overseas offices, those with one billion yen or more are evaluated by third-party evaluators

(external ex-post evaluation) to ensure more objective evaluation. For external evaluation, a rating system*5 has been adopted to present the results in an easily understandable manner.

◇ Utilization of results of ex-post evaluations

The recommendations and lessons learned gathered from these ex-post evaluations will be applied to improving the projects, as well as planning and implementing similar projects in future.

Number of Ex-post Evaluation Performed in FY2016*6

Technical Cooperation	(External Evaluation) 29 projects (Internal Evaluation) 65 projects
ODA Loans	(External Evaluation) 34 projects (Internal Evaluation) 0 project
Grant Aid	(External Evaluation) 36 projects (Internal Evaluation) 28 projects

Evaluation at Post Implementation Stage by Scheme*7

Scheme	Technical Cooperation	ODA Loans	Grant Aid
Timing	In principle, until 3 years after project completion		
Targets	All projects with contributions of 200 million yen or more		Projects with contributions of 200 million yen or more implemented by JICA
Principals of evaluation*8	Third party (External Evaluation), JICA Overseas Office, etc. (Internal evaluation)		
Items evaluated and evaluation method	Based on the Five DAC Criteria		

*4 For projects with contributions of less than 1 billion yen but those that are likely to gain valuable lessons, ex-post evaluations are conducted.

*5 Please refer to p.8 for the rating system.

*6 Evaluation results were confirmed in FY 2017 (as of February 2018). Such results were published as "Evaluation Results in FY 2016" on JICA's website.

*7 Matters to be noted

- For projects which are implemented in several phases and those related to ODA Loans, relevant projects are integrally evaluated in principle.
- For projects of which outcome-based evaluations are not rational in terms of their implications and cost effectiveness, such projects are evaluated through output-based monitoring. This applies to Grant Aid for Human Resource Development Scholarship, for example.
- For projects which provide financial assistance or collaborate with international organizations under the scheme of ODA Loans and Grant Aid, JICA's ex-post evaluation is not conducted, in principle, from the perspective of development partnerships.

*8 For projects with contributions of 1 billion yen or more and those that are considered to be likely to gain valuable lessons, external evaluations are conducted. Internal evaluations are conducted by JICA's overseas offices for projects of which contributions are from 200 million yen to 1 billion yen.

Comprehensive and Cross-Sectoral Evaluation and Analysis

JICA conducts comprehensive evaluation and analysis of JICA's cooperation with specific themes or development goals, the results of which are utilized for future cooperation planning and implementation to make them more effective.

JICA sets specific themes, such as region, sector and assistance methodology, and conducts comprehensive and cross-sectoral analysis, which extracts tendencies and problems which are common to particular issues or compares and categorizes projects to extract common features and good practices. Furthermore, JICA also endeavors to develop new evaluation methodologies.

In FY 2017, evaluation methodologies applicable to SATREPS (p. 48), Private Sector Investment Finance (p. 47) and projects in vulnerable zone development (p. 42) were examined and lessons learned for special economic zone development (p. 42) were identified and analyzed. Please refer to each page for their details.

Impact Evaluation^{*1}

To further enhance project effectiveness and quality, JICA has been promoting evidence-based practice (EBP) and emphasizing the application of impact evaluation as its major tool.

Many donor agencies have recently been promoting EBP and emphasizing the application of impact evaluation as its major tool to further enhance their project effectiveness and quality. JICA also emphasizes the application of impact evaluation throughout the organization; the operational department conducts impact evaluation in the health, education and irrigation sectors collaborating with the Evaluation Department while the JICA Research Institute promotes academic researches on impact evaluation aiming at disseminating the result to academia.

Impact evaluation precisely assesses the changes caused in target societies by specific measures, projects, or development models to improve and solve development issues. To grasp project effects in a precise manner, it requires comparison between situations which are actually observed (Factual) and counterfactual situations which would have appeared in the absence of the project. Analyzing these two situations allows to grasp changes brought by project precisely and obtain more outstanding and reliable evidence compared with applying those methodologies that simply analyze before and after projects.

Since impact evaluation requires additional costs and high expertise for its analysis, JICA examines the priority based on evaluation purposes and needs and conducts impact evaluation on selected projects. Impact evaluation will be actively incorporated into those projects to apply a new approach or expand its scale in future so that reliable evidence obtained from the impact evaluation is expected to be utilized for project management and policy-making in partner countries.

In FY 2017, impact evaluations were conducted on several projects, including the Technical Cooperation project in financial services and Public-Private Partnership project in Tanzania (refer to pp. 54-55 for their evaluation results).

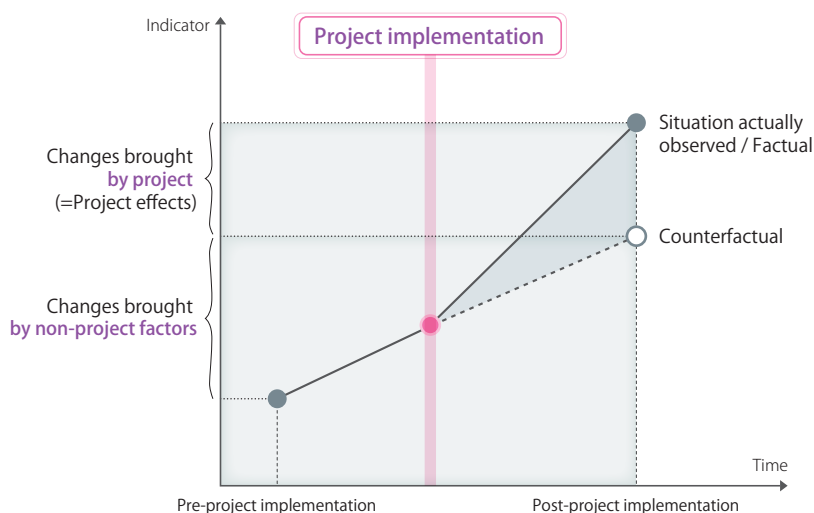
Moreover, JICA conducted a capacity enhancement training course, "Impact Evaluation: Toward

Evidence-Based Practice (EBP)", for development consultants and those who involved in international cooperation projects to develop human resources toward promoting the implementation of impact evaluation, as described in p.55.

^{*1} The definition of the term "impact" in impact evaluations differs from "impact" used in the Five OECD-DAC Evaluation Criteria. The latter is defined as "positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended" (overall concept of "outcomes") while the former refers to effects produced by a project more directly including the "outcomes" described in the Criteria.

Conceptual Diagram of the Impact Evaluation:

Comparison of situation actually observed and counterfactual situation



Advisory Committee on Evaluation

JICA established the Advisory Committee on Evaluation to enhance the evaluation quality, strengthen feedback of evaluation results and ensure accountability.

The Committee includes experts in international cooperation and those with expertise in evaluation from international organizations, academia, NGOs, media and private sector groups.

In two meetings held in FY 2017, various activities related to JICA's operations evaluation, JICA's responses to advice and recommendations provided by the Committee in the past meetings were discussed. Major activities which JICA had in response to the main points discussed in the meetings in FY 2017 were outlined below.

Chairperson	
Motoki Takahashi	Professor, Graduate School of Asian and African Area Studies, Kyoto University
Acting Chairperson	
Akifumi Kuchiki	Professor, College of Bioresource Sciences, Nihon University
Members	
Takashi Kurosaki	Professor, Institute of Economic Research, Hitotsubashi University
Tetsuo Kondo	Director, United Nations Development Programme (UNDP) Representation Office in Tokyo
Hisashi Takanashi	Executive Managing Director, Engineering and Consulting Firms Association, Japan (ECFA)
Toyokazu Nakata	Chairperson, Muranomirai (NPO)
Masaichi Nosaka	Senior Deputy Chief Officer, Yomiuri Research Institute, The Yomiuri Shimbun
Yasukiyo Horiuchi	Deputy Director, International Cooperation Bureau, Keidanren (Japanese Business Federation)
Yoshiko Homma	Lawyer (Yoshiko Homma Law Office) / Professor, The Graduate School of Law, Soka University
Kiyoshi Yamaya	Professor, Doshisha University Graduate School of Policy and Management

(as of January 2018)

Suggestions and Recommendations from the Committee	Actions Taken by JICA
Analysis, learning, and feedback of ex-post evaluations	
<ul style="list-style-type: none"> •Evaluation should not be an end in itself. It is essential to feed back the evaluation results outside JICA to improve project operations. •Evaluation should be aimed not only at fulfilling accountability but also at making improvements for the project implementation in the future in the PDCA cycle. •The evaluation results should be shared with development consultants and other private-sector professionals through seminars. 	<p>In order to use the "Practical Lessons for Development of New Seaports" (see JICA Annual Evaluation Report 2016, p. 15) to make improvements for the project implementation in the future in the PDCA cycle, JICA held a seminar for private companies such as development consulting firms to discuss demand prediction, locations, lessons learned for port development, and other matters that should be considered in for the project formulation (May 2017). JICA also organized a similar seminar to discuss the results of process analyses (December 2017). Going forward, JICA will continue to perform meta-analyses on different themes and share the results inside and outside JICA.</p>
Process analysis and international knowledge management initiatives	
<ul style="list-style-type: none"> •Process analysis is a good way to complement operations evaluation because the analysis can reveal how the project went and why it went so as well as bring additional perspectives which cannot be seen in the Five DAC Criteria into ex-post evaluations. 	<ul style="list-style-type: none"> • JICA held a feedback seminar on "A Case Study of Delhi Metro in India", which was the first case study in the series of process analyses started in FY2016. Currently, JICA is conducting several other case studies. (Refer to p. 50-52) • JICA performs process analyses in collaboration with the international knowledge management initiative led by the World Bank. The above mentioned case study on Delhi Metro has been featured as a good practice on the website of the initiative. (Refer to p. 52)
Accountability to citizens and sharing of project evaluation results beyond the organizational boundaries	
<ul style="list-style-type: none"> •We can see some improvements regarding information dissemination to the public. For example, the annual evaluation reports have been made easier for the general public to understand by replacing technical terms with simpler words. •Meanwhile, there remains a need to promote disseminating technical information at more professional levels in terms of sharing lessons learned and utilizing them to improve projects. It is essential to distinguish dissemination to professional development practitioners from one to public and to make efforts to encourage development experts to utilize evaluation results. 	<ul style="list-style-type: none"> •In order to promote information dissemination to the public, JICA updated the new online brochure published last year, separately from the JICA Annual Evaluation Report. https://www.jica.go.jp/english/our_work/evaluation/c8h0vm000001rdg1-att/evaluations_01.pdf •Meanwhile, JICA is promoting discussions to further enhance learning and improvement. More specifically, JICA will continue to perform cross-sectoral analyses on the above-mentioned evaluation results and lessons learned, as well as process analyses, statistical analyses, and impact evaluation while seeking advice from experts inside and outside JICA.
<ul style="list-style-type: none"> •We can see JICA has made efforts to disseminate information (through conferences, university lectures, and seminars), as previously advised by the Advisory Committee. JICA is expected to intensify its efforts further to disseminate information. 	<ul style="list-style-type: none"> •JICA made presentations at the national conference of the Japan Evaluation Society as well as other international conferences and symposiums. (Refer to p. 54)

Related links:

The past suggestions and recommendations from the Committee are available on the JICA website.
[▶ https://www.jica.go.jp/english/our_work/evaluation/advisory/index.html](https://www.jica.go.jp/english/our_work/evaluation/advisory/index.html)



Efforts to Improve Operations Evaluation

Operations evaluation values assessing project effects to improve future projects and make development assistance more effective as well as to ensure the accountability. This chapter describes the efforts made by JICA in FY2017 to improve its operations evaluation for these purposes.

Enhancing efforts to share, utilize, and feed back*¹ evaluation results

▶ 1. Promoting the use and sharing of operations evaluation results

JICA held a seminar for private enterprises on the in-depth analysis of "Practical Lessons for Development of New Seaports" (refer to JICA Annual Evaluation Report 2016) to share the lessons learned from the evaluation results and discuss how to improve future operations (May 2017). JICA also printed an English report on the process analysis of the Delhi Mass Rapid Transport System Project (also known as the Delhi Metro Project) in India and distributed the copies to Indian organizations involved in the project as well as relevant agencies engaged in railway projects in other countries to share the knowledge and experience more widely. Moreover, JICA held a seminar for private companies such as development consulting firms (December 2017). (Refer to p. 50-52)

In addition, JICA made presentations on the latest analysis results and interpretations on operations evaluation at conferences held by the Japan Evaluation Society and the Japan Society for International Development to share knowledge and lessons learned from operations evaluation.

▶ 2. Collaboration and cooperation with international organizations

Following the global trend of emphasizing outcome-driven operations, both multilateral and bilateral donors have been conducting a growing number of operations evaluations. JICA is exchanging information on operations evaluation with these development partners.

In FY2017, JICA made a report on the joint case study conducted with the World Bank and the Asian Development Bank on the water and sanitation sector in Sri Lanka and presented and discussed the results of the study at an international

seminar (October 2017). (Refer to p. 49)

JICA exchanged views with other donors at an international meeting held by the DAC Network on Development Evaluation (EvalNet), made a presentation at an international symposium (April 2017), and held a seminar inviting evaluation experts from the World Bank.

▶ 3. Using statistical analysis to strengthen feedback mechanisms

JICA has been conducting statistical analysis based on the results of 1020 external evaluations accumulated over time to feed it back for project planning and implementation. In FY2017, the Evaluation Department, in cooperation with operational departments, identified factors affecting overall ratings, such as country/region, sector/issue, and project start year variables, and delved deeper into the analysis. (Refer to p. 56-59)

JICA also worked to enhance the PDCA cycle, for example, by holding a workshop for internal and external practitioners including those at private companies, and relevant ministries to facilitate the efforts of operational department to improve project planning and implementation based on the results of ex-post evaluations and statistical analysis.

▶ 4. Updating JICA Standard Indicator References

In FY2017, JICA continued to develop and update the JICA Standard Indicator References to provide means to properly assess project effects. The revision of these References included adding the Global Indicators for the Sustainable Development Goals (SDGs) as a reference. (Refer to p. 53)

*1 The feedback here means the effort to use evaluation results to improve the evaluated projects themselves as well as to facilitate the planning and implementation of similar projects in the future.

Enhancing the quality of evaluation

▶ 1. Process analysis

In 2016, JICA started process analyses focused on the process through which project outcomes are produced to complement the perspectives of the Five DAC Criteria. JICA continuously performed them on multiple projects in FY2017. (Refer to p. 50-52)

JICA contributed to the international sharing of knowledge and experience by participating in the Global Delivery Initiative (GDI)*² led by the World Bank and incorporating the results from JICA's process analysis results into its online database to provide case study examples. (Refer to p. 55)

▶ 2. Efforts to improve evaluation methods

JICA has been examining how to improve its operations evaluation methods in

order to assess each project in a way that matches the project scheme, ensuring the consistency of evaluations based on the Five DAC Criteria. In FY2017, the evaluation methods for SATREPS and Private Sector Investment Finance projects were reviewed. (Refer to p. 46-49)

▶ 3. Collaboration with experts for external evaluations

JICA has collaborated with experts (academics and experienced practitioners from domestic and overseas universities and NGOs) in ex-post evaluations since FY2015 to bring more specialized and diverse perspectives into the evaluations conducted by external evaluators based on the Five DAC Criteria. Please refer to p. 35-37 for the evaluation results in FY2017.

*2 Referring to the platform led by the World Bank to promote international knowledge management and sharing.

Enhanced safety measures for evaluators

For the safety of evaluators, JICA institutionalized the exclusion of projects located in countries/areas where JICA's travel ban has been imposed for five years and there are difficulties in collecting information and data from the list of ex-post evaluation (Projects in Syria and Yemen are excluded as of June 2017). JICA will consider conducting a country- or sector-wide evaluation in the future when public security is improved enough to perform assessment.

External ex-post evaluations in countries/areas with high security risks were conventionally conducted through desktop analysis (remote-controlled evaluation using local resources to collect information) to ensure the safety of evaluators. In response to the recent deterioration in the global security situation, this type of evaluation was applied to an increasing number of countries/areas in FY2017.

Human resource development

▶ 1. Training programs and seminars for external evaluators

JICA continued to organize training programs on operations evaluation for private enterprises, seminars on external ex-post evaluation references and those on evaluation methods for external evaluators. JICA also continued to provide impact evaluation trainings to strengthen the capacity of development consultants and other practitioners.

▶ 2. Training programs and seminars for JICA staff

JICA provided the staff with trainings such as "How to Set Clear Objectives and

Appropriate Indicators" and "A Guide to Impact Evaluation" to strengthen their evaluation capacity. Those assigned to overseas offices also received trainings on internal ex-post evaluations before they were stationed abroad. Moreover staff at overseas offices received trainings and guidance via video-conference or in person with dispatched Evaluation Department staff.

In order to encourage the staff to utilize evaluation results and lessons learned, JICA held feedback seminars to share insights and lessons learned from the completed evaluation results.

Overview of the Ex-post Evaluation System

JICA conducts ex-post evaluations composed of external evaluations by external experts to ensure transparency and objectivity of project evaluations and internal evaluations primarily by JICA's overseas offices.

Ex-post evaluation system

JICA conducts evaluations by using a uniform evaluation methodology in all three schemes; Technical Cooperation, ODA Loan, and Grant Aid. In FY2016, the results of ex-post evaluations conducted were 99 external evaluations and 93 internal evaluations. In principle, projects costing one billion yen or more are subject to external evaluations by third-party

evaluators based on the results of field surveys to assure objectivity and transparency of the evaluation. Meanwhile, for those projects costing 200 million yen or more and under one billion yen are subject to internal evaluations which are conducted by overseas office staff. (Refer to p. 9 for details of the internal evaluation)

Rating system

In the ex-post evaluation system, each project is assessed for its ① relevance, ② effectiveness/impact, ③ efficiency and ④ sustainability in accordance with international standards (i.e. the Five OECD-DAC Evaluation Criteria). In the external evaluation process, projects are rated according to the following rating flowchart on a four-level scale; A (highly satisfactory); B (satisfactory); C (partially satisfactory); and D (unsatisfactory).

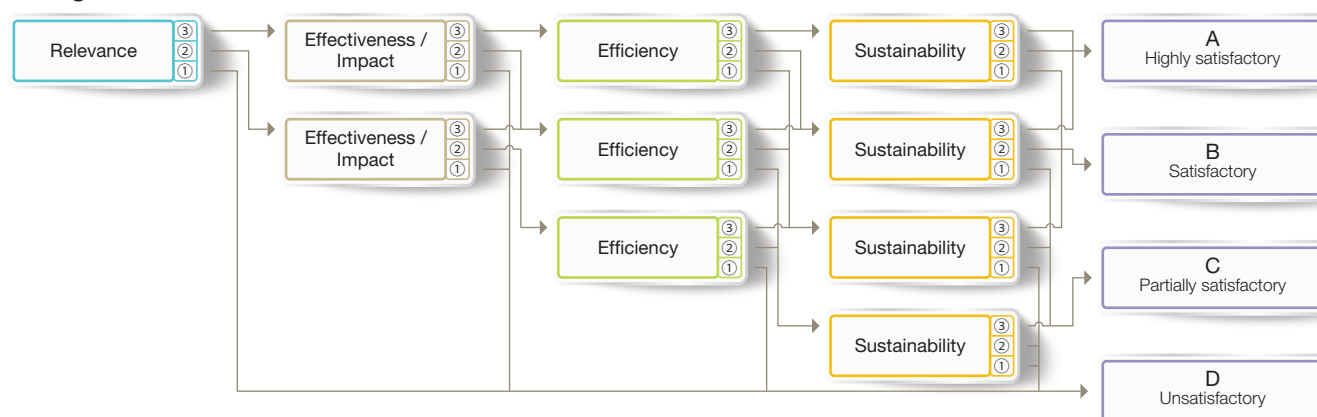
Although the rating is useful as means of indicating the effectiveness of the projects, it does not reflect all aspects of implementation for development projects. Thus, the results should not be solely overemphasized.

Overview of rating criteria and general perspectives

* The criteria and perspectives differ by assistance scheme and project.

Rating criteria and general perspectives		Judgement Criteria		
		③ (High)	② (Fair)	① (Low)
Relevance	Validity of aid (relevance with development policy of recipient country, Japan's ODA policy, and JICA's aid strategy)	Fully relevant	Partially relevant	Serious problems with consistency
	Relevance with development needs (needs of beneficiary, project area, and community)			
Effectiveness / Impact	Achievement of expected project outcomes in target year (including utilization of facilities and equipment)	Objectives largely achieved, and outcomes generated (80% or more of plan)	Some objectives are achieved, but some outcomes are not generated (between 50% and 80% of plan)	Objectives achieved are limited and outcomes are not generated (less than 50% of plan)
	Status of indirect positive and negative outcomes	Indirect outcomes generated as expected / no negative impacts	Indirect outcomes generated have some problem / some negative impacts	Indirect outcomes generated have problem / grave negative impacts
Efficiency	Comparison of planned and actual project inputs, project period and project cost, etc.	Efficient (100% or less than the plan)	Partially inefficient (between 100% and 150% of plan)	Inefficient (exceeding 150% of plan)
Sustainability	Institutional sustainability (e.g., structure / skills / HR of organization)	Sustainability is ensured	Some problems exist, but there are prospects of improvement	Insufficient
	Financial sustainability (availability of operation and maintenance budget)			

Rating flowchart



* JICA has introduced the rating flowchart since 2003 as its unique rating system.

Internal evaluation

Internal evaluation is conducted by overseas office staff and other JICA personnel of field offices and regional departments in the Headquarters in charge of those projects costing 200 million yen or more and under one billion yen, adopting the same evaluation criteria with external evaluation and in accordance with the Five OECD-DAC Evaluation Criteria. As internal evaluation is literally conducted by JICA, the evaluation focuses on a “learning” perspective, such as drawing practical lessons taking into consideration of the project background to make them used for improving succeeding project implementation or formulating future projects.

Overseas offices allocate their staff by project to be evaluated and determine the evaluation result taking the process of defining evaluation framework, conducting field survey, completing the evaluation based on information and data collected, discussing with the implementing/executing agency of partner country and other activities.

The level of manpower and knowledge and experience in the evaluation varies among overseas offices. To ensure that they can take smooth steps throughout the internal evaluation process, the Evaluation Department develops evaluation criteria and manuals and provides various supports for improving evaluation capacity of staff concerned through trainings and preparing documents used during the evaluation process. (Refer to p.38 for internal evaluation results for FY 2016)

Implementation structure of internal evaluation

Overseas office (Evaluator)	<ul style="list-style-type: none"> Consider, revise and decide evaluation framework Prepare questionnaires and conduct field surveys Compile the result of field surveys and judge the evaluation result Feed the evaluation result back to the implementing/executing agency of the partner country Confirm, revise and decide the evaluation result
Evaluation Department (Evaluation support)	<ul style="list-style-type: none"> Decide evaluation criteria and develop manuals and formats Examine and improve the whole internal evaluation system Support for preparing various evaluation documents Monitor overall evaluation progress Provide evaluation trainings (lectures and practices)



A field survey conducted by overseas office staff (The project for Improvement of Capacity of Fire Fighting Techniques and Equipment in Ulaanbaatar)



A field survey conducted by overseas office staff (Caribbean Disaster Management Project Phase 2 in Barbados and other five countries)



A field survey conducted by overseas office staff (Project for Standardization and Quality Control for Horticulture Products of Indonesia)

External Evaluation Results for FY2016

Overall rating

The external evaluation results conducted in FY2016 are as listed on p.11. Evaluations were conducted for 99 projects: 36 Grant Aid projects; 34 ODA Loan projects; and 29 Technical Cooperation projects. Most of those projects were carried out in Southeast Asia, Africa and South Asia, and in sectors such as transportation, water resources, and natural resource/energy.

Evaluation of 2 Technical Cooperation projects implemented in

Afghanistan could partly be conducted as information needed for the evaluation was not properly available prior to the evaluation due to the deterioration in security condition. Thus, their overall ratings are not available. The overall ratings of the 97 rated projects are: A for 38 projects (39%); B for 39 projects (40%); C for 13 projects (14%); and D for 7 projects (7%). A and B comprise 79% while the total of C and D accounts for 21 % of the total projects¹.

Rating results per criteria (③: High, ②: Fair, ①: Low)

Relevance: 91 projects were rated as “③” (94%) and 6 projects were “②” (2%), which means that most were aligned with Japan’s development policy and the partner country’s policies and development needs. Projects with evaluation result “fair” included problems related to appropriateness of project plans and approaches concerning the following points: “Planning not passed on need surveys,” “Insufficient response to changes during implementation,” “Inconsistency between project from the long-term perspective and short-term needs” and “Inconsistency between project purpose and activities.” In assessing the appropriateness of project plans and approaches, the logical aspect of projects was focused while analyzing the quality of implementation process emphasized on differentiating with “Performance” as described later.

Effectiveness/Impact: 64 projects were rated as “③” (66%), 31 projects “②” (32%), and 2 projects “①” (2%). Projects rated low (①) for this item is attributed to facts such as “project outcomes and infrastructures constructed by the project were not sufficiently utilized.”

Efficiency: 23 projects were rated as “③” (24%), 64 projects “②” (66%), and 10 projects “①” (10%). The main factors behind the low rating were delays in the approval process of the recipient government and procurement procedures due to “land acquisition and resettlement,” “Change in design,” “Fluctuations in the exchange rate and inflation,” “Failure of bidding,” “Regime change” and other factors. These factors also caused delay in the completion of facilities for those projects in which items to be borne by the recipient country expanded.

Sustainability: 47 projects were rated as “③” (49%), 45 projects were “②” (46%), and 5 projects were “①” (5%). The main factors behind the low rating were issues such as “Insufficient level of technology required

due to a gap with the responsibility of operation and maintenance agency.” “Lack of the number of personnel with expertise” and “System to secure operation and maintenance costs is not developed.”

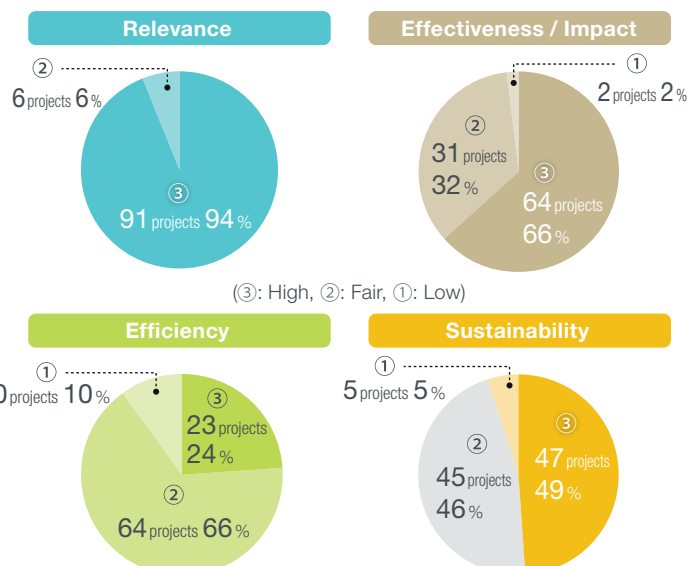
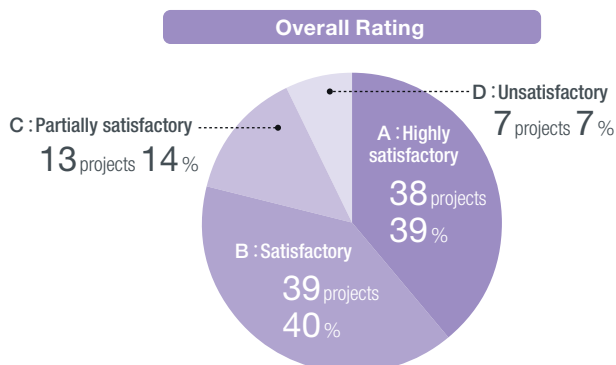
Since ex-post evaluation for FY 2016, JICA has added “Performance” as an optional criteria. To extract activities and reflecting points as lessons referable at the project planning/appraisal and implementation stages for JICA and other stakeholders to achieve the project purpose, JICA strives to analyze the process. Those projects rated higher by the analysis show good practices that could achieve high performance by enhancing a voluntary leadership of the top management of executing agency, introducing human resource system that boost staff’s motivation and nurturing cooperating culture at the organizational level.” On the other hand, those project rated lower was introduced in columns of the report as “cases that the level of outcomes was misrecognized due to the lack of communication between JICA and executing agency or consultants and their insufficient understanding of JICA’s cooperation schemes.”

JICA keeps analyzing “Performance” so as to draw more effective recommendations and lessons. Focusing particularly on “how to respond to risks anticipated from the feasibility survey result conducted at the planning stage,” “whether input was provided in an effective and timely manner when unexpected change or problems occurred during the project supervision” and “whether necessary actions were taken against adverse impact related to the environmental and social consideration, etc.,” the results of analysis will be utilized to improve the necessary actions and formulation of similar projects in the future.

¹ These results are within the normal range of fluctuation. The average proportion of overall ratings A and B for projects completed between FY2003 and FY2016 was 80%, ranging from 68% (FY 2014) to 94% (FY2016). The fluctuation of around 10% in the average ratio is attributable to the characteristics of projects (country, sector, scheme, etc.), which vary according to the fiscal year.

<Overall Rating for FY2016 External Evaluation and Distribution in Four-level Criteria>

Project evaluations initiated from FY 2016 and results confirmed in FY 2017 (as of February 2018). These are published as “Evaluation Results in FY 2016” on JICA’s website. The pie charts show the breakdown of each criteria based on the overall rating result of 97 projects.



List of Ratings for External Evaluations^{*1-2}

The following ratings were given by evaluators in external evaluation in FY 2016.

