

## Identification and Analysis of Lessons Learned

### Lessons Learned for Project Management in Conflict-affected Countries and Areas

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JICA has been playing an active role in the reconstruction and development of conflict-affected countries and areas since the late 1990s<sup>\*1</sup>. These experiences have revealed that the causes of conflicts differ from country to country and from region to region, and the features of conflict-affected countries and areas also vary depending on the context and dynamics of the conflict, the framework of peace-building, the post-conflict government structure, and the support from the international society. Against this backdrop, a Senior Advisor on Peace-building performed a transversal analysis of lessons learned from the evaluations of past projects in conflict-affected countries and areas in terms of the characteristics of post-conflict projects, the features of conflict-affected countries and areas, and the lessons learned from ex-post evaluations, to explore perspectives for project management throughout the process from planning to implementation.

#### 1. Characteristics of projects in post-conflict settings

Why do development projects fail? Albert O. Hirschman answered this question in the late 1960s: "The distortion due to the asymmetry of information between the donors and the recipients prevents the efficient allocation of resources (when aid is defined as resources)<sup>\*2</sup>." His argument has now been brought back into the spotlight in the international development arena.

This argument suggests that there is an enormous risk when many development projects with uncertainties<sup>\*3</sup> are implemented based on the assumption that they will go as planned.

When applied to conflict-affected countries and areas, this discussion indicates that development projects in such a situation are more unpredictable and uncertain than usual. In other words, their PDM<sup>\*4</sup>, which is a hypothetical project plan, is not necessarily accurate. This is because these projects are planned by donors under the following conditions:

- (1) Economic, social, political, administrative, and other sectoral data and information are limited;
- (2) The scope and content of the preliminary study are limited due to the volatile political and security situation;
- (3) Development partners, including JICA, have limited experience in the target country/area and therefore have little experience-based knowledge to assess the institutional capacity of the implementing agencies; and
- (4) There is an urgent need to deliver aid as a post-conflict peace dividend even under the above-mentioned constraints.

In addition to these impediments in the planning stage, the volatile political and security situation may pose other risks during the implementation phase. In some cases, Japanese project team

members may be forced to work remotely due to security reasons. This will turn the input-to-output process into a black box. There may also be other risks, such as failing to meet the prerequisites and leading external factors to prevent project outcomes from being achieved. Therefore, it is extremely difficult for donors to develop a PDM that will not need any changes (a highly accurate hypothesis).

#### 2. Features of conflict-affected countries and areas

Conflict-affected countries and areas are characterized by the lack of sovereignty over the entire territory. More specifically, their features include (1) a fragile and malfunctioning government, (2) the lack of state legitimacy, (3) limited rule of law, (4) volatile political and security situations, (5) division and hostility between people, (6) limited community functions, (7) floating populations (e.g. refugees and internally displaced persons), (8) land ownership problems, and (9) socially vulnerable populations emerging from conflicts, though they may vary depending on the local context.

Most people rely on customary resource allocation mechanisms, not public ones, for their own survival. The resources (aid) input through government agencies (public institutions) may increase competition over resource allocation between conflicting clans, tribal, and ethnic groups. In particular, when the conflict is about to end, political turbulence is likely to occur, with the tensions increasing between powers over access to national resources, which will enhance the fluidity of the resource allocation mechanism due to struggling for a new political order.

This situation will make it difficult for external donors to understand the local political dynamics. In order to prevent conflicts from recurring and promote peace, it is important to note the restrictions, conduct the Peace-building Needs and Impact Assessment (PNA)<sup>\*5</sup> throughout the process from planning to completion, perform a stakeholder analysis, take both stabilizing and destabilizing factors into account in the planning of inputs and activities, and revise the plan when necessary. In other words, the political nature of aid should be taken into account to prevent projects from being unintentionally used as political interventions.

#### 3. Lessons learned from the ex-post evaluations of post-conflict projects

Some of the projects implemented in conflict-affected countries and areas were rated lower in the ex-post evaluations because the above-mentioned features of conflict-affected countries and areas had not been taken into consideration in project management. The ex-post evaluations of these projects provide the following lessons learned<sup>\*6</sup>.

Some of the lessons are applicable not only to conflict-affected countries and areas but also to other countries and areas.

- (1) Some project purposes and overall goals were set too high in comparison to what was realistic to achieve with the institutional capacity and resources of the implementing agencies.
- (2) In relation to (1), the peace-building targets and indicators and their measurement methods were not clear or confirmed by all stakeholders, which made it difficult to measure the outcomes.
- (3) In relation to (1), there was no scenario or strategy to extend the outcomes of the project after its completion. No sufficient consideration was given to institutional development for this purpose in the implementation phase.
- (4) Frequent plan changes were not reflected into the PDM or documented.
- (5) Despite many constraints, such as remote management, some projects covered too large an area and too wide a field and involved too many organizations. In addition to the problem mentioned in (1), the project scope expanded beyond what a single project could cover.

These lessons indicate the importance of accepting inevitable uncertainties in the planning phase and revising the project plan and reflecting the revisions into the PDM in the implementation phase.

#### 4. Perspectives for project management in conflict-affected countries and areas

In view of above, it is necessary to change the paradigm of project management in conflict-affected countries and areas with high uncertainties in order to correct the asymmetry of information between the donor and the recipient and ensure the effective and efficient allocation of (aid) resources. In other words, because it is not realistic to assume that you can make an accurate hypothesis (PDM) in the planning phase, it is more important than usual to improve its accuracy in the implementation process by modifying it according to the actual situation. Based on these analysis results, the following perspectives are suggested for project management in conflict-affected countries and areas<sup>\*7</sup>.

**Table. Perspectives for project management in conflict-affected countries and areas**

Phase	Points to consider
Planning phase	<ul style="list-style-type: none"> <li>■ Conduct a capacity assessment<sup>*8</sup> of the implementing agencies and then define the implementation structure and the scope of cooperation (target areas, beneficiaries, sectors, personnel assignment, etc.). When the project is remotely managed, design the implementation structure so that it can be gradually scaled up.</li> <li>■ Build a consensus among all stakeholders that the PDM is provisional and subject to change.</li> <li>■ With regard to the external factors in the PDM, because post-conflict projects are more vulnerable to external factors, it is essential to carefully analyze risks while distinguishing them into internal and external factors.</li> <li>■ Set measurable indicators and develop realistic plans for baseline and endline surveys (including sampling methods, questionnaires, and implementation structures). Pay attention to the risk that the implementing agencies may not have existing data especially in conflict-affected countries and areas.</li> <li>■ Conduct PNA and define the scope of assistance according to the analysis of stabilizing and destabilizing factors.</li> <li>■ Develop scenarios and strategies for spreading the outcomes of the project after its completion.</li> </ul>
Implementation phase	<ul style="list-style-type: none"> <li>■ After the project starts, do what was left undone in the planning phase.</li> <li>■ Monitor the progress against the outcome targets specified in the PDM, examine the influence of internal and external factors, identify obstacles to delivering outcomes, and add activities to the project as required. Examine the logical sequence of activities-outputs-project purpose-overall goal and check the validity of indicators.</li> <li>■ Conduct PNA on a regular basis and add activities and notes as required according to the analysis of stabilizing and destabilizing factors.</li> <li>■ When the gap between planned and actual performance is larger than expected, consult with stakeholders on the influence on the project and the possible countermeasures based on the results of the risk analysis and PNA, revise the project plan (and modify the contract accordingly), and add these changes to the PDM.</li> <li>■ When revisions are made to the PDM, build a consensus among all stakeholders on their necessity, appropriateness, and reasonableness, and officially document the changes.</li> <li>■ Document in as much detail as possible the implementation process of the project and changes to the project plan and PDM. These records may be useful not only in project evaluation but also in lesson-learning for developing effective approaches to future projects.</li> </ul>

\*1: The word "conflict" here means an domestic armed conflict that occurred between different clan, tribal, and ethnic groups after the end of the cold war. The project in post-conflict settings include not only projects directly aimed at peace-building but also any other projects implemented in conflict-affected countries and areas.

\*2: Hirschman, Albert. 1967. *Development Projects Observed*. Washington, D.C.: Brookings Institution. EBSCOhost, an online research platform, has published 84 academic articles that cite the works of Hirschman since 2010.

\*3: Hirschman used the word "uncertainty" to mean the unpredictable problem that occurs despite all the careful preparations based on best possible knowledge.

\*4: PDM stands for Project Design Matrix. It is a matrix that outlines the project.

\*5: See the following for details: *Handbook for Conflict Prevention and Peace Promotion: Application of Peace-building Needs and Impact Assessment (PNA)* (JICA, 2017).

\*6: These lessons are extracted from ex-post evaluation reports on projects implemented in conflict-affected countries and areas.

\*7: For details of lessons learned for the formulation and implementation of peace-building projects, see the following report: *Thematic Evaluation: A Cross-sectional Analysis of Evaluation Results: Extraction of "Knowledge Lessons" from Peace-building Projects (Japanese)* (JICA, 2016).

\*8: For details of capacity assessment, see the following reports: *Capacity Assessment Handbook: Project Management for Realizing Capacity Development* (JICA, 2008) and *Handbook for Administrative Structure Assessment (Japanese)* (JICA, 2009).

