

Cross-sectoral Analyses of Lessons Learned

Extraction of practical and generalized lessons for the waste management / sewage management / local governance / peace-building sectors

Process of elaborating knowledge lessons

In FY2015, JICA conducted cross-sectoral analyses (to extract “knowledge lessons”) in the following four sectors: waste management; sewage management; local governance; and peace-building.

Knowledge lessons were elaborated in the following steps. First, we selected projects to be reviewed and listed major perspectives for the analysis. Then, we reviewed individual projects, and collected and organized data. Taskforces were set up, consisting of staff from the

Evaluation Department and operational departments in the respective sectors, to analyze lessons learned. This analysis was further refined based on suggestions from development consultants, local government officers, and other external partners involved in JICA projects as experts or study team members. The results of the cross-sectoral analyses of lessons learned were elaborated as “knowledge lessons”.

Cross-sectoral Analysis Results in the Waste Management Sector

In the waste management sector, a total of 16 knowledge lessons were identified by extracting lessons learned from cooperation projects such as technical cooperation, ODA loan, and grant aid projects.

◆ List of Titles

Lesson	Title
1	Basic cooperation policy of project design
2	Selection of project areas
3	Consideration for important conditions on project outcomes
4	Considerations for effective policy recommendation
5	Promotion of participation of private sector
6	Regional waste management system
7	Industrial waste management
8	Capacity development of public administration

Lesson	Title
9	Participation of communities and residents
10	Appropriate introduction of 3R
11	Involvement of stakeholders for 3R promotion
12	Waste collection and transportation
13	Selection of locations for final disposal sites
14	Improvement / closure of existing final disposal sites
15	Planning and implementation of pilot projects
16	Dissemination of the good practices

◆ Examples of Lessons Learned

Lesson 6	Regional waste management system
Applicable cases	Where a project aims to establish a regional waste management system covering multiple municipalities
Risks	- Without a regional system, economies of scale cannot be exploited, which may result in inefficient waste management.
Possible measures to be taken	[Examination of regional waste management] If regional waste management is worth consideration for the project, conduct a thorough examination of the background and necessity of such management as well as its pros and cons. [Coordination between regional and municipal governments] Regional waste management involves multiple regional and municipal governments, and therefore it requires coordination between these local governments. Effective coordination can be achieved by developing an appropriate plan and properly explaining advantages and disadvantages. [System design] The system (waste collection routes and tariffs, revenue collection methods, etc.) should be designed based on the detailed understanding of the needs of beneficiaries. The introduction of a common financial/accounting system to all the relevant agencies can strengthen their financial basis and ensure sustainability.

Lesson 8	Capacity development of public administration
Applicable cases	Where a project is intended to develop the waste management capacity of administrative authorities
Risks	- Failure to select appropriate organizations or to take organization-specific measures may hinder the capacity development process. - Failure to develop the capacity of local governments as waste management operators may hinder the smooth operation of waste management.
Possible measures to be taken	[Understanding of and support for organization-specific needs] Take action to improve the waste management organizations of the targeted developing country based on the understanding of their characteristics, such as their organizational structures, the demarcation of functions between the central and local governments, revenue structures, and the chain of command. [Approach to capacity development and technology transfer] Develop an approach to technology transfer based on the recognition that administrative organizations in charge of waste management need to secure personnel with technical/managerial/planning skills, facilities and equipment, land, funding, statistical and research data, and the strong commitment of their leaders.

Lesson 10	Appropriate introduction of 3R
Applicable cases	Where a project is intended to promote the introduction of 3R to establish a recycling-based society
Risks	- There is a risk of providing support that does not meet the needs or priority issues of the target country. - There is a risk of limiting project activities due to the lack of involvement of stakeholders in the promotion of waste management.
Possible measures to be taken	[Relevance of the introduction of 3R] Support for 3R initiatives should be based on the understanding of the development level of the target country because the need for 3R varies significantly among developing countries, depending on the economic development level and the municipality size. [Points to be considered when introducing recycling and waste reduction initiatives] (i) Develop an approach based on the prospect of the cost-bearing capacity of local authorities. (ii) Promote discussion with waste generators. (iii) When the private sector has already involved in separate waste collection, develop measures to support the mechanism. [Identification and explanation of advantages] The assessment of the effectiveness and progress of 3R activities based on quantitative data can improve the understanding of the link between the activities and their effects such as waste reductions and economic values.

Lesson 14	Improvement / closure of existing final disposal sites
Applicable cases	Where a project is intended to improve or close existing waste disposal sites
Risks	- The lack of technical, financial, environmental, and social considerations can cause environmental degradation as well as undermine sustainable waste disposal and management.
Possible measures to be taken	[Points to be considered to improve final disposal sites] This requires step-by-step improvements according to the level of technology, human capital, and improvement in the recipient country; the development of managerial and administrative mechanisms; and consideration to socially vulnerable people working in disposal sites. [Improvement of final disposal sites with low management standards] Make steady progress in fulfilling the basic requirements for management and administration. [Closure of final disposal sites] (At the time of closure) Disposal sites that have reached their life span should be closed by using appropriate technologies. (After closure) Monitoring should be continued to ensure physicochemical stability. [Comprehensive waste management measures] In order to enhance the practicability of the promotion plans and guidelines on comprehensive waste management, it is essential to have a full discussion of financial matters and develop relevant measures.

Cross-sectoral Analysis Results in the Sewage Management Sector

In the sewage management sector, a total of 12 knowledge lessons were elaborated by extracting lessons learned from cooperation projects such as technical cooperation, ODA loan, and grant aid projects. Specific considerations and countermeasures were suggested as knowledge lessons on the following matters: basic project design policies; institutional development; organizational strengthening and

capacity development; promotion of coordination between relevant organizations; citizen participation and understanding; sewer rate setting; maintenance systems; sewerage facilities; project management; outcome evaluation indicators and methods; and two-step loan.