Country	No.	Scheme	Project name	Relevance	Effectiveness	Efficiency	Sustainability	Overall rating
Indonesia	1	T	Project for Improvement of District Health Management Capacity in South Sulawesi Province, Project for Improvement of District Health Management Capacity in South Sulawesi Province Phase 2	③	③	③	③	A
	2	T	Strengthening In-Service Teacher Training of Mathematics and Science Education at Junior Secondary Level (SISTEMS)	③	③	③	②	A
	3	T	Program for Enhancing Quality of Junior Secondary Education (Program Peningkatan Kualitas SMP/MTs) (PELITA)	③	③	②	②	B
	4	T	The Project on Enhancement of Civilian Police Activities, The Project on Enhancement of Civilian Police Activities (Phase 2)	③	③	②	③	A
	5	T	Wild Fire and Carbon Management in Peat-forest in Indonesia	③	②	②	③	B
	6	L	Urgent Disaster Reduction Project for Mt. Merapi/Progo River Basin and Mt. Bawakaraeng	③	③	②	②	B
	7	L	Ulubelu Geothermal Power Plant Project	③	③	②	③	A
Philippines	8	G	The Project for the Bridge Construction for Expanded Agrarian Reform Communities Development, Phase II (Umiray Bridge)	③	③	③	③	A
	9	G	The Project for Improvement of the Meteorological Radar System	③	③	②	②	B
	10	G	The Project for Evacuation Shelter Construction in Disaster Vulnerable Areas in Province of Albay	③	③	②	②	B
	11	T	The Project on Topographic Mapping for Peace and Development in Mindanao	③	①	②	②	D
Thailand	12	T	Project on a Comprehensive Flood Management Plan for the Chao Phraya River Basin	③	③	②	③	A
	13	T	Integrated Study Project on Hydro-Meteorological Prediction and Adaptation to Climate Change in Thailand (IMPAC-T)	③	③	③	③	A
Cambodia	14	G	The Project for Replacement and Expansion of Water Distribution Systems in Provincial Capitals	③	③	③	③	A
	15	L	Sihanoukville Port SEZ Development Project (E/S ^{*5}), Sihanoukville Port SEZ Development Project	②	①	②	①	D
	16	L	Niroth Water Supply Project	③	③	②	③	A
	17	L	Greater Mekong Power Network Development Project	③	③	②	③	A
Laos	18	T	Project on Human Resource Development in IT Service Industry at NUOL	③	③	③	②	A
	19	G	The Project for the Improvement of School Environments in Three Southern Provinces	③	③	②	③	A
	20	G	The Project for the Improvement of School Environments in Champasack and Savannakhet Provinces	③	③	②	②	B
Timor-Leste	21	G	The Decusse Port Urgent Rehabilitation Project	③	②	②	②	C
Viet Nam	22	L	Saigon East-West Highway Construction Project (I)(II)(III)(IV)(V)	③	③	①	③	B
	23	L	Northern Vietnam National Roads Traffic Safety Improvement Project, Project for Strengthening the Traffic Police Training in Various Police Colleges of Vietnam (TAP)	③	②	③	②	B
	24	L	Dong Nai and Ba Ria-Vung Tau Water Supply Project (I) (II)	②	③	①	③	C
	25	L	Ho Chi Minh Water Environment Improvement Project (I) (II) (III)	③	③	②	②	B
	26	L	Small and Medium-sized Enterprises Finance Project (III)	③	③	②	③	A
	27	L	Energy Efficiency and Renewable Energy Promoting Project	③	②	②	②	C
	28	G	The Project for Urgent Improvement of Communication Networks	③	③	③	②	A
Samoa	29	G	The Programme for Improving the Weather Forecasting System and Meteorological Warning Facilities	③	③	②	②	B
Marshall Islands	30	G	The Project for Improvement of Domestic Shipping Services in the Marshall Islands	③	②	③	②	B
Tuvalu	31	G	The Project for Improvement of Education Facilities at Motufua Secondary School	③	②	①	③	C
	32	T	The Project for Eco-Technological Management of Tuvalu against Sea Level Rise	②	②	②	①	D
*6 China	33	L	Higher Education Project (Hebei Province)	③	③	②	③	A
	34	L	Yunnan Province Kunming City Water Environment Improvement Project, Yunnan Province Kunming City Water Environment Improvement Project (II)	③	③	②	③	A
	35	L	Shaanxi Water Environment Improvement Project (Xi'an City)	③	③	②	③	A
	36	L	Baotou Atmospheric Environment Improvement Project	③	③	②	③	A
	37	L	Henan Province Afforestation Project	③	③	②	③	A
	38	L	Shanxi Xilongchi Pumped Storage Power Station Project	③	②	②	③	B
	39	G	The Project for Restoration and Improvement of Vital Infrastructure for Cyclone Disaster	③	③	②	②	B
Bhutan	40	T	Agricultural Research and Extension Support Project in Lhuentse and Mongar, Horticulture Research and Development Project	③	③	②	③	A
	41	G	The Project for Strengthening of Electronic Media Production Centre in India Gandhi National Open University	③	③	②	③	A
India	42	L	Purulia Pumped Storage Project(I)(II)(III)	③	③	②	③	A
	43	L	Maharashtra Transmission System Project	③	③	②	③	A
	44	L	Ajanta Ellora Conservation and Tourism Development Project(II)	③	②	②	③	B
	45	L	Integrated Natural Resource Management and Poverty Reduction Project in Haryana	③	②	③	③	A
	46	L	Micro, Small and Medium Enterprises Energy Saving Project (Phase 2)	③	③	②	③	A
	47	L	New and Renewable Energy Development Project	③	③	③	③	A
Nepal	48	T	The Project for Promoting Peace Building and Democratization through the Capacity Development of the Media Sector in Nepal	③	③	②	②	B
Pakistan	49	G	The Project for Strengthening of DAE Mechanical & Architecture Departments in GCT Railway Road of Punjab Province	③	③	③	③	A
	50	T	The Project for Development of Center of Excellence (CoE) for Technical Education	③	③	②	③	A
	51	L	Polio Eradication Project	③	②	②	③	B
Sri Lanka	52	L	Upper Kotmale Hydro Power Project(I)(II)	③	③	①	③	B
	53	L	Provincial Road Improvement Project, Provincial/Rural Road Development Project (Central Province and Sabaragamuwa Province)	③	③	②	②	B
	54	L	Emergency Natural Disaster Rehabilitation Project	③	③	③	②	A
	55	G	The Project for Reconstruction of 5 Bridges in Eastern Province	③	③	②	③	A
Afghanistan	56	T	JICA Support Programme for Reintegration and Community Development in Kandahar	③	③	③	N.A	N.A
	57	T	Strengthening of Teacher Education Program, Strengthening of Teacher Education Program Phase 2	③	N.A	②	②	N.A
Kyrgyzstan	58	T	The Project for the Support for Joint Forest Management in the Kyrgyz Republic	③	②	③	②	B
Tajikistan	59	G	The Project for Improvement of Water Supply in Mir Said Alii Khamadoni District of Khatlon Region, The Project For Improvement of Water Supply in Mir Said Alii Khamadoni District of Khatlon Region (Phase 2)	③	②	①	②	D
Uzbekistan	60	T	The Project for Water Management Improvement	③	②	②	②	C
Fiji, Tonga, Vanuatu	61	T	The Project for Strengthening the Need-Based In-Service Training for Community Health Nurses	③	②	②	②	C
Honduras	62	G	The Project for Landslide Prevention in Tegucigalpa Metropolitan Area	③	③	②	③	A
Nicaragua	63	G	The Project for Reconstruction of Bridges on Managua - El Rama Road	③	③	③	③	A
Brazil	64	L	Sanitation Improvement Project for Baixada Santista Metropolitan Region (I)(II), Environmental Monitoring Project for Baixada Santista Metropolitan Region (TAP)	③	③	①	③	B
Paraguay	65	G	The Project for the Improvement of Water Supply System in Concepcion and Pilar Cities	③	③	②	②	B
Peru	66	L	Provincial Cities Water Supply and Sewerage System Improvement and Expansion Project	③	②	①	②	D
Haiti	67	G	Project for Improvement of Urban Roads and Drainage for Reconstruction of Léogâne City	③	③	②	②	B
Jordan	68	L	Human Resource Development and Social Infrastructure Improvement Project	③	③	②	③	A
Egypt	69	T	The Project for Establishment of Egypt-Japan University of Science and Technology (E-JUST)	③	②	②	③	B
	70	L	Micro Enterprise Assistance Project	③	③	②	③	A
Morocco	71	L	Mediterranean Road Construction Project, Mediterranean Road Construction Project (II)	③	③	①	③	B
	72	L	Rural Road Improvement Project	③	③	②	②	B
Tunisia	73	L	Water Pipeline Construction Project in Northern Tunisia	③	②	②	③	B
Sudan	74	T	Project for Strengthening Vocational Training in Sudan	③	②	③	②	B
	75	G	The Project for Urgent Improvement of Water Supply Facilities at Kassala City, The Project for Improvement of Water Supply System at Kassala City	③	②	②	②	C
	76	T	The Project on Human Resources Development for Darfur and the Three Protocol Areas	②	②	①	②	D
Ghana	77	G	Project for Rehabilitation of National Trunk Road N8	③	③	②	②	B
Kenya	78	G	The Project for the Upgrading and Refurbishment of the Centre for Mathematics, Science and Technology Education in Africa	③	③	②	③	A
	79	T	Strengthening of Mathematics and Science Education (SMASE)	③	③	③	②	A
	80	G	The Project for the Construction of Nairobi Western Ring Roads	③	③	②	③	A
Nigeria	81	G	The Project for Rural Water Supply (Phase II)	③	②	③	①	C
	82	G	Project for Rural Electrification in Cross River and Akwa Ibom States	③	②	②	①	D
	83	T	Strengthening of Mathematics and Science Education in Nigeria Project Phase 2	③	③	②	②	B
	84	G	The Project for Improvement of Rural Water Supply	②	②	③	②	C
Uganda	85	G	The Project for Construction of Additional Classrooms for Primary Schools (Phase II)	③	③	②	①	C
	86	G	The Project for Construction of Rice Research and Training Centre	③	②	②	③	B
	87	T	Technical Assistance Support to Sustainable Irrigated Agriculture Development Project in Eastern Uganda	③	②	③	②	B
Tanzania	88	T	NERICA Rice Promotion Project in Uganda	③	②	②	②	C
	89	G	The Project for Widening of Kilwa Road (Phase 1/2 and Phase 2/2)	③	③	①	③	B
Zambia	90	T	Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis	③	②	③	②	B
	91	G	The Project for the Improvement of Water Supply Condition in Ndola City	③	③	②	②	B
Rwanda	92	T	The Skills Training and Job Obtainment Support for Social Participation of the Ex-Combatants and Other People with Disabilities	③	③	②	②	B
	93	G	The Project for Rural Water Supply, The Project for Rural Water Supply (Phase II)	③	③	②	②	B
Democratic Republic of the Congo	94	G	The Project for Rehabilitation of Ngaliema Water Treatment Plant in Kinshasa City, The Project for Extension of Ngaliema Water Treatment Plant in Kinshasa City	③	③	②	②	B
	95	G	The Project for Development of the Institute of Medical Education Kinshasa	③	②	②	②	C
Niger	96	T	The Project on Strengthening Mathematics and Science in Secondary Education in Niger (SMASSE-NIGER Phase 2)	③	②	③	③	A
Sierra Leone	97	G	The Project for Establishment of Rural Water Supply System in Kambia Town	③	②	②	②	C
Togo	98	G	Rural Water Supply Project in Maritime and Savanes Regions	②	③	③	②	B
Saudi Arabia	99	T	Saudi-Japanese Automobile High Institute Project Phase I, II	③	③	②	②	B

*1 ③: High, ②: Fair, ①: Low; Highly Satisfactory, B: Satisfactory, C: Partially Satisfactory, D: Unsatisfactory (Refer to p.8)

*2 External evaluations are for projects costing 1 billion yen or more and other projects deemed to provide valuable insight.

*3 T: Technical Cooperation, L: ODA Loan, G: Grant Aid, TAP=: Technical Assistance Projects Related to Japanese ODA Loan

*4 Effectiveness includes evaluation of Impact.

*5 E/S: Engineering Service Loans

*6 ODA loans to China ended with the six Loan Agreements in December 2007.

External Evaluation: Highlights

Out of the 99 projects evaluated in FY2016, 10 external evaluations are selected based on geography, assistance scheme, and sector.

India (ODA Loan)

Overall

A

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Purulia Pumped Storage Project (I) (II) (III)

Contribute to mitigating the shortage in peak-time power supply in the State of West Bengal

External Evaluator: Yumiko Onishi and Ryujiro Sasao, IC Net Limited

Project Description

Loan amount / Disbursed amount:

- (I) 20,520 million yen / 20,388 million yen
- (II) 23,578 million yen / 23,534 million yen
- (III) 17,963 million yen / 13,316 million yen

Loan agreement:

- (I) February 1995, (II) March 2004, (III) March 2006

Terms and conditions:

- Interest rate: 2.6% (I), 1.3% (II and III)
- Repayment period: 30 years (grace period: 10 years)
- Conditions for procurement: general untied

Final disbursement date:

- (I) December 2004, (II) June 2009, (III) January 2016

Executing agency:

- West Bengal State Electricity Distribution Company Limited (WBSEDCL)

Project Objectives

Overall Goal:

- To contribute to the improvement of people's lives and economic development of the region

Project Purpose:

- To improve peak-time power supply gap and operational efficiency of coal fired thermal power plants in eastern India, particularly in the State of West Bengal

Output:

- To construct a pumped storage with the capacity of 900 MW (225 MW x 4 units) with related transmission and substation facilities on Kistbazaar River in Purulia District located about 300 km north-west of Kolkata, in the State of West Bengal



Purulia Lower Reservoir



Settlement in the Project Site



Upper Reservoir and Intake Point



Compensatory Afforestation Site

Effects of Project Implementation (Effectiveness, Impact)

In the 1990s, India achieved high economic growth and power demand was increasing along with it. It was expected for the project to mitigate the shortage in peak-time power supply and most of the operation and effect indicators established at the time of the appraisal have been achieved. Comprehensive circulating efficiency*¹ and maximum output are as per the plan and planned outage hours for inspection and repair are also within the target. Unplanned outage hours exceeded the target significantly because of unexpected breakdown of generators and turbines and the significant amount of time it took to repair them. The target for net electric energy production (1,721 GWh/year) was fixed originally with assumption that the Purulia Pumped Storage Power Plant would be connected to the regional grid. However, the power plant was connected to the national grid*² which

was introduced gradually in India and the annual net electric energy production of the power plant was determined by the Central Electricity Authority (the plan for 2010 was 700 GWh/year). By taking the figure decided by the Central Electricity Authority as target, it is evaluated that the power plant is generating the power as planned. Certain level of impact is seen in terms of mitigating peak-time power shortage in the State of West Bengal, improving operational efficiency of coal fired thermal power plants and improving the lives of people. There is no adverse impact observed on the natural environment and it is determined that the effectiveness and impact are high.

Relevance

Power sector has been positioned as important sector in the development plans of the Government of India and the West Bengal State

Peak-Time Power Supply and Demand in West Bengal State

	2009	2010	2011	2012	2013	2014	2015
Peak demand (MW)	5,850	6,162	6,592	6,832	7,180	7,600	7,876
Annual growth rate of peak demand	13.0%	5.3%	7.0%	3.4%	5.1%	5.9%	3.6%
Peak availability (MW)	5,840	6,112	6,532	6,734	7,120	7,540	7,713
Gap between peak-time demand and availability (MW)	▲ 10	▲ 50	▲ 60	▲ 98	▲ 60	▲ 60	▲ 163
Percentage of gap between peak-time demand and availability	▲ 0.2%	▲ 0.8%	▲ 0.9%	▲ 1.4%	▲ 0.8%	▲ 0.8%	▲ 2.1%

Source: Data from FY 2009 to 2011 are from the WBSEDCL Annual Statistics Report and those for FY 2012 onwards are from the Central Electricity Authority.

Target and Actual Figures for Operation and Effect Indicators

	Target	Actual			
	2010	2008	2009	2010	
	2 Years after Completion	Completion Year	1 Year after Completion	2 Years after Completion	
Unplanned outage hours (hours/year)	258	5	73	892	
Planned outage hours for inspection and repair (hours/year)	42	2	0	41	
Comprehensive circulating efficiency (%)	75.5	77.9	78.0	77.7	
Net electric energy production (GWh/year)	700 (originally 1,721)	668	863	872	
Maximum output (MW)	900	900	900	900	

Source: Documents provided by JICA and questionnaire survey to the executing agency

government from the time of the appraisal to the ex-post evaluation. As was the case at the time of the appraisal, peak-time power demand continues to increase at the time of the ex-post evaluation, and therefore the strengthening of power supply capacity is required. Consistency with Japan's ODA policy is also confirmed and the relevance of the project is high.

Efficiency

Outputs for the project was mostly realized as planned. As regard to the project cost, the project was implemented with about 60% of the planned cost because of fluctuation of exchange rate during the project period. On the other hand, there was 52 months of delay from the original plan in project period due to delay in process of obtaining forest land, and therefore, the efficiency was evaluated to be fair.

Sustainability

Required manpower for operation and maintenance of the Purulia Pumped Storage Power Plant is secured and there is no issue with the institutional aspect. Staff has necessary education and technical skills required for performing the duties and WBSEDCL, the executing agency,

Net Electric Energy Production of Purulia Pumped Storage Power Plant

Unit: GWh/year

	2010	2011	2012	2013	2014	2015
Target	700	700	700	700	1,200	1,200
Actual	872	759	791	778	1,408	1,048

Source: WBSEDCL

has been promoting Total Quality Management (TQM) from the time of the project implementation. Budget needed for the operation and maintenance appears to be sufficiently provided, and the financial status of WBSEDCL is comparatively sound. Therefore, the sustainability is high.

Conclusion, Lessons Learned and Recommendations

At the time of Tranche II appraisal, the operation and effect indicators, except planned outage hours, and their target were established. Planned outage hour was added as an operation indicator at the time of Tranche III appraisal. Until then, the Purulia Pumped Storage Power Plant was expected to connect to the regional grid once it was constructed; however, the national grid was introduced and the project was also connected to it. Consequently, the target fixed at the time of the appraisal for net electric energy production became inappropriate as the project target by the time the project was completed. Operation and effect indicators are important information for confirming the level of achieving project objectives. Accordingly, for any project whose appraisal is conducted in several phases, it is advisable for JICA and the executing agency to check the operation and effect indicators and their details in every phase, so as to help understanding on any expected effect from the project among its stakeholders. In addition, when the environment surrounding the project changes, it is important to revise the operation and effect indicators and their targets when and if necessary, taking the changes into consideration.

*1 Indicator that looks at whether the performance of the power plant is being maintained.

*2 In India, there were mainly five regional electric power systems for transmission, but their integration as national grid began around 2000.

Key Point of Evaluation

Promoting Total Quality Management (TQM)

In the project, with an objective to strengthen the executing agency, TQM was promoted. Initially, improvement of operational efficiency using TQM was introduced for the West Bengal State Electricity Board, the predecessor of WBSEDCL, in the ODA Loan "West Bengal Transmission System Project (II)". During the project implementation, it was implemented as part of daily routine work of the construction management consulting service. Recognizing the importance of TQM, WBSEDCL expanded the activities on its own thereafter. TQM activities in WBSEDCL focused on improving the quality of electricity supply for the consumers and customer services.

Besides establishing 120 Quality Customer Care Centers (QCCC) across the state so far, a helpdesk has been set up in 500 customer care centers. Initiative like awarding good performing QCCC is taken by holding regular competition among QCCC. According to WBSEDCL, because of TQM promotion, following effects have been observed; enhancement of sense of belonging of their employees to the organization; narrowing down the gaps in the process on planning and execution through regular exchange of opinions in the Quality Circle; and active involvement of employees in the work.

People's Republic of China (ODA Loan)

Henan Province Afforestation Project

Participatory afforestation project in the areas with diverse natural environments and land characteristics

External Evaluator: Shima Hayase, IC Net Limited

Overall

A

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Loan amount / Disbursed amount:
7,434 million yen / 7,218 million yen

Loan agreement: June, 2006

Terms and conditions: Interest Rate 0.75%, Repayment Period 40 years (Grace Period: 10 years)

Final disbursement date: December, 2014

Executing agency:
The People's Government of Henan Province

Project Objectives

Overall Goal:

To contribute to suppression of soil erosion in mountainous areas and of strong winds in plains, mitigation of damage of natural disasters such as floods and sandstorms in the area, and improvement of the living environment.

Project Purpose:

To enrich forest resources*¹ by afforestation in Henan Province

Output:

To implement afforestation, the total area of 190,000 hectares including protection, timber and economic forests in 71 counties of Henan Province

*1: The objective of the Project at the time of appraisal was "by afforestation in 71 counties of Henan Province, contributing to suppression of soil erosion in mountainous areas and of strong winds in plains, mitigating damage of natural disasters such as floods and sandstorms in the area, and improving the living environment." However, the target corresponding to the direct effects by afforestation (outcome) was not clearly set. Therefore, this evaluation translated, the expected outcome as enrichment of forest resources (artificial afforestation area, survival rate, forest coverage ratio, and forest stock volume etc.), and added them to the evaluation judgement of effectiveness.



Protection forest of poplar



Economic forest of Yabukita tea



Forest seriously damaged by animal feeding (protection forest)

Effects of Project Implementation (Effectiveness, Impact)

The targets on artificial afforestation area, forest coverage ratio, survival/preservation rates, and stock volume were achieved, and according to the field survey, the growth status of the forests was confirmed generally as expected. Furthermore, the forests provided by the Project accounted for 13% of the afforestation, which was conducted in Henan Province during the same period. Also, it shows that the Project contributed to the improvement of forest coverage ratio and forest stock volume in the province. Therefore, the effectiveness is well-observed.

Although the average income of farmers at the time of ex-post evaluation exceeded the target set at the time of appraisal numerically, the degree of the Project's direct contribution was unknown. The result of the beneficiary survey on the change in net income due to afforestation and on the management of the forest farms shows that economical impact by afforestation did not fully come into the picture yet because the time was early for receiving full-fledged income from the timbers in the forests. In contrast, afforestation provided by the Project is presumed to have prevented 9% of soil erosion in the province, and the protection forests were effective in preventing winds, in moisturizing fields, and in increasing yields, thus, there was a certain effect on mitigation of natural disasters.

Based on the above, effectiveness and impact of the project are high.

Relevance

Henan Province in the central part of China is located in the upper middle watershed of Yellow River and Yangtze River. Because of the escalation of damages from natural disasters in the basin areas due to excessive logging, afforestation projects aimed at mitigating them were regarded as important. The Project's relevance is high, for the reason that its aim is consistent with the Chinese Government's development policies, development needs and the aid policy of Japan.

Efficiency

At the time of appraisal, 71 counties were planned to implement afforestation, and in reality, it was implemented in 75 counties. The Project as a whole, there were no changes in the scope of the planned afforestation area. The project cost was within the planned limit, though the project period exceeded the plan because the afforestation period was actually extended to spring 2010, by a little over a year against the plan to be completed in the winter of 2008. Thus the efficiency of the Project is fair.

Sustainability

At the time of ex-post evaluation, there was no change in the structure of the executing agency, and a structure to support forest management

Artificial Afforestation Area by Forest Type (Unit: ha)

Forest Type	Target	Actual	Ratio to the Plan (%)
	2011	2012	
	Appraisal	Completion	
Protection Forest	115,660	117,129	101
Economic Forest	8,880	9,680	109
Timber Forest	7,300	7,508	103
Total	131,840	134,317	102

Source: material provided by the executing agency

Survival Rate and Preservation Rate

	Target			Actual		
	Protection Forest	Economic Forest	Timber Forest	Protection Forest	Economic Forest	Timber Forest
Survival Rate (1 st Growing Year)	85%			96%	96%	97%
Preservation Rate (3 rd Growing Year)	80%			87%	89%	90%

Source: material provided by the executing agency

was established. The financial resources were secured by the budget for national priority projects. On the other hand, the shortage was found in the maintenance costs of protection forests among some farmers and forest farms. However the provincial forestry department had a policy to increase subsidy, thus the shortfall was expected to be resolved. Also, no problem was observed in technical aspects, and the maintenance status, therefore the sustainability of the Project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, the Project is evaluated to be highly satisfactory.

Henan Province is rich in diversity of lands. It has mountains, plains, and various conditions of lands. However the afforestation model provided by the Project was not prepared for each tree species, and there were no charts indicating planting methods. The materials were not user friendly for the farmers to conduct afforestation, which led to variations in planting density. As a lesson, at the time of appraisal and the project implementation, the Forestry Department should have prepared materials

Forest Coverage Ratio of Project Implementation Counties

	Baseline	Target at Appraisal	Actual
	2004	2011	2015*
	Appraisal	Completion	3 years after completion
Henan Province	16.2%	20%	23.6%
Project Implementation Counties	18.4%	20.1%	20.14%

Source: material provided by the executing agency

*Although the Project completion was in 2012, because the forest ratio is measured every 5 years, this evaluation employed the most neighboring data of 2015

Forest Stock Volume (Unit: m³/ha)

	Baseline	Target	Actual
	2004	2011	2015*
	Appraisal	Completion	Completion
Henan Province	31.1	N/A	43.33
Project Sites	38.0	53.0	68.93

Source: material provided by the executing agency

*Although the Project completion was in 2012, because the forest ratio is measured every 5 years, this evaluation employed the most neighboring data of 2015

considering the convenience of farmers by incorporating the opinions of engineers at the county and township/village levels.

Furthermore, because selection of tree species planted in their forest was left up to the autonomy of the farmers, farmers tended to select tree species with high selling prices over the nature and land conditions. Similar tendency was observed in the state, and the forest products of popular species (poplar and walnuts etc.) were oversupplied, which were leading to the price decline. Understandings should have been promoted at the trainings and on-site technical guidance, so that the farmers consider the natural conditions, the characteristics of the land, and the afforestation effects of both ecological and economic aspects from the medium to long term in their tree species selection.

As a recommendation to the executing agency, in the protection forests in the mountains where ecological effects are emphasized over the economical effects, there are possibilities that the forests may end up to be deteriorated due to the lack of maintenance budget, thus immediate measures such as subsidies for nursing etc. are desired.

Key Point of Evaluation

Constraints in evaluation on afforestation projects and corresponding measures

It usually takes 20 to 30 years until completion of afforestation. However this ex-post evaluation was carried out 4 years after the Project completion when it was premature to observe the Project's mid to long-term effects, and to analyze future prospective conclusively. Accordingly, the ex-post evaluation focused on an analysis on basic effect indicators, prospects for the development and sustainability of the Project's effects and the status of the institutional, financial and technical environment to realize the prospects.

The targets regarding enrichment of forest resources were achieved. At the time of the ex-post evaluation, the status of the forests in the project implementation counties were reported as good, and the forests subject to the field survey were also in good condition.

Furthermore, Yabukita tea was introduced in the proposal by the participants of the overseas training in Japan. The sales were good, a local production factory was built, which provided employment to

1,000 households in the surrounding farms. It also yielded an impact that many elderly and women were hired for tea picking.

On the other hand, the economic effect of forest products was still developing and halfway through the completion. Especially in the protection forests in the mountains where ecological effects were emphasized, the maintenance expenses were heavy burden. It can not be denied if the maintenance budget is insufficient, there are possibilities that necessary forest maintenance will not be carried out, and the forests may end up to be deteriorated. However, the provincial forestry department had a policy to increase subsidy for the maintenance, thus in the medium term, the shortfall was expected to be resolved. Also, due to the fact that there was no problem observed in institutional and technical aspects, the evaluator concluded the sustainability is to be secured.

Socialist Republic of Viet Nam (ODA Loan)

Saigon East-West Highway Construction Project (I)(II)(III)(IV)(V)

Responding to increasing traffic demand and contributing to economic development in Ho Chi Minh City.

External Evaluator: Kenichi Inazawa, Octavia Japan Co., Ltd.

Overall

B

Effectiveness and Impact	3
Relevance	3
Efficiency	1
Sustainability	3

Project Description

Loan amount / Disbursed amount:

Phase I: 4,255 million yen / 2,047 million yen
 Phase II: 10,926 million yen / 10,733 million yen
 Phase III: 6,775 million yen / 6,717 million yen
 Phase IV: 19,071 million yen / 16,620 million yen
 Phase V: 14,061 million yen / 10,299 million yen

Loan agreement:

Phase I: March 29, 2000
 Phase II: March 29, 2002
 Phase III: March 31, 2003
 Phase IV: March 31, 2005
 Phase V: May 27, 2010

Terms and conditions:

【Construction】Interest: 1.8% (Phase I-III), 1.3% (Phase IV), 1.2% (Phase V), Repayment Period : 30 years (Grace Period: 10 years)
 【Consulting Service】Interest: 0.75%, Repayment Period : 40 years (Grace Period: 10 years)

Final disbursement date: September 2014

Executing agency:

Ho Chi Minh City People's Committee

Project Objectives

Overall Goal:

To contribute to improvement of the living condition in the surrounding area of Ho Chi Minh City, promotion of the urban development in the east side of the river, and development of the city's economy.

Project Purpose:

To enhance transport capacity and mitigate traffic condition in Ho Chi Minh City.

Output:

Construction of an east-to-west arterial road including underwater tunnel traversing the Saigon River.



The road constructed under the project on the left (photo provided by construction management consultant)



Traffic monitoring by Management Center of Saigon River Tunnel



Scenery before the implementation of the project (before rehabilitation of Channel Tàu Hủ Bến Nghé) (photo from the website of Ministry of Foreign Affairs of Japan.)

Effects of Project Implementation (Effectiveness, Impact)

This project was to construct an east-to-west arterial road (approximately 22km) including underwater tunnel traversing the Saigon River in order to increase transportation capacity and improve transportation conditions in Ho Chi Minh City.

Since 2012, the following year after the completion of construction works, annual average daily traffic volume (passenger car units: PCUs) traveling the Saigon River Tunnel has risen with each passing year. At the time of ex-post evaluation (2016), actual figures exceeded the target value set as two years after the start of road service. In addition, before the start of this project it took around 50 minutes to travel the entire section using the former road because the road width was narrow and some places were not paved, however this section could be traveled in 25 minutes as targeted initially, at the time of the ex-post evaluation. Therefore, it can be said that development of roads, bridges, and Saigon River tunnels led to smooth traffic flows and substantial time reduction. In Ho Chi Minh City, under the initiative of public organizations, financial institutions, real estate companies and developers, the commercial and urban development plan of

the Thue Thiem District in the east coast area of the Saigon River adjacent to the road developed by this project is underway, and the amount of investment has been increasing, since 2013. Although the economic impacts of this project cannot be clearly substantiated, it is presumed that this project has achieved smooth traffic flows and logistical efficiency of the city and has supported urban development and economic development. Thus, effectiveness and impact of this project are high.

Relevance

Ho Chi Minh City People's Committee put importance on the urban and transport development both at the time of appraisal as well as at the time of ex-post evaluation, and was also consistent with the Committee's policy of traffic sector planning. Similar to the time of appraisal, further development of transport infrastructure around this project was taking place, and alleviation of traffic congestion and strengthening of urban functions were strong demand at the time of the ex-post evaluation. Furthermore, the project was also in line with the assistance policy of the Japanese government. Therefore, relevance of this project is high.