## Column

**PDIA Approach in Conflict-affected Areas**

Southeastern Mindanao Island was faced with various problems, such as high poverty rates, limited basic social services, and poor infrastructure, due to the armed conflict that lasted more than 40 years. Despite the creation of the Autonomous Region in Muslim Mindanao (ARMM) in 1990 and the peace agreement between the Moro National Liberation Front (MNLF) and the Government of the Philippines in 1996, violent clashes often erupted between the Moro Islamic Liberation Front (MILF), spun off from the MNLF in 1984, and the Government of the Philippines. They signed a Framework Agreement in October 2012 and a Comprehensive Agreement in March 2014. Then, the Organic Law for the Bangsamoro Autonomous Region in Muslim Mindanao was ratified in July 2018 to establish a new autonomous government. JICA has assisted the new autonomous government in providing better administrative services since the transition period through the Project for Comprehensive Capacity Development for the Bangsamoro (hereinafter, “CCDP”), which is a Technical Cooperation project launched in 2013. In order to ensure a peaceful life for all the people of Mindanao after the armed conflict, this project has been working to promote the transition process to reach a final peace agreement and establish a new autonomous government based on the understanding and support of the local residents and stakeholders. More specifically, this project has been establishing the organizational and institutional structures of the new autonomous government, developing a regional development plan according to the local needs, assisting the new autonomous government in providing effective administrative services as expected by the local residents, and building the capacity of administrative officers to support the establishment of the new autonomous government. This project has also provided Revenue Enhancement Assistance for ARMM Local Government Units (REAL), using a project management approach called problem-driven iterative adaptation (PDIA) on a trial basis. The PDIA approach was first outlined by Dr. Lant Pritchett (economics), Dr. Matt Andrews (public administration), and Dr. Michael Woolcock (sociology) at the Harvard Institute for International Development of Harvard University. In the context of development assistance, this approach is used to allow local stakeholders to relate to their own problems and develop solutions by themselves as well as

create a loop of trials and corrections to achieve successful and sustainable institutional reform. This approach has been found to be more effective in complicated projects (e.g. organizational and institutional reform projects in fragile countries and unprecedented projects) than in simple projects. Therefore, JICA incorporated the PDIA approach into REAL for the CCDP in Mindanao so that ARMM local government officials would relate to the problem of revenue generation and develop solutions by themselves. This approach is expected to work well because it is proven to be effective in institutional reform in conflict-affected, fragile countries and areas like Mindanao, where the situation is changing rapidly.

PDIA workshops helped ARMM local government officials shift from passive to active participants. They became aware of actions they could take to increase revenues, such as making written requests to the Land Bank of the Philippines for registration and visiting homes to collect taxes instead of waiting for taxes to be paid, and actually put these ideas into action. Thus, the approach of working side-by-side to address challenges in delivering project outcomes while having an evaluative perspective can help local stakeholders identify and solve problems on their own. JICA will continue to use the PDIA approach to promote iteration so that stakeholders will become aware of actions they can take to achieve the project purpose.



A workshop in Mindanao

# Efforts to Improve Evaluation Methodology

## Basic concept on Evaluation of Technical Cooperation for Development Planning (TCDP)

### 1. Background

All Technical Cooperation for Development Planning (projects that assist developing countries in formulating policies and public works plans and transfer surveying, analyzing, and planning techniques; hereinafter, "TCDP") costing over 200 million yen and assessed through ex-ante evaluations after FY2011 are subject to ex-post evaluation. The basic concept and key points of the ex-post evaluation of TCDP are described below.

### 2. Basic concept

TCDP is aimed at producing outputs, such as master plans (M/P) and feasibility studies (F/S), by the end of the project period. Therefore, TCDP projects are different from other Technical Cooperation projects in the way that objectives (project purposes and overall goals) are set and the way that evaluation is conducted.

In the ex-ante evaluation process, objectives and indicators are generally set in terms of (i) expected utilization of the proposed plan and (ii) expected goals to be achieved with the proposed plan. With regard to the expected utilization of the proposed plan, ex-post evaluations assess the effectiveness of TCDP projects by examining how the proposed plan (project output) has been used/implemented by the recipient country. On the other hand, the expected goals to be achieved with the proposed plan are generally medium- to long-term goals, such as contributing to achieving the economic and social goals of the recipient country, and usually impossible to achieve in such a short time like three years after project completion; therefore, the ex-post evaluations of TCDP projects usually focus on assessing how the proposed plan has been utilized over the three years since the completion of the project (see Examples (1) and (2)). However, TCDP projects that are not aimed at developing M/P or conducting F/S but focused on strengthening organizational capacity or transferring techniques and TCDP emergency support studies for infrastructure reconstruction and recovery are assessed not only from the above-mentioned perspectives but also from the same perspectives as for other Technical Cooperation projects, such as whether the outcomes expected to be achieved within three years after the completion of the project are delivered and how they are used.

### 3. Key points of ex-post evaluation

#### (1) Effectiveness/impact

The ex-post evaluations of TCDP projects assess effectiveness and impact mainly by examining how the proposed plan has been used. The expected utilization of the plan may vary depending on the project and the recipient country. Therefore, it is assessed not only by confirming whether the proposed plan has been adopted but also by examining how it has been incorporated into the policies and plans of the recipient government, how it has been recognized and used by stakeholders, and how it has been used for preparations for projects. In addition, JICA considers that it is important to assess the expected utilization of the proposed plan from as many angles as possible. For example, it is desirable to assess the satisfaction of stakeholders with the proposed plan (through interviews or questionnaires).

#### (2) Sustainability

The sustainability of TCDP projects is assessed mainly by examining the sustainability of the agencies responsible for implementing the projects

listed in the proposed plan, competent authorities, and other relevant organizations. More specifically, it is assessed by collecting information on the policies and systems related to the implementation of the proposed plan, the organizational, technical, and financial aspects of the implementing agencies, competent authorities, and other relevant organizations and analyzing the implementation and future prospects of the proposed plan. (It is noted that the relevance and efficiency of TCDP projects are assessed in the same way as for other Technical Cooperation projects)

These evaluation results are used to analyze and identify factors for success and failure and provide recommendations and lessons learned.

#### <Example>: Urban Transport Master Plan

##### (1) Main perspectives for assessing the expected utilization of the proposed plan and the expected goals to be achieved with the proposed plan

<Expected utilization of the proposed plan>: whether the proposed M/P has been institutionalized as the urban transport development plan of the city and whether the priority projects listed in the plan have been put into action

- Whether the proposed plan (e.g. M/P) has been approved
- Whether the coordination structure among related organizations has been established to put the proposed plan into action
- Whether detailed plans have been developed to put the proposed plan into action
- Whether the projects listed in the proposed plan have been budgeted for implementation and put into action

<Expected Goals to be achieved with the proposed plan>: whether the projects listed in the proposed plan have been implemented/completed and contributed to traffic improvements in the city

- Whether the projects listed in the proposed plan have been budgeted for implementation and put into action
- Whether the projects listed in the proposed plan have been completed (whether the transport infrastructure has been developed)
- Whether the projects listed in the proposed plan have contributed to traffic improvements

##### (2) Process from the expected utilization of the proposed plan to the attainment of the expected goals to be achieved with the proposed plan

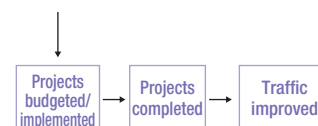
<Expected utilization of the proposed plan>

(Expected to be completed between the project completion and the ex-post evaluation)



<Expected Goals to be achieved with the proposed plan>

Expected to be completed in the medium- to long-term (after the ex-post evaluation)



## Efforts to Visualize Project Beneficiaries

### ► Case: Rajasthan Minor Irrigation Improvement Project in India

JICA has striven to visualize beneficiaries, who are prone to be lumped together in conventional evaluation methods, to enhance elicitation of lessons and to improve evaluation methods with the aim of fairness in project outcome emersion. Provided that any gaps are caused in distribution of project outcomes among beneficiaries, those are attributable to the differences in gender or socioeconomic status. JICA intends to propose projects arranged to benefit a wider range of actors by visualizing whether the project outcomes have been equally shared among gender groups or have reached group(s) most in need.

This section introduces an analytical case of the Rajasthan Minor Irrigation Improvement Project (ODA Loan) in which the “beneficiaries were visualized.” This project was implemented to increase agricultural productions through rehabilitation of existing minor irrigation facilities and dissemination of water resource management and agricultural technologies. As well as conducting a regular ex-post evaluation, a detailed analysis was performed by OPMAC Corporation receiving cooperation from gender experts and following the procedures below.

#### <Purpose of Analysis>

- To elucidate benefits of the project outcomes that were unevenly distributed among different socioeconomic groups and gender groups and the explanatory factors.
- To elicit recommendations and lessons that would help formulate future projects, focusing on women and socioeconomically vulnerable groups.

#### <Analytical Methods>

The following data collection and analytical methods were applied:

Title of the targeted sub-project for the investigation	Para-I sub-project in the Ajmer District
Data collection period	From May 2018 to July 2018
Population	1,238 residents (1,187 farmers registered in the Water Users' Association (WUA) and 51 landless farmers)
Sampling method	Stratified at random (based on data registered in the WUA and a list of landless farmers)
Sample size	148 households (148 males and 148 females)
Methods for statistical analysis	Cross-tabulation analysis (Chi-square test and Fisher's exact test) and Sign test of groups (two-sided test)

Note: As for selection of project site (Sub-project), the following three criteria were employed considering appropriate identification of beneficiaries' gaps:

- Where the volume of water source is stable,
- Where women engage in a certain role that would be significantly influenced by the project (e.g., there are self-help groups or activities of cultivating/selling vegetables),
- Where areas of irrigation and the number of target villages suffice for facility maintenance and management.

#### <Analytical Result>

##### (1) Uneven benefits distributed among different socioeconomic groups and the explanatory factors

The project's input to the agriculture sector spawned introductions of new products and breeds, regardless of the scale of farmers involved. However, larger-scale farmers were more likely to cite that the volume of water inflow from irrigation channels was increased (see Table 1). This could reflect the fact that many large-scale farmers are located in upstream areas. With regard to the effect of the agriculture sector, it generally demonstrates positive results as yields of main production and agricultural income following the rehabilitation were increased. This tendency appears to be more outstanding for larger-scale farmers. It is assumed that the use of pumps and agricultural machines was attributed to their agricultural productivity. In terms of benefits to agricultural households, alongside a general increase in various agricultural expenditures, household expenditures also increased across the board. Meanwhile, larger-scale farmers tend to engage in general household work longer, indicating that their agricultural workload is also intensified. Generally, in irrigation projects, farmers in upstream areas of irrigation channels are more likely to benefit compared to farmers in downstream areas, and this project affirmed the tendency.