◆ List of Titles

Lesson	Title
1	Project Design of Effective Sewage management
2	Development of effective sewerage-related legislation
3	Capacity building of implementing agencies of sewerage projects
4	Promotion of cooperation between sewerage-related organizations
5	Implementation of sewerage projects by promoting citizen participation and understanding
6	Establishment of sustainable pricing and revenue collection methods

Lesson	Title
7	Establishment of sewerage maintenance system
8	Introduction of proper sewage treatment technology
9	Appropriate management of sewerage development projects
10	Indicator settings and evaluation methods to understand the effects of sewerage projects
11	Two-step loan in sewerage projects
12	Efficient sewerage development via participation of private entities

◆ Examples of Lessons Learned

Lesson 3	Capacity building of implementing agencies of sewerage projects
Applicable cases	Where a project is intended to develop the capacity of the implementing agencies
Risks	- The implementing agencies' limited understanding and experience of sewerage projects and the lack of coordination with other organizations may cause delays in project implementation and result in inappropriate maintenance.
Possible measures to be taken	<p>[Establishment of a project management unit] Because sewerage infrastructure tends to be introduced at a later development stage, there are cases where any organization cannot be identified as a project implementing agency or where project implementing agencies have had only a limited experience. In these cases, the project should organize a project management unit consisting of central government agencies and other organizations familiar with sewerage administration and project operation/management and use the unit to strengthen the capacity of the implementing agencies.</p> <p>[Clarification of roles and responsibilities] Clarify the roles and responsibilities of individual departments inside the implementing agencies; hold frequent discussions with them to share information; and provide technical guidance to enhance their expertise.</p> <p>[Development of project management capacity] Provide guidance on project management (e.g., tender procedures, construction supervision, and maintenance), water quality control, financial management, and equipment procurement.</p>

Lesson 5	Implementation of sewerage projects by promoting citizen participation and understanding
Applicable cases	Where local residents' understanding and awareness of participation in the sewerage project process are low
Risks	- The coverage of sewerage services cannot be expected to increase, causing problems in the project implementation as well as difficulties in establishing understanding and agreement on cost-bearing obligations.
Possible measures to be taken	<p>[Public awareness building to enhance the understanding of sewerage projects] A key to successful sewerage projects lies in the promotion of citizen understanding and participation in sewerage projects and services. In order to make the project appealing to local residents, support should be provided to the activities that can deliver visible benefits, such as (i) improvements in sanitation and hygiene; (ii) prevention of inundation; (iii) environmental improvements in rivers, etc.; (iv) improvements in urban environments; and (v) improvements in water quality.</p> <p>[Information dissemination and awareness-building activities to promote wider environmental protection] Carry out public relations activities to raise the awareness of environmental protection and establish understanding and agreement on cost-bearing obligations. For example, increase awareness that the development of sewerage systems can contribute to the improvement of water quality in wider public water areas and that individuals are obliged to treat their own sewerage.</p>

Lesson 6	Establishment of sustainable pricing and fee collection methods
Applicable cases	Where there is a need to set sewerage tariff rates and develop fee collection methods
Risks	- Improper setting of tariff rates may undermine the sustainability of sewerage projects.
Possible measures to be taken	<p>Set sustainable sewerage tariff rates and fee collection methods to ensure the reliable delivery of sewerage services.</p> <p>[Setting tariff rates that can support sustainable maintenance] Develop an approach to tariff rates and fee collection methods by considering the following options: (i) collecting water and sewer bills together; (ii) collecting sewer fees as part of taxes (e.g., environmental tax); and (iii) gaining the understanding and agreement of stakeholders about future rate hikes at the project planning stage.</p> <p>[Raising payment rates by setting lower tariff rates for general households] Set tariff rates at a level general households can afford in order to raise their payment rates. Sewerage service providers should confirm the installation of water meters at the households connected to sewerage systems to properly measure their water consumption.</p> <p>[Raising awareness of residents to increase the sewerage coverage] Carry out awareness-raising activities to promote citizens' understanding and participation in order to increase the sewerage coverage.</p>

Lesson 9	Appropriate management of sewerage development projects
Applicable cases	Where there is any risk factor that can affect project implementation, such as financial issues, difficulties in land acquisition, and organizational problems
Risks	- Land acquisition may take a long time or fail due to the lack of understanding of landowners and residents or delays in administrative procedures. - Administrative procedures and equipment procurement may not go smoothly because the implementing agencies are unfamiliar with sewerage projects.
Possible measures to be taken	<p>Ensure appropriate project management by monitoring the progress of the project, analyzing risk factors for delays, and providing advice and follow-up support for implementing agencies.</p> <p>[Close communication for smooth land acquisition] The implementing agencies of a sewerage project should undertake the following activities: (i) selecting multiple candidate sites for sewage treatment plants and explaining the project to landowners and residents' representatives at the project designing/planning phase; (ii) explaining the necessity and importance of the project to relevant agencies, such as urban development departments, to gain their understanding of land acquisition at the project formulation stage; and (iii) carrying out public relations activities so that residents can recognize their benefits, such as sanitation improvements, maintenance cost cuts, and odor reductions.</p> <p>[Support for administrative procedures related to the sewerage project] If implementing agencies have limited experience and knowledge of the supervision and management of sewerage projects, provide them with advice on the procurement process to minimize the risk of delays in project implementation. Confirm the implementing agencies' ability to pay all the construction costs, financial status, budget implementation procedures, authorized officers, and other relevant matters.</p>

Cross-sectoral Analysis Results in the Local Governance Sector

In the local governance sector, a total of 17 knowledge lessons were identified by extracting lessons learned from technical cooperation projects. Specific considerations and countermeasures were suggested as knowledge lessons on the following matters: importance of basic

information collection, strategic utilization of trainings, enhancement of collaboration among the government agencies, and planning and implementation of a community-based participatory approach.

◆ List of Titles

Lesson	Title
1	Collection of basic information needed to formulate/plan local governance projects
2	Setting proper project objectives according to the mid to long term cooperation scenario
3	Selection and capacity assessment of related agencies to achieve the project goal
4	Setting the appropriate scope of cooperation
5	Project implementation management in accordance with the situation
6	Strategic utilization of trainings in Japan and third countries
7	Developing a central-local government framework corresponding to the degree of decentralization
8	Developing local financial systems
9	Developing training systems for local officers
10	Enhancing collaboration and cooperation among the government agencies

Lesson	Title
11	Points to consider when adopting a community-based participatory approach -project formulation stage
12	Points to consider when adopting a community-based participatory approach -project planning stage
13	Points to consider when adopting a community-based participatory approach -project implementation stage
14	Planning and implementation of pilot projects that can be widely spread
15	Formulating/Planning/Implementing local governance projects in countries/regions where sector-wide programs or other donors' projects in the governance sector are being planned or implemented
16	Points to consider when changes of political administrations or regimes have a relatively large impact on local governance projects
17	Points to consider when central agencies or political parties have a relatively strong control over local governance projects

