

Overview of the Ex-post Evaluation System

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

Ex-post evaluation system

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

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

Rating system

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

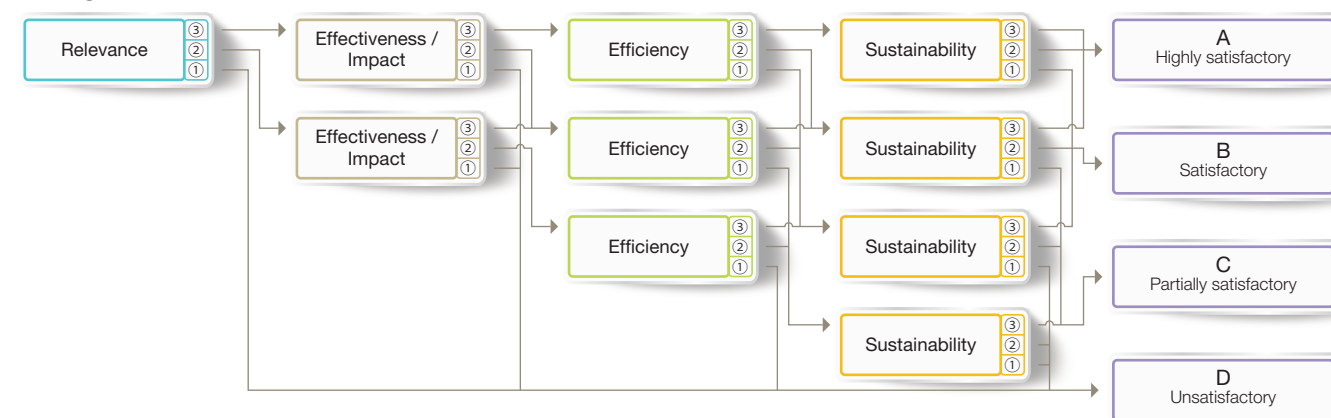
Although the rating is useful as means of indicating the effectiveness of the projects, it does not reflect all aspects of implementation for development projects. Thus, the results should not be solely overemphasized.

Overview of rating criteria and general perspectives

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

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

Rating flowchart



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

Internal evaluation

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

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

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

Implementation structure of internal evaluation

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



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



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



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

External Evaluation Results for FY2016

Overall rating

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

Evaluation of 2 Technical Cooperation projects implemented in

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

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

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

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

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

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

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

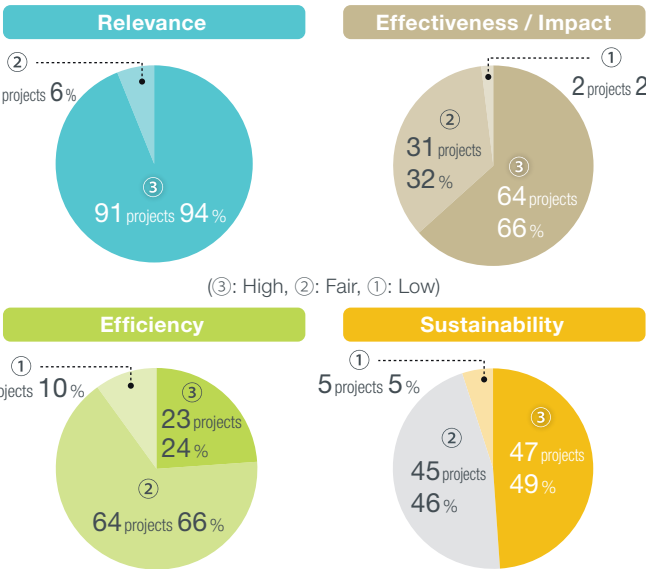
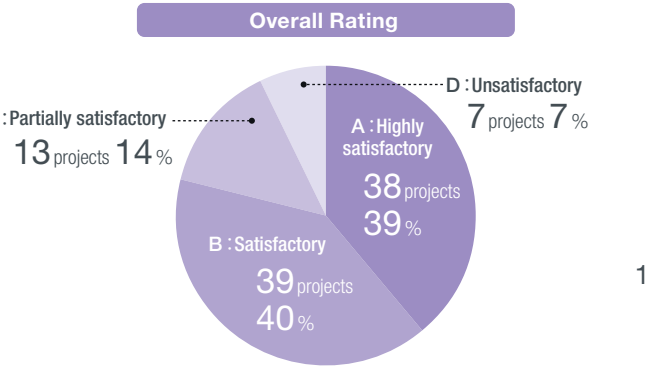
Since ex-post evaluation for FY 2016, JICA has added “Performance” as an optional criteria. To extract activities and reflecting points as lessons referable at the project planning/appraisal and implementation stages for JICA and other stakeholders to achieve the project purpose, JICA strives to analyze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