Baseline, Target and Actual Figures Regarding Annual Average Daily Traffic

(Unit: PCU/day)

Indicator	Baseline	Target	Actual				
	2004	2013 Two years after completion	2012 One year after completion	2013 Two years after completion	2014 Three years after completion	2015 Four years after completion	2016 Five years after completion
Annual Average Daily Traffic Volume of the Tunnel	N/A	92,650	38,551	50,685	56,176	74,050	95,000

Source: JICA documents (Baseline: Phase I's appraisal, Target: Phase V's appraisal), Answers to the questionnaire (Actual)

Baseline, Target and Actual Figures Regarding Travel Time

(Unit: Minute)

Target Area	Baseline	Target	Actual				
	2004	2013	2012 One year after completion	2013 Two years after completion	2014 Three years after completion	2015 Four years after completion	2016 Five years after completion
Travel time (time required to travel the section targeted by the project between the intersections with Hanoi Highway and National Highway No.1)	50	25	25	25	25	25	25

Source: JICA documents (Baseline: Phase I's appraisal, Target: Phase V's appraisal), Answers to the questionnaire and travel measurement by vehicle at the field survey (The value is an average of the results from measurements between both ends of the section conducted several times.)

Efficiency

After the commencement of this project, the cost for land acquisition and resettlement increased from that initially planned and the cost for construction rose due to a global rise in the price of construction materials. In addition, unexpected ground improvement at this project site was also necessary. Therefore the overall project cost slightly exceeded the initial plan. In terms of the project period, it was significantly longer than that initially planned. The reasons were the same as those of the increased cost overrun. In addition, for the Vietnam side to use a submerged construction method to construct the Saigon River Tunnel for the first time, it took more time than assumed for confirming the procedure and construction method, and also for construction itself. As a result, efficiency of this project is low.

Sustainability

At the time of ex-post evaluation, there were no particular problems in the institutional and technical aspects of the operation and maintenance of the executing agency. The executing agency was also in a good financial situation. In addition, there were no major problems in terms of the operation and maintenance status of the facilities developed by this project. Thus, sustainability of this project is high.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated as satisfactory.

As for a lesson learned from this project, changes in the legal system and economic and social situations are likely to occur in a country with remarkable development like Vietnam. Thus, ample consideration must be given to the fact that more time than expected is needed for land acquisition and resettlement procedures. It took an extremely long period of more than five years to complete this process, which lowered the project's efficiency. Although land acquisition and resettlement are the responsibilities of the Vietnamese side, it is important for JICA to carefully follow up on progress by holding regular dialogue with related government ministries and agencies as well as the executing agency with effort to encourage that there be no effects on the schedule of the overall project. In the future, for similar projects, JICA will need to conduct further regular monitoring and to provide assistance toward problem resolution, even for land acquisition and resettlement work, as part of its project management duties.

With regard to recommendations to the executing agency, at the time of the ex-post evaluation, the Saigon River Tunnel developed as part of this project has yet to be handed over. Talks between the contractor and construction management consultant of this project and the executing agency are ongoing, but it is necessary that the handover take place as soon as possible and the procedures for the final payment be completed.

Key Point of Evaluation

Achieving smooth and safe traffic flows linking the city with neighbouring provinces

Smooth passenger traffic flows have been realized at the Saigon East-West Highway which passes through the most central part of Ho Chi Minh City. If the construction was not implemented, it would have been a bottleneck of economic and social development for the city. In addition, the related ODA loan project completed in 2015, "North-South Expressway Construction Project (Ho Chi Minh City - Dau Giay Section)" connects to the east side of the Saigon East-West Highway, smoothing a traffic flow between the Dong Nai Province and the Ba Ria-Vung Tau Province adjacent to the city. It has also contributed to expansion and efficiency of urban infrastructure. As the linkage between transportation infrastructure and urban development is strong, the project may be an initiator for the city to

push forward further economic revitalization. It is thought that benefits are also great for private enterprises aiming to expand business opportunities.

While absorbing vigorous traffic demand, this project also worked on prevention of accidents in a way considering locally specific conditions, such as installation of dedicated two-wheeled bike lanes in many sections including the Saigon River Tunnel. During the interview with drivers, some commented "Good road surface condition, easy-to-drive roads, and good visibility." It is said that this project has also been contributing to safety improvement and accident control during driving.

*Since a bribery case occurred in this project in 2008, JICA has been carrying out preventive measures against fraud in official development assistance (ODA) projects (https://www.jica.go.jp/english/notice/141009_01.html).

For the background information and corresponding measures on this case, see P98 and thereafter of "Country Assistance Evaluation of Vietnam (Third Party Evaluation)" published by Ministry of Foreign Affairs of Japan (<http://www.mofa.go.jp/policy/oda/evaluation/FY2015/pdfs/vietnam.pdf>).

Overall

D

Effectiveness and Impact	2
Relevance	3
Efficiency	1
Sustainability	2

Republic of Peru (ODA Loan)

Provincial Cities Water Supply and Sewerage System Improvement and Expansion Project

While the water supply and sewerage services in the provincial cities have been improved, the volume of sewage received by the sewage treatment plants exceeds the planned volume.

External Evaluator: Hajime Sonoda, Global Group 21 Japan, Inc.

Project Description

Loan amount / Disbursed amount:
13,901 million yen / 12,742 million yen

Loan agreement: April 1999

Terms and conditions:

Interest Rate

Main work: 1.7%, 0.75%

Consulting service: 0.75%

Repayment Period (Grace Period)

Main work: 25 years (7 years)

Consulting service: 40 years (10 years)

Conditions for Procurement

Main work: general untied

Consulting service: bilateral tied

Final disbursement date: December 2011

Executing agency:

Ministry of Housing, Construction and Sanitation (*Ministerio de Vivienda, Construcción y Saneamiento: MVCS*), National Urban Sanitation Program (*Programa Nacional de Saneamiento Urbano: PNSU*)

Project Objectives

Overall Goal:

Improvement of environmental sanitation in the target area in the Northern Peruvian local cities of Piura of Piura Region and Chimbote of Ancash Region

Project Purpose:

To improve water supply and sewerage services in the target area

Output:

Rehabilitation and expansion of water supply and sewerage facilities in the target area



Water Treatment Plant in Piura



El Indio Sewage Treatment Plant (Piura)



Distribution Reservoir (Chimbote)

Effects of Project Implementation (Effectiveness, Impact)

As far as the water supply service is concerned, the quality of the water supplied in Piura has been improved by mixing treated water from the Water Treatment Plan (WTP) which was newly constructed under the Project with groundwater with a high salinity level. However, because of the constraint of the water transmission capacity, the water production volume of the said WTP is below the planned level and only one-quarter of the total households in the city receive water of which the salinity level meets the relevant standard. Meanwhile, the increased water production volume and construction of distribution tanks have led to improvement of the water supply hours and water pressure. In Chimbote, while the water production volume of the expanded WTP is below the planned level because of the inadequate operation of some of the facilities, the increased water production volume and construction of distribution tanks have led to improvement of the water supply hours and water pressure.

In the case of the sewerage service, untreated sewage is no longer discharged either to a river in Piura or the sea in southern Chimbote. However, the amount of sewage received by the Sewage Treatment Plants (STPs) in the two cities far exceeds their treatment capacity. Because of this, even though the pollutant (BOD load) removal volume exceeds the planned level, the treated water discharged from either STP fails to meet the relevant national water quality standard due to overloading.

In both cities, residents have reported an improvement of the

environmental as well as sanitation conditions, suggesting that the improved water supply and sewerage services resulting from the Project have contributed to such positive reports. However, there is concern regarding the possible contamination of crops and groundwater due to the use of discharged water from STPs for irrigation as this water does not meet the relevant water quality standard and also due to the occasional overflow of discharged water from STPs, in turn caused by the lack of any appropriate connection of the outlet channel from an STP to an irrigation channel.

Based on the above, the effectiveness/impact of the Project is fair.

Relevance

The water supply and sewerage sector has consistently remained an important issue for the Government of Peru. At the time of appraisal of the Project, the need for water supply and sewerage development in the two target cities was high and the project-related facilities are continuing to play an important role at the time of the ex-post evaluation. The Project is consistent with Japan's aid policies at the time of appraisal. Therefore, the relevance of the Project is high.

Efficiency

The commencement of the construction was delayed due to changes of the government two times and worsening of the financial conditions of the Sanitation Service Company (SSC) in each city. In Piura, the change of the

State of Achievement of the Primary Indicators

Indicators	Before the Project	Planned figures at the time of Appraisal (1998)	Actual Results	Level of Achievement
Water Supply in Piura				
Water production volume (surface water + ground water)	Unknown	900 liters/sec (2013 - 2016)	1,225 liters/sec (2013 - 2016)	High
Ratio of surface water	0% Groundwater alone	70% WTP: 630 liters/sec Wells: 270 liters/sec (2013 - 2016)	37% WTP: 458 liters/sec Wells: 767 liters/sec (2013 - 2016)	Medium
Ratio of households with lower level of salinity than the standard	Unknown	100% of households to which surface water is supplied	61% of households to which surface water is supplied (24% of total households) (2016)	Medium
Water Supply in Chimbote				
Water production volume (surface water + ground water)	Unknown	1,240 liters/sec (2015)	886 liters/sec (2014 ~ 2016)	Medium
Sewerage Service in Piura				
Quality of treated sewage ^(note)	BOD: 20.0 mg/liter SS: 50.0 mg/liter Coliform: unknown	BOD: 100 mg/liter SS: 150 mg/liter Coliform: 10,000 MPN/100ml	San Martin: BOD: 97mg/liter, SS:73mg/liter Coliform: 2.4 x 10 ⁶ MPN/100ml El Indio: BOD: 100 mg/liter, SS:96 mg/liter Coliform: 1.8 x 10 ⁵ MPN/100ml	Low
BOD load removal volume	Unknown	10.2 tons/day	15.1 tons/day (2016)	High
Sewerage Service in Chimbote				
Quality of treated sewage ^(note)	BOD: 86.0 mg/liter SS: 155.0 mg/liter Coliform: unknown	BOD: 100 mg/liter SS: 150mg/liter Coliform: 10,000 MPN/100ml	Las Gaviotas: BOD: 122mg/liter, SS:73mg/liter Coliform: 1.1 x 10 ⁴ MPN/100ml Centro Sur: BOD: 132 mg/liter, SS:152 mg/liter Coliform: 1.7 x10 ⁶ MPN/100ml	Low
BOD load removal volume	Unknown	2.9 tons/day	4.7 tons/day (2016)	High

note: As for the planned figures, the relevant standard in Peru (maximum permitted level) at the time of the ex-post evaluation is used.

original plan for the STP to respond to the demand increase took a long time to finalize and the construction work for this STP has still not been completed by the time of the ex-post evaluation. The total project cost exceeds the planned cost because of price inflation, increase of the construction cost, etc. Therefore, the efficiency of the Project is low.

Sustainability

As for the operation and maintenance of the Project, the institutional aspects show some minor problems in both cities, the financial aspects face challenges in both cities and the technical aspects show a problem in Chimbote. Based on the overall judgement of the above situations, the sustainability of the project effects is fair.

Conclusion, Lessons Learned and Recommendations

Based on the overall judgement of the above, the Project is evaluated as unsatisfactory. The Ministry of Housing, Construction and Sanitation must urgently complete the rehabilitation and expansion of the San Martin STP in

Piura. Meanwhile, the Piura SSC must secure a sufficient maintenance budget by adequately increasing the water service charge, strengthen the water conveyance capacity of the WTP, strengthen the preventive maintenance system along with the renewal and reinforcement of the sewage pumping facilities and develop an appropriate operation and maintenance system for the STP. The Chimbote SSC must tackle such issues as the development of the appropriate operation of the WTP and sludge removal at the STP.

One lesson learned from the Project is that when the reuse of treated sewage by a STP is planned, it is important for the executing agency to fully coordinate with users of the treated sewage in advance so that the facilities and management system to adequately manage the treated sewage are in place. The planning of an adequate treatment capacity for a WTP or STP requires a highly accurate demand forecast. As such, careful examination is essential which addresses such issues as the forecasting method and preconditions among others.

Key Point of Evaluation

While the purpose of the Project was to improve the water supply and sewerage services in Piura and Chimbote, indicators to measure the level of achievement of this purpose in each city were not clearly defined at the time of appraisal. For the ex-post evaluation, therefore, the level of achievement of the purpose was determined using those indicators directly linked to the specific purpose of the project in each city as primary indicators which were selected among the various indicators related to urban water supply and sewerage services.

For the water supply service, the water production volume is used as a primary indicator in both cities. In Piura where the high salinity level of groundwater causes concern, the ratio of surface water and ratio of households receiving water with a lower salinity level than the standard is also used as primary indicators. Although the water production volume at the WTP in Piura is below the planned volume, the overall water production volume exceeds the planned volume due to increased groundwater production from wells. In contrast, the ratio of surface water is just above half of the planned level and the ratio of households receiving water with a lower salinity level than the

standard fails to reach the target.

The primary indicators for the sewerage service are the quality of the treated sewage by STPs and the BOD load removal volume at STPs. The quality of the treated sewage discharged from the two STPs targeted by the Project does not meet the relevant standard because of over-loading beyond their treatment capacity. In contrast, the actual BOD load removal volume at these STPs is approximately 50% higher than the planned volume. This means that while a positive effect better than planned has been achieved in terms of the alleviation of the environmental load due to the discharge of untreated sewage to a river or the sea, concern regarding pollution still remains at the areas of treated sewage discharge because of the inadequate quality of the treated sewage discharged by the STPs.

For evaluation of the effectiveness of the Project, it has been necessary to analyse the level of achievement of various indicators with a different perspective each as described above to make an overall judgement.

Bhutan (Grant Aid)**The Project for Restoration and Improvement of Vital Infrastructure for Cyclone Disaster**

Evaluation Summary: Accomplished the improvement of the accessibility and the safeguard of its accessibility from future cyclone attacks by the construction of “Disaster-Resistant Bridge”

External Evaluator: Miyuki Sato, Japan Economic Research Institute Inc.

Overall**B**

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	2

Project Description

Grant limit / Actual Grant amount:
1,019 million yen / 999 million yen

Exchange of notes: August 2011

Project Completion: June 2014

Implementing agency:
Department of Roads, Ministry of Works and Human Settlement (DOR)

Project Objectives**Overall Goal:**

To contribute to the stable transfer of people and goods and the improvement of the living situations of the local residents in the area

Project Purpose:

To improve the accessibility and to safeguard its accessibility from future cyclone attacks

Output:

Replacing five bridges in the middle region of Bhutan which had been destroyed by a cyclone



After the construction of Dolkhola Bridge



The former (left) and the new (right) Reotala Bridge



After the construction of Kela Bridge



Former Kela Bridge which was a suspension bridge for pedestrians

Effects of Project Impelementation (Effectiveness, Impact)

This project replaced five bridges (Dolkhola Bridge, Jigmeling Bridge, Reotala Bridge, Kela Bridge, and Jangbi Bridge), in the mid-interior region of Bhutan which have been destroyed by a cyclone which hit South Asia at the end of May 2009 and brought the highest death toll in the world during the first half of the year. At the time of planning, the repair of those bridges and roads had not been carried out sufficiently even two years after the disaster, and residents in the cyclone-affected area were limited in their access to facilities necessary in daily life, such as hospitals, schools, and markets. Since 2014, after the construction of the bridges, accessibility to those facilities has been improved and the bridges constructed through this project have never been blocked due to disasters except for one time, which was caused by rockfalls at Reotala Bridge in October 2016. Also, stobility and safety of the transportation flow at the Dolkhola and Jigmeling bridges have been improved by the completion of concrete structure allowing the traffic volume of large vehicles, such as trucks and buses, to increase, thus the traffic of people and goods became active. For example, the traffic volume in 2011-before the construction of new bridge- was 130 vehicles per day on average (total of up-traveling and down-traveling), and in 2016 -after the construction- the traffic volume was 1,371 vehicles per day on average (total of up-traveling and down-traveling). At Reotala Bridge, Kela Bridge and Jangbi Bridge, which used to be pedestrian bridges, residents are able to pass over by car and the efficiency of transport and reduction of access time to destinations were greatly realized. Therefore, the effectiveness and impact are judged to be high.

Relevance

Since the accessibility to facilities which was necessary for the people's daily life in the target area was limited due to the damages of roads and bridges by flood disasters due to cyclones and so on, the need for improvement and construction of roads and bridges was high. Also, since this project was consistent with the development plan of Bhutan at the time of both planning and ex-post evaluation and also with the Japanese ODA policy at the time of planning, the relevance of this project is high.

Efficiency

The project was implemented mostly as planned and the project cost was within the plan. However, the project period exceeded 10 months from the plan because the commencement of the construction work of Reotala Bridge by the Bhutanese side was delayed due to damages of the construction materials caused by the landslide disaster. Therefore, the efficiency of the project is fair.

Sustainability

After the construction of five bridges, Dolkhola, Jigmeling, and Reotala bridges are maintained by DOR, and Kela and Jangbi bridges are maintained by Trongsa District. There is no problem with the bridges managed by DOR in terms of operation and maintenance. However there are some problems with the bridges managed by Trongsa District such as insufficient information on the bridge conditions and inadequate opportunities for acquiring necessary techniques for bridge maintenance,

Comparison between Old Bridge (Before Construction) and New Bridge (After Construction)

	Old Bridge (2010)	New Bridge (2014)
Dolkhola and Jigmeling Bridges		
Bridge Structure	Steel bridge (Bailey bridge)* ¹	Concrete bridge (PC bridge)* ²
Load Capacity	18t	100t * ³
Lanes	1 lane	2 lanes
Reotala, Kela, and Jangbi Bridges		
Bridge Structure	Pedestrian suspension bridge	Steel bridge (Bailey Bridge)* ⁴
Vehicle Traffic	Unavailable	Available (24t)

(Source: Documents provided by JICA and Implementing Agency)

*1: a motorable bridge whose parts were re-assembled in a factory.

*2: Prestressed Concrete Bridge, whose intensities were increased through compressing concrete.

*3: The actual maximum load capacity is recommended at 40t at present considering the capacity of other bridges nearby.

*4: Reotala Bridge is a "Bailey Suspension Bridge", a wire-fixed bridge.

Change of Average Access Time of Each Bridge

Name of Bridges	Before Construction of New Bridges	After Construction of New Bridges
Dolkhola and Jigmeling Bridges	36 min. (by car)	30 min. (by car)
Reotala Bridge	11.5 hours (on foot)	3.85 hours (by car)
Kela Bridge	11.45 hours (on foot)	2.75 hours (by car)
Jangbi Bridge	11.25 hours (on foot)	2.9 hours (by car)

Notes 1: Average travel time between Gelephu and Sarpang using the Dolkhola and Jigmeling Bridges

Notes 2: Average travel time from each gewog to Trongsa Town for Reotala, Kela and Jangbi Bridges

(Source: Beneficiary Survey results)

no budgetary provision for the bridge maintenance. Thus, the expected sustainability of project effect is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, the project is evaluated to be satisfactory.

Key Point of Evaluation

Synergistic Effects between this Project and the Project for Replacement of Ambulances

In the ex-post evaluation of this project, the evaluator looked at the synergistic effect coming from the infrastructure development and the equipment provision in the same area.

JICA provided ambulances to several medical facilities in Bhutan through grant aid in 2012 and 2016. Some hospitals to which ambulances were provided use one or some of the five bridges constructed through this project to transport a patient; safe and rapid transportation of patients was achieved with the well-equipped new ambulance passing through well-developed bridges. For example, a hospital which transports patients from a village to the hospital through Reotala Bridge told that in the old days, ambulance crews walked to a village to pick up a patient, carried the patient on their

Regarding lessons learned, if the operation and maintenance (O&M) operation of bridges is conducted by multiple institutions, it is preferable to set a focal point institution if at all possible, and establish a common O&M system through the initiative of the focal point institution. There is a gap in both the organizational structure and financial condition of the O&M system, such as in different frequencies of inspections and clethi between the bridges managed by DOR and those managed by the district. At the same time, it would be more effective for sustainable O&M operation if the focal point institution takes the initiative on having training programs for persons in charge of the O&M operation and creating and distributing maintenance manuals.

With regard to a recommendation, it is recommended that Trongsa District establish a common bridge O&M system. It is considered necessary for Trongsa District to formulate an O&M strategy including future repairing and prevention of dilapidation due to aging by establishing measures for routine work and periodic inspections regarding the O&M system for bridges of Trongsa District and by grasping the situation of the district administration on what residents are doing for O&M and status of the bridge conditions.



River swollen by a torrential rain and Jigmeling Bridge (left: old bridge pier, right: new bridge)

Uganda (Grant Aid)

The Project for Construction of Rice Research and Training Centre

Construction of a centre to serve as a base for rice promotion (rice research and training on rice cultivation techniques) in Uganda

External Evaluator: Isao Dojun, Chuo Kaihatsu Corporation

Overall

B

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Grant limit / Actual Grant amount: 6.51million yen

Exchange of notes: March, 2009

Project Completion: November, 2010

Implementing agency:
National Agricultural Research Organization (NARO)

Project Objectives

Overall Goal:

Quality of planning, research, training, extension, and evaluation necessary for rice promotion is improved.

Project Purpose:

Facilities and equipment are furnished at the National Crop Resources Research Institute (NaCRRI) for a research and training centre that aims rice promotion.

Output:

Facilities are constructed and equipment is procured, which are necessary for rice research and training at NaCRRI.



Front View of the Rice Training and Cultivation Centre Building (Research and Administration Block)



Rice Experimental Field and Exhibition of Various Rice Varieties



Scene of a Training for Researchers by a Japanese Expert

Effects of Project Implementation (Effectiveness, Impact)

The main facilities provided by the project are research and administrative block, training block, canteen and kitchen block, dormitory for researchers, screenhouse, warehouse for agricultural machinery, drying yard, workshop, and irrigation facilities for the experimental fields. Main equipment provided by the project are research equipment, equipment for experimental fields, post-harvest processing equipment for demonstration, and workshop equipment. Effects of provision of facilities and equipment are wider kinds of rice researches, enhancement of rice seed multiplication capacity, year-round rice experiment and demonstration of rice growing stage, capacity strengthening of agricultural extension officers through practical training, and learning a lot of aspects of rice cultivation at only this centre as main base for rice research in Uganda, reduction of economic expenses for outside researchers by using the dormitory, and increase of number of reports produced as results of rice researches, etc. The number of training participants was significantly lower than the target value. However, agricultural officers who learned rice cultivation have conducted large number of trainings for farmers at their area of activity, and their activities contributed rice production increase and improvement of income of farmers who participated in the trainings. Further more, the project contributed increase of rice cultivated area and increase of rice production in Uganda.

From the above, certain effects of the project are observed, therefore, effectiveness and impact of the project are fair.

Relevance

Relevance is high because this project has been highly consistent with the Ugandan's development policies, which aim at improving income and living standard of poor farmers and increasing rice production. It has been also consistent with Ugandan development needs to solve issues that there were very few rice researchers and agricultural extension officers who know rice cultivation techniques at the time of commencement of the project. Furthermore, the project was consistent with the priority sector of Japan's ODA policy for Uganda, such as agricultural development including rice promotion.

Efficiency

Although the project cost was within the plan (at 89% of the initial estimate), the project period exceeded 2 months (estimated period was 19 months and actual period was 21 months), because of the longer period than expected time from the signing of E/N to the signing of the consultant contract and the extension of the construction period by one month. Therefore, efficiency of the project is fair.

Number of participants to rice training at the Rice Research and Training Centre

Entry	Baseline	Target	Actual		
	2008	2012	2012	2014	2016
	Planned Year	2 Years After Completion	2 Years After Completion	4 Years After Completion	6 Years After Completion
Indicator 1: Total trainees at the Rice Research and Training Centre	Yearly total of 1,300	Yearly total of 2,600	321	290	244
Target of Index 1 (2,600 persons/ year)	—	—	12%	11%	9%
Indicator 2: Farmers who received rice cultivation training at locations other than the Rice Research and Training Centre (training took place at farming communities etc.)	—	—	3,570 persons	10,556 persons	8,870 persons
Indicator 3: Farmers who received training away from the Centre and indicator 1 (Centre trainees): Total	—	—	3,891 persons	10,846 persons	9,114 persons
Yearly target attainment (2,600 persons/year)	—	—	150%	417%	350%

Source: NERICA Rice Promotion Project Terminal Evaluation Report, Sustainable Irrigated Agriculture Development Project in Eastern Uganda Terminal Evaluation Report, data provided by the Promotion of Rice Development Project

NaCRRI Rice Cultivation Researcher Figures

	1 Year Before Completion	Year of Project Completion	1 Year After Completion	2 Years After Completion	3 Years After Completion	4 Years After Completion	5 Years After Completion	6 Years After Completion
	2009	2010	2011	2012	2013	2014	2015	2016
Total Number of Rice Cultivation Research Personnel	8	8	8	14	14	14	18	18

Source: Answer to questionnaire by NaCRRI

NaCRRI Rice-Related Research Report and Paper Figures

	1 Year Before Completion	Year of the Project Completion	1 Year After Completion	2 Years After Completion	3 Years After Completion	4 Years After Completion	5 Years After Completion	6 Years After Completion
	2009	2010	2011	2012	2013	2014	2015	2016
Number of research reports	2	2	2	2	2	2	2	2
Number of papers	2	2	3	3	4	4	4	3
Total	4	4	5	5	6	6	6	5

Source: Answer to questionnaire by NaCRRI

Sustainability

No major problems have been observed in the institutional, technical, financial aspects and current status of the operation and maintenance system. Number of rice researchers has been steadily increased and there are necessary organizational structure and techniques for operation and maintenance of facilities and equipment. Budget necessary for operation and maintenance of facilities and equipment of the centre is secured mostly. Furthermore, degree of usage of facilities, experimental fields, and laboratory equipment etc. of the centre are high and their conditions are good. Therefore, sustainability of the project effects is high.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory.

As for recommendations, it is preferable to be taken the following actions;

- 1) In order to reduce training costs, examine feasibility of expansion of dormitory facility that can accommodate persons when trainings with 30 – 40 participants are carried out,
- 2) Examine income generation for improving financial sustainability, for example, income raising by seed multiplication and seeds selling, and
- 3) Creation of a mid-term plan for equipment renewal to cope with deterioration of equipment in future, etc.

As for lessons learned, it is better to look into income generation activities by utilizing facilities and equipment to be provided from the stage of project planning.

Key Point of Evaluation

Synergistic Effects of a Grant Aid and a Technical Cooperation

A technical cooperation project related to rice cultivation i.e. "NERICA Rice Promotion Project 2008-2011" was under implementation at about same time as implementation period of this project. At the time of ex-post evaluation, a successor technical cooperation project "Promotion of Rice Development Project (2011-2018)" was under implementation too. It is clarified from results of the beneficiary survey that combined effects of these technical cooperation projects and this project contributed to rice production increase and improvement of income of farmers. Number of rice millers has been increased in many areas and this means that number of staff working at rice millers have been also increased. In addition, there is a result that a part of members (volunteers for agricultural sector or community development) of the Japan Overseas

Cooperation Volunteers, who have dispatched to Uganda, have been disseminated learned rice cultivation techniques to farmers at their areas of activity and their activities are highly evaluated by not only by farmers but also agricultural extension officers who are working at district agricultural offices. For farmers in Uganda, rice is a cash crop that has stable price and is more profitable than other crops. Therefore, farmer's interest is high. Until recently, rice consumption was mainly by urban residents, but it seems that rice consumption in rural areas is also increasing. In the process of increasing the importance of rice, Japan has contributed greatly to the promotion of rice cultivation in Uganda. Also, based on cooperation results and issues so far, there is also a high necessity of continuing support.

Democratic Republic of the Congo (Grant Aid)**The Project for Development of the Institute of Medical Education Kinshasa**

Contributing to the quality improvement of health care in the Democratic Republic of the Congo (hereinafter referred to as the DRC) through restoration of facilities and equipment at the health workforce training school (the Institute of Medical Education, Kinshasa) that was devastated by conflict

External Evaluator: Mari Nishino, Chuo Kaihatsu Corporation

※Reinforcement member for this ex-post evaluation, Affiliation is TAC International Inc.

Overall**C**

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	2

Project Description

Grant limit / Actual Grant amount:
1,852 million yen / 1,525 million yen
*Total of Detailed Design and Construction

Exchange of notes:

Detailed Design: January 2011
Construction: August 2011

Project Completion: July 2013

Implementing agency: Infrastructure Unit, Ministry of Infrastructure and Public Works and Ministry of Public Health (hereinafter referred to as MOH)

Project Objectives**Overall Goal:**

Contributing towards allocating health workers to areas requiring health services through the provision of high quality training for secondary health human resources

Project Purpose:

1) To train high quality secondary health human resources; 2) to develop an educational model for secondary health human resources; 3) to conduct training for teachers of nationwide secondary health professional schools; 4) to conduct continuous education for secondary human resources

Output:

Restoration of necessary facilities and equipment at the National Health Human Resources Development Pilot School (Former Institute of Medical Education Kinshasa (IEMK) (hereinafter referred to as INPESS: Institute national pilote de l'enseignement des sciences de santé)



The Institute of Medical Education, Kinshasa



Multipurpose Hall accommodating 200 people



Practical training room: Nursing/Midwifery Depts.



Well organized commodity warehouse

Effects of Project Implementation (Effectiveness, Impact)

The project successfully reached the target number of students for secondary HRH training per year one year after completion. While the number from outer regions was not achieved, it is highly expected that it will increase through recruitment efforts that have been occurring since 2015. Quality education has generated a high reputation for the students among the external training institutions and the community, and the advantages to their employment are beginning to become apparent. The model school of basic education is being established as a foundation. Meanwhile, the number of teachers to be trained at Institute of Medical Education and Institute Medical Techniques (IEM/ITM) and dissemination of program materials and curriculum are low in achievement because there are problems in establishing systems and plans for coordination among each department of MOH. In terms of facility utilization, the multi-purpose room is actively used for workshops and international conferences sponsored by other organizations. Additionally, the buses procured by the project are used for INPESS students not only to travel to external training locations, but also to transport MOH officials to training locations. Qualitatively, both students and faculty highly evaluate the quality of education and the educational environment, and their satisfaction level is high. Because the education program takes four years to complete, there are no graduates at the time of the ex-post evaluation so that the impact is yet to be determined. Overall, this project has achieved its objectives to some extent. Thus, the effectiveness and impact of the project are fair.

Relevance

This project is consistent with the DRC's development policy that aims at "developing health human resources through basic and continuous education" and "improving access to public health services." It is also consistent with the DRC's development needs, which include addressing the shortage and skewed distribution of health workers, and helping health workers progress to a higher standard in order to improve low health indicators. The project is also consistent with Japan's ODA policies focusing on health development in the DRC. In conclusion, this project has been highly relevant to the DRC's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

Efficiency

Although the project was implemented within the planned budget (82% against the plan), the project period was longer than planned (124% against the plan), which makes efficiency of the project fair. Facility construction was deterred by the unexpected removal of underground objects, difficult acquisition of concrete due to shortage of crushed stones in the market, road blockades by the Summit, and Port strikes etc. These factors all led to the extension of the project period.