◆ Examples of Lessons Learned

Lesson 3	Selection and capacity assessment of related agencies to achieve the project goal
Applicable cases	When selecting related organizations
Risks	In many cases, scattered roles and authorities of organizations in local governance projects in which multiple relevant actors are involved. Therefore, there may be a risk of mismatch that goes beyond the scope of C/P organizations.
Possible measures to be taken	<p>[Selection of related organizations and clarification of the roles] Based on a scenario of achieving a long term goal and by assessing actors from broad perspectives, related organizations should be selected by considering the mission of each organization and project activities. In addition to the implementing organization, it is important to state the division of roles among each organization in the project documents or official documents in the recipient country.</p> <p>[Securing involvement of the central government] From the perspectives of selecting the actors who have authority to institutionalize the project outcome as a part of the recipient country's governmental system and to allocate necessary budget and personnel, it is important to secure commitment and ownership of not only the C/P organizations but also the related central ministries to the project.</p>

Lesson 7	Developing a central-local government framework corresponding to the degree of decentralization
Applicable cases	When aiming to consolidate appropriate central-local government framework that matches the situation of the recipient country
Risks	A system piloted by the project is not institutionalized if it does not match the country's needs and decentralization policy or if the recipient country does not have the ownership on the piloted system.
Possible measures to be taken	<p>[Setting of goals that matches the progress of decentralization in the recipient country] In order to secure commitments of the recipient country, it is crucial that the project contents are clearly positioned within the context of an overall process of decentralization and that institutionalization of the system has a legal basis.</p> <p>[Setting the steps for institutionalization] It is important to consider ways to reflect and institutionalize the outcome of the pilot project in national and local government policies. Steps to translate the project outcome into system/policy should also be considered. It is also effective to facilitate better understanding on the steps among decision-makers for the institutionalization.</p>

Lesson 10	Enhancing collaboration and cooperation among the government agencies
Applicable cases	When aiming to develop and strengthen the collaboration and cooperation among government organizations
Risks	Adhering to the vertical relationship between the central agencies and local governments will overlook horizontal relationship among ministries or among local government. It could lead to failure of effective system introduction or project implementation.
Possible measures to be taken	<p>[Collaboration among central agencies] From the project formulation stage, coordination with the authority in charge of local finance such as Ministry of finance or Ministry of Planning and Investment should be explored (e.g. joint review of the budget for local development projects and local human resource development projects).</p> <p>[Collaboration among governmental agencies at the local level] When a horizontal approach (collaboration among local governments, the leagues of governors/mayors and local government associations, etc.) is more effective than a vertical approach, it is necessary to incorporate activities to strengthen horizontal linkage for information sharing and collaboration among organizations at the project formulation stage (e.g. through assembly/conference for sharing good practices and lessons, sharing those practices, experience and knowledge by brochure or manual, mutual review at the same level, etc.).</p>

Lesson 12	Points to consider when adopting a community-based participatory approach -project planning stage
Applicable cases	When planning local development projects with community-based participatory approach
Risks	<ul style="list-style-type: none"> - When the concept of participatory approach is newly introduced to the people involved, the project may proceed without common understanding among the stakeholders. - A pilot project or a model with little sustainability after the project may be formulated and implemented.
Possible measures to be taken	<p>[Consensus of the concept of approach] It is important to make consensus among stakeholders at the early stage on the concept of participatory approach newly introduced to the recipient country.</p> <p>[Pilot project with an exit strategy] It is critical to incorporate an exit strategy with a view after the project in a project design.</p> <p>[Enhance feasibility of policy based on practical experience] It is necessary to enhance feasibility of the plan/policy through repeating the implementation cycle of service delivery for several times.</p>

Cross-sectoral Analysis Results in the Peace-building Sector

In the local governance sector, a total of 19 knowledge lessons were identified by extracting lessons learned from cooperation projects such as technical cooperation, ODA loan, and grant aid projects. Specific

considerations and countermeasures were suggested as knowledge lessons on peacebuilding assessment and other matters.

◆ List of Titles

Lesson	Title
1	Livelihood improvement for communities in conflict-affected countries
2	Support to improve livelihood by vocational training in conflict affected country
3	Fostering public confidence of the government by enhancing the capacity of public service delivery
4	The confidence-building for the government through the support to the health sector
5	Confidence building among resident through improving basic infrastructure and rural and agricultural development
6	Dividends of peace through the infrastructure (including roads) support
7	Promotion of reconciliation and coexistence through the assistance of education sector
8	Building democratic society through assistance for development of free and independent media and community mediation capacity
9	Promotion of reintegration of ex-combatants
10	Improve the problem of land mines and UXO

Lesson	Title
11	Assistance for people with disabilities affected by conflicts
12	Assistance for the repatriation and reintegration of refugees and internally displaced persons (IDPs)
13	Gender considerations in peacebuilding projects
14	Implementation of Peacebuilding Needs and Impact Assessment
15	Manage flexible PDM in line with changing needs and situation
16	Countermeasures responding to negative effects caused by the vulnerability of the counterpart organizations in conflict-affected countries
17	Management and operation of a project by remote in conflict-affected countries
18	Evaluation for taking into account the intent and purpose of peace building, and documentation of changes in the project
19	Combination of various schemes and cooperation/coordination with other donors

◆ Examples of Lessons Learned

Lesson 3	Fostering public confidence of the government by enhancing the capacity of public service delivery
Applicable cases	When implementing or planning projects with objectives of assisting war-battered communities at the earliest possible time immediately after the end of conflict where functions of the municipalities are weakened (but are functioning at a certain level).
Risks	<ul style="list-style-type: none"> - When public service is not delivered since before and during conflict, or when long time may take for recovering public services in post-conflict phase, public confidence in the government may not recover and frustration of local people be accumulated that could cause recurrence of conflict. - Government's low transparency in decision making by regional, tribal nepotism and political reason may aggravates further frustration and tension between different community groups.
Possible measures to be taken	<p>[Improvement of administrative services closer to the beneficiaries] In the target area directly contributing to citizens' life, such as water supply, health, and agriculture, supporting capacity development and service improvement of staff from water-supply company, village midwives, and agricultural extension service providers will change the view of citizens to the government and foster public confidence in the government.</p> <p>[Ensuring the transparency] Support to ensure the transparency in decision making by selecting a project which corresponds to citizens' needs with proper criteria at the time of formulating development budget plan could minimize political intervention and foster public confidence to the government.</p>