**Table 1 Water volume during dry season after rehabilitation of the irrigation channel**

(Unit: households)

Farmer's scale	Change in water volume						Total
		Increased	Slightly Increased	No change	Slightly Decreased	Decreased	
Small		13	30	1	0	0	44
Medium		19	34	0	0	0	53
Large		36	9	0	0	0	45
Total		68	73	1	0	0	142

Note: The results of Chi-square test and Fisher's exact test showed statistically significant relevance in both variables (Chi-square test: p-value 0.000 / Fisher's exact test: p-value 0.000).



## (2) Uneven benefits among gender groups and the explanatory factors

As a project outcome within the agriculture sector, despite being secondary products, a shift to vegetable production was observed due to the increased water volume. Since this change expanded disposable income of agricultural households on the whole, discretionary spending was also improved among both males and females. In particular, women became more aware of the improvement in decision-making concerning expenditures (see Column).

Conversely, farming hours tended to become longer in general (see Table 2). Although no change was observed in the allocation of traditional farming roles, some women spent longer time in plowing work, for which males have used to be responsible. It is also assumed that women engage in farming work more than men within vegetable farmers because vegetable production is mainly organized by women. Moreover, albeit farming is becoming an increasing burden within households, it was suggested that labor of water drawing had declined in men, implying the possibility that women undertake the labor and the workload of water drawing in women is increased.

**Table 2 Annual work hours (overall farming)**

Gender	Annual work hours (overall farming)						Total
		Increased	Slightly Increased	No change	Slightly Decreased	Decreased	
Male		39	83	3	17	0	142
Female		63	59	3	17	0	142
Total		102	142	6	34	0	284

Note: The results of Chi-square test and Fisher's exact test showed statistically significant relevance in both variables (Chi-square test: p-value 0.021 / Fisher's exact test: p-value 0.017).

## (3) Recommendations and lessons learned for project formulation

Regarding the project benefits that were unevenly shared among socioeconomic groups and gender groups, key factors were identified. The set of given conditions among socioeconomic groups in the target area (financial and geographical conditions), and the allocation of farming roles within households reflected by the historical and societal background significantly affected to the cases of (1) and (2) respectively. When formulating future projects, project components should be considered following adequate analysis of the aforementioned given conditions/factors, otherwise projects could exacerbate disparities among socioeconomic groups and genders groups within target areas. It was indicated that taking adequate measures is necessary to modify such disparities in projects.



Interview with members of a self-help group



Water intake facility of a dam



Agricultural land benefited from irrigation

### Column

#### Effort to project outcome emersion and women's empowerment

As introduced, the outcomes achieved in the Rajasthan Minor Irrigation Improvement Project in India include expansion of disposable income for entire households and improvement of discretionary spending among both males and females. Women, in particular, have become increasingly aware of the improvement in decision-making on expenditures. At the same time, such outcomes on women's empowerment within households were not only driven by the project.

In the target area, self-help groups\* that are centered on women have been functionally enhanced, and women's participation in local autonomy has been promoted. Such social environmental changes in the area were also highly likely to have helped facilitate the project outcomes, according to the analysis.

In a succeeding project, women's opinions have been already incorporated in the project plan and implementation. Activities such as establishing a women's section in the WUA were added in the project component. Based on the analyses described above, it was proposed that, for future designs of similar projects, additional consideration of activities contributing to women's empowerment would be significant in the context of fairness in project outcome emersion among gender groups.

\* Self-help group (SFG): a group for low-income individuals who have difficulties in accessing financial institutions was formulated. The main aims of SFG are to mutually support household budgets through savings, revolving loans and other means. In India, there are a variety of loans via SHGs, such as small amount loans from a financial institution using deposits made by SHG members as its capital. In the case of Rajasthan State, SHGs were formulated under the State Government policy; particularly targeting women in around 2014, that was when the operation of facilities improved by the project was initiated

## Leveraging Satellite Data in Ex-post Evaluations

Masamitsu Kurata, Metrics Work Consultants/Sofia University

Recently, increasing opportunities have emerged to leverage data collected by satellite to determine various aspects of the natural environment and the state of socioeconomic activities worldwide. Major factors behind this have included technological developments that are high precision and diversification of observation devices (sensors) equipped in satellite, as well as environmental improvements that made observation data more accessible to public as opened data via IT platforms. JICA also has encouraged the use of satellite data for international cooperation projects, such as developing and operating the JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST) system which uses JAXA's radar satellite, ALOS-2, under a cooperative agreement with the Japan Aerospace Exploration Agency (JAXA). From the ex-post evaluation perspective, satellite data have been recognized as significant information sources that allow us to obtain objective evidence. In 2018, JICA has used available information and experimentally conducted analysis within two ex-post evaluations.

### ► Case 1: Project for Improvement of National Road No. 9 as East-West Economic Corridor of the Mekong region in Laos (Grant Aid)

The first case involved the ex-post evaluation of the Project for Improvement of National Road No. 9 as East-West Economic Corridor of the Mekong region implemented in Laos. JICA requested Mr. Souknilanh Keola, a researcher at the Institute of Developing Economies, Japan External Trade Organization, specializing in remote sensing using satellite data and its analysis, to analyze how the regional economy had been revitalized following the improvement of National Road No. 9, which also plays a key role as an international highway using nocturnal lights observed by satellite (see Figure 1 for a sample image). As nocturnal light is closely correlated to gross domestic production and other economic indicators, it is widely used

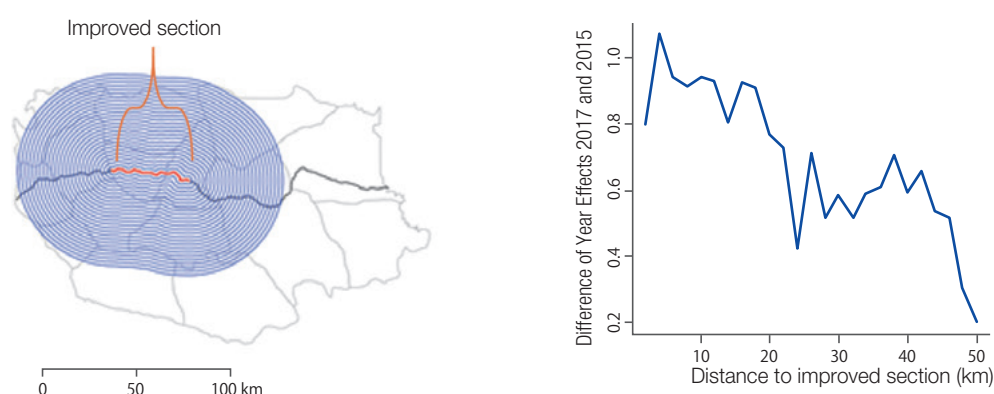
as an indicator in economics and other fields to identify the geographical distribution of economic activities. This analysis adopted freely available data from the meteorological satellite, Suomi NPP, operated by the National Oceanic and Atmospheric Administration of the U.S. The analytical result showed how more nocturnal light was intensified in the areas surrounding the section improved by the project, indicating the project outcome was linked to regional economic revitalization (Figure 2). This result also tallies with other positive results, such as an increased traffic volume for the improved sections and an improved trade/investment environment, as revealed in the interview with local residents during the ex-post evaluation.

<Figure 1> A world map showing nocturnal lights observed by the Suomi NPP satellite



Source: NASA Earth Observation Center / National Geophysical Data Center of the National Oceanic and Atmospheric Administration

<Figure 2> Correlation between the distance to the Improved Road (National Road No. 9) and change in nocturnal light

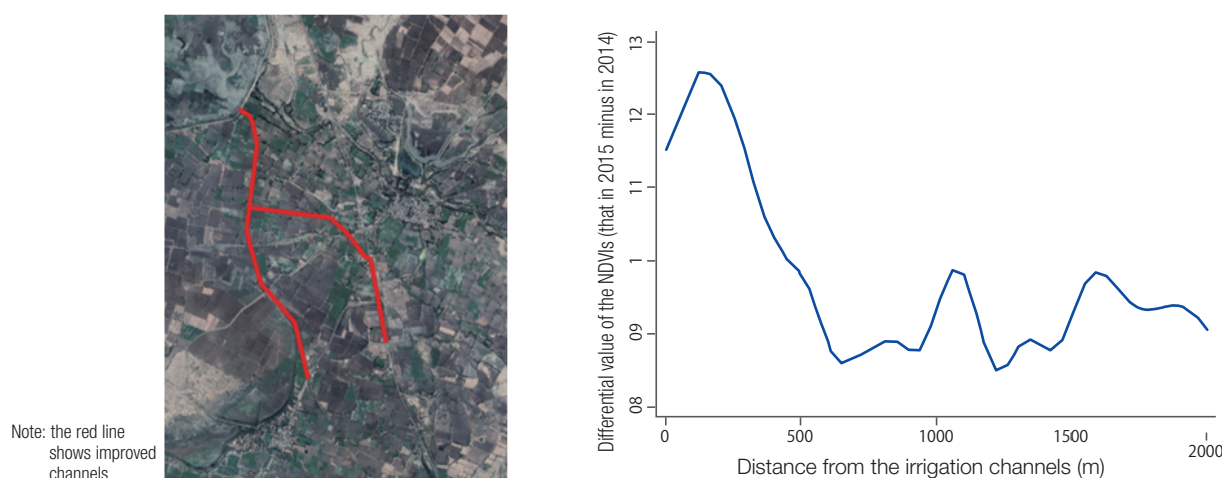


## Case 2: Rajasthan Minor Irrigation Improvement Project in India (ODA Loan)

The second case is the ex-post evaluation of Rajasthan Minor Irrigation Improvement Project in India. Focusing on Para-I area in Ajmer District, satellite data were used to evaluate how agricultural productivity in the surrounding area had increased after improving irrigation systems. Specifically, as well as leveraging the technical expertise of the Space Technology Directorate I of JAXA, satellite data (Terra, Landsat-8) operated by the U.S. National Aeronautics and Space Administration and other sources were adopted to estimate at a mesh level of 30 meters square of

the normalized difference vegetation index (NDVI), which shows the distribution of crops and other vegetation and compares its fluctuation before and after the project respectively (Figure 3). The analytical result showed that the vegetation index within 500 meters of irrigation channels that were improved by the project increased more than elsewhere, indicating an increased crop yield. This result also reflects interviews with local farmers, who cited increased irrigation water and crop yields.