Sustainability

The sustainability of the project effects in terms of the technical aspects and status for operation and maintenance was confirmed, resulting from 5S trainings and operation guidance conducted by the project. In terms of the

Target and Actual Figures of Quantitative Indicator

Indicator	Baseline	Target	Actual			
	2010	2015	2013	2014	2015	2016
	Planned Year	2 Years After Completion	Completion Year	1 Year After Completion	2 Years After Completion	3 Years After Completion
No. of students for secondary HRH training per year	62	90	49	101	98	122
Nurse	42	30	18	29	33	46
Midwife	—	30	17	24	26	32
Pharmacy	17	10	14	19	18	19
Medical Technology	—	10	0	21	11	17
Sanitation Engineer	3	10	0	8	10	8
Additional indicator: No. of students to use training rooms	No training room	—	49	101	98	122
No. of IEM/ITM (Institute of Medical Education and Institute Medical Techniques) to disseminate material/curriculum	Trial in partial IEM/ITM	More than 200 IEM/ITM	—	—	—	Introduced to 58 institutes (Nurse 44 Midwife 14)
No. of IEM/ITM teachers to be trained	No record	800	—	—	—	Nurse 88 Midwife 12
No. of secondary health service providers to be trained for continuous trainings			—	—	5S training: 152 Other*1 (Unknown)	Nursing Council training: 150
Additional indicator: No. of persons to use multi-purpose room	—	—	200-300*2 and school activities	200-300 and school activities	200-300 and school activities	200-300 and school activities
No. of students from suburb of Kinshasa	0	120 / year	Dormitory: 49	Dormitory: 20	No Record	Dormitory: 21 and 12 (other schools student)

Source: Documents provided by JICA and the implementing Agency

*1 The multi-purpose room (which can accommodate up to 200 people) has been used as a venue for trainings and workshops for domestic and overseas participants, but the number of users has not been recorded.

*2 Number of candidates for national unified examinations at the time of graduation. Every year, the students in the final grade of all secondary health professions in Kinshasa City take graduation examinations in the multi-purpose room.

institutional aspect, there is some friction between the current standard of school regulations and the actual management system. Although the tension seems to start being loosened, the institutional issues still remain. Regarding the financial aspect, there is a problem due to the lack of the budget allocated by MOH. Thus, sustainability of the project effects is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project has been evaluated to be partially satisfactory. As lessons learned, it is necessary to thoroughly review and examine the feasibility of effective executions of national government ordinances and the National Development Plan, and to set objectives and goals for indicators of the projects accordingly. Sometimes, even though national government ordinances and health development plans exist, only conceptual explanations are given and are not followed by effective executions, especially in developing countries. Even if there are detailed

ministerial ordinances, there are cases where systems for specific implementation on the ground are missing. Although continuous education was set as the objective based on the policy of the DRC, the feasibility of the policy was uncertain. Furthermore, even though the function of INPESS was indicated in ministerial ordinance, since the concrete implementation procedure and system at the field level were not formulated, no continuous education was implemented. Therefore, it is necessary to thoroughly examine the actual state and feasibility of executing the existing policies and institutions. Next, it is also important to analyze any bottleneck and to include counter activities against it at the field level within the feasible project scope. As a recommendation to the implementing agencies, INPESS and MOH should create a framework for continuous education, and that MOH should make a reliable budget arrangement. In addition, it is recommended that JICA should provide technical support for continuous education to INPESS and MOH.

Key Point of Evaluation

Recognizing Gaps Between Policy and Practice, and Fostering Common Understanding Among Stakeholders

In this project, the training of teachers at nationwide secondary health professional schools and the continuous education for secondary human resources were not realized as smoothly as planned. The following can be cited as factors:

- 1) The official position of INPESS was not commonly recognized among the stakeholders, and the capabilities of the current INPESS were not sufficient for what was expected in the policy.
- 2) The definition of the term "continuous education" was ambiguous among stakeholders.

In order to avoid the factors mentioned above, aspects such as finance, capacity of teaching staff, and past activities of INPESS should have been scrutinized during the project planning. If the inconsistency between policy and the actual position of INPESS exists, there needs to be a reasonable goal within the scope of the project, rather than that conforming to what stated in the policy. Moreover, without common understanding among stakeholders and mechanisms for implementing continuous education, indicators related to the continuous education should not be employed for effectiveness measurement. In order to steadily implement the project, sufficient consultations with stakeholders are important so as not to cause inconsistency or misunderstanding among them.

Republic of Kenya (Technical Cooperation)

Strengthening of Mathematics and Science Education (SMASE)

Extending mathematics and science education based on a student-centered approach to Kenya and other African countries

External Evaluator: Takako Haraguchi, International Development Associates, Ltd.

Overall

A

Effectiveness and Impact	3
Relevance	3
Efficiency	3
Sustainability	2

Project Description

Total cost: 1,003 million yen

Period of cooperation: January 2009 – December 2013

Partner country's implementing organizations:

Ministry of Education, Science and Technology (MOEST) / Centre for Mathematics, Science and Technology Education in Africa (CEMASTE), MOEST

The number of experts dispatched: (long term) 7 persons, (short term) 3 persons (Japanese), 38 persons (Kenyan)

The number of technical training participants: (Japan) 152 persons, (Third-country) 12 persons

Main equipment provided: Training materials and equipment

Project Objectives

Overall Goal:

Kenya Component: Capability of young Kenyans in Mathematics and Science is upgraded.

WECSA Component (for African countries): Quality of Teaching and Learning of Mathematics and Science in member countries^{*1} is improved.

Project Purpose:

Kenya Component: Quality of Mathematics and Science education at Primary and Secondary school levels in Kenya is strengthened through In-Service Education and Training (INSET).

WECSA Component: Capability of INSET providers to implement ASEI-PDSI^{*2} based INSET in member countries is strengthened.

Output:

Kenya Component:

1. A system of National INSET for Regional Trainers is established at CEMASTE.
2. A system of Regional INSET and Regional workshop is established at Primary Teachers' Training Colleges (PTTCs).
3. Existing system of Cluster INSET is strengthened.
4. Secondary Mathematics and Science teachers' ASEI/PDSI practices in classroom are enhanced.
5. Role of CEMASTE as resource center for mathematics and science education is strengthened.

WECSA Component:

1. ASEI-PDSI based INSET providers from member countries are trained.
2. SMASE-WECSA network is strengthened.
3. Role of CEMASTE is strengthened as resource center for mathematics and science education in Africa.

^{*1} Member countries of the Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa (SMASE-WECSA), an intra-regional cooperation network in Africa.

^{*2} ASEI-PDSI: Activity, Student-centered, Experiment and Improvisation/Plan, Do, See and Improvement.



A primary school where teachers record and assess the degree of achievement of the learning objectives introduced through SMASE INSET.



Mathematics lesson. The teacher attends individual students on demand from them.



An intra-regional conference on student-centered mathematics and science education held by CEMASTE after completion of this project.

Effects of Project Implementation (Effectiveness, Impact)

This project, as the third phase of JICA's assistance in SMASE in Kenya since 1998, was to establish and extend SMASE INSET based on the ASEI-PDSI approach with CEMASTE as the center.

In the Kenya component (for beneficiaries in the country), the project developed SMASE INSET in primary education while reinforcing the one in secondary education established in the previous projects. By the time of its completion, the project mostly achieved the improvement of mathematics and science lessons. After project completion, SMASE INSET remains operational with some changes in the implementation scale and targeting -- it is implemented in limited regions at the primary education level, and it applies experience-specific training (i.e., targeting teachers with certain years of teaching experience each year) at the secondary education level. Even in the regions where SMASE INSET at the primary education level is on hold, teachers transfer what they learned from the training to other teachers through lesson study/school-based training. Self-assessment by teachers and an analysis of video recordings of classroom lessons (the detailed analysis conducted by Hideo Ikeda, Professor Emeritus, Hiroshima University) confirmed that ASEI-PDSI is being practiced. Although the upgrading of students' capabilities missed the target slightly, there are positive impacts on other subjects than math and science, pre-service

training, and other INSET programs at the primary education level.

In the WECSA component (for beneficiaries for other African countries), CEMASTE continued activities such as the Third-Country Training Program (TCTP) and intra-regional conferences from the previous projects. As a result, the project mostly achieved the strengthening of the capability of INSET providers by the time of project completion. According to questionnaire surveys to member countries, intra-regional activities have continued after project completion, and attendees have been utilizing what they learned from the training in math and science INSET, etc. in their home countries. Regarding the improvement of mathematics and science education in member countries, although institutionalization of INSET seems to be in progress in many member countries, there are limitations in the judging criteria for the achievement level.

By putting weight on the Kenya component, to which the project allocated larger inputs and activities than the WECSA component, the effectiveness and impact of the project are high.

Relevance

The objectives of the project were consistent with Kenya's and African development policies and development needs concerning strengthening teachers' capacity and CEMASTE played a significant role as the hub for intra-regional cooperation in mathematics and science education. The

Number of participants in SMASE INSET and related workshops

(Unit: person)

		2009	2010	2011	2012	2013	2014	2015	2016
Primary Education	National training (for trainers)	0	272	286	284	274	0	28	47
	Regional training ^{*1}	0	59,813	51,097	47,027	39,136	0	300	3,554
	Lesson study workshop ^{*2}	0	0	0	0	0	0	2,578	762
	Workshop for principals and education administrators	0	897	832	841	1,473	0	252	47
Secondary Education	National training (for trainers)	509	0	1,412	1,412	0	1,330	1,330	1,323
	Regional training	0	4,420	4,164	4,021	4,118	2,864	8,481	7,301
	School-based lesson study ^{*3}	0	0	0	0	0	0	90	125
	Workshop for principals and education administrators	1,113	0	0	5,540	3,430	94	1,420	2,601

Source: Terminal evaluation report; responses and information provided by the implementing agency.

^{*1} The figures of "Regional training" in primary education are the sum of the participants in regional training and the cluster training.^{*2} Lesson study workshops for primary education were implemented in one sub-county per country in 31 counties. The figure for 2016 only includes participants in the eight sub-counties where CEMASTEAs conducted monitoring.^{*3} The figures for "School-based lesson study" in secondary education were estimated by multiplying the number of schools where CEMASTEAs conducted monitoring (18 in 2015 and 25 in 2016) by five, which is an estimate, based on interview results, for the number of teachers per school that attended training (no records were available for the actual number of participants).

Number of training courses and meetings held at CEMASTEAs for African countries

		2009	2010	2011	2012	2013	2014	2015	2016
TCTP	Number of participating countries	18	24	11	27	23	10	8	14
	Number of training courses	6	4	1	5	3	1	2	2
	Number of attendees (person)	208	213	62	236	130	57	177	120
Number of other meetings		2	1	1	2	2	0	0	1

Source: Documentation provided by JICA; documentation provided by the implementing agency.

Note: The number of TCTP courses is the sum of the number of regular and special courses. The number of other meetings is the sum of the number of intra-regional conferences and technical meetings.

project has been relevant to the Japanese aid policies, with improvement of quality and pedagogy of primary and secondary school teachers in mathematics. Therefore, the relevance of the project is high.

Efficiency

Both the project cost and the project period were within the plan (ratio against the plan: 67% and 100%, respectively). The reasons for the decrease in the project cost included a change in the status of Academic Advisor from long-term expert to short-term expert (due to the availability of a successor), a change in the grade of personnel cost for some of the long-term experts (due to the availability of successors), and a reduction in the overseas activity cost as the result of revisions on the estimate. Therefore, the efficiency of the project is high.

Key Point of Evaluation

A Trial Integrated Evaluation of a Technical Cooperation and a Grant Aid

In parallel to this evaluation, the evaluator also conducted an ex-post evaluation of the grant aid project, "The Project for the Upgrading and Refurbishment of the Centre for Mathematics, Science and Technology Education in Africa" (Exchange of Note date: August 2011). These two projects were mutually complementary, both aiming to improve the quality of mathematics and science education based in CEMASTEAs and to complete in 2013. Therefore, in addition to the evaluations of the individual projects, the evaluator conducted, on a trial basis, an ex-post evaluation of them as being regarded as a single project.

The trial observed a synergy effect of the projects as an additional evaluation finding that is not attributed only to the individual projects. That is to say, the mutual influence of the CEMASTEAs facility developed under the grant aid project and the training capability enhanced under

Sustainability

There are no policy, institutional, and technical issues for CEMASTEAs' extending SMASE to Kenya and other African countries as well as in the financial aspect of intra-regional cooperation. However, there is a concern for the prospect for the securement of a budget for resuming the nation-wide SMASE INSET in primary education in Kenya. Therefore, the sustainability of the effects of the project is fair.

Conclusion, Lessons Learned and Recommendations

Overall, this project is evaluated to be highly satisfactory.

The recommendations include the followings. For the Kenya component, it is vital for CEMASTEAs to continue requesting a budget for SMASE INSET in primary education to MOEST. For the WECSA component, MOEST is recommended to provide policy and financial support for CEMASTEAs-based intra-regional cooperation after the termination of the JICA's assistance.

As a lesson learned, CEMASTEAs' undertakings, devised and introduced after project completion to continue the system after the withdrawal of JICA's assistance, can become reference cases for project evolution that may be informative when considering an exit strategy of assistance projects for INSET in other countries. More specifically, at the primary education level, given the budgetary constraints that have made it impossible to implement training in the entire country every year, CEMASTEAs has been attempting to sustain SMASE INSET by conducting it in specific regions and introducing lesson study. As for the secondary education level, SMASE INSET's shift toward experience-specific training has enabled CEMASTEAs to provide training more efficiently and be more responsive to needs, contributing to high sustainability. However, it is essential that INSET rotate the target regions or target years of teaching experience so that all regions and teachers would be covered within several years, and continuously engage in teachers' capacity development by helping transferred techniques to take root and introducing new techniques, among other efforts.

this technical cooperation projects expanded opportunities for CEMASTEAs, leading to a positive spiral of continuation and further development of the project effects.

As lessons learned for the future conduct of an integrated ex-post evaluation, the evaluator examined how to organize the project structure, the evaluation framework, and the evaluation report, while maintaining accountability of the constituents that were planned and implemented as distinct projects (i.e., while making it ready to identify the results of the individual projects). For example, based on schematic differences between technical cooperation and grant aid, consideration will be necessary on what timing of project effects to take into account when evaluating the effectiveness.

Republic of Indonesia (Technical Cooperation)**The Project on Enhancement of Civilian Police Activities/The Project on Enhancement of Civilian Police Activities (Phase 2)****“Shift from national army to civilian police” Training civilian police officers to be trusted by residents**

External Evaluator: Ito Haruo, ICONS Inc.

Overall**A**

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Total cost: Phase 1: 634 million yen Phase 2: 575 million yen

Period of cooperation: Phase 1: August 2002–July 2007 Phase 2: August 2007–July 2012

Partner country's implementing organizations: Indonesia National Police (INP), Jakarta Metropolitan Regional Police Department, Metro Bekasi Police Resort, and Bekasi Police Resort

The number of experts dispatched:

Long term: Phase 1: 11, Phase 2: 14 Short term: Phase 1: 23, Phase 2: 21

The number of technical training participants:

Training in Japan: Phase 1: 185, Phase 2: 82 Third country: Phase 1: 14 (Singapore, Thailand)

Main equipment provided: Vehicle, equipment for on-the-scene criminal identification, education and training equipment, equipment for communication and command control, building BKPM*, etc.

Project Objectives**Overall Goal:**

Phase 1

System of civilian police established by police resorts and police officers is deployed throughout the country

Phase 2

The effective mechanism for spreading appropriate civilian police activities through police resorts and police officers in every area of Indonesia according to each regional peculiarity is established

Project Purpose:

Phase 1

Civilian police activities are implemented at Bekasi Police Resorts (BPRs) as a “model police resorts”

Phase 2

Civilian police activities for earning people's basic trust in BPRs are strengthened as “model police resorts”

Output:

Phase 1

1. Management of BPRs, model police resorts, is improved to ensure the civilian police activities
2. Practice on on-the-scene criminal identification in BPRs is improved
3. Communication and command control system of BPRs is improved
4. Training programs in “police station management,” “on-the-scene criminal identification,” and “communication and command control” are improved

Phase 2

1. Administrative and management capacity of each commissioned officer at BPRs is enhanced
2. The functions of on-the-scene police activities (at the Police-Citizen Partnership Center (BKPM)/Polsubsector, etc.) towards civilian police are improved at BPRs
3. Good partnership with local residents in Bekasi and local government agencies is established
4. The training system in relation to police activities towards civilian police is improved in collaboration with the JICA Program



Door to door visit by a police officer



Training on on-the-scene criminal identification by instructors



Serving residents by police officers in the Indonesian police box (BKPM)*1

*1 The “Police and Civilian Partnership Center (BKPM)” was named to make a difference with Indonesian existing police station “Polsubsector.” However, currently, the civilian police activities in BKPM are spread within the Metro Bekasi Police Resort and Bekasi Police Resort (BPRs)-controlled areas, and the functions of BKPM and conventional Polsubsector have not differed. Therefore, in recent years, BKPM was unified under the name “Polsubsector” in the areas covered by BPRs.

Effects of Project Implementation (Effectiveness, Impact)

The Project was implemented aimed at establishing a model of civilian police activities during Phase 1, and strengthening the established model during Phase 2.

As a result of the Project, residents of target areas, Metro Bekasi and Bekasi, increased their confidence in police officers. Meanwhile, the indicator related to confidence from residents was declined significantly at the time of end-line survey in Phase 2 (in 2012) due to the bribery incidents involving the INP*2. On the other hand, the results of beneficiary survey at the time of the ex-post evaluation indicated that almost 80% or more of the residents have confidence in police officers, and police officers also have positive awareness on the civilian police activities. Therefore, it is evaluated that the civilian police activities are being established at the target areas. Training related to civilian police activities has been implemented in 16 provinces out of 31 provinces nationwide at the time of ex-post evaluation, and these provinces have disseminated training by themselves. In addition, training on civilian police activities has been

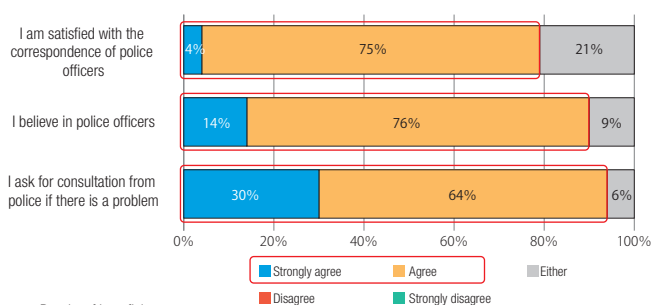
institutionalized in the educational institutions of the INP and those institutions provide periodic training nationwide to police officers of training stages. Police-related personnel also pointed out that despite the increase in population due to the influx of outside workers*3, the tendencies in decreasing the number of crimes and increasing crime resolution rate in the coverage areas of the BPRs is the positive impact of the promotion of civilian police activities by the Project.

From the above, both the effectiveness and impact of the Project are high.

Relevance

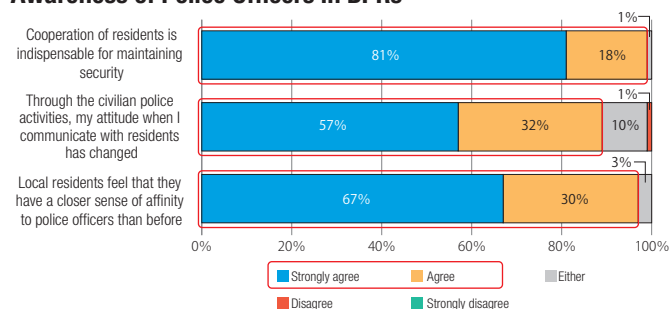
The goal of the Project, promotion of civilian police activities, was consistent with the Indonesian Government's “New Police Law” (enforced in 2002), “National Mid-term Development Plan” (2010–2014), and “National Police Strategy” (2005–2025) at the project planning stages. Furthermore, the need for civilian police activities was high as factors of deteriorating security due to terrorism, mass demonstrations, and religious and ethnic conflicts. The Project was consistent with Japan's ODA policy,

Awareness of Bekasi Residents to Police Officer



Source: Results of beneficiary survey

Awareness of Police Officers in BPRs



Source: Results of beneficiary survey

The total of 70 police officers (randomly selected from the list) from each 14 target BKPM of the Project and the total of 140 residents who visited BKPM were targeted in the beneficiary survey (the ratio of male to female is 68% : 32%).

and the approach of the Project was also appropriate. Therefore, its relevance is high.

Efficiency

Regarding the project period, Both for Phase 1 and Phase 2, the implementation period was within the plan. The project cost planned for Phase 1 was 500 million yen, but actual cost was 634 million yen (127% exceeded compared with the plan) due to the unbudgeted construction of three BKPMs, the procurement of equipment, and the increase in number of participants of training in Japan. Thus, the efficiency is moderate.

Sustainability

The consistency with existing related policies and plans was confirmed at the time of ex-post evaluation. In terms of the organizational aspect, human resources in the BPRs have also been strengthened, and regarding the technical aspect, the capacity development of BPRs and educational institutions under the Police Education Institution in the INP has been continued through the establishment of the instructor-training system and development of training modules. Furthermore, since the budget for the civilian police activities of the INP and BPRs is sufficiently secure, sustainability is high.

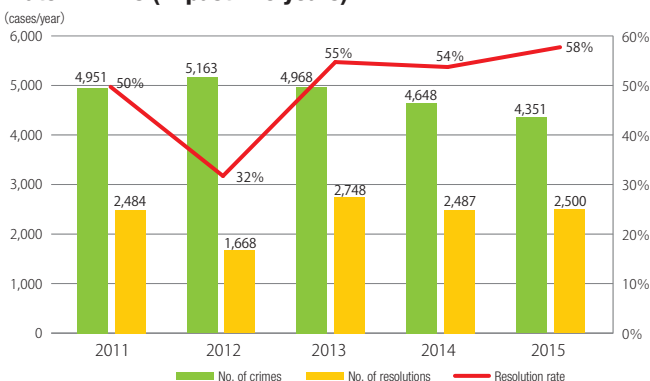
Key Point of Evaluation

Analyze quality of activities in the areas where project effects are disseminated by beneficiary survey

The number of provinces where the civilian police activities have been disseminated by using the model in BPRs is set as the overall goal, however, in this ex-post evaluation, the quality of civilian police activities in disseminated provinces was also confirmed through beneficiary survey. Based on the results, the effectiveness of the Project and adaptability of the model were evaluated and those results were reflected in the achievement level of the overall goal.

In order to confirm the quality of the activity in the disseminated area, based on the monitoring result of counterparts and Japanese experts, the Makassar Police Resort in South Sulawesi Province was selected because it shows moderate performance among 16

Transition of Number of Crimes, Resolution, and Resolution Rate in BPRs (in past five years)



Source: Questionnaire to BPRs

Conclusion, Lessons Learned and Recommendations

In light of the above, the Project is evaluated to be highly satisfactory.

As lessons learned of the Project, for the regional dissemination of a new concept, such as civilian police activities, it was identified that assigning participants of training in Japan who observed the actual sites to the key positions of target areas, and organizing those training participants to stimulate information sharing among regions were necessary. In addition, it was stated that the simple on-the-scene criminal identification skills used in police boxes in Japan with inexpensive equipment and reagents available locally are effective for other similar projects, as those technology is highly adaptable and sustainable in developing countries.

As recommendations to the implementing agency, in the work management system introduced by the Project, work management reports from police sectors are needed to be analyzed by police resorts and the feedbacks on its results need to be provided. Furthermore, it was pointed out that it is necessary to resume improvement of communication and command control such as acceptance record, improvement of response time, and dissemination of the emergency reporting system in the BPRs, and to establish of the dissemination model to other areas. The recommendation to JICA includes the provision of follow-up (such as infrastructure development, equipment provision, and technical supports) as activity support for the participants of training in Japan.

^{*2} It was assumed that the following reports may affect the survey results. Bribes were paid to local military and police from Freeport, a US-based mining company in Papua province in Indonesia, to restrain surrounding residents who protested the mining in November 2011. In January 2012, extraordinary savings in the bank accounts of 17 police executives were reported, and Major-General of the Department of Transportation in the INP controlled the procurement of driving training equipment and was arrested for bribery in the same year.

^{*3} Since Metro Bekasi is the nearest industrial park to Jakarta, the population inflows have increased, and the population growth rate remains at 3.7%, which exceeds greatly the national average of 1.2%.

Arab Republic of Egypt (Technical Cooperation)**The Project for Establishment of Egypt-Japan University of Science and Technology (E-JUST)**

Though a grant aid planned to be coordinated with this project delayed due to political changes, the project reacted by adjusting the project scope promptly and flexibly.

External Evaluator: Ryutaro Koga, Global Group21 Japan

Overall**B**

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Total cost: 2,947 million yen

Period of cooperation: October 2008 - January 2014 (Extended period: October 2013 to January 2014)

Partner country's implementing organizations:

Ministry of Higher Education (MOHE), Egypt-Japan University of Science and Technology(E-JUST)

The number of experts dispatched:

Long term: in total 12 persons

Short term: in total 295 persons

The number of technical training participants:

Japan: 10 persons

Main equipment provided:

Transmission Electron Microscope, Multi-Functioning Machine, Liquid Chromatograph, Spectrometer, Cluster Computing System etc. for research

Project Objectives

Overall Goal:

E-JUST will continuously produce outstandingly talented leaders in Egypt, Middle East and African countries towards further economic and social development.

Project Purpose:

Foundation to become a world class leading university is established by steadily practicing the basic concept of E-JUST.

Output:

1. Research ability of faculty is improved to international standard level.
2. Student practical and creative research abilities are cultivated through research-oriented education.
3. Competent technical staff who support research activities are secured and operating.
4. Collaboration between E-JUST and the industry in Egypt will be promoted.
5. Improve the management abilities of the management team and secretariat, including the E-JUST president.
6. Information on the organization, research and education of E-JUST will be actively disseminated on a global scale.



E-JUST Temporary Campus/Dormitories



SRTA-CITY Institute where laboratories exist



Robot produced by student laboratory activities

Effects of Project Impelementation (Effectiveness, Impact)

In cooperation with MOHE and newly established E-JUST, this project supported graduate education and research by establishing E-JUST in New Borg El Arab City in Alexandria District and "making a foundation for E-JUST to become a world class leading university among science and technology universities" as project objective. Construction of new campus was an input to be borne by Egyptian side and a grant aid from Japan was planned for the equipment. In implementing this project, a coordination support committee comprised of 12 Japanese universities (JSU) was organized*1, and with four program secretariat universities; Kyusyu University, Waseda University, Kyoto University, Tokyo Institute of Technology, a system with periodical consultations was established to support not only education and research but also administration. Due to two political changes, campus construction*2 and the installation of equipment through grant aid was delayed, but the equipment was flexibly procured with the project budget and the project was implemented. As a result, although there is a delay, the development of university foundation has progressed, research centered education is practiced, and high

research and educational outputs were realized such as an increase in the number of papers published in international journals and a high degree of completion rate of students within deadline. Based on the above, the effectiveness and impact of this project are judged to be fair.

Relevance

This project was consistent with Egyptian Government's "human resource development and employment increase" goal in its long term vision of social and economic development, and development needs to stop the outflow of outstanding human resources from Egypt due to the decline in the quality of education at higher education institutions, and Japan's aid plan for Egypt, which prioritized "Sustainable Growth and Realization of Employment Creation". From the above, its relevance is high.

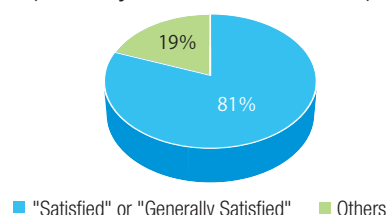
Efficiency

The project cost was 148% compared with the plan (excluding the net increase of purchase cost of equipment to respond to the delay of grant aid) due to the change of contract form to increase incentive and diversity of dispatching experts. The project period was extended by 3 months

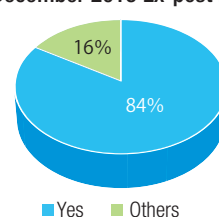
Number of Research Papers and Presentations in International Academic Conferences (As of September 2013)



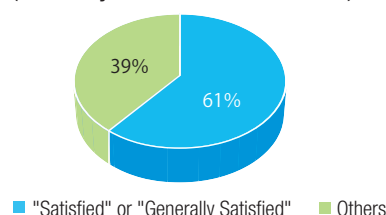
Satisfaction with University Management by students and faculty (As of May 2013 Terminal Evaluation)



Proportion of Graduates who wrote Papers based on Activities in Laboratories (As of December 2016 Ex-post Evaluation)



Satisfaction with University Secretariat by students and faculty (As of May 2013 Terminal Evaluation)



(105% of the plan) to smoothly succeed to a succeeding project of which commencement was delayed by political changes, and it is not regarded as a delay in the evaluation judgment. Therefore efficiency is fair.

Sustainability

After completion of this project, the successor project is implemented, the E-JUST Establishment Law came into effect, the prospect of the new campus completion was established, and the delayed grant aid was implemented. In addition, the continuing involvement of JSU and further strengthening of the management system including the increase of faculty and students are expected. There are no problems in terms of finance and technology. Based on these, sustainability is high.

Conclusion, Lessons Learned and Recommendations

From the above, this project is evaluated to be "satisfactory".

As for recommendations, (1) Active support using technical cooperation is useful related to improvement of countermeasures for wastewater /waste liquid of experiments after the completion of the new campus (for JICA). (2) As there are not many teachers who have continuously worked since the time of opening, it is desirable to build a system such as lifetime

employment to keep and accumulate talented teachers (for Implementing Agencies). As for lessons learned, (1) Though this project encountered two major political changes during the implementation, it proceeded without frustration due to the bilateral agreement showing the government's long-term commitment. In case of projects that have a high level commitment of both governments, Recipient country and Japan, and a long implementation period is expected, it may be effective to utilize a bilateral agreement to confirm the agreements of implementing agencies of both countries in order to smoothly implement such a project, as well as to minimize the adverse effects of political changes, and (2) In case of a collaboration project of technical cooperation and a grant aid, and when the grant aid is delayed, it is recommended, while giving due consideration not to be excessively flexible operation, to respond promptly and flexibly by utilizing the technical cooperation.

*1 Hokkaido University, Tohoku University, Tokyo University, Waseda University, Keio University, Tokyo Institute of Technology, Nagoya University, Kyoto University, Kyoto Institute of Technology, Ritsumeikan University, Osaka University, and Kyusyu University.

*2 Campus construction and establishment of E-JUST legal status are two of the essential factors of "making a foundation for E-JUST"; however, the construction was not completed and the legal status was not established by the project completion.