Lesson 4	The confidence-building for the government through the support to the health sector
Applicable cases	Implementing or planning projects with objectives of supporting health sector (maternal and child health and health administration) in the conflict-affected countries/ areas
Risks	<ul style="list-style-type: none"> - Before and during conflict, health personnel often may evacuate the area for study abroad or migration. Conflict-affected areas, in particular, have a problem that the scarce health personnel. - From the perspective of facilitating return and resettlement of IDPs and refugees and citizens and community are seriously war-battered, basic service deliveries, such as health services, should be resumed as early as possible. - In community where male leaders have power in decision making in terms of social customs due to delay in development activities caused by conflict, activities for maternal health may not achieve their effects.
Possible measures to be taken	<p>[Utilization of human resources in community] When supporting the enhancement of the function of community-based health facility, facilitate candidate health extension workers selected from such community to participate in training of the country to supplement the number of local health personnel after conflict.</p> <p>[Combination of visible support and technical cooperation] By combining facility improvement and provision of equipment with technical cooperation, actual change after conflict could be visualized to community, the interest of C/P could be increased, and more effective capacity enhancement could be achieved.</p> <p>[Promoting of understanding and support of existing leader's group] In order to improve the status of village midwives and encourage before-birth screening, raise awareness of village midwives' activities and health check-up and foster understanding at the community level.</p>

Lesson 5	Confidence building among resident through improving basic infrastructure and rural and agricultural development
Applicable cases	Implementing or planning projects with objectives of promoting confidence building among residents, through improvement of the basic infrastructure and rural and agricultural development in a conflict-affected area.
Risks	<ul style="list-style-type: none"> - Due to the conflict background, there are various tensions remaining among residents (ethnic group, tribe, area, religion, perpetrator/victim, and so on.) even in the post-conflict period. Those tensions may lead to the reoccurrence of conflict. - Long refuge by many residents often causes weakening of community tie and traditional leaders influence. - Assistance to conflict brought vulnerable group (refugee, IDP, female household head, etc.) is important in the reconstruction phase. On the other hand, other people may be frustrated if the vulnerable group has generous assistance.
Possible measures to be taken	<p>[Cooperation in economic activities] Creating an opportunity for community groups with different background to cooperate agriculture and rural development which lead to livelihood improvement will lead to nurture mutual trust among citizens.</p> <p>[Utilization of local staff] In order to avoid facilitating instable factors in community, it is effective to utilize local staff who is familiar with local contexts. However, it should also take into consideration of even ethnic diversity among local staff.</p> <p>[Selection of the beneficiaries] in selecting target community, selection criteria is established considering various aspects such as ethnic and tribal balances, culture, religion, tradition, conflict factors, etc. to reduce citizens' feeling of unfairness, selection criteria and selection process of the beneficiaries are widely announced.</p>

Lesson 12	Assistance for the repatriation and reintegration of refugees and internally displaced persons (IDPs)
Applicable cases	Immediately after a conflict: in case of considering assistance for promotion of repatriation of refugees and IDPs
Risks	<ul style="list-style-type: none"> - Refugees and IDPs face economic difficulties (livelihood redevelopment) and social difficulties (relationship building with residents in repatriated community). In their repatriated community, their basic living environment may not be maintained, community may be weakened, and various situations of people are mixed such as those earlier returnees, remained residents, and those in late return. In such circumstances, antagonistic relationship among residents concerning employment opportunity or land rights. - During conflict, because residents were refuge from their land for a long time, a problem of land may occur in repatriated community. Land issues such as coexistence of legal land-own system and traditional land-own system, illegal land trade during conflicts, or so are likely to prevent the area from being developed.
Possible measures to be taken	<p>[Strengthening of community as a whole] Not only recognize refugees and IDPs as a target but also include surrounding community residents to rebuild and strengthen the whole community so that antagonistic relationship among residents is minimized.</p> <p>[minimization of land problems] In order to minimize possible friction derives from land problems, land system in such community and interests of land owners are carefully considered. In implementing activities, select a land with clear ownership and the right of residence.</p> <p>[Utilization of local NGOs] Use community-rooted local NGOs which are familiar with community situations to implement activities taking into consideration of relationship of residents within the community.</p> <p>[Community profile survey] Based on communities' profile depending on the proposition that the situation around refugees and the situation in mobility of IDPs is constantly changing, development plan in accordance with their returning status is considered.</p>

Statistical Analysis on Ex-post Evaluations

In FY2014, JICA initiated a statistical analysis on external ex-post evaluations (740 projects) conducted in the past to understand the trends on the ratings and gain insights to improve its project design and implementation. This statistical analysis was the first attempt for JICA to add a quantitative analysis to its ex-post evaluations.

1 An Overview of the Statistical Analysis

Background

Since FY2009, JICA has conducted ex-post evaluations based on an evaluation system that uses coherent methodologies and criteria, including the Five DAC Criteria, for all the three assistance schemes of Technical Cooperation, ODA Loans, and Grant Aid. This consistent ex-post evaluation system entered its sixth year in FY2014. In the meantime, the number of external ex-post evaluations exceeded 450 (Refer to p.10 for the rating criteria and rating flowchart of external evaluation).

Objectives

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

Subjects of this statistical analysis


This statistical analysis was conducted on 740*¹ external evaluations*², consisting of evaluations on projects in all three schemes from FY2009 to FY2013 and those of ODA Loans from FY2003 to FY2008*³ (i.e. 539 ODA Loans, 129 Grant Aid, and 72 Technical Cooperation projects).

Method

(1) Trend and distribution of evaluation ratings: quantitative analysis (descriptive statistics)

The analysis of the trend and distribution of external evaluation results (overall ratings and ratings based on the Five DAC Criteria) was conducted on a total of 740 projects across the three schemes.

(2) Verification of hypotheses on factors that may influence evaluation results: quantitative analysis (multivariate analysis) and qualitative analysis

Several hypotheses were developed to examine what factors may influence the results of project evaluations. Then, they were verified quantitatively and qualitatively. (Refer to p.54  for details)

Notes

The rating system is a useful tool to assess the outcomes of development projects and provide information that helps understand their actual situation and ways to improve it. This system is, however, subject to the following three constraints: (i) it only covers a limited range of examination items within the scope of the DAC Evaluation Criteria (for example, it does not evaluate how much contribution the donor has made); (ii) it cannot fully capture the different difficulties the projects face, such as the nature of assistance (e.g. necessity of innovations) and project environments (e.g. vulnerability of recipient countries); and (iii) it only assesses the results of past activities but does not evaluate ongoing activities or their (potential) outputs. Therefore, it should be noted that the rating results do not represent a comprehensive picture of the development projects.

*1 Because this analysis was conducted on a country-by-country basis, region-wide projects targeting multiple countries were excluded from the analysis.