<Figure 3> Relation between the distance from improved channels and changes in the NDVI



As the above cases suggest, satellite data can be used as key information to obtain objective and quantitative evidence in a form of complementary information to conventional beneficiary surveys, conducted based on interviews with local residents and other methods. Other than nocturnal light and the state of vegetation, this observational data can be used to capture various aspects, including the sea area and seawater temperature, damage caused by natural disasters, such as inundation by

floods and landslides and even air pollution and greenhouse gas. With this in mind, it is expected in the Sustainable Development Goals (SDGs) that space agencies worldwide should cooperate to develop a system that is able to monitor indicators related to the SDGs. JICA plans to develop project evaluations utilizing satellite data in a wider range of categories hereafter.

## Attempt to Link Quantitative and Qualitative Surveys – Introducing Qualitative Comparative Analysis (QCA)

The outcomes of the development project are attributable to multiple factors that are complexly intertwined. Although a quantitative survey including statistical analysis can identify major factors, a sufficient number of cases is required and limitations apply when handling the complexity of each case. Although a qualitative survey including a case study is suitable to prove the complex factors of cases, it is no better than presenting a small number of cases. A method that draws attention to realize a systematic comparison while properly maintaining and compiling the complexity of cases based on Set theory is Qualitative Comparative Analysis (QCA).

JICA's project in the forest sector in India, which aims not only to regenerate forest but also to reduce poverty among residents depending on forest resources, includes a number of interventions that are not limited to

afforestation activities (e.g. establishing a joint forest association, providing small-scale infrastructures and promoting small amount loans). Other factors, such as changes in the natural environment and socioeconomic situations, come into play, although it remains unclear which combination among such multiple interventions/factors can be attributed to the achievement of the project outcomes. Accordingly, JICA started attempting to clarify such complex interactions of factors by introducing QCA. If a combination of interventions/factors to achieve the project outcomes can be generalized by the analytical results to a certain extent, there is expected to be able to present more helpful recommendations and lessons for similar projects in the future. JICA will keep encouraging to enhance learning by introducing such new evaluation methods.



## Adaptation of Various Evaluation Perspectives for Learning and Improvement

JICA has been evaluating its projects in a consistent manner across the three schemes (Technical Cooperation, ODA Loans, and Grant Aid) since 2008. At the same time, JICA has been exploring evaluation perspectives considering the characteristics of each scheme.

As of FY2017, more than 1,600 projects have received overall ratings based on their ex-post evaluations, either internal or external. The evaluation perspectives are also adapted every year based on comments from the Advisory Committee individual evaluators, and internal relevant departments, as well as a statistical analysis of these ratings.

In particular, the adaptation of evaluation perspectives was focused on elaborating and extending the evaluation perspectives so that evaluations can provide useful insights into the planning and management of projects.

This section describes the recent modifications to the evaluation perspectives.

### Common Matters

#### ■ Conduct integrated evaluations

JICA decided, in principle, to evaluate Technical Assistance Projects Related to Japanese ODA Loan and their relevant ODA Loan projects in an integrated manner and introduced a new perspective for analyzing the synergistic effects of different schemes. JICA also decided to evaluate Technical Cooperation and Grant Aid projects in an integrated manner, as much as possible, when they are jointly implemented.

#### ■ Define the project scope including the scope of responsibility of the recipient government

In the past, it was only in ODA Loan projects that the input from the recipient government were considered as part of the project and evaluated as an important factor influencing the delivery of project outcomes. It was decided that, also in Technical Cooperation and Grant Aid projects, the input from the recipient government should be evaluated as well. This has led projects to be more closely and constantly managed in terms of the input from both JICA and the recipient government. This has also raised awareness about performing a thorough risk analysis in the planning phase and promoting the necessary adjustments to the appropriate project plan to consider constraints due to the limited implementation capacity of the executing agency.

#### ■ Enhance analysis and survey methods

JICA has been working to promote the use of statistical approaches in quantitative analysis and the use of triangulation in qualitative analysis. These approaches are intended to enable data collection for new project formulation as well as follow-up after ex-post evaluations by securing access to information and data and improving measurement repeatability.

#### ■ Clarifying the definition of external factors

JICA clarified what factors should be considered as external. According to this new definition, the following three factors should be regarded not as external factors but as critical factors for which countermeasures should be developed in the project planning stage: (i) prerequisites and factors that are essential to achieving the project purpose/objective; (ii) events that constantly or frequently occur in the project area; and (iii) risks identified in the planning and appraisal phases.

### Relevance

#### ■ Reinforce the analysis of the appropriateness of the project plan and approaches

JICA decided to strengthen examining whether the project plan and approaches were appropriate for achieving the project objective, whether the project scope included all the necessary activities, and whether the project plan was adjusted according to the changing situation, in addition to analyzing the relevance of the project to the development policies and needs. This enables the analysis of the quality of project planning and management.

### Efficiency

#### ■ Compare the planned and actual project scope when it is changed

JICA decided to examine, if possible, whether the outputs increased or decreased according to the increase or decrease in the input when the project scope changes. JICA decided to examine the background causes of the change, analyze the external factors, and assess the appropriateness of the change before comparing the planned and actual project schedules and costs.

#### ■ Strengthen the cost-benefit analysis approach (the assessment of the internal rate of return: IRR)

JICA decided to strengthen the cost-benefit analysis approach (the assessment of the IRR, etc.). It was decided that the EIRR and FIRR should be recalculated in the same way and under the same conditions (calculation

assumptions) as at the time of appraisal for comparison between before and after the project, as much as possible. It aims to determine whether the benefits were properly assumed and whether the cost-effectiveness was properly calculated.

### Effectiveness

#### ■ Strengthen the comparison of facts and hypotheses (counter-facts)

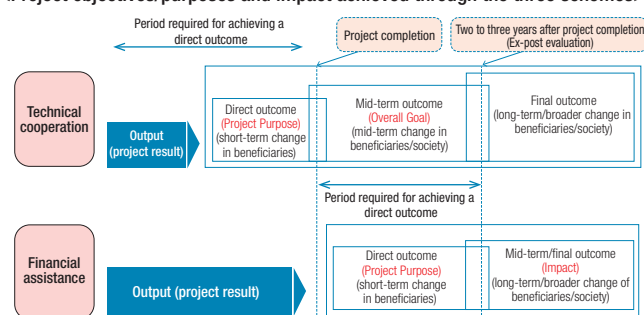
JICA decided to not only compare before and after the project but also compare facts and hypotheses (counter-facts). Although the influence of various social and economic factors cannot be completely eliminated, this approach can enable evaluators to more precisely identify the contribution of the project and more accurately analyze the effectiveness of the project.

### Impact

#### ■ Clarify the perspectives for Impact considering the differences of timing to appear the Impact among the schemes

Financial aid (ODA Loan and Grant Aid) and Technical Cooperation projects deliver impact at different timing. In the financial aid projects, the impact starts appearing after the project (facility construction and equipment provision) completion. In the technical cooperation projects, the Impact is generated through technical transfer while the project is being implemented. Therefore, the ex-post evaluations of financial aid projects put more emphasis on analyzing Effectiveness.

#### <Project objectives/purposes and impact achieved through the three schemes>



### Sustainability

#### ■ Refer to financial statements and other evidence to support the analysis of financial sustainability

In the evaluation reference, it is advised to analyze financial sustainability by collecting and analyzing financial information (e.g. financial statements) on the implementing agencies and the financial prospects of the competent authorities.

Moreover, JICA also emphasizes the evidence-based analysis approach by collecting background information on financial schemes (e.g. whether there is any financial support, such as subsidies, to cover part or all of the operation and maintenance costs) even when the project is not designed to be self-financing.

#### ■ Standardize the assessment of organizational/institutional sustainability

It is changed to include analyzing organizational/institutional sustainability not only in the evaluations of Technical Cooperation projects but also in the evaluations of ODA Loan and Grant Aid projects and put more emphasis on confirming whether there is any mechanism for ensuring the sustainability of project effects in the evaluations of all the three schemes.

JICA will continue to review and adapt the evaluation perspectives to make evaluations more effective in improving project management.

# Capacity Building Training

## Evaluation seminar for implementation agencies of the recipient country (Viet Nam)

In October 2018, JICA Viet Nam Office and Evaluation Department held an evaluation seminar in Hanoi for Vietnamese implementation agencies aiming to promote understanding of the ex-post evaluation and improve projects by leveraging the evaluation results. Total 30 personnel participated, including 25 in charge of ex-post evaluation from Ministries of Planning and Investment, Finance, Transport, Agriculture and Rural Development, Health, Industry and Trade and other agencies and five from JICA Viet Nam Office.

The seminar proceeded with the following contents: (i) Introduction of JICA's evaluation system (evaluation purpose, external/internal evaluation system, evaluation criteria and implementation process, etc.), (ii) Sharing evaluation results on the projects implemented worldwide and in Viet Nam, successful cases and those with issues as well as key points for sustaining the project effect, and (iii) Evaluation simulation using Vietnamese cases\*, identification of recommendations/lessons learned through a group discussion to share evaluation practice.

As the simulation was conducted after introducing a process for

implementing internal and external evaluations and information needed for the same, some participants commented that they "could learn which data of the ongoing project will be needed for evaluation in forthcoming years, that helped clarify ex-post evaluation", reflecting their greater motivation to take part in future evaluation activity.