Key Point of Evaluation

"An evaluation case in which partner country's input delays due to political changes and a grant aid planned to be coordinated also delays"

This project was implemented with a bilateral agreement on a long-term commitment to respond to long-term issues of improving higher education, but the three-year political change since the Arab Spring delayed the decision making of Egyptian government leading to a difficult situation in which the construction of campus, which is an important Egyptian input factor, and the provision of research equipment by grant aid of Japan were delayed. For this, the project scope was flexibly adjusted, and evaluation of a project with considerable achievements in an inadequate environment was

requested. The Japanese side fully supported the project and the partner country flexibly responded under the influence of political change, by developing temporary campus to deal with it and have been functioning during the project. Based on these, from the viewpoint of efficiency, the provision of equipment increased in this project to address the delay of grant aid can be considered as increase of input leading to realization of outcome. As for the project period, the extension of deadline for smooth project succession was caused by serious political changes and was not judged as a delay.

Measures for Projects Evaluated as Having Issues

Topographic Mapping Project for Peace and Development in Mindanao

Philippines

1. Overview of the evaluation results and issues observed

This project produced digital topographic maps of Mindanao at a scale of 1:50,000 based on the data gathered through satellite imagery and field surveys and promoted the usage of the topographic maps to contribute to peace and development in the area. The evaluation results showed that part of the maps had not reached the level of completion required by the implementing agency, and therefore these maps were not fully utilized, and they were being amended by the implementing agency. These results were attributed to several factors including the following: (1) discrepancies between the project team members and their counterparts in their understanding of the required level of completion due to lack of clear definition in the project implementation phase, and (2) lack of shared understanding on the verification process among the related parties.

2. Recommendations and lessons learned

It was recommended that the Japanese and Philippine sides share the

progress of the correction work, and to promote utilization in the public relations as well as to consider the way of the information sharing of the topographic maps. Lessons learned for project management included importance of setting appropriate definitions and indicators to measure the accuracy of the final products, developing a verification process involving a third-party expert, and building close communication among stakeholders.

3. Measures to be taken by JICA department in charge of the project

JICA will take measures to prevent recurrence in on-going and new topographic mapping projects, such as specifying more detailed requirements for discussion of mapping specification and standards at the project initiation phase (e.g. setting standard agenda and drawing up plans to make a clear image of the final product) and establishing a mechanism to enable Japanese consultants and their counterparts to verify the topographic maps and allow the Japanese side to check details at each stage of the topographic mapping process.

Sihanoukville Port Special Economic Zone Development Project

Cambodia

1. Overview of the evaluation results and issues observed

This project developed a Special Economic Zone (SEZ) next to the Sihanoukville Port with the aim of increasing direct investment flows into Sihanoukville region and to generate employment. However, only 3 companies had started operating in the SEZ since it opened (the initial target was 26 companies). One of the reasons was that the completed SEZ was not able to provide services or promotion activities to attract companies which match their sense of speed, level of cost awareness, and profit-oriented behavior although there had been a need to develop the SEZ. Another was because the rent for the developed facilities were set at the price which did not match the needs of potential tenants. As a result, the project could not increase direct investments and employment opportunities and most of the operation indicators were not achieved. It was also noted that the project plan was never changed during or after the project to smash the status quo and to increase the number of tenants.

2. Recommendations and lessons learned

The implementing agency was recommended to prepare a marketing

strategy that would meet the needs of tenants and implement it as soon as possible. As lessons learned, it was suggested considering the possibility of utilizing another operating body by outsourcing the operation and management of the SEZ to an organization or a company with the proven records when an organization without such experience is selected as an implementing agency, because the project is assumed to have difficulties in achieving high effectiveness. Another lesson learned was that any problem arising from the operation and management of an SEZ should be addressed immediately to take extensive remedial measures.

3. Measures to be taken by JICA department in charge of the project

In FY2016, JICA started the Project Research on Support for Special Economic Zone Development to analyze the problems within this SEZ and considered the course of action to take to resolve them. Based on the results of this research, JICA will dispatch a team of experts with experience in operating overseas SEZs in FY2017 to support investment promotion activities and develop business models for activating the SEZ.

Project for Eco-technological Management of Tuvalu against Sea Level Rise

Tuvalu

1. Overview of the evaluation results and issues observed

Based on joint research by Japan and Tuvalu, this project aimed to train human resources and organizing systems for the continuous monitoring of coastal topographic changes and coral reef ecosystems and propose coastal protection measures to be adopted in Tuvalu under the risk of submergence due to sea level rise. Although the research produced sufficient results by the end of the project, eco-engineering technology to enhance sand production, transportation, and sedimentation, the pace of

this coastal protection measure did not match the urgency of the development needs of Tuvalu. After the project started, the foraminiferal sand production experimented in the research was found to take a longer time to manifest effects than coastal protection works. Moreover, because neither universities nor research institutes were included among the implementing agencies, none of them had established a continued monitoring system or developed an organizational structure to continue or follow up the research at the time of the ex-post evaluation.

2. Recommendations and lessons learned

It was recommended to promote the effective use of the equipment provided but not used after the project completion. Moreover, the following two lessons were learned: (1) carefully analyze in advance the level of research capability of the agencies involved in SATREPS projects and (2) secure sufficient human and financial resources to continue research after the project completion.

3. Measures to be taken by JICA department in charge of the project

In order to achieve the project's overall goal, JICA is encouraging Green Climate Fund (GCF) and other development partners in Tuvalu to implement coastal nourishment projects using the foraminiferal sand sedimentation mechanism proposed in this project. JICA is also consulting with and making written requests to relevant departments to use the provided research equipment that is still usable.

The Project for the Improvement of Water Supply in Mir Saiid Alii Khamadoni District of Khatlon Region (Phase 1 and Phase 2)

Tajikistan

1. Overview of the evaluation results and issues observed

This project was to construct water supply facilities and to procure equipment to drill wells in order to raise the water supply coverage in a town and two villages in Khatlon Region. In the Evaluation result, the project efficiency was rated low because additional surveys and other changes made to the project plan as a result of bidding failure increased the cost and duration of the project. As the assessment of the effectiveness of the project, while the indicators for population with water supply and the percentage of population served have reached their targets, the water supply system as a whole was not functioning adequately, as exemplified by the chronic shortage across the distribution network caused by frequent water leaking from existing distribution pipes developed out of the scope of this project and faucets being left open for the purpose of irrigation. Moreover, the analysis of sustainability found problems faced by the executing agency, such as difficulties in financing capital investments and repairs.

2. Recommendations and lessons learned

The executing agency was recommended to take steps to improve the leakage situation by repair deteriorated pipes, install water meters at each unit, and establish a billing system based on the amount of used water. Meanwhile, JICA was recommended to support these efforts through an on-going technical cooperation project. The lesson learned was that water supply projects should be implemented based on an integrated project/program plan including facility improvements and public awareness raising activities.

3. Measures to be taken by JICA department in charge of the project

This project included capacity development program (soft component) to assist the executing agency in formulating a management plan and especially in strengthening bill collection and promoting water service connection works. At present, JICA is assisting the executing agency in further strengthening its management capacity and developing a framework to introduce and operate a pay-for-use system through a technical cooperation project.

Provincial Cities Water Supply and Sewerage System Improvement and Expansion Project

Peru

1. Overview of the evaluation results and issues observed

This project was implemented to rehabilitate and expand water supply and sewerage facilities to improve the water supply and sewerage services in Northern Peruvian local cities of Piura (Piura Region) and Chimbote (Ancash Region), thereby contributing to improving environmental sanitation in the target areas. The project increased the water production volume, extended the water supply hours, and improved the water pressure in the two target cities and the quality of water supplied in Piura. Moreover, the discharge of untreated sewage into rivers and seas stopped in Piura and southern Chimbote. Residents in the two cities also reported that environmental sanitation had been improved. However, the volume of water produced by the water treatment plants did not reach the planned target levels. In addition, the volume of sewage received by the sewage treatment plants far exceeded the planned levels, resulting in the discharge of sewage not satisfying the effluent standards. Therefore, the project was rated as "fair" in terms of effectiveness and impact.

2. Recommendations and lessons learned

The executing agencies were recommended to promptly complete the rehabilitation and expansion of the sewage treatment plant at the expense

of Peru as planned as well as take measures to promote the use of the constructed facilities, such as the proper operation and maintenance of these facilities, the enhancement and renewal of relevant facilities, and the formulation and implementation of an environmental management and adjustment program. JICA was recommended to conduct follow-up activities to ensure that these recommendations would be implemented as well as examine the possibility of providing technical assistance to facilitate the appropriate operation of the water treatment plant in Chimbote. Moreover, the following three lessons were learned: (1) adequate management of treated sewage to recycle; (2) need for accurate demand forecasting; and (3) technical examination for the demand forecast review and application of comprehensive mid-term project management practices.

3. Measures to be taken by JICA department in charge of the project

JICA is continuing to encourage the Ministry of Housing, Construction and Sanitation, an executing agency of this project, to steadily proceed with the extension of the sewage treatment plant in Piura at the expense of Peru. JICA is also providing continued support to bring out the effects of the project, including dispatching experts to strengthen the managerial and technical capacity of municipal sanitation service companies.

Project for Human Resources Development for Darfur and the Three Protocol Areas

Sudan

► 1. Overview of the evaluation results and issues observed

This project aimed to enhance the service delivery capacity of relevant organizations in the water supply, health, and vocational training sectors in the Darfur States and the Protocol Areas in conflict-affected Sudan to improve the residents' access to public services. The project was planned without sufficient information at the time of the ex-ante evaluation due to the deteriorating security situation in the project target areas. Therefore, the plan was drastically changed after the project started by expanding the target area and increasing inputs tremendously. However, these changes were not properly documented in the project plan. Moreover, the project was not properly monitored because it was executed remotely and covering multiple states and organizations. Furthermore, one of the outputs aimed at facilitating progress tracking and technical assistance (e.g. strengthening monitoring capacity) was not fully achieved. Therefore, the project purpose was partially achieved in the water supply and health sectors but not achieved in the vocational training sector.

► 2. Recommendations and lessons learned

It was recommended that JICA should focus on strengthening the monitoring capacity in the second phase of this project. One of the lessons

learned was that when security restrictions make it difficult to visit target areas to collect information for project planning methods, such as a two-step planning method should be used to prepare a plan based on sufficient information and analysis, set clear objectives and indicators, and reflect them in the PDM. If there is a need to significantly modify the initial plan, the amendments (e.g. revised objectives) and their intentions should be documented to build a shared understanding among stakeholders. Another lesson learned was that in the case of remote controlled projects, it is essential to establish a monitoring system on a scale that can be managed by the implementing agency in the recipient country.

► 3. Measures to be taken by JICA department in charge of the project

The on-going follow-up project is aimed at strengthening the monitoring capacity of state government staff by providing monitoring and evaluation training as well as practical experience.

Moreover, JICA is working to make regular opportunities for stakeholders to gather and share the progress they have made in each project component and to adjust the action plan as necessary.

Going forward, JICA will keep it in mind to carefully define a project scope, objectives, and indicators.

Project for Rural Electrification in Cross River and Akwa Ibom States (Phase 1 to Phase 3)

Nigeria

► 1. Overview of the evaluation results and issues observed

This project was implemented to procure and install power distribution facilities at two sites in Cross River State and one site in Akwa Ibom State located in southern part of Nigeria in order to ensure stable power supply, thereby contributing to the improvement of the living standards, stable management of public institutions, and stimulation of local socio-economic activities.

The evaluation results indicated that although the project had contributed to the expansion of access to electricity, the expected impact (the improvement of public services and stimulation of the local economy) had not been fully achieved due to the suspension of power supply in some project sites at the time of the ex-post evaluation. Moreover, the evaluation raised concerns about the operation and maintenance of the provided facilities.

► 2. Recommendations and lessons learned

The implementing agency was recommended to monitor the current status of operation and maintenance and lead a discussion among the relevant organizations to consider remedial measures. JICA was also

recommended to assist the implementing agency in putting these recommendations into practice. Moreover, the following three lessons were learned: (1) confirmation of the necessary conditions for expected impacts to emerge; (2) confirmation of the prospects of operation and maintenance structure after project completion, including privatization; and (3) consideration of bill collection.

► 3. Measures to be taken by JICA department in charge of the project

As for the two sites where power supply has been suspended, JICA will ask the electricity distribution company about the causes for the suspension through the Federal Ministry of Power and the Rural Electrification Agency. Also, JICA will promote the discussion among the Federal Ministry of Power, the Rural Electrification Agency, and the electricity distribution company to resume electricity supply.

Moreover, with regard to all the project sites, JICA will request the Nigerian Government to secure human and financial resources necessary for the electricity distribution companies to perform proper operation and maintenance.

Collaboration with Experts for Operations Evaluation

JICA conducted ex-post evaluations in cooperation with experts (academics and experienced practitioners from domestic and overseas universities and NGOs) to bring more specialized and diverse perspectives into the evaluations based on the Five DAC Criteria. In FY2016, the following 13 projects were analyzed by experts based on their experience and professional knowledge. Their comments are outlined below.

	Country	Project title	Scheme	Expert
1	India	The Project for Strengthening of Electronic Media Production Centre in Indira Gandhi National Open University	G	Hisashi Nakamura, former Professor at the Faculty of Economics, Ryukoku University
2	Kenya	Strengthening of Mathematics and Science Education (SMASE)	T	Hideo Ikeda, Professor Emeritus, Hiroshima University
3	Niger	Project on Strengthening Mathematics and Science in Secondary Education in Niger (SMASSE-NIGER Phase 2)	T	
4	Fiji	The Project for Strengthening the Need-Based In-Service Training for Community Health Nurses	T	Izumi Kobayashi, Professor, Osaka Gakuin University
5	Rwanda	The Skills Training and Job Obtaining Support for Social Participation of Ex-Combatants and Other People with Disabilities	T	Shinichi Takeuchi, Institute of Developing Economies, Japan External Trade Organization
6	Cambodia	Sihanoukville Port SEZ Development Project	L	Masami Ishida, Institute of Developing Economies, Japan External Trade Organization
7	Cambodia	The Legal and Judicial Development Project (Phase 2 and Phase 3)	T	Yoshiko Homma, Lawyer / Professor at the Graduate School of Law, Soka University
8	Indonesia	Strengthening in Service Teacher Training of Mathematics and Science Education at Junior Secondary Level	T	Yoshiaki Yanagisawa, Professor at the Graduate School of Education, Kagawa University
9	Indonesia	Program for Enhancing Quality of Junior Secondary Education	T	
10	Sri Lanka	Upper Kotmale Hydro Power Project (I) (II)	L	Dhammika Herath, Senior Lecturer at University of Peradeniya
11	Pakistan	The Project for Development of Center of Excellence (CoE) for Technical Education	T	Yasushi Katsuma, Professor at the Graduate School of Asia-Pacific Studies, Faculty of International Research and Education, Waseda University
12	Honduras	The Project for Landslide Prevention in Tegucigalpa Metropolitan Area	G	Hiroshi Fukuoka, Director and Professor at the Research Institute for Natural Hazards and Disaster Recovery, Niigata University
13	Saudi Arabia	Saudi-Japanese Automobile High Institute Project Phase I, II	T	Go Shimada, Associate Professor at University of Shizuoka

G: Grant Aid, T: Technical Cooperation, L: ODA Loan

Project 1: "Upper Kotmale Hydro Power Project (I)(II)" in Sri Lanka (ODA Loan)

This project constructed a 150 MW hydropower plant on the Kotmale River, a tributary of the Mahaweli River, in Sri Lanka, which faced a severe shortage of electricity supply because the increasing demand had not been matched with the installed capacity in the country. This was planned as the last large-scale hydropower project in Sri Lanka. A total of 524 households were relocated from the project site due to the construction of a reservoir and other facilities. Because most of these affected people were Tamil tea plantation workers who were socially and economically vulnerable, the resettlement action plan was prepared and implemented carefully. The external evaluator analyzed the positive and negative impacts of this resettlement from different angles by comparing this project with

other similar projects involving involuntary resettlement to examine the relocation process, the changes in the living standards of the relocated population, and the progress of livelihood recovery support.

The results of the analysis suggested that various efforts were successfully made in the planning phase to build



Flood gate



A resettlement site

trust, such as establishing housing committees comprising affected people, holding a forum to enable the relocated residents to have a direct dialogue with the executing agency and take part in the planning process, engaging the project director and resettlement officer of the executing agency in a direct exchange of views with affected people without using any third-party intermediary such as NGOs. It was also indicated that the self-confidence of the affected residents was enhanced by avoiding political interventions of the tea plantation trade union.

A local expert analyzed these evaluation results with focus on the changes in the quality of life of the affected population and made the following comments.

Dr. Dhammika Herath (Senior Lecturer, University of Peradeniya)

This project brought a whole transformation in the affected people through drastic improvements in the quality of life and dwellings. Almost every affected person had previously lived in so-called "line-rooms", but the project provided the relocated people with individual plots and houses with electricity, water, and sanitation facilities and greater privacy. This led to a significant enhancement of the quality of their life and dwellings as well as social status. The relocated people were able to keep their networks intact, and social trust and norms of reciprocity had not suffered damage, either, because the resettlement sites were located only 2 km from the original sites. Moreover, the Tamil school in the resettlement community expanded by adding new buildings and hiring more teachers. As a result, children gained access to better education in their local community.

One of the reasons for the significant achievements of this project was the

effective participation of the affected people. They were initially resistant to the project but later accepted it when they were made part of the decision-making process. The project set up a resettlement committee and promoted close interactions between the members of the committee and the officials of the executing agency. Furthermore, the project established a strong grievance redress committee, which was able to address most of the grievances that were directed to the project.

Although there were problems, such as construction defects in some homes built for relocated people, shortcomings in skill training courses provided to affected people, and unsuitable soil conditions and/or lack of water in some replacement lands provided for cultivation, they did not significantly change the positive conclusion on the project.

Project 2: “The Project for Development of Centre of Excellence (CoE) for Technical Education” in Pakistan (Technical Cooperation)

This project was launched in 2008 in Pakistan, which was witnessing the development of the manufacturing and construction industries, with the purpose of strengthening the capacity of the Government College of Technology Railway Road (GCT RR) in Punjab Province as a center of excellence in the mechanical and architecture fields to provide technical education to meet the needs of industry. The project strengthened GCT RR's systems for academia and industry collaboration and placement support as well as revised and implemented the curriculum in accordance with the needs of industry. Moreover, the Grant Aid Project for Strengthening of DAE* Mechanical & Architecture Departments in GCT

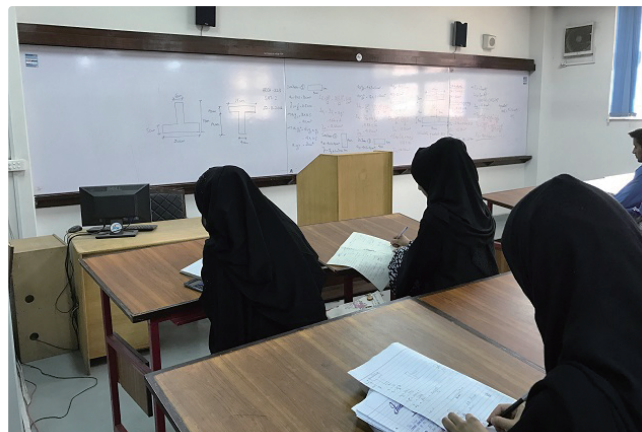
Railway Road of Punjab Province got started in 2011, providing additional facilities and equipment to the Architecture Department and equipment to the Mechanical Department.

In 2010, with support of this project, the GCT RR Architecture Department established the first co-education diploma program in Pakistan, where it was common to provide secondary and technical education separately for boys and girls. A Japanese expert analyzed this project as follows from the perspective of female education and gender equality geared to the realization of Sustainable Development Goals (SDGs).



The GCT RR Architecture Department building

* Diploma of Associate Engineering



Female students learning in the Architecture Department

Dr. Yasushi Katsuma (Professor, Graduate School of Asia-Pacific Studies, Faculty of International Research and Education, Waseda University)

In the 2030 Agenda for Sustainable Development that was adopted by the United Nations in 2015, it is anticipated that technical and vocational education and training (TVET) will contribute to multiple Sustainable Development Goals (SDGs). On the other hand, in TVET initiatives, gender disparities regarding participation in economic activities in the labor market and the income impoverishment of females that arises from this are important issues that demand consideration.

The GCT RR Architecture Department established Pakistan's first co-education diploma course. Given that it was common to separate not only secondary education but also public TVET for boys and girls and allow separate boys' and girls' colleges to provide different courses on vocations traditionally dominated by men and women, respectively, this was noteworthy as an attempt to overcome gender stereotypes in TVET. This was made possible thanks to the fact that JICA proposed co-education from a third-party viewpoint in consideration of needs in the architecture sector, which was opened to women and the fact that the assigned Japanese experts conducted sincere and practical negotiations with officials of Technical Education and Vocational Training Authority (TEVTA) Punjab and GCT RR. Moreover, the GCT RR Architecture Department was equipped with a women's-only lounge and female restrooms and staffed with multiple female instructors acting as role models for female students. The presence of female instructors with

whom female students could feel comfortable discussing their concerns also helped reassure their families.

The adoption of co-education in the GCT RR Architecture Department has proved to be a success story regarding the eliminating of gender barriers preventing access to public TVET. To encourage more female students to enroll from now on, the department will need to analyze and eliminate any remaining barriers such as the attitudes and insufficient information on the side of parents (especially fathers) and families, the dearth of safe public means of transport suitable for girls.

It is noteworthy that two girls-only colleges in provincial cities in Punjab Province took their cue from architectural design firms hiring women and the GCT RR Architectural Department's co-educational course and established co-educational diploma courses in their respective architectural departments. Aside from financial reasons, since Pakistan aims to promote a gender-equal society, in the field of public TVET, assuming that various efforts will need to be made to remove impediments as demonstrated in the Project, it will basically be desirable to promote co-education from now on. As reforms continue to be made in the TVET sector, it is hoped that the National Vocational and Technical Training Commission (NAVTTTC), which is responsible for public TVET in Pakistan, will explore policy ways for disseminating example of co-education in the project to other public TVET programs and departments in other fields.

Project 3: “The Project for Landslide Prevention in Tegucigalpa Metropolitan Area” in Honduras (Grant Aid)

Tegucigalpa, the capital of Honduras, has the natural condition which is prone to floods and landslides. In 1998, when Hurricane Mitch hit Central America and caused a great number of deaths and missing persons, Tegucigalpa also suffered severe damage due to the massive landslide destroying residential areas and the widespread flooding damaged the center of the metropolitan area. As part of disaster reconstruction assistance, “Study on Flood Control and Landslide Prevention in the Metropolitan Area” was carried out by JICA from 2001 to 2002 to formulate a disaster management master plan including a landslide hazard map. This project was implemented to take landslide control measures in the high risk areas identified in the study. By constructing landslide prevention facilities, conducting landslide monitoring, and developing an early warning and evaluation system, this project aimed to reduce the risk of landslide disasters, thereby contributing to promoting landslide control measures in Tegucigalpa.

According to the results of the ex-post evaluation, the landslide prevention facilities introduced under this project were functioning properly, and the

landslide blocks in the target area were stabilized. Moreover, the project provided basic knowledge and practical experience through facility construction and technical guidance on operation and maintenance, so that concrete and full-scale landslide control measures would be implemented in Tegucigalpa. The landslide control works conducted in this project were unprecedented in Central America. They were therefore visited by researchers, engineers, and students from inside and outside the country and introduced to other Central American countries at international conferences, which greatly contributed to raising awareness and disseminating landslide measures.

Under this ex-post evaluation, an expert specialized in landslide studies and engaged in a wide range of international research and technical transfer activities accompanied the external evaluator to provide recommendation on how to further promote landslide control measures. The expert analyzed the appropriateness of the structural measures taken in this project and identified future challenges to disaster risk reduction and management.



Catchment well and its interior in El Berrinche (water collection boring works deployed in a fan-like fashion can be observed)



An exterior view of catchment well

Professor Hiroshi Fukuoka (Director and Professor, Research Institute for Natural Hazards and Disaster Recovery, Niigata University)

There are two categories in works related to landslides: control works and prevention works. Under the project, landslide prevention was implemented through control works, such as catchment well, drain boring, soil removal and embankment works which has been achieving sufficient effects in terms of the stabilization of landslides. In Japan, prevention works such as anchors, steel pipe piles and caisson piles may be used to tackle potentially large landslides in socially important areas, however, given that these measures would require large budget, their maintenance is complicated and the local production of replacement parts is very difficult, it is fair to say that limiting the scope of landslide works under the project to landslide control works only was appropriate.

Although typical and most reliable instruments, such as extensometers and borehole inclinometers, have been selectively installed for landslide monitoring,

they are not necessarily sufficient because of its configuration featuring an equipment quantity and locations commonly employed for small-scale landslides. It is therefore essential to monitor the whole landslide block on a regular basis.

The data analysis method could have been improved by enhancing the quality of data (e.g. extraction of minute displacements). There is also a need to analyze and elucidate relationship between the rainfall intensity and movement of landslide blocks.

The project did not store data such as photographs of geological sections, soil samples, data on groundwater levels, geological structures, inclinations, and sliding surface conditions. These data should be properly stored and shared as it is most important element of stability analysis and also important for promoting landslide work techniques dissemination.

Analysis by experts shed light on aspects that were different from conventional evaluations and provided valuable insights on project effects and the appropriateness of project approaches. The full texts of the observation made by the experts are attached to the respective ex-post evaluation reports and can be accessed via the Search Engine for Ex-Post Evaluation Reports.

Related links

► <https://www2.jica.go.jp/en/evaluation/index.php>



Internal Evaluation Results for FY 2016

Overall rating

The overall evaluation of 93 projects indicates that approximately 70% of the projects delivered the expected or higher result at the time of ex-post evaluation while the rest was cited as having issues. Among 65 Technical Cooperation and 28 Grant Aid projects, most of which were carried out in

Southeast Asia and Africa in sectors such as health, agricultural/rural development, natural resources/energy and water resources/disaster risk reduction sectors.

Evaluation by criteria:

◇Relevance:

There is no specific problem observed from all the projects and they were consistent with the policies of the partner countries in meeting their development needs. However, project planning in some projects was not necessarily appropriate.

◇Effectiveness / Impact:

Approximately 60% of projects achieved the expected outcomes, while the remaining around 40% faced some challenges in achieving results.

Some grant aid projects are observed that (1) their planned effects were hindered because problems with personnel allocation resulted in the underutilization of equipment and facilities and (2) their achievement could not be properly measured due to the unavailability of quantitative data for measuring effectiveness. For some technical cooperation projects, it is noted that (1) although their project purpose was achieved, the overall goal was not achieved sufficiently at the time of ex-post evaluation because project effects were not suitably continued after the project completion, or some projects were not scaled up as expected and other reasons, (2) both the project purpose and overall goal were not achieved as planned, although the projects produced certain effects, and (3) project effects at each level could not be fully verified at the time of ex-post evaluation due to the vague definition, or the unavailability of data and information on indicators defined at the project planning stage.

◇Efficiency:

Approximately 30% of the projects were completed within the planned period and cost, while the remaining projects exceeded the period and/or cost upon completion. In case of grant aid projects, around 60% of the projects were observed that delays in facility construction, equipment procurement, customs clearance and components borne by the partner country caused the extension of the project period. As for technical cooperation projects, the project cost exceeded the planned cost as more inputs were needed than initially planned to achieve the project purposes and outputs while the project period was extended due to change in the plan or to achieve the project purposes.

◇Sustainability:

Approximately 80% of the projects were identified as having some challenges. As frequent problem, around 70% were identified as having insufficient financial sustainability, such as difficulty in securing the necessary budget by implementing agencies, while institutional sustainability, most typically in the form of shortage of staff was identified as the second most frequent problem. Other challenges were also observed frequently in technical aspects, such as the retention of the technologies transferred and omission of routine inspections and repairs.

Future Direction: Quality Improvement and Further Streamlining of Evaluation through the Establishment of New Assessment System

With new internal evaluation processes (refer to the next page for details) introduced in FY 2017, JICA facilitates the practice of assessment process and deepens the understanding of high-quality evaluation across the organization by leveraging internal evaluation trainings for overseas office staff and other efforts. As well as deepening learning from

evaluations, JICA will continue its efforts on fulfilling the accountability and drawing practical lessons and recommendations (learnings) from evaluation results and ensure to feed them into improvement of JICA's project operations.

Towards higher accountability and quality in internal evaluation: Introduction of self-assessment and third-party quality check

In order to achieve the objectives of evaluation (“learning and improvement” and “accountability”) more effectively and efficiently, the internal evaluation process was improved by introducing self-assessment by evaluators (e.g. overseas office) and quality check by external third parties.

Based on advice from the Advisory Panel on Enhancement of Ex-post Evaluation (refer to p. 50 for an overview of the Advisory Panel), JICA has developed check sheets to define the requirements and confirmation procedures for “good evaluation” and “high-quality evaluation.” These check sheets are designed to be used for self-assessment and third-party quality check. More specifically, they offer perspectives to help confirm the appropriateness of the evaluation process; the validity of evaluations on individual evaluation criteria (relevance, effectiveness/impact, efficiency, and sustainability); the validity of conclusions, recommendations, and lessons learned; and the validity of the overall description of evaluation reports. Based on these checklists, evaluators (e.g. overseas office) and external third parties can assess conformity with the requirements and procedures for high-quality evaluation by considering whether the evaluation framework have been fully comprehended by the evaluator, whether the evaluation report contains all necessary information, whether evidence for judgements and factors are given, whether the description is

coherent, and whether evaluation constraints (if any) and their influence on the evaluation judgement are stated. In the evaluation process, evaluators are encouraged to improve their evaluation report by meeting as many of these requirements as possible.