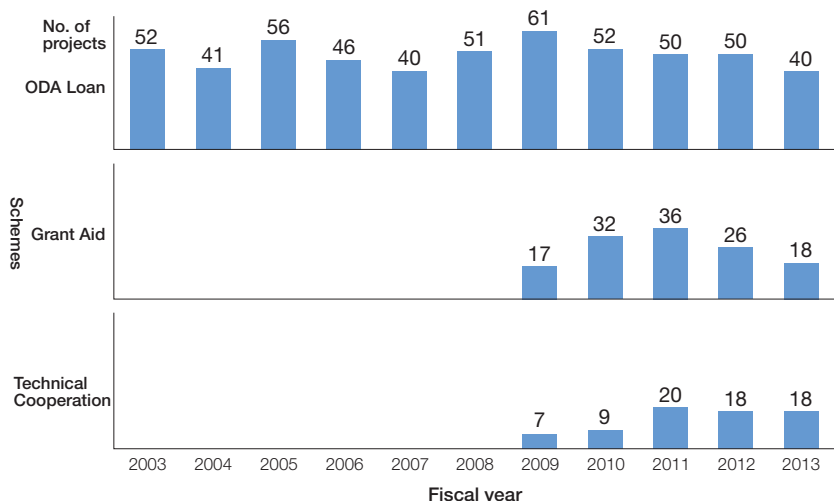
*2 The external evaluation was targeted at projects costing over one billion yen and those likely to provide useful lessons learned.

*3 Among the ex-post evaluations of ODA Loans conducted by the then Japan Bank for International Cooperation, those given ratings were covered in this analysis.

2 Results of Analysis (Descriptive Statistics): tendency and distribution of external ex-post evaluation ratings

Number of evaluation

Figure 1 Change in the number of ex-post evaluation in each fiscal year by scheme



The rating system was first adopted for the ex-post evaluation of ODA Loans in FY2003. During the 11 years up to FY2013, a total of 539 projects (an average of 49 per year) were evaluated. The same evaluation system was applied to Grant Aid and Technical Cooperation projects from FY2009. During the five years after that, a total of 129 Grant Aid projects (an average of 26 per year) and a total of 72 Technical Cooperation projects (an average of 14 per year) were evaluated. The ratio of ODA Loans, Grant Aid, and Technical Cooperation ex-post evaluations is 73:17:10.

Overall Rating

Figure 2 Results of overall rating

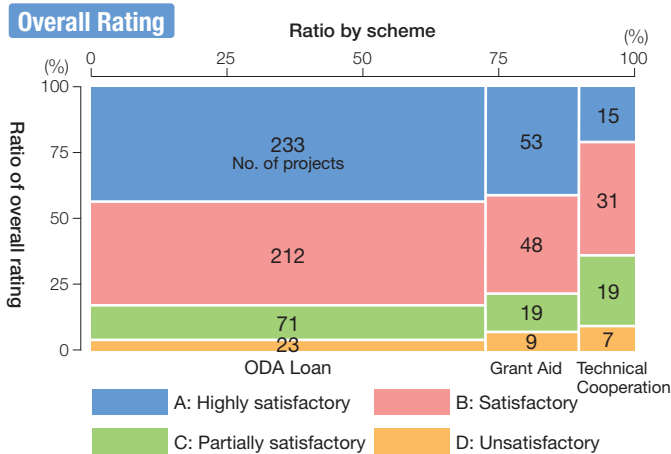
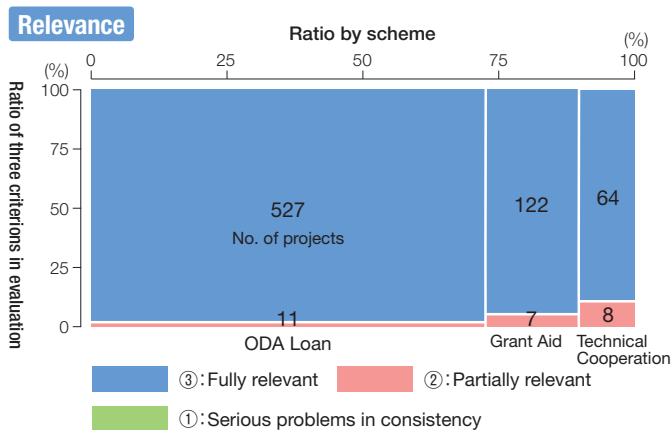


Figure 2 shows the mosaic plot of the results for overall ratings for each scheme.

The vertical axis represents the ratio for each rating, and the horizontal axis the ratio for each scheme. The figures in the graph show the corresponding number of ex-post evaluations. The width of each column (for example, that of ODA Loans is the widest and that of Technical Cooperation is the thinnest) indicates the proportion of the number of ex-post evaluations corresponding to the scheme. The yellow columns for all three schemes are short, which indicates that only a small number of projects received a rating of “D: unsatisfactory.” As shown in Figure 2, projects rated as “A: highly satisfactory” and “B: satisfactory” account for a large proportion (592 out of 740 projects or 80%). When sorted by scheme, projects rated as “A” and “B” account for approximately 80% for ODA Loans and Grant Aid, respectively (546 out of 668 projects). In the case of Technical Cooperation, projects rated as “A” and “B” account for 64% (46 out of 72 projects).

Relevance*4

Figure 3 Evaluation results of relevance



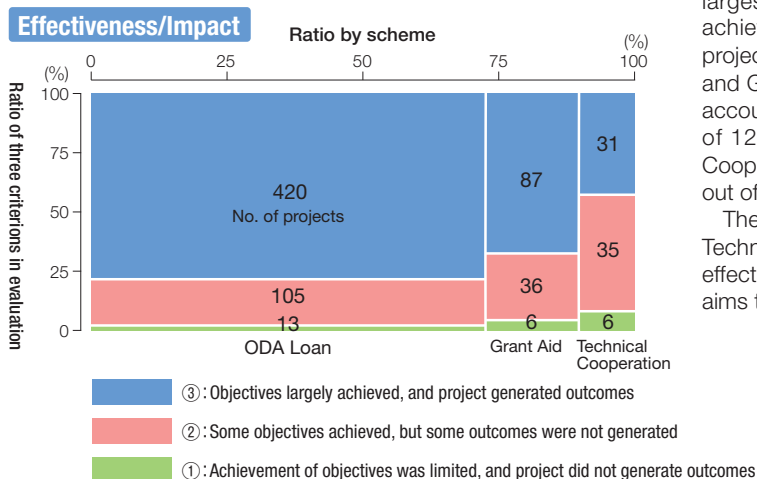
Among the four criteria, relevance has the largest proportion of projects rated as “③ (fully relevant)” in each scheme (713 out of 740 projects or 96%).