Through the group discussion, the participants deepened their understanding on evaluation and actively exchanged views on the way forward to improving projects by utilizing the evaluation results. The following is some of the opinions expressed during the session: "In case technical cooperation projects have different project scopes according to their target region, support should be provided to local government to establish goals commensurate for each project.", "To maximize the project effect, a mechanism to sustain the effect is needed after the project completed.", "The technology transferred in a project should be leveraged elsewhere." and "It is also important to implement the succeeding project based on monitoring and preceding projects to maximize the project effect."



Group Discussion



Presentation from each group



All participants

\*: Using data actually applied in ex-post evaluations in the past, the participants scored sub-rating (relevance, effectiveness, impact, efficiency and sustainability) and derived the overall rating.

# Process Analysis

JICA has been trying to find ways to reflect learning from ex-post evaluation on better project management. In these attempts, we have not only assessed project results (outcomes) but also analyzed project processes (how the project process affected the delivery of the outcomes) on a trial basis. In addition, we have been working to establish a standard process analysis methodology.

As part of the process analysis, this year, JICA has reviewed the trial analysis results to develop procedures for rapid project ethnography (RPE): a simplified, shortened, and less-cumbersome version of the ethnographic approach, which is mainly used in cultural anthropology and sociology. These efforts culminating to develop a handbook that describes these procedures. In addition, this RPE method has already been partially used to analyze the design and construction process of a bridge construction project in Sri Lanka.

Moreover, JICA presented its process analysis activities during the 29th Annual Conference of the Japan Society for International Development in November and at the 19th Annual Conference of the Japan Evaluation Society in December.

Specific details are shown below.

## Ethnographic Analysis: A Handbook Developed and Released

The main feature of RPE is that it allows ethnographers to analyze the specific efforts made to overcome, avoid, and mitigate problems during the project implementation from the perspectives of different stakeholders based on the results of interviews with the stakeholders and reconstruct the situation of the project site from the ethnographers' own viewpoint so that the audience can vicariously experience the progress of the project. In addition, ethnographers can extract lessons learned according to the circumstances and conditions of the project areas due to how RPE enables ethnographers to gain deeper understanding of the historical, cultural, and social contexts of the project through participant observation (direct interactions with research subjects). RPE makes it easier for readers to relate to the stories of the projects as well as find differences between the projects analyzed by the RPE and projects they have been directly engaged in; therefore, a clearer picture of what was learned can be drawn.

The RPE-based process analysis was highly evaluated by the Advisory Committee on Evaluation (see p. 6 for an overview of the Advisory Committee) as well as internal and external development practitioners and evaluation experts. With technical advice from internal and external experts, JICA developed a handbook that describes the basic concept of RPE and provides fundamental and useful information for RPE studies and analyses, leading to increased effectiveness and efficiency of subsequent studies.

This handbook consists of two sections: 1) the Basics, aiming at promoting basic understanding of RPE; and 2) the Application, describing

practical techniques and methods for RPE researchers. As a result, readers can move through the book according to their interests. The Basics section includes the standard study process, the key points of each step, the role and competencies of ethnographers, and the purposes of RPE. The Application section illustrates the importance of this approach using the Delhi Metro Project as an example by highlighting bringing diverse perspectives into the analysis to describe who the research subjects can be. In particular, this section covers detailed techniques suitable for RPE including interviews due to their essential role in RPE. For example, it is suggested that interviewers should refrain from directing the conversation in order to allow the interviewees to express what they want to. This section also advises carefully observing the body language and facial expressions of interviewees.

In the evaluation of developmental projects, this method thus far has been underutilized, as those unfamiliar with ethnography may find it difficult. Therefore, JICA has developed and released an RPE handbook with even those unfamiliar with anthropology or sociology in mind. Overall, this handbook is expected to be widely used by those interested in the process analysis, which endeavors to provide deep insights that are different from those represented in the conventional ex-post evaluations based on the Five DAC Criteria.

The handbook is available on the following website:  
<https://www.jica.go.jp/activities/evaluation/process.html>

## Presentations at Academic Conferences

### <Japan Society for International Development>

Inside and outside of the organization, JICA has been reporting and presenting its process analysis activities. This year, JICA presented "Quality Improvement in Ex-post Evaluations of ODA Projects: Application of Process Analysis" to report the backgrounds, concepts, and specific examples of the process analysis as well as report the challenges and possibilities for the future at the 29th Annual Conference of the Japan Society for International Development. This presentation was made for the session "How to Narrate ODA: Qualitative Evaluation and Public Relations for Kids regarding Japanese ODA." During this session, Ms. Yasuko Matsumi, a consultant and a member of the Advisory Panel on Enhancement of Ex-post Evaluation (see p. 39 for an overview of the Advisory Panel), described the

power of stories told in the project ethnography and the possibilities of its application in her presentation titled "Power of Storytelling: Possibilities of Project Ethnography." In this presentation, she stressed that process analysis can be more persuasive since readers can relate to and vicariously experience the stories, the subjective feelings, emotions, and worries of the frontline workers. She concluded that its strength lies in readers extracting lessons learned through comparing these vicarious experiences with their own experiences.

Moreover, the chair of the session, Mr. Hiroshi Sato (a senior researcher of the Institute of Developing Economies and a member of the Advisory Panel on Enhancement of Ex-post Evaluation) said that donors (governments, bilateral donor agencies, and NGOs) are accountable to the



taxpayers and supporters of their countries as well as the general public of donor countries (including mass media and online communities). Although the need for evidence-based practice has recently increased in this field, Mr. Sato had argued stories are often more powerful and persuasive than evidence such as facts and figures, emphasizing that is very meaningful to tell stories about the non-quantifiable outcomes and impact of Japanese ODA.

During the conference, some participants had expressed the importance of understanding the process of delivering outcomes in order to know how to apply the outcomes of ODA projects to other settings. Others insisted that process analysis should be performed to assess not only successful projects but also unsuccessful ones to learn lessons.

In closing, although this process analysis enables incorporating perspectives different from those represented in the Five DAC Criteria for learning toward future projects, the methodology is still under development.

Going forward, JICA will work to share findings about this process analysis and other evaluation efforts to internal and external stakeholders at various opportunities, such as relevant conferences, and hopes to incorporate feedback to provide increasingly sophisticated analysis.



A session at the Japan Society for International Development

### <The Japan Evaluation Society>

JICA presented a comprehensive overview of its new evaluation approaches at the 19th Annual Conference of the Japan Evaluation Society. An overview of its process analysis activities, including a comparison with

similar evaluation approaches utilized by other development partners, was introduced. While some participants expressed support for JICA to continue process analysis, others pointed out that JICA should incorporate this analysis into their entire knowledge acquisition and management system.

## Case The Project for Construction of Manmunai Bridge in Sri Lanka (Grant Aid)

Evaluator: Ayumi Hori, IC Net Limited

This project was launched soon after the civil war at Sri Lanka. The project constructed a bridge at Manmunai in Eastern Province where the economy was lagged behind compare to other regions, and it aimed to enhance transport and logistics services, thereby contributing to revitalize the region and improve the quality of lives of the local people. According to the ex-post evaluation based on the Five DAC Criteria, this project was rated A (the highest rating). It was found to have made a huge impact, increased the interexchange of people and goods on both sides of the river, and facilitated economic development especially on the economically ailing west bank. JICA decided to analyze the project process in parallel with the ex-post evaluation as we observed that the project would provide further lesson learned on the area where the inventive approaches and the active involvement of stakeholders were made during the course of planning and construction stage.



Manmunai Bridge

In this process analysis, the results of interviews with stakeholders will be used to analyze the background of the project, the interviews on the discussions and efforts made to resolve the problem they faced during the process of project formulation, planning, construction and the outcome after the completion of the project, and the dynamics and interactions of internal organization and stakeholders, as well as on the communication among the local contractors and people at the project area. This story will be interpreted to reconstruct the facts and describe the events and feelings that arose from their interactions so that the readers can vicariously experience what have happen during the project. Thus, this process analysis is intended to facilitate vicarious experience through the story, provide insights that cannot be fully gained from the ex-post evaluation based on the Five DAC Criteria, and offer practical lesson learned for similar projects.



Japanese staff and local workers at site meeting



# JICA's Efforts in Promoting Impact Evaluation

The key measures to deal with various development issues involve implementing and deploying projects with proven and verified effectiveness. This approach is known as Evidence-Based Practice (EBP). Under such concepts, JICA has been improving and enhancing projects.

For EBP, impact evaluation is a major tool in which the effect of intervention (measures, projects and development models applied to improve/solve development issues) is rigorously verified. JICA has been promoting EBP as well as the implementation of an impact evaluation, particularly when evidence of the effects of a project is lacking or when a project is to be upscaled. Efforts made to promote impact evaluation also include development of internal and external human resources through training courses and attempts to produce high-quality evidence at a reasonable cost by using existing data.

## Case 1. Picture Books through Reading-Aloud Activities in India

### Verifying whether read-aloud activities of picture books contribute to children's understanding of environmental and hygiene issues and change in their awareness

Development issues surrounding developing countries have become increasingly diversified and complex. To successfully handle such issues, JICA has been promoting the effective use of private-sector technologies and services through public-private partnerships. One example of such efforts involves supporting KODANSHA, one of the leading publishing companies in Japan, in their business promotion of environmental/hygiene education activity in India (preparatory survey on BOP business of the Private-Sector Partnership and Finance Department).

In India, soaring economic development means more and more waste ends up not properly collected, separated and disposed of, resulting in serious national environmental issues. Ongoing open defecation has also triggered public health issues. Although the Government of India has taken both institutional and infrastructural measures in response, raising awareness of citizens is crucial to promote their behavioral change. For this purpose, KODANSHA has been promoting environmental awareness in children by encouraging activities involving reading their picture book products aloud ("MOTTAINAI BAA SAN" (Mottainai Gramma) series). Picture books are leveraged as media with which to disseminate awareness-raising messages, which may otherwise constitute uninteresting information for children and are likely to appeal to the children concerned, while also conveying messages effectively to them.