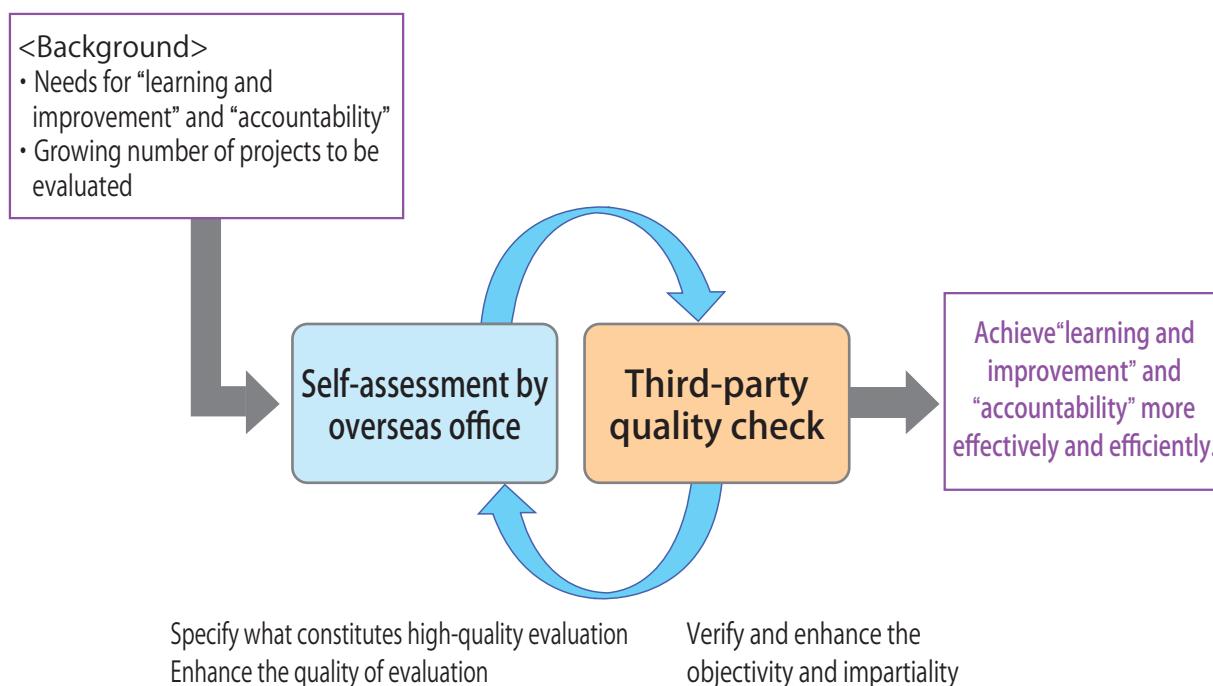
◇ Self-assessment:

This is a process where evaluators (e.g. overseas office) review their internal evaluation reports at the middle and end of evaluation. This self-assessment system is expected to enhance the quality of evaluation because the check sheet provides guidelines to make evaluation easier by specifically defining what constitutes high-quality evaluation and because the review process can improve the description of the evaluation report.

◇ Third-party quality check:

This is a process where external third parties examine internal evaluation reports by evaluators (e.g. overseas office) and verify the objectivity and impartiality of the evaluation judgments based on a check sheet similar to the one developed for self-assessment. The results of the verification are fed back to evaluators (e.g. overseas office) to enhance the quality, objectivity, and impartiality of future internal evaluations as well as disclosed its outline to the public to strengthen the accountability.

<Background and objectives of the introduction for self-assessment and third-party quality check>



Internal Evaluation Training for Overseas Office Staff

Introductory training on ex-post evaluations is provided every year to enhance the evaluation capacity of overseas offices' Japanese and local staff engaged in internal evaluations. In this year, the training was held 11 times, eight in video-conference lectures and three in practice-based seminars at overseas offices.

The video-conference training consisted of two lecture sessions: (1) an overview session to provide a general outline of the entire ex-post evaluation framework including the internal evaluation process and (2) a practical session to review actual evaluations to learn how to make judgements in evaluation, and how to develop recommendations and lessons. The lectures were followed by many questions from participants, such as, "When evaluating a project which is followed by another project or linked with one or other donor projects, I found it difficult to measure the contribution of the evaluated project to development effects; how can we assess it?" and "How far ahead should we look when evaluating the sustainability of project effects?"

Moreover, practice-based training using case studies was held at three overseas offices, i.e., Kenya, Morocco, and Cambodia, and attended by 32

staff members from 15 overseas offices. The participants were actively engaged in group work activities and discussions. Through the practice-based training, the participants not only enhanced their understanding of internal evaluation but also provided insights to improve the project cycle by making suggestions, such as, "We should keep it in mind to collect information and data necessary for ex-post evaluation even during the project implementation period."

JICA Cambodia Office, one of the overseas offices hosting the practice-based training, said "We have our experienced local staff participate in the training as we expect them to share what they have learned through the training with other office staff." As suggested by this comment, overseas offices seemed to make a strategic use of training opportunities to enhance their evaluation capacity. The local staff participating in this year's training has been expected to take the initiative in conducting evaluations not only this year but also next year. One of the participants from Cambodia Office said, "I could learn general knowledge and exactly understand how to make judgements as an internal evaluator. I would like to learn further about evaluation."



evaluation training (Morocco Office)



evaluation training (Cambodia Office)



from left Mr.Phira, Ms.Cheang, Mr.Sophearun(Cambodia Office)

Good Practice The project for Improvement of Capacity of Fire Fighting Techniques and Equipment in Ulaanbaatar, Mongolia

In-depth data verification helped improve the project evaluation

Fire prevention measures were fallen behind and the number of fire incidents had rapidly increased in Ulaanbaatar, the capital city of Mongolia, in the midst of construction boom caused by a significant population growth. Nevertheless, the number of fire vehicles was lacking as many of them were deteriorated and this made firefighters' prompt arrival at the scenes of fire and fire fighting operations in the city difficult. The Project was to strengthen the fire fighting system by procuring new ladder engines used to handle fires at high-rise buildings, four-wheel-drive fire vehicles that would enable driving in Ger areas (those areas where nomads resettled in urban areas building their portable houses, Ger) where many roads are steep and narrow conditions and other fire fighting vehicles and equipment, thereby contributing to the protection of the lives and property of residents from fires.

The ex-post evaluation confirmed that new high-performance fire vehicles with simple operation techniques and technical assistance provided through the Project have allowed fire fighters to engage in prompt and efficient fire fighting activities. Specifically, the elimination of engine troubles reduced startup time and time it takes for a ladder engine before discharging water has become shorter through the introduction of new fire vehicles. The number of Ger area residents who can receive fire fighting activities promptly also increased by new four-wheel-drive fire vehicles. Moreover, the number of injured and deaths from fires have been on a decreasing trend while the number of fire incidents has increased. According to the National Emergency Management Agency (NEMA) in Mongolia, the implementation of this project enabled prompt arrival at the scenes of fire.

Further, those employees who had participated in the seminars targeted for each station's trainers have been training other employees at their own fire stations through seminars and training on operation techniques for coordinating a ladder engine and a pumper tanker, and the operation and maintenance of fire vehicles and equipment.

At the time of the ex-post evaluation, fires frequently occurred ranging from Ulaanbaatar city to forest areas. Although NEMA and fire stations had to engage in mobilization, they provided actual data related to the Project and greatly contributed to comprehensive evaluation including project effect and sustainability. As well as carefully reviewing by preparing a clear interview for personnel newly assigned to NEMA, JICA Mongolia Office analyzed before and after implementing the project based on the actual data^{*1} for a few years after the project implementation which was provided by aforementioned organizations. By doing so, data reliability was ensured and the result was promptly summarized.



A ladder engine introduced by the Project

^{*1} Such as the "number of Ger area residents who can receive fire fighting activities promptly (within 10 minutes of the start of the fire)," "the number of fire incident, the number of injured, number of deaths, and amount of damage from fires" in the project site, "the number of fire fighters in an operation unit in each fire station" and "the actual amount of budget allocated."

Good Practice The HIV Prevention Strengthening Project in Madagascar

Importance of the data system maintenance for the better understanding of the project effect

Through the Project, the national policy and guidelines related to HIV Counseling and Testing (CT) services in Madagascar were developed and revised as well as conducting trainings for personnel engage in the CT services. The training aimed at maintaining the HIV prevalence below 1 % in the country by strengthening the capacity of the personnel.

The evaluation survey confirmed that the effect emerged by the Project was basically maintained; the HIV prevalence was 0.4% as of 2015. In order to integrate health indicators related to HIV/AIDS into the health information management system, called GESIS, the Project assisted to update GESIS database, format the monthly activity report (RMA) and conduct trainings for their dissemination. Eventually, the submission rate of RMA was significantly improved. Although there are some institutional challenges for the data collection, such as the lack of personnel for health statistics after the project completion, this system enabled to properly collect quantitative data to measure the project effect for the ex-post evaluation. Such data has also helped staff of the implementing agency monitor their performance.

Although data for measuring defined indicators is not always sufficiently available at the time of ex-post evaluation, the Project indicated that

maintaining and updating a database and creating a reporting format as a project component (output) would allow collect, confirm and analyze data continuously for monitoring the project effect even after the project completion.



A personnel in charge of AIDS at the district health office (Antanànarivo)

Identification and Analysis of Lessons Learned

Practical Lessons Learned for Special Economic Zone Development

Keiji Katal, Senior Deputy Director
Industrial Development and Public Policy Department
Toru Homma, Senior Advisor

1. Process flow and concept of special economic zone development

In response to the increasing need to support special economic zone (SEZ) development in developing countries, JICA is conducting the Project Research on Support for Special Economic Zone Development, which is planned to be completed in 2018. Based on the interim findings of this on-going study, this section summarizes the lessons learned for special economic zone development^{*1}.

(1) Definition of special economic zone development

A special economic zone is generally defined as an “area which is subject to special legal and administrative systems (preferential treatment) for economic development.” Among the many types of special economic zones, such as manufacturing, logistics, financing, and tourism, this analysis focuses on industrial park-type SEZs, which are the main target of JICA's assistance.

(2) Background and process of special economic zone development

The objective of special economic zones is to build a special investment environment to attract enterprises and therefore attain goals that are difficult to achieve in a conventional environment such as the employment creation, the export promotion, and the new industrial agglomerations (industrial diversification and advancement).

Because no standard method has been established for special economic zone development, this Project Research reviews related examples in the past and proposes a development process as shown in the figure below. It should be noted that institutional and organizational development is required before implementing development projects (Process 5: construction).

Special economic zones are generally evaluated 7 to 10 years after the opening to determine whether they are successful and attractive to companies.

2. Points to consider in developing new special economic zones

This study reviews ex-post evaluations completed before the end of FY2017 such as Sihanoukville Port Special Economic Zone (SPSEZ) in Cambodia, Thang Long Industrial Park (TLIP) in Viet Nam, and Seethawaka Industrial Park in Sri Lanka. As there have been only a few evaluated cases, this study also refers to on-going projects including Thilawa Special Economic Zone (Thilawa SEZ) in Myanmar and industrial parks in Ethiopia.

Below are points to consider based on the analysis of the development process.

Consideration 1. Commitment of government leaders

Special economic zones have their own objectives according to their types and seek to achieve the objectives mainly by attracting foreign companies. In order to lure businesses, special economic zones need to offer attractive incentives (e.g. tax incentives and procedural deregulations). In order to make this a reality, government leaders need to demonstrate their commitment and show their strong leadership over financial and other regulatory authorities. The



Process of special economic zone development

concrete commitment of government leaders can also make the special economic zone more appealing to foreign companies.

In general, various difficulties and problems arise in the implementation phase of special economic zone development projects, such as poor infrastructure, delays in permits and approvals, volatile business environments, and environmental and social impacts. Solutions to these problems often require inter-ministerial collaboration. Moreover, the realization of these solutions requires the leadership and problem-solving actions by government leaders.

The Thilawa SEZ in Myanmar has so far succeeded. Although it is still under development, it has already been attracting many enterprises. Investors have highly valued the leadership of Myanmar government leaders in delegating authorization to the Thilawa SEZ Management Committee, building a one-stop service to ensure immediate issuance of permits and approvals, and quickly solving problems at a high level. Meanwhile, industrial parks in Ethiopia also attracted many companies soon after the construction had been completed because they were effectively designed to meet the needs of private companies under the leadership of the Prime Minister, his advisor (a minister), and the Commissioner of the Investment Commission.

On the other hand, in Cambodia, the SPSEZ has not housed many companies yet although the affiliated administrative department has been authorized in accordance with the Law on the Special Economic Zones. It will be important, going forward, to devise countermeasures and seek a commitment from government leaders to put the remedial measures into action.

Consideration 2. Market research and selection of locations

After setting development goals (Process 1), the target companies and location of the special economic zone are to be selected based on the results of market research, including interviews with potential target industries and companies and analysis of the comparative advantages of the country in the chosen industries.

There may be significant differences between locations in terms of land ownership, infrastructure development costs, labor force, and accessibility.

^{*1} All descriptions are based on the Project Research unless particularly noted.

In order to select the location of the special economic zone, conditions which the potential target industries require should be considered.

In the case of manufacturing-oriented special economic zones, many companies, especially Japanese firms, would prefer locations near the national capital or metropolitan cities in terms of the availability of skilled laborers and technical workers, market accessibility, the standards of living of locally-stationed foreign employees, and the capacity of suppliers (industrial agglomeration). Some would prefer locations near national borders (e.g. Cambodia and Laos) to secure access to markets in neighboring countries and logistics hubs near seaports.

The SPSEZ faces difficulties in attracting enterprises because it has not fully taken advantage of its location near a port or properly addressed the market needs. In order to differentiate itself from other special economic zones in the vicinity, the SPSEZ needs to explore opportunities to take advantage of its location near a seaport by inviting logistics and processing firms in addition to manufacturing enterprises that it targeted at the beginning.

Consideration 3. One-stop service

Companies that wish to operate in a special economic zone need to obtain various permits and approvals, such as investment approvals, business registration, visas and work permits, import and export licenses, foreign currency transfer permits, construction approvals, and environment clearances, which are usually obtained from different ministries and agencies. It may be difficult to get these permits and approvals, especially in developing countries where administrative procedures are not systematic. This may cause a huge obstacle to attracting private enterprises.

One-stop service makes it easier to attract investors by developing an integrated system where a single administration in charge of special economic zones carries out all necessary procedures. The form of this service varies widely, ranging from authorizing an agency to issue permits and approvals on behalf of related ministries to only allowing an agency to receive and transfer applications to relevant ministries. Streamlined procedures and the strong authority of the administration in charge of special economic zones will be highly advantageous for companies moving into special economic zones.

The Thilawa SEZ is highly valued by investors for its transparency, speediness, and time efficiency achieved by establishing an integrated system where the Thilawa SEZ Management Committee carries out all administrative procedures from receiving and screening applications to issuing permits and approvals. As the Management Committee requires personnel with wide expertise to give various permits and approvals, JICA has been providing technical support to assist it in standardizing the procedures and developing human resources.

Consideration 4. Development projects:

land rental rates and infrastructure standards

When selecting a special economic zone to operate in, companies compare overall operating costs, taking into account incentives, labor costs, and rental rates (land and rental factories). As the decision relies mostly on the rental rates, they should be competitive with those of domestic and neighboring special economic zones and industrial parks. The rates should be set not based on actual facility development costs but rather according to market competitive rates. Needless to say, special

economic zones should provide good on-site infrastructure (e.g. utilities and roads) without losing their competitive edge due to the increased costs by seeking to obtain its high quality. For example, it is considered that the SPSEZ has faced difficulties in attracting enterprises partly because its rates set based on the construction costs are less competitive than those offered by other existing special economic zones. On the other hand, in Ethiopia, the costs of special economic zone development were partially borne by the government, which regarded the costs as necessary for industrialization. As a result, the Ethiopian industrial parks could increase their price competitiveness and attract many companies.

Consideration 5. Operations: participation of private entities

The above discusses how to make special economic zones more attractive. Whether or not they can attract foreign direct investment depends on various factors. It is essential to adopt a strategic marketing approach by taking into account their specific needs such as perspectives of business strategies of individual companies, global business trends in target industries, the structure of supply chain, and comparison with rivals. It is also noted that investors expect not only one-stop administrative services but also troubleshooting services after start-up, such as assistance in securing labor force, accounting and overseas money transfer services.

As it is not easy for government officers to learn to provide these services, it is advised to involve private entities in the operation of special economic zones. For example, the ex-post evaluation of the TLIP operated by a Japanese private company indicated that the smooth implementation of the project was attributed to the strong commitment by core companies. Meanwhile, the Thilawa SEZ, which is operated jointly by the public and private sectors, has attracted an increasing number of companies under the initiative of a consortium of Japanese firms. In the case of the SPSEZ, however, the Port Authority of Sihanoukville, the operating agency, seems to have difficulties in conducting marketing targeted to potential clients and providing aftercare services due to the lack of experience in the operation of special economic zones.



The One Stop Service Center in the Thilawa Special Economic Zone

A Cross-sectoral Analysis of Lessons Learned for Financial Intermediary Loans Jiro Tsunoda, Senior Advisor

Points to Consider in Project Formulation and Perspectives to Draw Lessons

Financial Intermediary Loans are implemented through the financial institutions of the recipient country to support projects aimed at specific objectives such as the promotion of small and medium-scale enterprises in manufacturing, agriculture and other specified industries. These loans are known as “Two Step Loans (TSL)” because the funds pass through two or more financial institutions before the end-beneficiaries receive the funds. In this section, a senior advisor in the financial sector conducts a cross-sectoral analysis of lessons learned from five TSL projects assessed in ex-post evaluations in FY2016 to develop points to consider in formulating projects and perspectives to draw lessons.

1. Characteristics of Two Step Loans

The TSL scheme has an advantage of promoting medium- and long-term investment for private sector development in developing countries. By using financial institutions in borrowing countries as intermediaries, this scheme can also help strengthen the capacity of the banking sector and facilitate financial sector development. The TSL scheme has the following aims.

Aims of TSL

(1) Policy guidance	Promote investment in priority policy areas.
(2) Private sector development	Promote private sector-driven economic growth in target policy areas.
(3) Procurement of medium- and long-term funds	Use government borrowings to secure investment funds in target policy areas, bridge the gap between investment and savings, and maintain medium- and long-term investment.
(4) Enhancement of financial intermediary functions	Enhance medium- and long-term development financial flows led by the banking sector.
(5) Enhancement of credit appraisal capacity	Create opportunities for financial institutions in borrowing countries to finance businesses thereby strengthening the medium- and long-term credit appraisal and management capacity of the banking sector.
(6) Enhancement of MIS* capacity of borrowing institutions	Strengthen the governance and capacity of borrowing government agencies or financial institutions to manage the MIS and external borrowings.

*Management Information System

Points to consider in project formulation

As the TSL scheme has various aims, the following analysis is required in the project planning phase.

(1) Identification and analysis of investment needs in target policy areas

- Information should be collected on the numbers and geographical distributions of end users, investment trends, availability of business development services^{*1}, and needs for funding in target policy areas.
- The government agencies in charge of target policy areas should have clear strategies and policies. The target businesses should be considered worthwhile to invest in to promote economic growth, and the outcome indicators should be measurable.
- When target policy areas have already been financed by private financial institutions, regardless of whether based on government policy or not, attention should be paid to prevent TSL from reducing (crowding out) the existing private investment.

(2) Governance standards of financial institutions in borrowing countries

- The banking sector needs to have established a mechanism for financial transactions and achieved a certain level of governance to serve as a financial intermediary.

(3) Credit appraisal capacity of financial institutions in borrowing countries

- Financial institutions should have sufficient appraisal information on end borrowers and target policy areas as well as capacity to appraise the creditworthiness of borrowers (especially in the case of medium- and long-term financing). It is desirable that supplementary measures have been taken, such as guarantee systems and partial government guarantees.

(4) Financial management capacity of borrowing institutions

- Borrowing institutions need to have established and developed capacity to manage an MIS to use repayments as revolving facilities.

(5) Necessity of technical support

- If the analysis of the above-mentioned points (2) to (4) indicates that technical assistance should be provided to borrowers or borrowing financial institutions, it is critical to consider how to secure financial resources for experts or consultants, what kind of technical assistance to provide, and how to build a capable team to cultivate and maintain a sense of ownership in counterparts.

^{*1} Business development service is a general term for support (except for financial support) to assist micro, small, and medium enterprises in entering the market, raising their productivity, and honing their competitive edge. The support includes training, consulting services (e.g. advice and diagnosis), marketing support, information provision, legal and accounting services, technology development and dissemination, and promotion of subcontracting and other business networks.

2. A cross-sectoral analysis of lessons learned

The lessons learned from the five projects through external evaluations, including good practices, are related to the above-mentioned points to consider in project formulation (e.g. importance of technical assistance). Their relationships are shown in the table below.

Project	Lessons learned	Relevant points to consider in project formulation under the TSL
India "New and Renewable Energy Support Project"	Consideration at the early stage of project preparation for support to strengthen project monitoring capability of an executing agency.	(2) (5)
India "Micro, Small and Medium Enterprises Energy Saving Project (Phase 2)"	Detailed analysis of the environment within which a project is to be realized and examination of technical assistance, in the preparatory stage of energy conservation finance projects.	(1) (5)
Egypt "Micro Enterprise Assistance Project"	The importance of understanding the lending structure of executing agencies and intermediaries and of the needs assessment of the intermediaries and end-borrowers for non-financial services (marketing, account management, startup business plan, investment training, etc.).	(1) (3)
Viet Nam "Energy Efficiency and Renewable Energy Promoting Project"	Review and revisions of the terms and conditions of sub-loan as required.	(2) (4)
Viet Nam "Small and Medium-sized Enterprises Finance Project (III)"	Review of the terms and conditions of revolving funds.	(1) (4)

These lessons indicate that a full understanding of business environments and the financial sector in the project planning stage is indispensable for smooth achievement of TSL outputs (e.g. expanding investment in target areas). This reaffirms the importance of collecting information on the foreign debt policy of the borrowing government and the management of government debts and consulting with a wide range of stakeholders on the development financing (especially, medium- and long-term financing) and intermediary functions, credit appraisal capacity and financing attitudes of banks as well as the efforts of financial management authorities to improve the intermediary functions of financial institutions. It is also noted that this process should include analysis of key points in TSL project design, such as identifying obstacles to businesses, building a roadmap toward solutions, and considering involving experts or consultants to provide technical support for capacity building.

In addition to these lessons learned for project design, other essential lessons can be learned from the ex-post evaluation of TSL projects to improve access to medium- and long-term finance for end users. For example, it is indicated that if end users have limited access to funding despite the great financial needs in the private sector in target policy areas, this can be attributed to the financing functions of banks, such as (1) their financing attitudes arising from the asymmetry of information on end users and (2) possibility of placing more emphasis on financial integrity than on financial intermediary functions. Moreover, the perspective of sustainability reveals another point to consider: debt management capabilities/systems and the policies/strategies of the borrowing government behind the performance of revolving funds.



An energy-saving printing machine funded by Micro, Small and Medium Enterprises Energy Saving Project (Phase 2) (India)



A hydroelectric generation project site funded by Energy Efficiency and Renewable Energy Promoting Project (Viet Nam)

Efforts to Improve Evaluation Methodology

JICA-WB-ADB Joint Case Study

Achievements and Future Challenges in the Water and Sanitation Sector in Sri Lanka

The Evaluation Department of JICA conducted a joint case study with the Independent Evaluation Group of the World Bank (WB) and the Independent Evaluation Department of the Asian Development Bank (ADB) from 2016 to 2017 to review their support over the previous 10 years in the water and sanitation sector in Sri Lanka.

This study consisted of three phases: (1) review of literature and operational documents; (2) field survey; and (3) report drafting. The report was finalized in July 2017, upon approval from all the three organizations. This study was not aimed at evaluating each project for ratings but at reviewing the efforts over the last 10 years to examine outcomes and lessons learned and analyze future issues. In order to compare the improvements made by JICA, WB, and ADB projects in the sector, this study used WB's analytical method for qualitative and quantitative analysis. After the report was completed, a feedback seminar was held in Sri Lanka in October 2017 to share the contents of the report with major stakeholders and discuss issues to be addressed in the sector in the future.

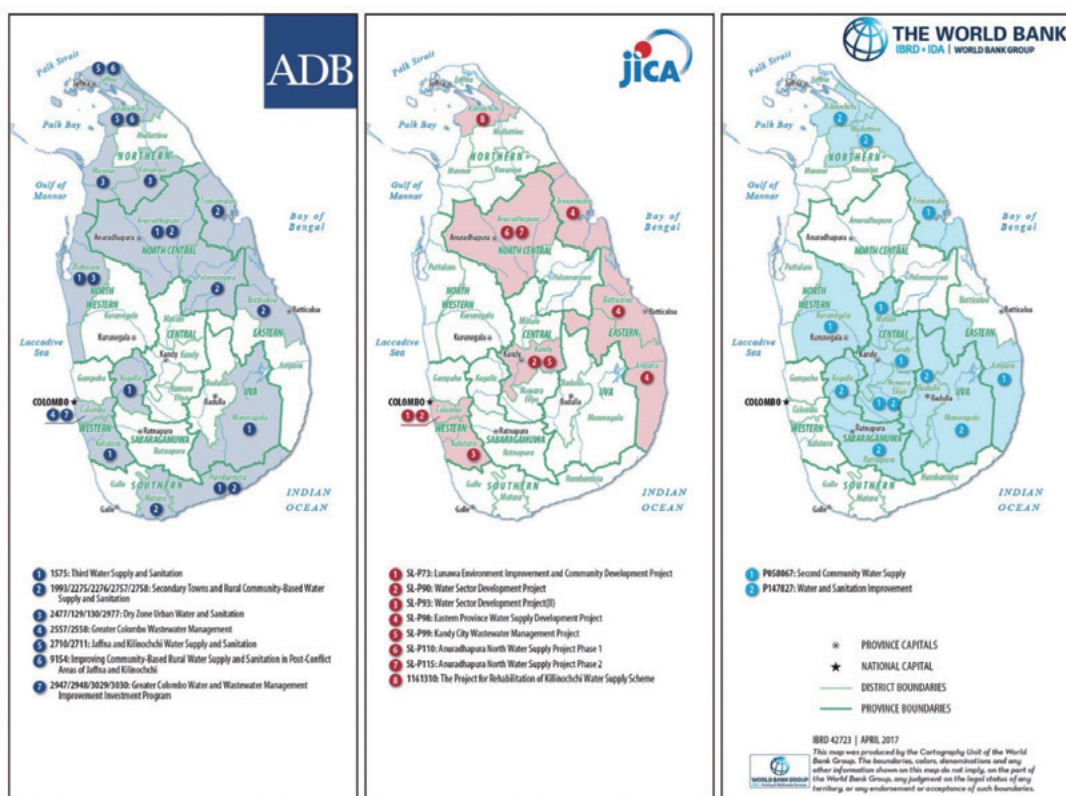
The results of the study revealed the following points. As leading donors in the sector, JICA, WB, and ADB had implemented projects worth 3.3 billion USD in total over the decade since 2007. Although there was no official mechanism for donor coordination, government coordination and informal information sharing among donors on a practical level prevented

overlapping of target areas and projects and facilitated the division of roles among the three development partners. While JICA focused on metropolitan urban water supply, ADB on provincial urban water supply and WB on rural water supply. In the water sector, 23 out of the 25 districts in Sri Lanka, except for Gampaha and Galle Districts, had been supported by at least one of the three donors. Thus, support from the three development partners was distributed in a geographically balanced manner to contribute to improving the water sector across the country.

In the rural water supply sector, ADB and JICA carried out projects by using/improving the community-based maintenance model built by WB.

Sri Lanka's water sector developed according to its economic development level. In 2016, 96% of the total population had access to improved water sources.*¹ This was the highest percentage in South Asia, even coming close to matching higher middle income countries such as Thailand and Malaysia. On the other hand, the tap water coverage remained low at 48%. There was also a need to improve water supply service in rural areas, especially in terms of water quality and availability (e.g. facility operating hours and affordable prices). In the sanitation sector, the overall rate of access to sanitation facilities was high, but many problems remained unsolved, such as regional disparities in the installation of facilities and the adequacy of treatment.

Based on these analysis results, the report suggested that going forward, the following priorities and urgent issues should be addressed:



*Source: "Toward Sustainable Water and Sanitation Services in Sri Lanka" The World Bank (2017).

- Undertake regulatory reforms, including appropriate charging, in the water and sanitation sector and provide support to geographical areas and social groups without access to clean water
- Further disseminate the community-based operation and maintenance model for small-scale rural water supply facilities and strengthen its sustainability
- Expand off-site sewage treatment areas and improve the operation of on-site sewage treatment facilities such as septic tanks in the urban sanitation sector
- Improve information management systems and databases to promote the use of constructed water supply and sanitation facilities to provide services that meet the actual needs of end users
- Strengthen capacity to coordinate other sectors related to water and sanitation (e.g. public health and urban development) to achieve the integrated management of water resources and improve the sanitary environment.

This study not only conducted a quantitative analysis of each donor's project outcomes and their impacts but also tried to give a comparative analysis of the donors. However, because different organizations used different indicators and there were not sufficient examples, the comparative analysis did not provide effective results. Based on this lesson learned, it was suggested that the Government of Sri Lanka and its development

partners should establish a common set of indicators in the future to develop an effective roadmap to achieve the SDG indicators.*2

In the sanitary sector, facing various problems to be resolved, a sector-specific development master plan was completed in June 2016, with support of JICA. It is therefore expected that development projects will be carried out toward the comprehensive achievement of the SDGs while ensuring smooth inter-sectoral and inter-organizational coordination based on the lessons learned from this study.

In contrast with other donors emphasizing the independence of the evaluation departments, JICA's Evaluation Department evaluates projects in collaboration with operational departments and overseas offices. This collaborative relationship made a positive impact in some phases of the review process. For example, this cooperative relation enabled the JICA Evaluation Department to hold a feedback seminar in Sri Lanka to involve local stakeholders and international development partners in the discussion for the future based on the recommendations of the report. This seminar seems to have provided a valuable opportunity to promote learning from review.

*1 Access to improved water sources is one of the targets of the Millennium Development Goals.

*2 Referring to the indicators used to measure the progress of the Sustainable Development Goals (SDGs) advocated by the United Nations.

Building Evaluation Methodology for Private Sector Investment Finance

JICA's Private Sector Investment Finance (PSIF) is a scheme to provide loans and investments to private sector enterprises that make a positive impact on social and economic development in developing regions. This financial support can enable businesses to operate in developing regions where private financing is limited. New PSIF projects have started one after another since the full resumption of the scheme was decided by a ministerial meeting on the export of packaged infrastructure systems on October 16, 2012, after the establishment of the new JICA as a sole ODA agency. As these projects will enter the ex-post evaluation phase, JICA's Evaluation Department has begun considering how to evaluate PSIF projects. This study also includes comparison and analysis of evaluation methods for private sector investment projects by multilateral development banks (MDBs) because the evaluation needs to take into consideration the characteristics of private sector financing and investment which are different from those of development assistance to public sector entities in developing countries.

Based on these analysis results as well as the existing evaluation framework, JICA continues to develop evaluation methodology.