The reason behind this is that the “relevance of assistance (to the development policies of recipient countries and the ODA policy of Japan)” and “relevance to development needs,” both of which are points to consider when evaluating relevance, are rarely changed significantly over the time period between ex-ante and ex-post evaluations. In order to identify useful lessons, the evaluation methodologies are being reviewed to further deepen the analysis of relevance (Refer to p.6).

*4 Refer to “Rating criteria and overview of main items examined” on p.10 for the basis of evaluation results from ① to ③ on the Five DAC Criteria.

Effectiveness/Impact

Figure 4 Evaluation results of effectiveness/impact

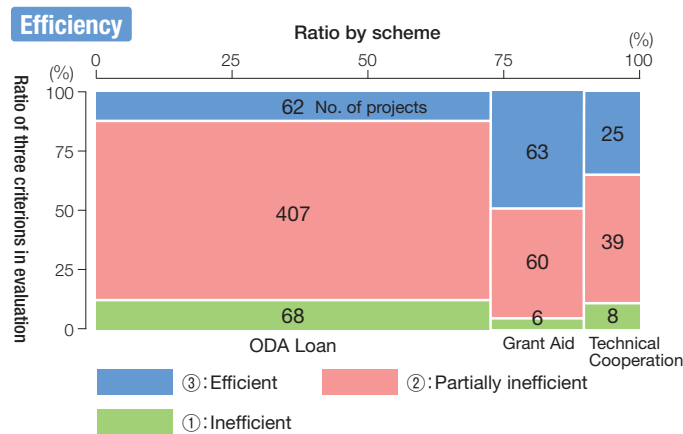


Among the four criteria, effectiveness/impact has the second largest proportion of projects rated as “③ (objectives largely achieved, and project generated outcomes)” (538 out of 740 projects or 73%), following relevance. In particular, ODA Loans and Grant Aid projects are more likely to be evaluated as “③,” accounting for 78% (420 out of 539 projects) and 67% (87 out of 129 projects), respectively. The proportion of Technical Cooperation projects rated as “③” is relatively small at 43% (31 out of 72 projects).

The reason behind this is that it tends to be more difficult for Technical Cooperation projects to retain and disseminate their effects after the project completion because this scheme often aims to strengthen institutional and human resource capacity.

Efficiency

Figure 5 Evaluation results of efficiency

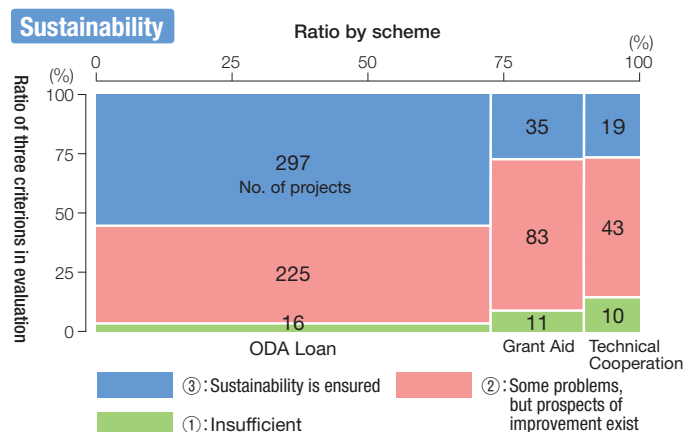


Among the four criteria, efficiency has the smallest proportion of projects rated as “③ (efficient)” (150 out of 740 projects or 20%) and a relatively large proportion of those rated as “① (inefficient)” (82 out of 740 projects or 11%). In particular, ODA Loans are least likely to be evaluated as “③” (62 out of 539 projects or 12%) and account for a smaller proportion than those evaluated as “①” (68 projects or 13%).

The reason behind this is that efficiency is evaluated by comparing the actual and planned project duration and cost and the duration of ODA Loans tend to be extended.

Sustainability

Figure 6 Evaluation results of sustainability



Sustainability has a relatively large proportion of projects rated as “③ (sustainability is ensured)” and “② (some problems, but prospects of improvement exist).” The proportion of projects rated as “③” is highest in ODA Loans (297 out of 539 projects or 55%) among the three schemes. In Grant Aid and Technical Cooperation, projects rated as “③” account for 27% (35 out of 129 projects) and 26% (19 out of 72 projects), respectively, which are smaller than any other criteria (i.e. relevance, effectiveness/impact, and efficiency).

The sustainability of Grant Aid is lower than that of ODA Loans because countries receiving Grant Aid tend to have lower technical and financial capacity than those receiving ODA Loans. Meanwhile, the low sustainability of Technical Cooperation projects can be attributed to the difficulty in retaining and disseminating their effects after the project completion, as indicated in “effectiveness/impact.”

3 Results of the Analysis (Multivariate Analysis): verification of hypotheses on factors that may influence evaluation results (ODA Loans and Grant Aid)

How to verify the hypotheses

(1) Review of previous studies and interviews: The analysis method was developed based on the review of previous studies conducted by other donor agencies and interviews with relevant JICA departments.

(2) Formulation of hypotheses and variables: Based on the results mentioned in (1) as well as past ex-post evaluations, several hypotheses were developed to examine what factors may influence the results of project evaluations, and explanatory indicators for these hypotheses (explanatory variables) were selected^{*5}. The four rating categories of effectiveness/impact, efficiency, sustainability, and overall rating (whose scales from A to D were converted to ordinal variables from 4 to 1) of ex-post evaluation were used as explained variables. The rating for relevance was excluded from the analysis because its ratio was biased for projects rated as “③ (fully relevant)” (accounting for 96% as shown in Figure 3).

(3) Verification of hypotheses: A quantitative analysis was performed on the hypotheses. A qualitative analysis was also carried out on the hypotheses for which objective data were not available.

Quantitative analysis: Technical Cooperation was excluded

from the analysis because the number of such projects was small at 72. A multivariate analysis^{*6} was conducted on the remaining 668 projects (consisting of 539 ODA Loans and 129 Grant Aid projects).

Qualitative analysis: 740 projects across the three schemes were analyzed by examining their ex-post evaluation reports, reviewing previous studies conducted by other donor agencies, and interviewing relevant JICA departments.