These activities have been very well received by participant children,

educators and parents. However, determining whether such activities truly contribute to children's understanding of environment/hygiene issues and change in awareness requires careful consideration. To determine this, JICA cooperated with KODANSHA to verify the impact by applying a Randomized Controlled Trial (RCT). Specifically, the primary schools proposed for the read-aloud activities are first divided into two groups at random, both with and without the activities respectively. Subsequently, the way in which students in the former group have changed their awareness, understanding and behavior with respect to environmental/hygiene issues is verified compared with students in the latter group.

Provisional analytical results revealed that most students have raised their environmental awareness and preferable behavior thanks to the read-aloud activities. Moreover, other results also showed the remarkable impact of such activities observed among students who seem to understand them and schools where other forms of environmental education are provided. These results will provide key pointers for developing and refining such activities in future on an ongoing basis.

Given the innovative and distinctive nature of private-sector technologies and services, whether or not they could truly help achieve the goal of addressing development issues remains unknown in many parts. As exemplified by this case, a proper impact evaluation at the pilot stage will minimize uncertain factors and allow the project to be promoted effectively.



A read-aloud session at a primary school  
(picture provided by Mr. Yoshiaki Koga, KODANSHA)

## Case 2. Rural Road Improvement Project in Morocco

### An Analysis of the Changes (Impact) to People's Lives by the Road Improvement Project

Road and other transport infrastructure projects represent a large share of JICA's portfolio. The development of high-quality transport networks is expected to contribute to economic growth, poverty reduction, and inequality correction by improving access to economic opportunities and social services.

These transport infrastructure projects are usually evaluated by assessing the use of the infrastructure (e.g. traffic volumes) and conducting a cost-benefit analysis based on simulations. However, in order to make infrastructure projects more effective in improving the living standards of people, they should be more closely analyzed in terms of the changes (impact) the infrastructure development made to people's lives.

With the objective of revealing them, the Rural Road Improvement Project (ODA Loan) in Morocco was assessed through impact evaluation. This project rehabilitated the 30 road sections with a total length of 530 km in rural areas in Morocco. In the impact evaluation, corresponding road sections were carefully selected for comparison with the rehabilitated roads. Then, a difference-in-differences analysis method was adopted to compare how the lives of the people living along these roads had changed before and after the project.

Road development can produce various impacts on the people living along the roads. Therefore, a wide range of information has been collected and analyzed, including the utilization of roads, the means of transport, the frequency of travels, access to social services (e.g. education and health services), economic activities (e.g. local employment and agricultural production),

and livelihoods (e.g. household incomes and expenditures).

According to the tentative analysis results, the road development was confirmed to have made a positive impact on the use of public transport, the enrollment of girls in secondary schools, and the expenditures of households. A comparison of employment before and after the project shows that although job opportunities fell in the agricultural and non-agricultural sectors in the project area as a whole, the decline was smaller in the non-agricultural sectors in the areas along the rehabilitated roads. Moreover, emigration decreased in the areas along the rehabilitated roads, which indicates that the road development prevented the outflow of people. On the other hand, no significant impact was confirmed on agricultural production (though agriculture was a major industry in rural areas in Morocco), household incomes, or access to health services.

Although this evaluation is tentative and necessary to be verified with a rigorous analysis of data, the results of this analysis are expected to provide important lessons for future similar projects. It is essential to collect insights from detailed evaluations and make evidence-based decisions, especially in the case of road and other infrastructure projects which require abundant resources.



Road before improvement



Road after improvement

### Column

#### Capacity Building of Development Practitioners through Impact Evaluation Training

Human resources who can plan, implement, and manage impact evaluations and use their results are essential to promote impact evaluation. For developing human resources with capacity of impact evaluations, JICA conducts project evaluation training, lectures, and seminars for JICA staffs as well as participants from other organizations (e.g. universities, academic societies, and other institutions). Focusing on improvement of the capacity of development practitioners, JICA provides capacity building training "Impact Evaluation: Toward Evidence-based Practice (EBP)."

In FY2018, the training was divided for the first time into two courses, Basic (September 6 to 14, except weekends) and Practical (September 25 to 28) courses, in response to request from past participants. It was attended by a total of 37 participants (22 in the Basic course and 15 in the Practical course) from development consulting companies, universities, local governments, and international organizations.

The training curriculums were developed based on relevant international standard textbooks as well as lectures and training sessions provided by universities and international organizations. The Basic course offered introductory knowledge, such as the concept and methodology of impact evaluation and the key points of implementation. The Practical course covered more practical themes, such as advanced topics on impact evaluation, data analysis methods, and practical exercises. Both courses consisted not only of lectures but also of

exercises based on practical examples and review tests so that the participants could fully understand the lectures and apply what they learned to practical situations.

The participants appreciated and were satisfied with the training. Some participants said that they would share the knowledge gained through this training with their colleagues and local counterparts, and others said that they would 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. Going forward, the participants are expected to further contribute to promoting impact evaluations.



Exercise scene of the capacity building training "Impact Evaluation"

# Statistical Analysis of Ex-post Evaluations

JICA has been engaging in statistical analysis of ex-post evaluations to determine trends in terms of project performance and gain insights from the ratings to improve project design and implementation.

## 1. An Overview of the Statistical Analysis

### Background and objective

JICA has conducted ex-post evaluations based on coherent methodologies and criteria, including the Five OECD-DAC Criteria, for all three assistance schemes of Technical Cooperation, ODA Loan\*<sup>1</sup> and Grant Aid. As of FY2018, the number of ex-post evaluations had reached 1,636 (refer to p. 8 for the rating criteria, main examination items and rating flowchart for external evaluation).

This statistical analysis aimed to analyze past ex-post evaluations quantitatively to determine relevant trends and gain insights to improve project design and implementation.

### Subject of this statistical analysis

This statistical analysis was conducted on 1,636 evaluations, comprising 1,113 external evaluations\*<sup>2</sup> from FY 2003 to 2017 (i.e. 697 ODA Loans, 470 Grant Aid Awards and 469 Technical Cooperation Projects) as well as 523 internal evaluations after FY 2010. The ratings were analyzed for a total of 1,617 projects (i.e. 685 ODA Loans, 466 Grant Aid Awards and 466 Technical Cooperation Projects) excluding 19 projects without a sub-rating.

\* For internal ex-post evaluations, the analysis was only conducted for the results determined by the end of January 2019. Accordingly, the above figure is not consistent with those as shown on p. 38.

### Method

The analysis of trends and distribution of external evaluation results (overall- and sub-ratings based on the Five DAC Criteria) was conducted across three schemes based on descriptive statistics. The number of

ex-post evaluations per fiscal year by scheme was also indicated.

\* Analyses of factors potentially influencing evaluation results in the three schemes are ongoing by creating a regression model (multivariate analysis).

### Note

The rating system helps assess the performance of development projects and provides insights that shed light on the current situation and possible improvement approaches. The 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 such as donors' roles and contributions); (2) it is not fully adjusted to take account of the various issues the project faced, such as the innovative nature of assistance nor the environments where the projects were implemented (e.g. fragile state); and (3) it only assesses the results of past activities but not ongoing endeavor nor potential outcomes. Therefore, the rating itself cannot capture everything which would happen in development projects.

Moreover, this section only refers to those projects for which the ex-post evaluation is completed. In other word, since those projects were underway or completed but their ex-post evaluations had not be conducted were not included, this section does not cover all the JICA projects implemented during said period. Nonetheless, it shows a database integrating all those projects with ex-post evaluations completed and as such, provides an overall picture of JICA's ex-post evaluation.

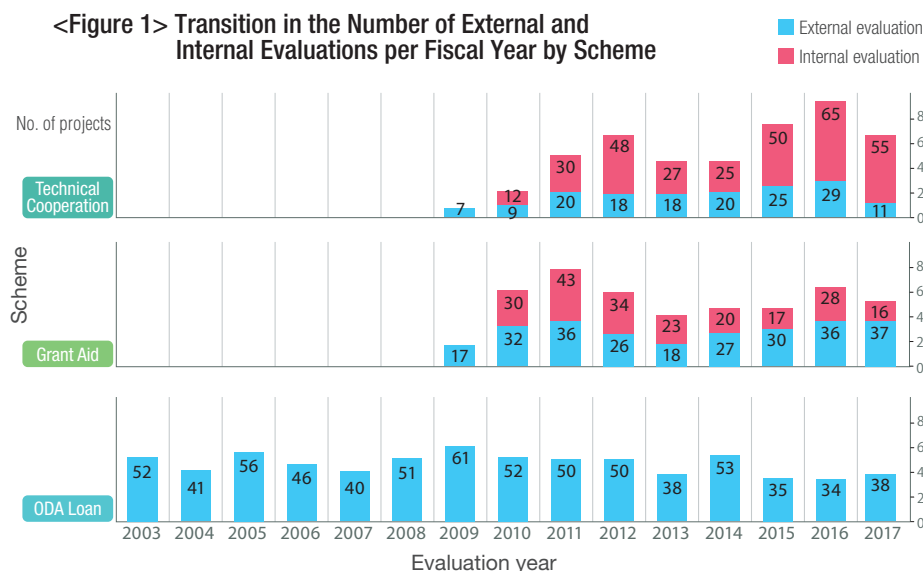
\*1: ODA Loans include Yen Loan and Private Sector Investment Finance, although projects under the latter finance have not yet reached the timing for evaluation. Therefore, ODA Loans referred to in this analysis mean Yen Loans.

\*2: External evaluation target projects with assistance of one billion yen or more and those likely to provide useful lessons learned.

## 2. Analytical Result (Descriptive Statistics): Trends and Distributions of External and Internal Evaluations

Number of evaluations

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



As shown in Figure 1, the rating system was first adopted for the external evaluation of ODA Loans in FY2003, with a total of 697 projects evaluated in the 14 years up to FY 2017. The same evaluation system and internal evaluation were introduced to Grant Aid and Technical Cooperation projects from FY2009 and 2010, respectively. To date, a total of 470 Grant Aid projects (259 external and 211 internal evaluations) and a total of 469 Technical Cooperation projects (157 external and 312 internal evaluations) were evaluated. The proportions of each scheme relative to all ex-post evaluations were: ODA Loans (43%), Grant Aid (29%) and Technical Cooperation (29%). Meanwhile, the proportion of internal evaluation in Grant Aid and Technical Cooperation projects were 211 out of 470 projects (45%) and 312 out of 469 projects (67%), respectively, which were relatively high percentages.