Evaluation of private sector investment projects by multilateral development banks

The International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank (ADB), and other MDBs generally evaluate their individual projects in two steps: (1) self-evaluation by operational departments and (2) validation of the self-evaluation by independent evaluation departments. Each institution has established its own evaluation methodology reflecting its operational characteristics while following the Good Practice Standards (GPSs) of the Evaluation Cooperation Group (ECG)*1 in terms of evaluation timing and criteria. The IFC evaluate sample projects selected from those that have reached early operating maturity (EOM) defined according to the type of investment, while the ADB and the EBRD evaluate all such projects. The evaluation criteria are comprised of development outcome, investment profitability, MDB work quality, and additionality (financial and non-financial value added by the participation of MDBs). The development outcome is assessed based on (1) private-sector business performance (assessment of the achievement of business objectives, profitability, and prospects for

growth), (2) economic sustainability (qualitative and quantitative analysis of costs and benefits of investees and their stakeholders including customers, suppliers, and competitors), (3) private sector development (IFC and ADB) or transition to a market economy and progress in privatization (EBRD), and (4) environmental and social impacts. The assessment of private-sector business performance is characterized by its emphasis on differences between benchmark (market expectations) and actual performance, while assessing the achievement of the predefined target values. The disclosure of information (evaluation results) is carefully managed as it includes data that must be kept confidential for business reasons. The evaluation of environmental and social impacts assesses compliance with safeguard standards and analyzes actual environmental and social impacts.

*1 The Evaluation Cooperation Group (ECG) was established with participation of major MDBs in 1996 to harmonize evaluation methodology. The ECG members have developed and implemented Good Practice Standards (GPSs) to promote the harmonization of performance indicators and evaluation criteria.

Trial Implementation of Ex-post Evaluations of Science and Technology Research Partnership for Sustainable Development (SATREPS) Project and Review of its Evaluation Method

Science and Technology Research Partnership for Sustainable Development (SATREPS) is an international joint research initiative started in 2008 to discover new knowledge that will provide solutions to global issues and apply the outcomes to the future benefit of society (transfer the research results to society) through technical cooperation between research institutions in Japan and developing countries to address the social needs of developing countries. In FY2016, the first four projects went through external evaluations, and those results indicated that the projects had achieved relatively high performance as follows.

Country	Project Title	Overall Rating
Thailand	Integrated Study Project on Hydro-Meteorological Prediction and Adaptation to Climate Change in Thailand (IMPAC-T)	A
Indonesia	Wild Fire and Carbon Management in Peat-forest in Indonesia	B
Zambia	Establishment of Rapid Diagnostic Tools for Tuberculosis and Trypanosomiasis and Screening of Candidate Compounds for Trypanosomiasis	B
Tuvalu	Project for Eco-technological management of Tuvalu against sea level rise	D

Moreover, JICA Evaluation Department reviewed the results of these trial evaluations and consulted with operational departments, as well as Japan Science and Technology Agency (JST), to coordinate perspectives for ex-post evaluations of SATREPS projects, as summarized below.

▶ 1. Demarcation of roles between relevant agencies according to their respective evaluation policies

JICA's ex-post evaluation aims to measure achievements and determine evaluation ratings by using logic models such as a project design matrix (PDM) agreed among JICA and its implementation partners. In the case of SATREPS projects, as "Research Evaluation" will be conducted by JST and Japan Agency for Medical Research and Development (AMED), and their evaluation criteria, perspectives and timing are different from JICA's project evaluation. Therefore, JICA agreed to entrust "Research Evaluation" of SATREPS projects to JST and AMED.

▶ 2. Confirming a common understanding of "Utilization of Research Outcome"

During the course of the ex-post evaluation, evaluators realized that the interpretation of "Utilization of Research Outcome" are various among the stakeholders of the Project. Therefore, evaluators had to redefine the roadmap toward "Utilization of Research Outcome", through examining target levels for project activities, outputs, objectives, and overall goals. It will be important to identify a common understanding of "Utilization of Research Outcome" among project team members before starting evaluation.

▶ 3. Reviewing perspectives for the evaluation of SATREPS projects in the Five DAC Evaluation Criteria

Among the Five DAC Evaluation Criteria, the following four criteria (except for efficiency) were reviewed to redefine necessary perspectives for the evaluation of SATREPS projects.

[Relevance]

It is essential to confirm whether the time axis of the research is aligned with the time axis of the recipient government needs. This should be examined through the analysis of "development needs." Moreover, if the project shall be conducted in collaboration with other donors or schemes, the components of the collaboration during and after the project should be examined through the analysis of "Appropriateness of Project Planning or Approaches."

[Effectiveness]

Some of the projects launched shortly after the SATREPS scheme was introduced, and they were implemented without a PDM or set indicators.

Their actual effectiveness should be evaluated by referring to the judgement of measuring achievements in the terminal evaluation.

[Impact]

The sustainability of project impacts should be analyzed from the following five perspectives: (1) utilization of research outcome; (2) capacity building and training of researchers; (3) continuity of relevant research; (4) implementation of new research derived from project outcome; and (5) operation and maintenance of provided research equipment.

Moreover, the impacts of projects whose overall goals have been set but not clearly defined with indicators, should be evaluated based on the definition agreed on and shared by the project team members through the terminal evaluation. If no overall goal has been set, the evaluation of overall goal attainment may be omitted from the sub-rating of impact, but the potential impacts identified at the time of the terminal evaluation should be analyzed in terms of impacts of the research, and the evaluation results should be summarized for reference.

[Sustainability]

The political, institutional/organizational, technical and financial sustainability of each project should be evaluated from the above-mentioned five perspectives in the evaluation of impacts, as well as in terms of (6) financial capacity to continue relevant research including research funding from other organizations. In particular, the efforts to apply research outcomes to the benefit of society should be evaluated through the analysis of (1) "utilization of research outcome".

▶ 4. Introducing the perspective of additionality

The additionality of each project should be stipulated through the ex-post evaluation to determine the additional effects which JICA supported through the SATREPS scheme (e.g. what additional values would be brought by the participation of JICA to the research project; what additional values the SATREPS can bring; and how likely the SATREPS research projects can contribute to solving the global issues), and the results should be described in as much detail as possible separately from the evaluation results based on the Five DAC Evaluation Criteria. Although this does not need to be included in the ratings, it should be summarized in each evaluation report for reference.

With all these in mind, JICA will proceed with full scale ex-post evaluations of SATREPS projects.

Evaluations of Projects in Fragile States

JICA operates in conflict-affected countries and areas (hereinafter, “fragile states”). In these cases, many difficulties arise in the ex-post evaluation process. For example, evaluators can hardly enter the target country or area due to the deteriorating security situation after project termination, and beneficiaries were often displaced by conflicts. In order to facilitate evidence-based evaluation in such a restricted situation, JICA reviewed ex-post evaluations conducted in Afghanistan, one of the fragile states, between 2015 and 2017 to draw lessons and identify points to consider in remote evaluation in vulnerable and other inaccessible countries and regions. The results of this review are outlined below.

1. Evaluated projects

	Country	Scheme	Project title
①	Afghanistan	Technical Cooperation	Inter-Communal Rural Development Project (ex-post evaluation in FY 2015)
②	Afghanistan	Grant Aid	The Project for Construction of Basic Education Facilities in Afghanistan (ex-post evaluation in FY 2015)
③	Afghanistan	Technical Cooperation	JICA Support Programme for Reintegration and Community Development in Kandahar (ex-post evaluation in FY 2016)
④	Afghanistan	Technical Cooperation	Strengthening of Teacher Education Program, Strengthening of Teacher Education Program Phase 2 (ex-post evaluation in FY 2016)

2. Difficulties and countermeasures in external ex-post evaluations in fragile states

(1) Strengthen communication with local evaluation assistants

Local evaluation assistants who conducted field studies based on instructions from a remote location played an important role in the evaluations in Afghanistan. Their understanding of JICA's evaluation criteria and method is the key to enhancing the quality of evaluation. In the above-listed evaluations, evaluators did not visit Afghanistan but discussed details with local assistants face to face in India.

Countermeasures: Take sufficient time to discuss details with local evaluation assistants in a third country during the ex-post evaluation process. Provide indirect support to ensure smooth implementation, such as maintaining networks and identifying skilled surveyors in the country where the evaluation is carried out.

(2) Secure support from the recipient government

In Afghanistan, there was a need to obtain support from high-ranked government officials, such as Vice Minister, to secure the safety of surveyors and the cooperation of local agencies. It was, however, difficult for local evaluation assistants to make appointments with those officials. Moreover, it was reaffirmed that evaluation in such a fragile states requires wider and closer support from JICA's overseas office than usual, mainly for the following two reasons: (1) JICA national staff at overseas office who knows what happened in the project implementation process can provide valuable information; and (2) they can also enhance the safety of local evaluation assistants during field surveys.

Countermeasures: Review and improve the support system of JICA overseas offices to provide information necessary for evaluation.

(3) Follow-up of project results without accurate maps

The above-mentioned projects ① and ③ included community development to construct small-scale infrastructure, such as roads and water supply facilities, on a pilot basis, while the project ② supported construction of several schools. Their ex-post evaluations tried to assess these infrastructure facilities but found it difficult to confirm the scope of the small-scale infrastructure projects because only simple maps were available. Some facilities could not even be located due to the drastic changes in the surroundings and the changes in school names after project termination.

Countermeasures: These difficulties were unpredictable in the project implementation phase. Given the advancement of technology, it is advisable for future infrastructure development projects to maintain geographic information system (GIS) data, including pictures with GPS data, in the project planning and implementation phases.

Process Analysis

JICA has been trying to find appropriate ways to revisit and deepen analysis on the process through which project effects are produced, under the technical guidance of the Advisory Panel on Enhancement of Ex-post Evaluation*¹.

This year, a trial-based “ex-post process analysis”^{*2} was carried out on a project in Kenya, as shown in the table below, to refine the methodology for future application. This ex-post analysis focused on the project implementation process to confirm how the project had (or had not) produced outcomes as planned/intended. Another trial-based process analysis is currently performed on a project in Thailand by using the case study method of the Global Delivery Initiative (GDI)*³ led by the World Bank.

In December 2017, JICA held a seminar for development consulting companies to present past findings including lessons learned from the process analysis of the Delhi Mass Rapid Transport System Project in India and Strengthening Management for Health in Nyanza Province in Kenya. The seminar was attended by more than 100 people, who actively engaged in discussion aimed at improving the implementation and management of projects.

Below is a detailed description of the ex-post process analysis of Strengthening Management for Health in Nyanza Province in Kenya.

Target projects for FY2017

	Kenya Strengthening Management for Health in Nyanza Province	Thailand Project on Strengthening of Multi- Disciplinary Teams for Protection of Trafficked Persons in Thailand
Scheme	Technical Cooperation	Technical Cooperation
Sector	Health	Gender and Development
Cooperation period	July 2009 to June 2013	March 2009 to March 2014

*1 The Advisory Panel on Enhancement of Ex-post Evaluation, comprised of external experts, was established in FY2016 to track and analyze in greater depth the process of how a project produces effects, in addition to assessing the project results themselves, and develop new methodologies and improve systems to maintain and enhance the quality of internal evaluations.

*2 Although “ex-post process analysis” is based on a concept of “process evaluation” of “program evaluation”, which evaluates activities and operations of on-going projects, it is different in some respects, such as taking an ex-post perspective and providing feedback not for the implementation of the analyzed projects but for the formulation and implementation of succeeding and/or similar projects.

*3 The GDI is a knowledge platform for the international development community. It is an initiative led by the World Bank and participated by the United Nations Development Programme and other multilateral and bilateral donors as well as development research institutions to share the results of systematic analyses focusing on what works, as well as why and how. To be more specific, this initiative aims to classify challenges when implementing development projects (“delivery challenges”), systemize the knowledge required to address such challenges and share it alongside information on personal networks that can help solve them so that development practitioners can access useful knowledge and experts on a timely basis to improve their project implementation.



A debriefing session on process analysis

Case Study A Verification of the Process from Strengthening Health Administration Capacity to Improving Health Service Quality under the Decentralized System in Kenya

“Ex-post process analysis” was carried out on the Technical Cooperation Project for Strengthening Management for Health in Nyanza Province in Kenya (July 2009 – June 2013). Based on the results of the ex-post evaluation simultaneously performed from the perspective of Five DAC Criteria, this ex-post process analysis confirmed which project activities and approaches had resulted in specific effects and what factors had led to the results by placing analytical focus on the project implementation process.

Many of the JICA projects aimed at strengthening a health system selectively enhance specific components of the health system, such as personnel, information, service delivery, and technology (equipment/pharmaceuticals). However, based on prospects for political change toward decentralization, this project took a system thinking approach that sees “the problems in a system that is structured by interrelated components and structural solutions to these individual components of the problems would enhance the whole system” and explored solutions from different angles. This approach was unique in considering the organization and individuals (health management teams and team members) that play a key role in the management of the health system as “change agents,” focusing on changing their behavior from passive followers of centralized authorities to active advocates who take

initiative in strengthening and developing the whole health system, and strengthening their core capacities (leadership and governance capacities) to solve problems.

Although the ex-post evaluation based on the Five DAC Criteria had difficulties in verifying the effects of the project in the target area due to the rezoning of administrative districts as a result of decentralization, it was confirmed that the health management team members targeted by the project contributed to improving the work environment and the quality of health services in the teams/workplace they were newly assigned to after the realignment by using the knowledge, skills, and core capacities they had acquired through the project.

Based on these results from the ex-post evaluation, the ex-post process analysis built a hypothesis on factors affecting the results and examined and analyzed the project implementation process.

The results of the analysis concluded that the process of this project was broken down into four stages, (1) visioning, (2) empowerment, (3) servant leadership development*⁴, and (4) ownership cultivation, and found them as contributing factors for sustaining the effects of the project despite the drastic change in the political system from the beginning of the project to the time of ex-post evaluation. The details of each stage are described in the table on the right.

*4 It refers to leadership established by providing support and services to other people to gain their trust and induce their active cooperation.

(1) Visioning

At the start-up stage, the project motivated provincial and district health management team members to shake off conventional ideas and passive obedience (unlearning) and clarify a vision of what they really should do (visioning). The reason for this approach was the passive attitudes of provincial and district health management team members induced by the centralized control structure and the

support from various development partners. At the beginning of the project, health management team members followed top-down instructions, or otherwise they would not do anything against their conventional ideas. Recognizing their passive attitudes and conventional ideas as a problem, the project worked to change their attitudes through dialogue sessions at the early stage so that they could act independently in a decentralized system.

(2) Empowerment

This project repeatedly gave health management team members a message that “you can do it.” In order to develop an “I can do it” feeling, the project also took an approach that would stimulate their demands. For example, the project provided IT training to them but purposefully refused their request to provide them computers. This

aimed to stimulate their demands by placing them in a situation where they had IT skills but no computers. As a result, they got several computers by their own efforts. Thus, this project took an approach that could help counterparts build a sense of self accomplishment by purposefully forcing them into a situation where they had to meet their own needs.

(3) Servant leadership development

The project organized a five-month training program on core capacities as well as knowledge and skills on the components of the health system. In particular, the training program focused on servant leadership development. For example, health management team members had conventionally supervised health workers in a high-handed manner by picking holes in their work and reproaching them. In contrast, the training program focused on team building to foster servant leadership. As a result, the satisfaction levels of both health management team members and health workers were reported to have risen. Moreover, many improvements were seen in performance on each component of the health system.



A team building session during the project

(4) Ownership cultivation

Throughout the project process, all possible measures were taken to develop a sense of ownership in the recipient government. As an example of such efforts, the project repeatedly told the recipient government that “the support would not continue forever.” Even when rapid decentralization at the final stage of the project brought up a question of whether the project outcomes could be maintained under the county system to be soon adopted, the project stuck to the principle. Both Japanese and Kenyan sides agreed to develop an exit strategy to maintain the outcomes without support after the project completion, and the project team made a concerted effort to proceed with the strategy. This consistency from the beginning to the end of the project is considered to have cultivated a sense of ownership in the Kenyan side and contributed to sustaining the project effects at the time of the ex-post evaluation.



The ex-post evaluation confirmed that medical documents were neatly organized.

Sharing and Application of Process Analysis Results: Delhi Mass Rapid Transport System Project in India

In FY2016, a process analysis was carried out on the Delhi Mass Rapid Transport System Project in India, using a project ethnography approach (See JICA Annual Evaluation Report 2016), and then, the information and lessons learned from this case study were shared both inside and outside of JICA.

First, the report of the study, "Breaking Ground: A Narrative on the Making of Delhi Metro," was published online on JICA's "Process Analysis" page. The analysis results were also presented at seminars for internal and external audiences in April, June, and December 2017. Moreover, the report of the case study was printed and presented to the Delhi Metro Rail Corporation (DMRC), an implementing agency of the project. This was also featured by major newspapers in India.

The results of this case study have been utilized for managing new and on-going projects. The information and lessons learned from the study were disseminated from the Evaluation Department to operational departments so that they can apply these findings when formulating new projects in the railroad sector and when responding to problems faced during the project implementation.

This case study was also published on the online library of the Global Delivery Initiative (GDI), which is led by the World Bank and other donors to provide information for solving problems in project implementation processes. As the study is highly valued in terms of providing cross-sectoral lessons beyond the railroad sector and highly applicable insights to development partners, the results of the study are expected to be used more widely beyond the organizational boundaries.



Presentation ceremony of the booklets to DMRC (left: Chief Representative, JICA India Office, right: Managing Director, DMRC)

(Reference)

Process Analysis (JICA website)

https://www.jica.go.jp/english/our_work/evaluation/process.html

Global Delivery Library: Case Studies (GDI web library)

<http://www.globaldeliveryinitiative.org/library/case-studies/delhi-metro-effective-project-management-indian-public-sector>

Column

Egypt-Japan University of Science and Technology: E-JUST

In addition to the above-mentioned studies, a case study was carried out focusing on the organizational capacity development process of implementing agencies in partner countries⁵.

As described below, the Technical Cooperation Project for Egypt-Japan University of Science and Technology (E-JUST)⁶ at the specific period was examined in detail as a case study focused on cooperation for organizational capacity development. The process was analyzed from the perspective of problem-solving in public management to determine how and why all or part of the university and JICA personnel had fulfilled their functions and how and why changes (improvements) had been made.

One of the keys to success in the context of development cooperation is how counterpart organizations (project implementing agencies) function. Even if appropriate equipment and training are

provided, sustainability will be limited unless functionalities of the counterpart organizations work well. Therefore, the analysis of their organizational functions can provide insights for future implementation. This design-focused case study included literature research on the establishment of E-JUST and interviews with 16 Egyptian and Japanese key players involved in the establishment and early operation of the project. The results of the interviews and analysis indicated that the monthly teleconference meetings named Strategic TV Conference and attended by Strategic Working Group (SWG) members, including E-JUST President and Vice Presidents and Japanese university faculties, played a pivotal role of organizational and operational coordinator and facilitated agenda setting, consultation (including advice from the SWG), follow-up and actions as a whole.

⁵ This case study was conducted as part of the study of "Managing International Cooperation for Organizational Capacity Development" by JICA Research Institute (Michael Barzelay, Professor of Public Management, London School of Economics and Political Science (LSE); Masakatsu Okumoto, Research Fellow, JICA Research Institute; and Hideki Watanabe, Research Fellow, JICA Research Institute (as of September 2017)).

⁶ The E-JUST project is currently underway (Phase I: October 2008 – January 2014; Phase II: February 1, 2014 – January 31, 2019). It is a national project jointly implemented by Japan and Egypt to build and run a university of science and technology to provide a Japanese-style laboratory-based education. Moreover, this project is aimed not only at enhancing the quality of academic education and research but also at establishing a new university and developing its organizational capacity.

Column

International Discussion on the Five DAC Criteria

With the world changing rapidly, the DAC Network on Development Evaluation (EvalNet) held its 21st meeting in Paris in November 2017 to discuss the Five DAC Criteria which is conventionally used by development organizations to evaluate their projects. Most donor agencies argued to continue to evaluate projects based on the Five DAC Criteria as they were still effective. On the other hand, some development agencies suggested that the analysis and rating methods should be reviewed further from a broader perspective. This issue will be kept under discussion at future meetings.

Moreover, questions were raised on how to harmonize the Five

DAC Criteria with the Sustainable Development Goals (SDGs) adopted by the United Nations and how to incorporate the perspective into their evaluations. EvalNet will go on having discussions involving not only donor countries but also recipient countries (partners) to examine specific examples.



Column

Standard Indicator Reference for Project Improvement and its Linkage to the Sustainable Development Goals (SDGs)

Operations evaluation focuses on assessing project effects to improve future projects and make development assistance more effective. JICA has made and updated standard indicators references as one of the tools for these purposes.

○JICA Standard Indicator Reference in Financial Assistance Projects

Standard indicators are organized and categorized into different development issues. Their purpose is to clearly show the “objective”

and “quantitative” effects of financial assistance (Grant Aid and ODA Loan) projects in developing countries. As of March 2018, “JICA Standard Indicator Reference in Financial Assistance Projects” has compiled standard quantitative indicators for nine major sectors. These indicators are organized in accordance with the development objectives chart in thematic guidelines (see Reference below).

<Reference> Development objective chart

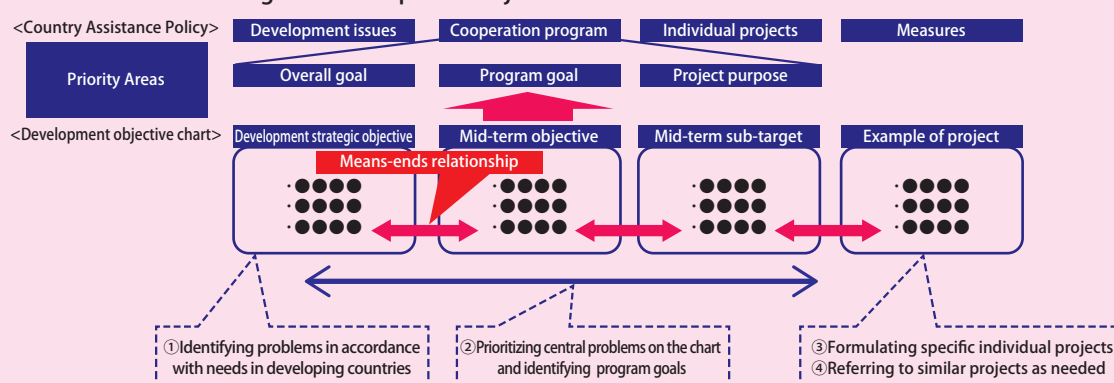
● What is a development objectives chart?

A tool for overviewing a structure of each development issue to show the whole picture and considering a direction and cooperation approach to solve problems.

● How to view the chart

Breakdown each issue into “Development strategic objective,” “Mid-term objective” and “Mid-term sub-target” ensuring their rational means-ends relationship and show “Example of project to achieve the sub-target” (approach) accordingly.

Figure: Development objective chart



○JICA Standard Indicator Reference and Typical Lessons Learned in Technical Cooperation Projects

“JICA Standard Indicator Reference and Typical Lessons Learned in Technical Cooperation Projects” is composed of standard indicators as well as typical lessons learned in 22 sectors in accordance with the development objective chart in thematic guidelines. This Reference is under revision. As of March 2018, the revision has been completed for 15 sectors.

○UN-SDGs Global Indicators Added for Reference to JICA Standard Indicator References

In line with recent global trend of Sustainable Development

Goals (SDGs), JICA is updating these Standard Indicator References by adding the SDGs Global Indicators for reference of development practitioners. JICA is also working to translate the References into English for JICA overseas offices' national staff engaged in project formulation, implementing agency staff in partner countries, and other international development partners.

Link: JICA Standard Indicator Reference and Lessons Learned
https://www.jica.go.jp/english/our_work/evaluation/index.html

JICA's Efforts in Promoting Impact Evaluation

Aiming to further enhance the effectiveness and quality of projects, JICA has been promoting Evidence-Based Practice as well as the implementation of impact evaluation as a major tool for this purpose. Such evaluation is proactively conducted, especially when a project has little evidence for its effects or when a project is to be scaled up. (see p. 5 for the detail of the Impact Evaluation).

With these efforts, impact evaluations are increasing year by year not only in number but also in scope, recently covering a wide variety of sectors, such as waste management and financial services, as well as public-private partnership projects. The efforts in promoting impact evaluation also includes internal and external human resources development and attempts to produce high-quality evidence at a reasonable cost by using existing data.

Case 1. Off-Grid Solar Power Project in Sub-Saharan Africa

Assessing the development effects delivered by Private Sector Investment Finance business models

The composition of capital inflows into developing countries changed remarkably over the past 20 years, leading to a reversal in the ratio of public-to-private capital flows. This rapidly changing environment challenged JICA, an official development assistance agency, to take on a new role in private sector financing. In recent years, JICA started supporting feasibility studies for business start-ups that could contribute to attaining Sustainable Development Goals (SDGs) and launched the Private Sector Investment Finance scheme to invest in and finance private-sector projects. JICA is also starting to conduct impact evaluations on these new types of support to assess whether private sector business models can achieve a satisfactory development impact.

JICA's Private Sector Investment Finance scheme has invested in WASSHA Inc., which is engaged in off-grid solar power business in Sub-Saharan Africa. WASSHA installs solar panels at kiosks (retail shops) in villages without electricity and provides LED lamp rental services as well as mobile phone charging services for customers coming to the kiosks. This

rental business is likely to enable Base of the Pyramid consumers with limited purchasing power to access electricity by market mechanism. In general, rural electrification in developing countries is likely to produce development effects, such as longer study hours for children and clean, safe lights for better health. So, how much change has the JICA-invested WASSHA Off-Grid Solar Power Project made to the lives of non-electrified rural communities?

The development impact of the WASSHA project is being evaluated jointly by JICA and WASSHA, using a randomized controlled trial where kiosks to be tied up with WASSHA are randomly divided into two groups, one with solar panels (intervention group) and one without solar panels (control group), to compare their changes after a certain period of time.

Going forward, support for private enterprises operating in developing countries is also expected to conduct impact evaluation, especially using a randomized controlled trial, to maximize the development impact of technologies and business models of the private business.

Case 2. Project on Life Improvement and Livelihood Enhancement of Conditional Cash Transfer Beneficiaries through Financial Inclusion in Honduras

Assessing the changes made by a package of "graduation model" training programs to family budget managing, money saving, and livelihoods behaviors

The Technical Cooperation Project on Life Improvement and Livelihood Enhancement of Conditional Cash Transfer Beneficiaries through Financial Inclusion in Honduras, Central America, aimed to develop a model to promote life improvement and livelihood enhancement for conditional cash transfer (CCT) beneficiaries through their financial inclusion and institutionalize the model to spread it across the country. There was, however, little evidence to support the effectiveness of financial inclusion in improving the lives of CCT beneficiaries. Therefore, the project verified the effectiveness of the devised development model using a randomized controlled trial before scaling up the model.

The project developed a package of life improvement and livelihood enhancement training programs based on the "graduation model" developed and promoted by the Consultative Group to Assist the Poor (CGAP) to empower the poorest to make a livelihood. The training package consisted of (1) family budget management training, financial education, and livelihood enhancement training by municipal administrative officers and financial institution staff, (2) coaching (home-visit and group consultations), (3) provision of assets for livelihood activities (agricultural

and cooking materials) from central and local governments, and (4) provision of financial products and services from private financial institutions. In order to assess the development impact of this package, CCT beneficiaries in rural and urban areas in selected five districts across the nation were randomly divided into intervention and control groups to compare their changes in family budget management, money saving, and livelihood behaviors after a certain period of time.

According to the analysis results, the intervention group gained more knowledge on interest rate calculations and financial services and had a stronger tendency to set a savings target than the control group did. The former group was also more likely to keep household accounts, use financial services, and save more money than the latter group was. It is also noted that as a result of the project, women in rural areas in Honduras, where machismo (male dominance) had been widespread, were empowered to negotiate household expenditures as they usually kept household accounts.

Based on these results, it has been decided to scale up the model developed through the project in other districts.

Column

Decision Making Based on Evidence Obtained from Impact Evaluation

The Project for Promotion of Sustainable 3R (Reduce, Reuse, and Recycle) Activities in Maputo, Mozambique, was remarkable in that the technical cooperation project decided its course of action based on the results of an impact evaluation conducted on its pilot project.

In developed countries, there were a lot of practical experience in encouraging residents to separate waste to improve solid waste management and reduce environmental burden. On the other hand, developing countries with many poor people had not found any effective intervention. Therefore, the project experts and their counterparts devised several approaches to popularize the practice of separating valuable waste and validated their effectiveness. More specifically, a pilot project was carried out and evaluated using a randomized controlled trial, which was considered to be the most objective means to verify effectiveness, to choose the most feasible approach from the following three possible interventions: (1) provision of daily necessities to

cooperators; (2) provision of waste separation containers; and (3) home-visit guidance.

The results of the randomized controlled trial indicated that although all the three approaches would be effective in encouraging residents to separate waste, the provision of waste separation containers would be most cost-effective. It was, however, confirmed that even the provision of waste separation containers would be less cost-effective than other recyclable waste collection approaches. It was verified that the separate collection of recyclable waste was not the best idea in the suburbs of Maputo city targeted by the project. Eventually, it was determined to be premature to adopt the separate waste collection system to promote 3R activities in Maputo, and it was decided to put off the planned scale-up activity. This project is a good example of using the impact evaluation results to avoid the risk of scaling up a less effective development approach.

Case 3. Impact Evaluation based on Existing Data

An impact evaluation usually requires micro data on a certain size of sample (hundreds to thousands). The data collection is money and time consuming. This often makes it difficult to conduct impact evaluations. In order to break free from these restrictions, JICA is working to promote impact evaluation using existing data ("real-world evaluation"). The use of public information, such as existing survey results and satellite images, as well as a wide variety of data JICA has collected through its projects enables it to minimize costs without sacrificing the quality of impact evaluation. JICA has so far conducted two real-world evaluations to analyze important issues that will make a large impact on SDGs.

One of them is the impact evaluation of forest conservation and afforestation projects contributing to attaining the SDGs 13 (Climate Action) and 15 (Life on Land). JICA has provided focused support to protect forests, especially in India, since the 1990s and has so far implemented more than 20 ODA loan projects. Meanwhile, JICA has not quantitatively measured how much contribution these past reforestation projects made to increasing forest coverage in India because it takes years for trees to grow. Therefore, JICA has collected years of land cover data based on satellite imagery as well as topographical, precipitation, temperature and other geographical information system (GIS) data to make a convincing impact evaluation. This analysis has been already presented at conferences and

symposiums held by the Japan Evaluation Society and the South Korean Ministry of Forestry.

Another example is the impact evaluation of urban transport infrastructure projects aligned with the SDGs 9 (Industry, Innovation and Infrastructure) and 11 (Sustainable cities and communities). JICA has so far assisted more than 60 cities in formulating transport master plans and conducting feasibility studies, through which it has accumulated a wealth of person trip (PT) data (daily means of transport and travel time of passengers). These existing data have been used to conduct an impact evaluation of the Saigon East-West Highway Construction Project, which continued in Ho Chi Minh, Viet Nam, for more than 10 years. This project enhanced transport capacity in the metropolitan area by constructing an arterial highway traversing the city and an underwater tunnel crossing the Saigon River. The impact evaluation is analyzing the changes made by the project to the traffic volumes and travel time in the metropolitan area by using a massive amount of PT data in 2002 and 2014 (including more than 200,000 trip data, respectively). Moreover, the impact evaluation is examining the geographical spread of economic activities and looking for any sign of negative impact, such as air pollution, by using remote sensing (satellite) data on night lights and particulate matter (PM) 2.5.