^{*5} The hypotheses and explanatory variables were developed through a close examination from the following four perspectives: (i) whether it is possible to obtain data relevant to the country-specific variables, such as information on target countries during project periods; (ii) whether it is possible to obtain data relevant to the project-specific variables from ex-post evaluation reports; (iii) whether it is possible to apply alternative variables or hypotheses when data (i) and (ii) are not available; and (iv) whether the explanatory variables may cause statistical problems (e.g. endogeneity) when examined in a regression analysis (an ordered probit model). The endogeneity here refers to a problem occurring when explanatory variables are correlated with explained variables. For example, the actual project cost is an endogenous variable because it is directly correlated with the rating of efficiency. Therefore, it is not appropriate to use the actual project cost as an explanatory variable. In contrast, the planned project cost will not cause endogeneity.

^{*6} An ordered probit model was used in the regression analysis, and Stata13.1 was utilized for the analysis. Each hypothesis was analyzed on 12 patterns in a three-by-four matrix: three different clusters of projects (a cluster of ODA Loans, a cluster of Grant Aid, and a combined cluster of ODA Loans and Grant Aid) with four rating categories (effectiveness/impact, efficiency, sustainability, and overall rating).

■ Notes on the analysis results

With regard to the explanatory variables used in the multivariate analysis, relevant statistical data were not available for all countries, which caused data gaps in some of the country-specific variables. Moreover, some of the necessary information regarding project-specific variables could not be obtained from relevant ex-post evaluation reports. Due to these data gaps in explanatory variables, not all hypotheses arrived at conclusions, and some of their analysis results needed to be interpreted with caution.

Despite these constraints, the multivariate analysis drew some conclusions on the hypotheses. Among them, the analysis results providing useful feedback to improve project design and implementation are described below^{*7}. In addition to this multivariate analysis, a qualitative analysis was conducted on some of the hypotheses by interviewing relevant JICA departments.

^{*7} The expressions "confirmed to be related" mean that the explanatory variable was found to be valid at significance levels of 5% ($p < 0.05$) or 1% ($p < 0.01$). A significance level of 10% ($p < 0.10$) indicates that although the variable was found to have a tendency to be influential, a careful interpretation may be needed.

Hypothesis: The overall rating and efficiency of projects have a tendency to be rated lower when the inflation rate rises in partner countries.

Results of data analysis: The inflation rate (GDP deflator) was selected as a country-specific variable. As a result of the analysis, high inflation was not confirmed to be significantly related to overall rating in a combined cluster of ODA Loans and Grant Aid, an independent cluster of ODA Loans, or an independent cluster of Grant Aid; therefore, this hypothesis was rejected for overall rating. On the other hand, high inflation was confirmed to be negatively related to the efficiency of Grant Aid projects. Inflation was also found to be negatively related to the sustainability of ODA Loans though it was found valid at a significance level of 10% in some analyses.

Discussion: A rise in inflation rates in partner countries during the project implementation may increase equipment and personnel costs related to projects. As a result, the actual project cost may exceed the estimated cost, which will be evaluated as less efficient. Moreover, a rise in prices can also make it more difficult to procure maintenance equipment and boost the maintenance cost, resulting in a rating of low for sustainability.

It should be noted that high inflation was confirmed to have a negative influence on the efficiency of Grant Aid projects but not on that of ODA Loans. This suggests that ODA Loans have means to deal with inflation (e.g. contingencies allocated in the project cost) while Grant Aid projects have no such means.

Insights for improvements in project design and implementation: The "contingency" system available for ODA Loans has been experimentally applied to some Grant Aid projects implemented in high-risk countries since 2009. The system was expanded to cover all Grant Aid projects involving construction works and some of the Grant Aid projects providing equipment in FY2015. The results of this analysis confirmed the necessity of contingency for Grant Aid projects.

Hypothesis: The sustainability of projects has a tendency to be rated lower when community organizations are responsible for maintenance.

Results of data analysis: The participation of community organizations in maintenance activities was selected as a project-specific explanatory variable. As a result of the analysis, the participation of community organizations was confirmed to be negatively related to sustainability in a combined cluster of ODA Loans and Grant Aid, as predicted by the hypothesis. This variable was also found to be negatively related to the sustainability of Grant Aid projects though it was found valid at a significance level of 10% in some analyses.

Discussion: Because this variable was found to have a particularly strong influence on Grant Aid projects, (i) a detailed comparison was made between Grant Aid and ODA Loans, and (ii) a causal analysis was conducted by interviewing relevant JICA departments and reviewing evaluation reports to identify factors that may undermine sustainability. In the step (i), the projects involving community organizations in their maintenance activities were analyzed on a sector-by-sector basis. The results of the analysis revealed that compared to ODA Loans, Grant Aid projects in the agriculture (agriculture, forestry, fisheries, and rural development) and infrastructure (transport, water, and sanitation) sectors were rated lower for sustainability on average. Therefore, a causal analysis was carried out on the agriculture and infrastructure projects.

In the infrastructure sector, nine out of ten Grant Aid projects were water supply projects with a focus on the community water supply systems. The results of interviews with relevant JICA departments indicated that community water supply projects typically organize water management committees consisting of local residents. According to the interviews, the maintenance system tends to be complicated as community organizations receive support from local authorities, and such cases often cause problems on both sides. Some ex-post evaluation reports also pointed out a lack of support from local authorities to community organizations.

In the agriculture sector, four out of eight Grant Aid projects belong to the fisheries sector and three belong to the irrigation sector. According to the interviews with relevant JICA departments, in the fisheries sector, the cases where low sustainability is attributed solely to community organizations were rarely observed. Because, typically not only community organizations consisting of fishermen but also local authorities and fishing port agencies are involved in maintenance activities. In the irrigation sector, the maintenance of on-farm irrigation canals is typically performed by irrigation associations consisting of local residents. When such irrigation associations are newly organized during the project implementation, only a few of them will have been fully set up at the time of ex-post evaluation (conducted three years after the project completion).

Insights for improvements in project design and implementation: The results of the analysis indicated that when a project involves community organizations in their maintenance activities, especially in the case of Grant Aid, the following measures will be required to ensure sustainability: (i) establishment of a system involving not only community organizations but also local authorities which support them; and (ii) follow-up actions to strengthen community organizations which have not been fully developed at the time of ex-post evaluation. Similar lessons were pointed out in "knowledge lessons learned from irrigation, drainage and water management projects" (Refer to p.46 in the 2014 JICA Annual Evaluation Report). While countermeasures have been taken, such as close examination of institutional feasibility at the project planning and implementation stages, greater attention should be paid going forward.