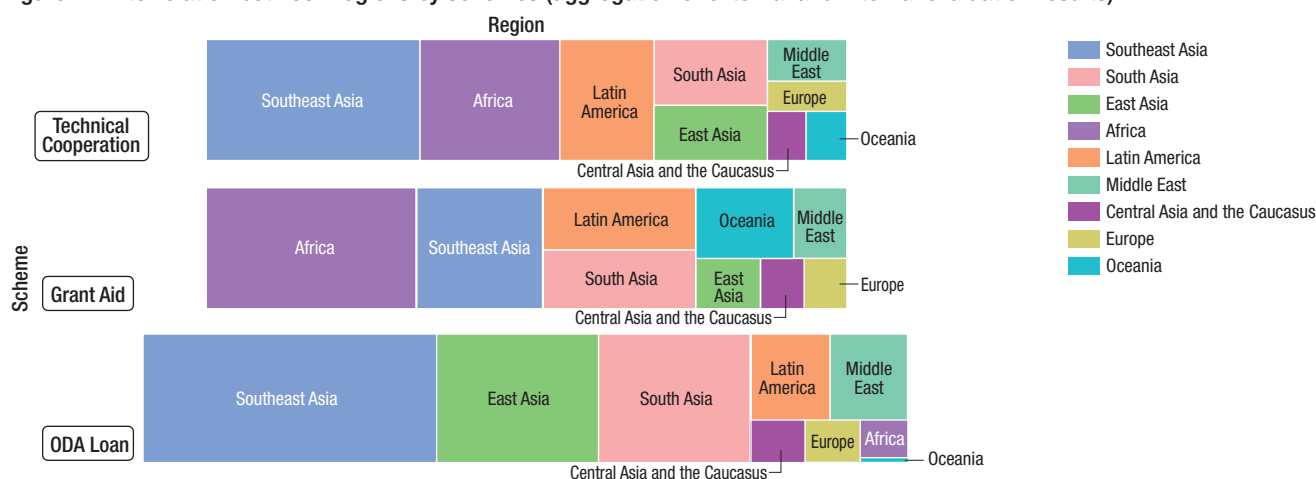
## Interrelation between the scheme and the region/sector

Figures 2 and 3 show the number of projects implemented in each sector by region\*3 and sector\*4 in a form of tree map while the area of each rectangle corresponds to the proportion of the number of project evaluations.

First of all, the interrelation between schemes and regions, as indicated in Figure 2, suggests that most (approximately 80%) of all ODA Loan projects are in Asia. Although the number in East Asia stands out compared

to other schemes, the majority comprise assistance to China\*5. In Grant Aid, meanwhile, many projects are also implemented, particularly in Africa, which reflects how such projects target countries with lower incomes among those developing in Latin America, the Pacific and other regions, showing a different trend in terms of project implementation to ODA Loan projects. As for Technical Cooperation, most projects are implemented in Southeast Asia as well as being broadly explored elsewhere.

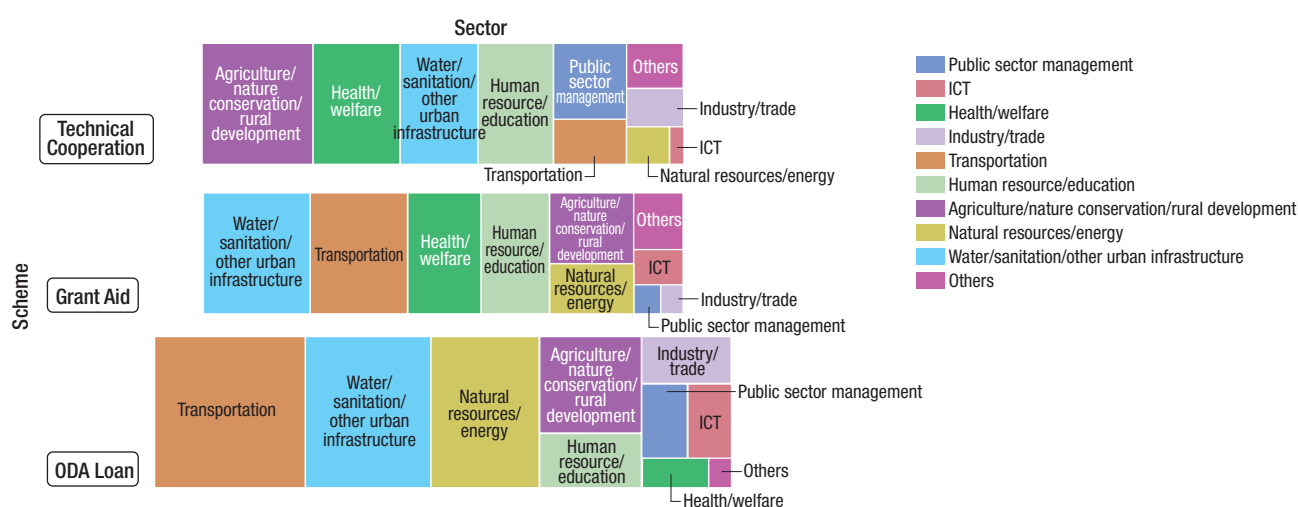
<Figure 2> Interrelation between regions by schemes (aggregation of external and internal evaluation results)



Secondly, as Figure 3 indicates the interrelation between the scheme and sector, more ODA Loans and Grant Aid projects are implemented in water, hygiene, environment and other urban infrastructure sectors while a certain number of Technical Cooperation projects are also implemented in the same sectors. As well as infrastructural development, including facility construction and equipment procurement, intangible cooperation such as human resource development and strengthening of organizations is also promoted in areas such as improving water supply systems (including rurally) and environmental management. Meanwhile, most cooperation in transport/traffic and natural resource/energy sectors is provided as part of a financial cooperation scheme,

since infrastructure improvement constitutes one of the major project components. Moreover, most projects in the health and welfare sectors are implemented under the Grant Aid and Technical Cooperation schemes. The figure suggests a trend whereby basic infrastructure improvement, such as constructing hospital buildings and procuring medical equipment, is provided under Grant Aid while a large proportion of intangible support is provided in the form of Technical Cooperation projects. In public sector management, most schemes under which JICA provides support constitute Technical Cooperation, and it describes Technical Cooperation is suitable for developing human resources and institutions and strengthening organizations.

<Figure 3> Interrelation between sectors by schemes (aggregation of external and internal evaluation results)



\*3: Each region includes the following countries: **Southeast Asia**: Indonesia, Cambodia, Thailand, the Philippines, Vietnam, Malaysia, Myanmar, Laos and East Timor; **Oceania**: Kiribati, Samoa, Solomon, Tuvalu, Tonga, 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, Cuba, Guatemala, Grenada, Costa Rica, Colombia, Jamaica, Suriname, Saint Lucia, Chile, Dominica, Dominican Republic, Nicaragua, Haiti, Panama, Paraguay, Barbados, Brazil, Belize, Peru, Bolivia, Honduras and Mexico; **Africa**: Angola, Uganda, Ethiopia, Eritrea, Ghana, Cabo Verde, Gabon, Cameroon, Gambia, Guinea, Guinea-Bissau, Kenya, Republic of Congo, Democratic Republic of Congo, Zambia, Sierra Leone, Djibouti, 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, Palestine, Morocco, Jordan and Lebanon; and **Europe**: Albania, Ukraine, Kosovo, Slovakia, Serbia, Turkey, Bulgaria, Poland, Bosnia and Herzegovina, the Republic of North Macedonia, Moldova, Montenegro and Romania.

\*4: Categorization of sectors is based on those defined in our statistical analysis.

\*5: ODA loans to China ended in 2007.



## Overall Ratings (comparison between external and internal evaluations)

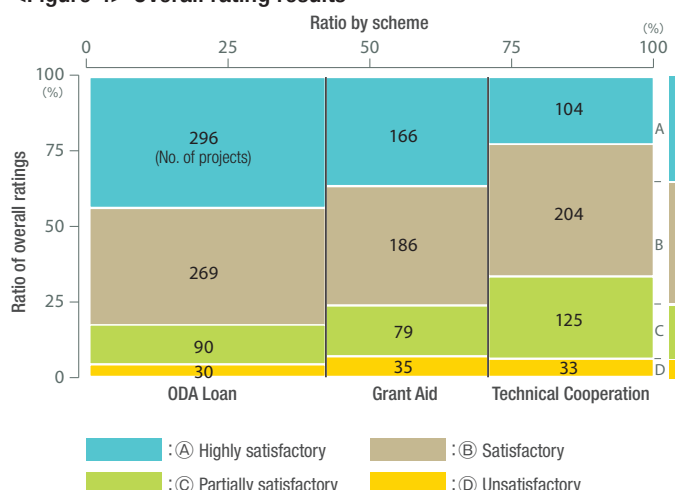
Figures 4 and 5 visualize the aggregation of overall ratings by scheme in the form of a mosaic plot. Figure 4 shows the difference in ratings between schemes by combining external and internal evaluation results while Figure 5 visualizes a comparison between external and internal evaluation results\*6.