Human Resources Development for Impact Evaluations

Further promotion of impact evaluation requires people able to properly plan, implement, and manage impact evaluations and apply the results to practical cases. In order to develop such human resources, JICA provides capacity building training (Impact Evaluation: Toward Evidence-based Practice (EBP)).

This year, the training course was held for seven days from September 5 to 13 (weekdays only). It was attended by 18 people from development consulting companies, universities, and local administrations, among others. The training curriculum, designed based on relevant international standard textbooks as well as lecturers and training sessions provided by universities and international organizations, covered a wide variety of topics related to impact evaluation designs, statistics, and social survey methods. The curriculum also included practical applications, such as specific

examples and lessons learned from past impact evaluations conducted by JICA. Moreover, it allocated much time to practical exercises and skill verification tests in order to instill the understanding of the lectures and promote applications in actual situations.

The training received high praise and satisfaction from participants, many of whom said that they would like to share the knowledge gained through this training with their colleagues and local counterparts and that they would like to apply the knowledge to their projects. Past participants also reported that they had actually engaged in impact evaluations and applied the knowledge gained through the training to them. The participants of this training are expected to further contribute to the promotion of impact evaluation.

Working Group Meeting on "Leveraging Project Data to Improve Operations" Jointly Organized by JICA, German GIZ, and the World Bank

A Working Group Meeting of Delivery Challenges in Operations for Development Effectiveness (DeCODE), a learning database built as a pillar of the Global Delivery Initiative (GDI) led by the World Bank to provide a platform for international development partners to create, share, and learn knowledge, was held in Bonn, Germany, from October 25 to 27, 2017. Jointly organized by JICA, the World Bank, and GIZ, the meeting attracted 35 participants, mainly development practitioners, from 17 organizations including the three organizers.

DeCODE aims to help practitioners learn lessons for future projects by enabling them to easily retrieve information on delivery challenges faced in their daily work from the online database of project evaluation results categorized by the GDI taxonomy.

In collaboration with the GDI Secretariat led by the World Bank, JICA has entered 1,172 ex-post evaluation reports into the DeCODE database and found that the GDI taxonomy and JICA knowledge lessons had much in common in project management terms. JICA's

statement on this commonality attracted attention from meeting attendees and generated an active discussion among them. Representatives from other organizations also made presentations on how they used past project data and induced an in-depth discussion. The Working Group Meeting built a shared understanding of the importance of developing and enhancing DeCODE as global public goods.



Statistical Analysis on External Evaluations

Since FY2014, JICA has been engaging in statistical analysis of external evaluations to grasp the trends in performance of projects and gain insights from the ratings to improve project design and implementation.

1. An Overview of the Statistical Analysis

Background

Since FY2009, JICA has conducted ex-post evaluations based on coherent methodologies and criteria, including the Five OECD-DAC Criteria, for all the three assistance schemes of ODA Loan^{*1}, Grant Aid and Technical Cooperation. As of FY2016, the number of external evaluations in the meantime reached 1,020 (refer to p.8 for the rating criteria, main examination items, and rating flowchart for external evaluation).

Objectives

This statistical analysis aimed to analyze the past external evaluations quantitatively to understand their trends and gain insights to improve project design and implementation.

Subject of this statistical analysis

This statistical analysis was conducted on 1,020 external evaluations^{*2}, consisting of evaluations on projects in all three schemes from FY2009 to FY2016^{*3} and those of ODA Loans from FY2003 to FY2008^{*4} (i.e. 653 ODA Loan, 223 Grant Aid and 144 Technical Cooperation projects).

Method

(1) The analysis of the trend and distribution of external evaluation results (overall ratings and sub-ratings based on the Five DAC Criteria) was conducted on a total of 1,020 projects across the three schemes.

(2) Factors that may influence evaluation results were analyzed quantitatively by converting them to variables. In analyzing what will influence the overall rating of project, a regression model was created.

Notes

The rating system is a useful tool to assess the performance of development projects and provide hints that helps understand the current situation and ways for improvement. This system is, however, subject to the following constraints: (1) it limits the assessment to the scope of the DAC evaluation Criteria (for example, it does not evaluate aspects like contribution of the donor); (2) it cannot fully adjust the different difficulties the project faced, such as the nature of assistance (e.g. presence of innovations) and project environments (e.g. vulnerability of the recipient country); and (3) it only assesses the results of past activities but does not evaluate the ongoing activities or their future (potential) outputs.

The quantitative approach can only grasp those factors convertible to variables. Therefore, it is necessary for evaluation to also examine qualitative data that cannot be shown in variables taking into consideration of project background and setting. Considering qualitative and quantitative data in a balanced and complement manner and finding out their values by a comprehensive understanding based on the project background and other contexts are important in project evaluation.

^{*1} ODA Loans include Yen Loan and Private Sector Investment Finance, although projects under the latter finance have not yet reached the timing for evaluation. Therefore, ODA Loans referred to in this analysis mean Yen Loans.

^{*2} Two projects evaluated in FY 2016 with their overall rating "N.A." were excluded from this analysis.

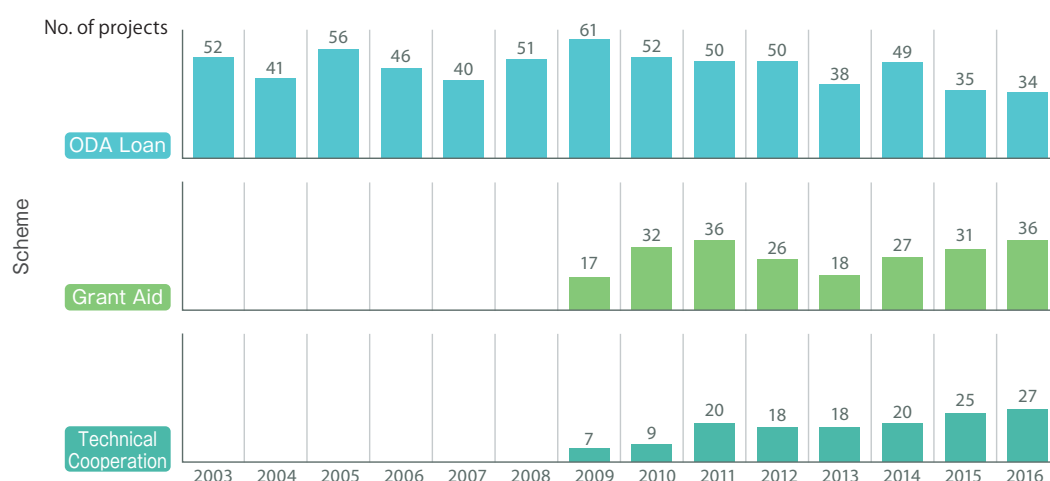
^{*3} External evaluation target projects with assistance of one billion yen or more and those likely to provide useful lessons learned.

^{*4} For the ex-post evaluations of ODA Loans conducted by the former Japan Bank for International Cooperation, those with ratings were covered in this analysis.

2. Descriptive Statistics: Trends and Distributions of External Evaluation

Number of evaluation

<Figure 1> Transition in the Number of External Evaluations per Fiscal Year by Scheme



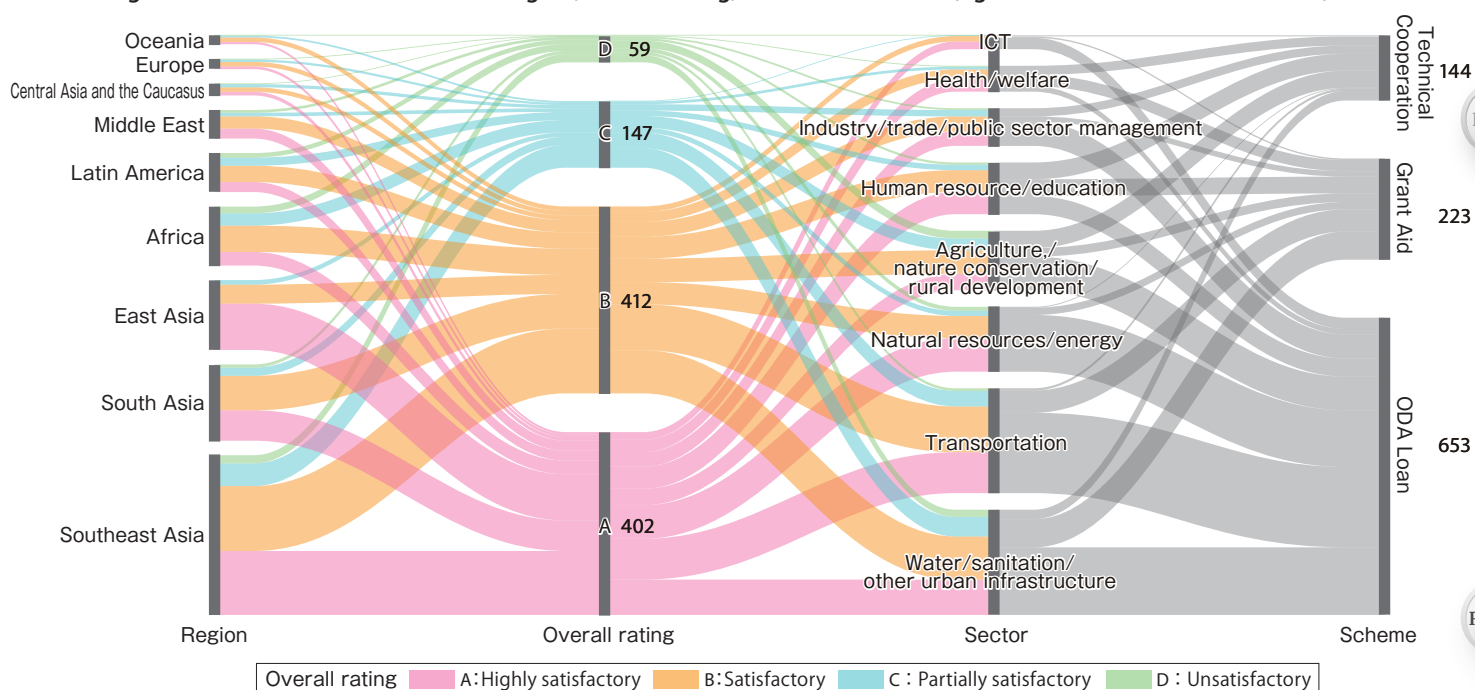
The rating system was first adopted for the external evaluation of ODA Loans in FY2003. During the 14 years up to FY 2016, a total of 653 projects (an average of 47 per year) were evaluated (64%). The same evaluation system was introduced to Grant Aid and Technical Cooperation projects from FY2009. To date, a total of 223 Grant Aid projects (an average of 28 per year) (22%) and a total of 144 Technical Cooperation projects (an average of 18 per year) were evaluated (14%).

Distribution of Ratings

Figure 2 below provides an overall picture of the correlation of key information on external evaluations. This figure simultaneously shows the interrelation between the region⁵, overall rating, sector⁶ and scheme of external evaluation results (A: Highly satisfactory; B: Satisfactory; C: Partially satisfactory; D: Unsatisfactory). The relation between the sector and scheme is

not shown in colors representing different overall ratings because they are not interrelated through the variable of overall rating. Still, this figure can illustrate how the distribution of projects by sector is related to the distribution of projects by scheme. It is also noted that this figure is based only on the results of external evaluations and does not represent all JICA projects.

<Figure 2> Interrelation between the region, overall rating, sector and scheme (figures show the number of cases)



First of all, in this figure, the distribution of overall ratings indicates that projects rated "A" and "B" account for 75% of the total projects (A: 402 projects; B: 412 projects; C: 147 projects; D: 59 projects). The ratio on each vertical axis represents the distribution ratio of projects broken down by relevant variable. By placing the overall rating axis between the region and sector axes, this figure simultaneously shows the regional and sectoral distribution ratio of each rating group. For example, many of the projects rated "A" are located in the Southeast and East Asian regions and categorized in the transportation, natural resources/energy, and water/sanitation/other urban infrastructure sectors. The regional distribution of projects suggests that many projects are located in Southeast, South, and East Asia. The regional distribution of overall ratings shows that many projects are rated "A" and none rated "D" in East Asia. In other regions, projects rated "A" are almost the same in number with, yet slightly fewer than, those rated "B." The sectoral distribution of projects indicates that the transportation and water/sanitation/other urban infrastructure sectors are dominant. The reason for the apparently small number of projects in the health/social security sector is that health and social security projects rarely become subject to external evaluation because they are mostly implemented

under the scheme of Grant Aid or Technical Cooperation, as suggested by the relation between the sector and scheme. The sectoral distribution of overall ratings shows that projects are largely rated "A" or "B" in all sectors and rarely rated "C" or "D," especially in the natural resources/energy sector. A relatively large number of projects are rated "C" in the water/sanitation/other urban infrastructure and transportation sectors; however, given that there are also many projects rated "A" in these two sectors, this is considered because the number of projects implemented in these sectors is particularly large.

Lastly, the relation between the sector and scheme suggests that ODA Loan has a particularly large share in many sectors. The sectoral distribution of Grant Aid projects is similar to that of ODA Loan projects. Technical Cooperation focuses on specific sectors, with a particularly large share in the human resources/education and health/social security sectors. These analysis results describe some characteristics of each scheme, but as mentioned above, this figure only represents the results of external evaluations, and therefore the analysis of both external and internal evaluations may suggest a different tendency.

⁵ Each region includes the following countries: Southeast Asia: Indonesia, Cambodia, Thailand, the Philippines, Vietnam, Malaysia, Myanmar, Laos and East Timor; Pacific: Kiribati, Samoa, Solomon, Tonga, Tuvalu, Vanuatu, Papua New Guinea, Palau, Fiji, Marshall Islands and Micronesia; East Asia: Republic of Korea, China and Mongolia; Central Asia and the Caucasus: Azerbaijan, Armenia, Uzbekistan, Kazakhstan, Kyrgyz, Georgia, Tajikistan and Turkmenistan; South Asia: Afghanistan, India, Sri Lanka, Nepal, Pakistan, Bangladesh, Bhutan and Maldives; Latin America and the Caribbean: Argentina, Antigua and Barbuda, Ecuador, El Salvador, Guyana, Guatemala, Grenada, Costa Rica, Colombia, Jamaica, Saint Vincent and the Grenadines, Dominican Republic, Nicaragua, Haiti, Paraguay, Brazil, Peru, Bolivia, Honduras and Mexico; Africa: Angola, Uganda, Ethiopia, Eritrea, Ghana, Gabon, Cameroon, Guinea, Kenya, Côte d'Ivoire, Democratic Republic of Congo, Zambia, Sierra Leone, Zimbabwe, Sudan, Swaziland, Seychelles, Senegal, Tanzania, Togo, Nigeria, Namibia, Niger, Burkina Faso, Burundi, Benin, Botswana, Madagascar, Malawi, Mali, Mauritius, Mauritania, Mozambique, Rwanda, Lesotho and Republic of South Africa; Middle East: Algeria, Iran, Egypt, Saudi Arabia, Syria, Tunisia, Morocco, Jordan and Lebanon; and Europe: Albania, Ukraine, Slovakia, Serbia, Turkey, Bulgaria, Bosnia and Herzegovina, Macedonia and Romania.

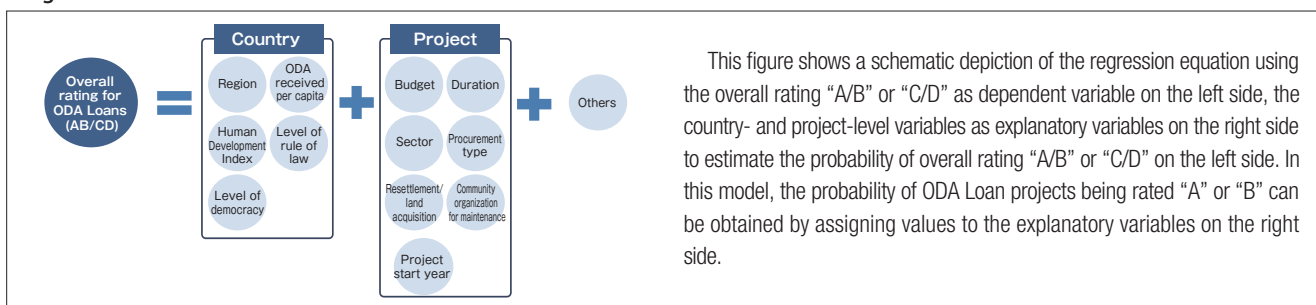
⁶ Categorization of sectors is based on those defined in our statistical analysis.

3. Analysis Results (Multivariate Analysis): An examination of factors that may influence evaluation results (ODA Loan)

This section describes part of the multivariate analysis conducted since FY2015 based on ex-post evaluations. In FY2015, the study started with descriptive statistical analysis to grasp the whole picture, followed by the preliminary regression analysis of ODA Loan and Grant Aid projects. Variables were selected from various factors that may influence the hypotheses developed from field experiences to examine their effects using a basic method of economic analysis⁷. In FY2016 and FY2017, based on the preliminary analysis results, additional project-level variables were collected through interviews with relevant departments, and country-level variables were also added by systematically selecting and screening data from public sources. Experimentally, the analysis method was also refined by considering the evaluation rating as project diagnosis and performing logistic regression analysis with two values, ratings “A/B” or “C/D”, as a dependent variable. At

the same time, numerical explanatory variables were examined in using all contributions manner to verify their model compatibility and further analyses were conducted using selected few basic regression models. These analysis results are described below with focus on the basic model-based⁸ analysis of 625 ODA Loan projects whose external evaluations were completed by 2015 because in this preliminary analysis stage, when only external evaluation results have been databased, it is considered difficult to obtain meaningful analysis results that can lead to improvements in the whole scheme including Grant Aid and Technical Cooperation. These basic models will be further developed by adding new variables that can facilitate the understanding of target phenomena as well as examining the existing variables from logical perspectives to determine whether or not to continue to use them.

<Figure 3> Basic model described here



⁷ The results of the analysis are partially described in JICA Annual Evaluation Report 2015.

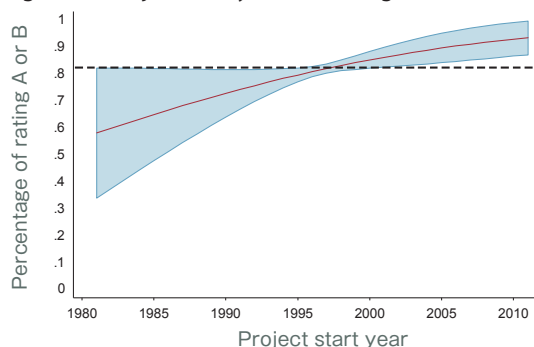
⁸ The logistic regression model was developed according to the objectives and based on the Bayesian Information Criterion (BIC) values for all modeling combinations of explanatory variables supposed to influence one of the two explained values (Rating “A/B” or “C/D”). The basic model described here uses a total of 11 explanatory variables: seven project-level variables ((1) sector; (2) project planning cost; (3) planned project period; (4) resettlement and land acquisition; (5) existence of a community organization for maintenance; (6) project start year; and (7) region) and four country-level variables ((8) net ODA received per capita; (9) social effectiveness (human development index); (10) level of rule of law; and (11) level of democracy).

Analysis Result 1: Enhancement of project performance

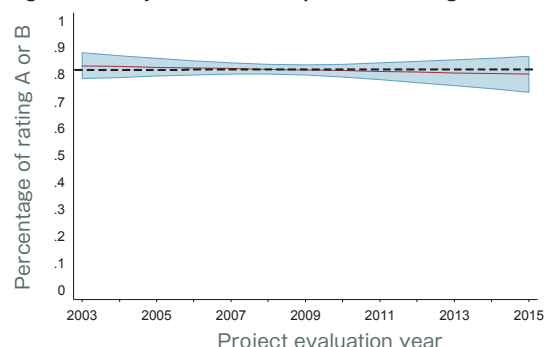
In this analysis on ODA Loan projects, focus was first placed on the relation between the project start year and the probability of being rated “A/B.” As shown in Figure 4, the average probability categorized by project start year increased over time, from less than 0.6 for projects started in the 1980s to more than 0.8 for those started in the 1990s, though the estimation range varied due to the different number of projects implemented. In particular, more than 90% of the projects started within the past four to five years were rated “A/B.” This, however, did not mean that the evaluation standards were

loosening, because the percentage of rating “A/B” categorized by project evaluation year remained at the same level, as shown in Figure 5, and because another analysis indicated no special deviations in background factors, such as the duration of project implementation or the time lapsing between the project end and the time when the evaluation was undertaken. Therefore, as shown in Figure 6, the study went further to link the tendency of ratings with measures taken to improve ODA Loan projects and analyze the possibility that these measures would result in enhancing project performance.

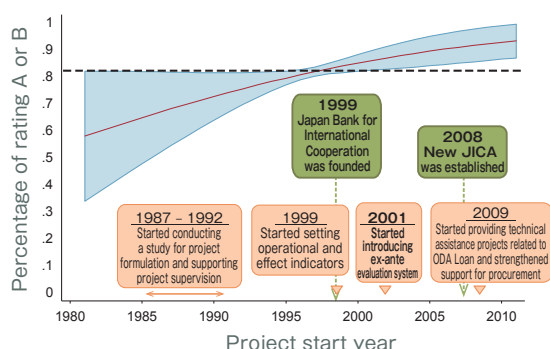
<Figure 4> Project start year and rating “A/B” estimated



<Figure 5> Project evaluation year and rating “A/B” estimated



<Figure 6> Project start year and rating “A/B” estimated and measures taken to improve for projects



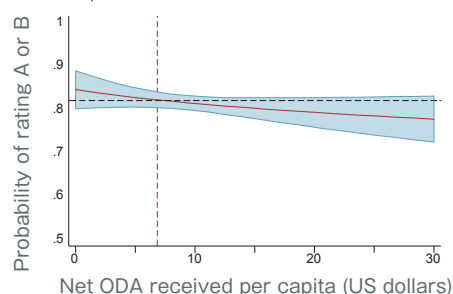
Explanation to the figures: The black broken line represents the average probability (0.82) of ODA Loan projects being rated “A/B” (throughout the period analyzed in this study). The red solid line shows the percentages of rating “A/B” estimated by assigning different values to the horizontal axis parameter while controlling other variables. The light blue shaded area around the red line represents a 95% confidence interval, which shows the accuracy of the estimated values. The narrower the shaded area, the more precise the estimate will be.

Analysis Result 2: Relation between the net ODA received per capita and the percentage of rating A/B

This analysis focused on the relationship between the net ODA received per capita⁹ and the probability of projects being rated “A/B.” In general, as shown in Figure 7, project performance would decline, though slightly, with increasing net ODA received per capita. Based on the analysis of ex-post evaluations by the World Bank¹⁰, which indicated that “state capacity is important for the

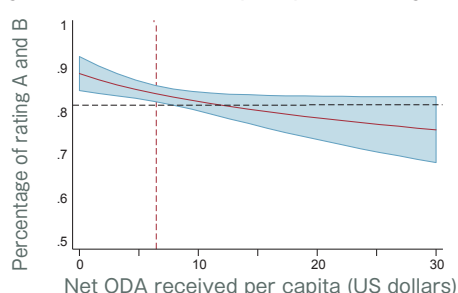
success of projects,” the relationship between the “government effectiveness”¹¹ defined by the World Bank and the net ODA received per capita was analyzed. Our analysis results also supported the negative relationship (the lower the state capacity, the more the country received ODA), as shown in Figure 8.

<Figure 7> Net ODA received per capita and rating “A/B” estimated
(The vertical red dotted line shows the median of the variables)



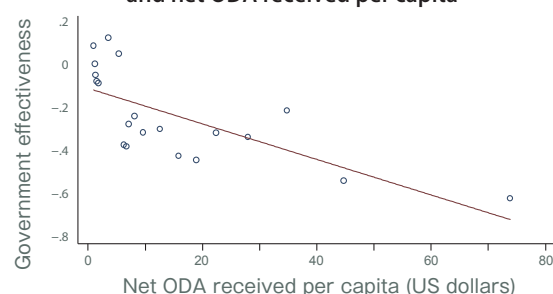
In order to further delve into the relationship shown in Figure 7, the target projects were further analyzed by dividing them according to the procurement of contractors into two groups: local competitive bidding (LCB) and non-LCB (international competitive bidding (ICB)-oriented) projects¹². The results showed a more marked downward trend in the group of LCB projects than in the entire set of projects (Figure 9). Meanwhile, the group of non-LCB projects exhibited no noteworthy changes but a slightly increasing or static trend (Figure 10). One of the reasons why project effectiveness (performance) varied depending on the contractor selection method was considered because LCB-oriented projects involving local

<Figure 9> Net ODA received per capita and rating “A/B” estimated (LCB)



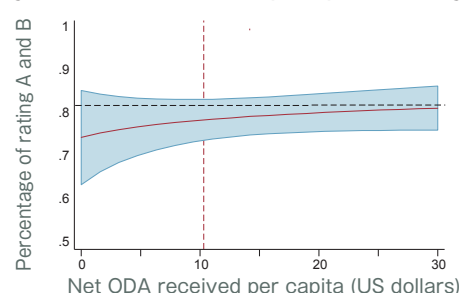
In addition, although not shown in any figure, the analysis of the relationship between the GDP per capita and the estimated probability of rating “A/B”, it was observed that the probability decreased with increasing GDP. One of the reasons why this tendency appeared despite the assumption that the state capacity would increase with increasing GDP was considered that in the case of ODA loan projects, the costs borne by borrowing governments would increase with GDP growing to middle-income levels. Moreover, given that the increased share borne by borrowing countries would raise the share of LCB procurement

<Figure 8> Relationship between the “government effectiveness” and net ODA received per capita



contractors in construction works and other services would be susceptible to state capacity limitations and industrial constraints in the countries where they were implemented. On the other hand, it was suggested that non-LCB (ICB-oriented) projects would not suffer negative impacts, at least not one large enough to affect the project performance, because their construction was executed by contractors with global technology levels. It was therefore assumed that the impact on the probability of being rated “A/B” would be smaller in non-LCB projects than in LCB-oriented projects. This assumption will be further examined, including the definition of the LCB variable itself.

<Figure 10> Net ODA received per capita and rating “A/B” estimated (non-LCB)



and lower the engagement level of JICA, it was presumed that the positive impact of involving international contractors in construction would lessen and so would the percentage of rating “A/B.” Although it is difficult to logically build up these hypotheses only from the relationships between the correlated parameters analyzed here, we believe that useful insights can be gained to improve future JICA projects by examining the problems identified through quantitative evaluation at a practical level while referring to assumptions based on quantitative data analysis.

Suggestions and Insights from the ODA Loan Model

The analysis of net ODA received per capita suggested that difficulties in project implementation due to state capacity limitations could be reduced, depending on the contractor selection method. Proper procurement can enhance the effectiveness of ODA loan projects or mitigate the risk of lower performance. It is, however, noted that as shown in the analysis of GDP per capita, this solution may be difficult in some cases. For example, when the borrowing government bears a large share of the project costs, the positive

impact made by the procurement of proper contractors for ODA loan projects may be limited or become too small to offset the impact of government systems. Still, as shown in Figure 6, the performance of ODA loan projects has improved through various measures. Going forward, it is desirable to establish a mechanism to ensure the proper selection of contractors and facilitate the appropriate design of projects according to the objectives.

⁹ It refers to net ODA received per capita (USD) by countries and territories on the DAC List of ODA Recipients. The ODA includes all loans and grants provided by DAC member organizations, bilateral agencies, and non-DAC member countries to promote economic development and welfare.

¹⁰ Hanson, J. K., & Sigman, R. (2016). State Capacity and World Bank Project Success.

¹¹ Government Effectiveness, one of the Worldwide Governance Indicators (WGI) published by the World Bank.

¹² International competitive bidding (ICB) is an international tender open to all interested parties. Local competitive bidding (LCB) is also competitive but open only to local parties in borrowing countries. In this analysis, projects with LCB accounting for more equal than 50% of the total disbursed loans are categorized as LCB projects, and the others as non-LCB projects. The non-LCB projects select contractors mainly through ICB but also through a few other methods. A project using multiple procurement methods including ICB is categorized as a LCB project if ICB procurement does not account for a majority.

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■ JICA Homepage

▶ <https://www.jica.go.jp/english/index.html>



■ Evaluations

▶ https://www.jica.go.jp/english/our_work/evaluation/index.html



☐ Find out more on JICA's evaluation system

☐ Overview

▶ https://www.jica.go.jp/english/our_work/evaluation/about.html

☐ Pre Implementation Stage (Ex-ante Evaluation)

▶ https://www.jica.go.jp/english/our_work/evaluation/oda_loan/economic_cooperation/about.html

☐ Implementation Stage

▶ https://www.jica.go.jp/english/our_work/evaluation/oda_loan/review/about.html

☐ Post Implementation Stage

▶ https://www.jica.go.jp/english/our_work/evaluation/tech_and_grant/project/ex_post/about.html

☐ Thematic Evaluation, etc.

▶ https://www.jica.go.jp/english/our_work/evaluation/tech_and_grant/program/index.html

☐ Impact Evaluation

▶ https://www.jica.go.jp/english/our_work/evaluation/tech_and_grant/impact/about.html

☐ Evaluation Guides

▶ https://www.jica.go.jp/english/our_work/evaluation/tech_and_grant/guides/index.html

☐ Advisory Committee on Evaluation

▶ https://www.jica.go.jp/english/our_work/evaluation/advisory/index.html

☐ Search for Ex-post Evaluations (Ex-post Evaluation Reports after 2008)

▶ <https://www2.jica.go.jp/en/evaluation/index.php>

☐ Read Past JICA Annual Evaluation Reports

☐ JICA Annual Evaluation Reports

▶ https://www.jica.go.jp/english/our_work/evaluation/reports/index.html

☐ Find out about Evaluations by other Organizations

☐ Evaluation links

▶ https://www.jica.go.jp/english/our_work/evaluation/links.html

■ JICA Library

▶ <https://www.jica.go.jp/english/about/organization/library/index.html>

JICA Annual Evaluation Report 2017 is also available on our website:

▶ https://www.jica.go.jp/english/our_work/evaluation/reports/2017/index.html



JICA Annual Evaluation Report 2017

Edited and Published by

**Evaluation Department,
Japan International Cooperation Agency**

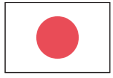
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