JICA's Efforts in Promoting Impact Evaluation

Aiming to further enhance the effectiveness and quality of its projects, JICA has been promoting evidence-based practices as well as the implementation of impact evaluation as a major tool for this purpose. Such evaluation is required to assess the effects accurately, especially when there is little evidence for the effects of a project or when a project is to be scaled up.

Because statistical and econometric methods are used for impact evaluation, a certain degree of understanding of these methods is required to plan and implement the evaluation and

utilize its results. Accordingly, JICA has trained internal staff and external evaluators.

Against this backdrop, the number of projects and sectors covered by JICA's impact evaluation has been expanding every year. The JICA Research Institute, Evaluation Department, and operational departments have conducted impact evaluations in such sectors as health, education, industrial development, infrastructure, public services, environmental protection, and regional development.

Example 1

Safe Motherhood Promotion Project (Phase 2) in Bangladesh

Assessing the changes that have occurred in project intervention areas in regard to (i) health-related behaviors; (ii) women's empowerment; and (iii) cognitive social capital

JICA launched the Safe Motherhood Promotion Project in Bangladesh in June 2006, since when it has implemented activities to improve the health of pregnant and post-partum women and neonates. In particular, efforts for safe childbirth, consisting of the two pillars of (i) community-organizing and awareness-raising activities and other measures to promote childbirth preparations and (ii) upgrading of healthcare facilities, have been highly appreciated by the Government of Bangladesh and called the "Narsingdi Model."

In 2011, the project entered into its second phase, aiming to expand the approach to improve the access to and quality of health care services for pregnant and post-partum women and neonates across the nation. As Community Support Groups (CSGs) had been organized by local residents under the smallest unit of community health care called Community Clinics (CCs) in Bangladesh, the second phase was designed to assist CSGs in improving the access to CCs for local residents in need of health care services by such means as continuous monitoring and training to enhance their institutionalization and management capacity.

In this project, an impact evaluation was performed, using a cluster randomized controlled trial (CRT), to accurately assess the effects of the capacity building support for CSGs. A CRT is one of the most accurate impact evaluation methods. This is a type of randomized controlled trial (RCT), in which multiple similar groups are formed by randomly assigning clusters of potential subjects (clustered by CC in this project) to participant and non-participant groups (i.e. random assignment) before the commencement of interventions (i.e. measures and activities performed in the project) to compare differences between them

some time after the interventions started. In this project, expectant and nursing mothers in the project intervention and control areas were analyzed by assessing the following three aspects: (i) health-related behaviors such as whether or not to receive prenatal and postpartum checkups and whether to give birth at the hospital; (ii) women's empowerment; and (iii) cognitive social capital. The necessary data were collected by means of a questionnaire survey and an experiment based on the theory of behavioral economics. The results implied that changes had occurred in the intervention areas.

The results of the statistical analysis also indicated that the project had developed cognitive social capital. For example, CSG members supported through training and continued monitoring for the sustainable management of CSGs, as well as nursing mothers in communities benefited from the project, were found to have cultivated altruism (a behavior of sharing their own benefits with others). The interventions to improve maternal and child birth were confirmed to have more positive impacts than expected.

These results were shared with the Bangladeshi side at the time of the terminal evaluation. As the capacity building of CSGs can also contribute to the activation of CCs through the development of social capital, the terminal evaluation team recommended the Bangladeshi side to expand these measures to other districts by the termination of the project and secure financial and human resources for this purpose. The evaluation team also recommended that the analysis results of women's economic empowerment and health-related behavior changes should be shared with the Bangladeshi side and incorporated in their policies as soon as the analysis is completed.

Example 2

ARMM Social Fund for Peace and Development Project in the Philippines

Assessing the effectiveness of community participatory development in conflict-affected areas

JICA implemented the ARMM Social Fund for Peace and Development Project (ODA Loan) in Mindanao Island, the Philippines, from 2003 to 2012. An impact evaluation was conducted to assess the effectiveness of the community participatory development approach in the construction of small scale infrastructure (e.g., roads, schools, water supply facilities, and health centers) based on the needs of local residents.

Implemented along with the ex-post evaluation of the project, this impact evaluation quantitatively analyzed whether or not the community participatory development approach could work effectively in conflict-affected areas where poverty tends to be concentrated. The various impacts of this project, such as economic, educational, health/hygiene, public safety, and social capital impacts, were assessed against the outcome indicators at the barangay and household levels by using a difference-in-differences analysis*¹ and a propensity score matching method*². The results indicated that the project had improved the access to market and education/health/water supply services as well as increased income and expenditure, especially among the less educated.

Moreover, the results of the evaluation implied that the project had contributed to building trust and controlling conflicts among different clans whereas some households that had not been involved in the community participatory development process of this project were likely to develop a distrust of their barangay captains (village chiefs). These perspectives were not specified as project objectives at the planning stage, but the effects in these aspects were additionally analyzed in the impact evaluation.

This impact evaluation not only assessed the direct impacts of the project's infrastructure development but also identified evidence that support in conflict-affected areas can contribute to building confidence among stakeholders. At present, an impact evaluation was also performed for the Skills Training and Job Obtainment Support for Social Participation of Ex-Combatants and Other People with Disabilities in Rwanda to assess the outcomes which were difficult to measure with other methods, such as ethnic reconciliation and trust development.

*1 Difference-in-differences analysis: It is a method to measure the effects of project implementation by identifying the differences in outcomes achieved by the target and control groups, respectively, during the period from the beginning to the end of the project and analyzing the difference in the differences between these two groups.

*2 Propensity score matching: A method to select samples with similar statistical properties from the target and control groups, respectively, and compare their outcomes is called "matching." In particular, the matching by transforming the predicted probabilities of being targeted by the project into propensity scores is called "propensity score matching."



Field survey of beneficiaries



Feedback to relevant organizations in the Philippines (JICA/NEDA joint workshop)

Example 3

Training of Impact Evaluators

JICA held a seven-day capacity-building training course, "Impact Evaluation: For Evidence-based Practices," in the end of August 2015. The objective of this training was that development consultants and other practitioners engaged in JICA projects could understand the importance of evidence-based practices (EBPs) and the concepts and approaches of impact evaluation as well as develop their skills to plan and implement impact evaluations when they plan and

manage/supervise their projects. A total of 18 practitioners selected from outside JICA attended lectures and exercises in this training, acquiring basic knowledge useful in the practice of impact evaluation. As the number of JICA projects involving impact evaluations has been growing in recent years, JICA is hoping that an increasing number of development assistance personnel can conduct impact evaluations.