The ratio on each vertical axis represents overall ratings while each horizontal axis shows the ratio of each scheme (based on the number of projects) and each figure shown on the figures indicates a corresponding

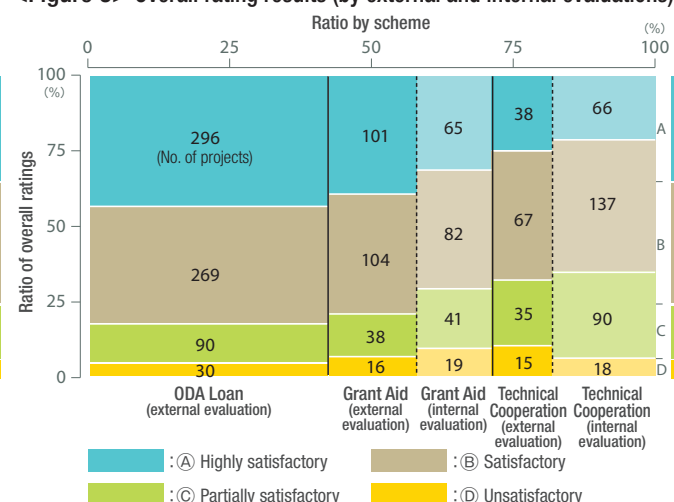
number of projects. For example, the yellow area becomes narrower in every scheme, which indicates a small number of ratings in D (Low). The ratio of each rating when aggregating all projects is shown on the right end. Figures 6 to 9 also show evaluation results by sub-rating item similarly.

The following analyses cover 1,617 projects and do not include 19 projects\*7 for which overall ratings or some sub-rated items are unavailable, despite an ex-post evaluation having been conducted.

&lt;Figure 4&gt; Overall rating results



&lt;Figure 5&gt; Overall rating results (by external and internal evaluations)

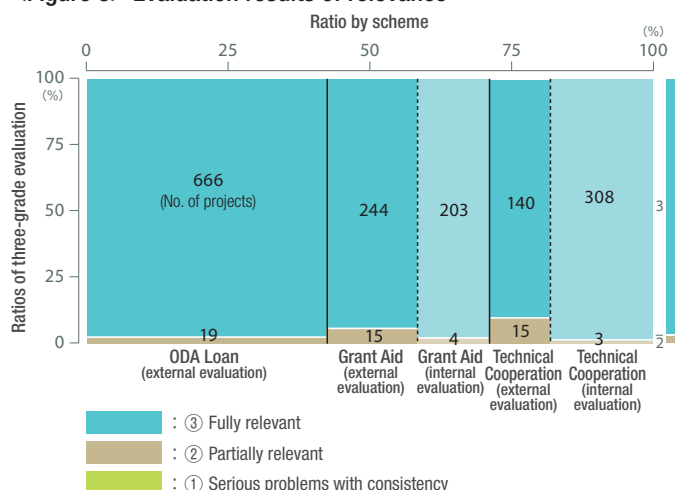


The overall ratings shown in Figure 4 suggest that the ratings of A (Highly Satisfactory) and B (Satisfactory) share larger areas in all schemes. The same trend can be found in Figure 5, which shows overall ratings by external and internal evaluations, seemingly indicating no significant differences in the results evaluated by third-party and JICA overseas offices. However, such differences need to be analyzed by taking the unique backgrounds observed by sector, region and project into consideration. Here, the ratio of the A and B ratings are lower in the internal evaluations, in both Grant Aid and Technical Cooperation projects. This trend is deemed to be influenced by the different sub-rating results as described below.

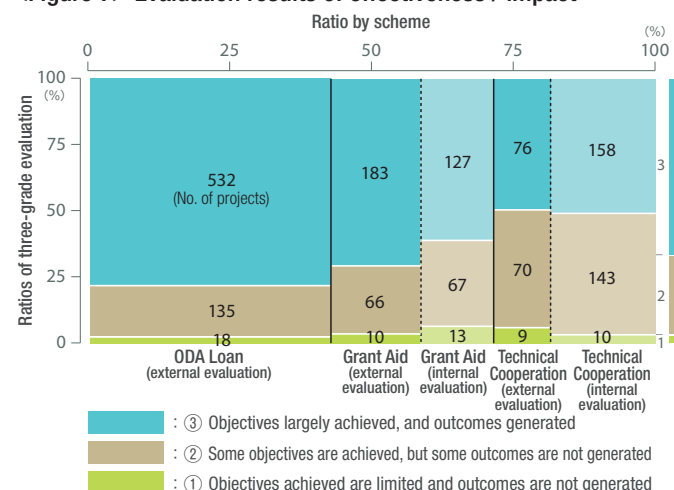
In terms of relevance, the rating ③ (Fully Relevant) continues to represent the majority, regardless of schemes and evaluation methods (Figure 6).

As for effectiveness/impact, the rating ③ (Objectives largely achieved and outcomes generated) accounts for the majority in every scheme; a trend that is particularly outstanding in ODA Loans (Figure 7). The rating ③ seems to be rare in Technical Cooperation. This may be derived from the fact that capacity strengthening of human resources and organizations are often set as the project purpose, making it more difficult to keep continuously generating and disseminating outcomes after project completion than other schemes.

&lt;Figure 6&gt; Evaluation results of relevance



&lt;Figure 7&gt; Evaluation results of effectiveness / impact

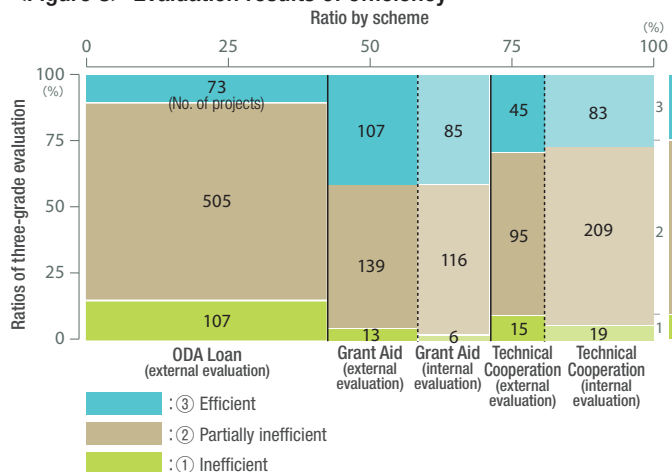


\*6: Since internal evaluation focuses more on identifying learnings and lessons than ratings compared with external evaluation, it only shows qualitative descriptions not providing ratings. The subsequent considerations standardize its description on the rating system of external ex-post evaluation.

\*7: Financial assistances and program loan under ODA Loan and those projects under all the schemes assessed as "evaluation results not available (N/A)" due to limited conditions in evaluation were excluded from the rating.

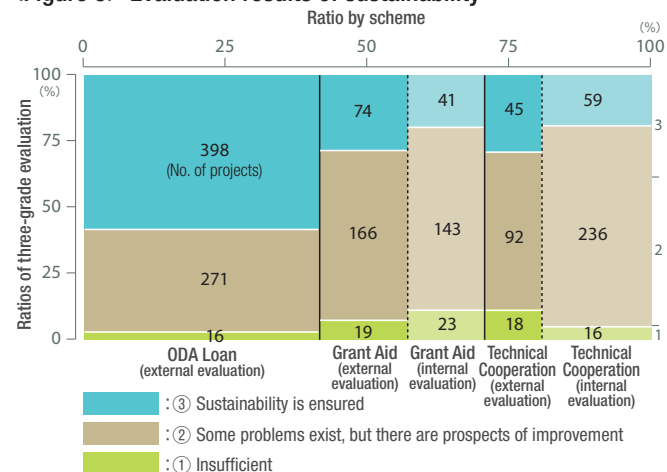
There is no significant difference between external and internal evaluation results regarding project efficiency, while the rating of ③ (Efficient) for ODA Loan projects is awarded on fewer occasions than other schemes (Figure 8). Efficiency is assessed by comparing the planned project period and cost and the result. Compared with the other two schemes, the ratio of costs borne by the recipient country for ODA loan projects (including costs for land acquisition or part of construction) are likely to be larger, which means their project period, in particular, is likely to extend beyond the planned period.

<Figure 8> Evaluation results of efficiency



As shown in Figure 9, the sustainability of most projects implemented under all the schemes are rated as either ③ (Sustainability ensured) or ② (Some problems exist, but there are prospects of improvement). The ratio of ③ is particularly high for ODA Loan projects, surmising that the technical and financial capacities for steadily sustaining outcomes achieved by the project are at a higher level, reflecting the nature of the scheme whereby development funds can be borrowed from the recipient government.

<Figure 9> Evaluation results of sustainability



### Distribution and Trend of Overall Ratings

Figure 10 provides an overview of interrelations of key items for all ex-post evaluation results (external/internal evaluations) to date. The ratio of each of the items on the vertical axis indicates the number of projects and their ratio by item within each variable. Setting overall ratings as the central axis allows the ratio of projects by item to be determined by identifying the region and sector in which projects are implemented. Accordingly, ex-post evaluation results (A, B, C (Partially Satisfactory) and D) can be identified by determining their interrelation between region, overall ratings and sectors simultaneously.

Given the same considerations as above, ratings A and B comprise most overall ratings, accounting for 76% of the entire set of 1,617 projects rated (566 projects as A, 659 projects as B, 294 projects as C and 98 projects as D).

In terms of regions, ratings A and B comprise the majority in each region, with rating A showing up particularly strongly in East Asia, while a certain number of C and D are deemed outstanding in Southeast Asia, due

to a number of projects implemented in the region. Similarly, ratios of A and B ratings are high in each sector while ratings C and D tend to be fewer, particularly in natural resources/energy, health/welfare and human resource/education sectors. As described in p. 57, additional support is provided under Technical Cooperation and Grant Aid schemes in health/welfare and human resource/education sectors. Incorporating internal evaluation results this time makes the overall trend and bigger picture more visible.

For FY 2018, JICA prioritized compiling all evaluation results of JICA projects into a single set of data, including internal evaluations<sup>\*8</sup>. Based on these, JICA will reveal questions and hypotheses in the field by applying regression analysis and other statistical methods.

<sup>\*8</sup>: Minami et.al.(2018), Quantitative analyses of ex-post evaluation: creation and definition of exploratory variables with practical consideration. The 19th Annual Conference of the Japan Evaluation Society, Yokohama.

<Figure 10> Interrelation between overall region and sector ratings (aggregating external/internal evaluation results)