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

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

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

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



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

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

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

^{*1} ③: High, ②: Fair, ①: Low: Highly Satisfactory, B: Satisfactory, C: Partially Satisfactory, D: Unsatisfactory (Refer to p.8)
^{*2} External evaluations are for projects costing 1 billion yen or more and other projects deemed to provide valuable insight.
^{*3} T: Technical Cooperation, L: ODA Loan, G: Grant Aid, TAP=: Technical Assistance Projects Related to Japanese ODA Loans
^{*4} Effectiveness includes evaluation of Impact.
^{*5} E/S: Engineering Service Loans
^{*6} ODA loans to China ended with the six Loan Agreements in December 2007.

External Evaluation: Highlights

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

India (ODA Loan)

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

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

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

Overall

A

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Loan amount / Disbursed amount:

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

Loan agreement:

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

Terms and conditions:

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

Final disbursement date:

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

Executing agency:

- West Bengal State Electricity Distribution Company Limited (WBSEDCL)

Project Objectives

Overall Goal:

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

Project Purpose:

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

Output:

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



Purulia Lower Reservoir



Settlement in the Project Site



Upper Reservoir and Intake Point



Compensatory Afforestation Site

Effects of Project Implementation (Effectiveness, Impact)

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

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

Relevance

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

Peak-Time Power Supply and Demand in West Bengal State

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

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

Target and Actual Figures for Operation and Effect Indicators

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

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

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

Efficiency

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

Sustainability

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

Net Electric Energy Production of Purulia Pumped Storage Power Plant

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

Source: WBSEDCL

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

Conclusion, Lessons Learned and Recommendations

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

*1 Indicator that looks at whether the performance of the power plant is being maintained.
*2 In India, there were mainly five regional electric power systems for transmission, but their integration as national grid began around 2000.

Key Point of Evaluation

Promoting Total Quality Management (TQM)

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

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

People's Republic of China (ODA Loan)

Henan Province Afforestation Project

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

External Evaluator: Shima Hayase, IC Net Limited

Overall

A

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Project Description

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

Loan agreement: June, 2006

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

Final disbursement date: December, 2014

Executing agency:

The People's Government of Henan Province

Project Objectives

Overall Goal:

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

Project Purpose:

To enrich forest resources*1 by afforestation in Henan Province

Output:

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

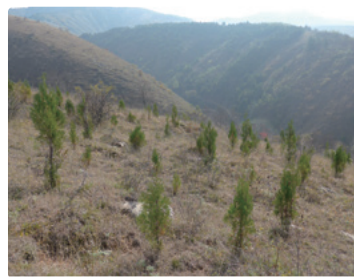
*1: The objective of the Project at the time of appraisal was "by afforestation in 71 counties of Henan Province, contributing to suppression of soil erosion in mountainous areas and of strong winds in plains, mitigating damage of natural disasters such as floods and sandstorms in the area, and improving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



Protection forest of poplar



Economic forest of Yabukita tea



Forest seriously damaged by animal feeding (protection forest)

Effects of Project Implementation (Effectiveness, Impact)

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

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

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

Relevance

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

Efficiency

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

Sustainability

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

Artificial Afforestation Area by Forest Type (Unit: ha)

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

Source: material provided by the executing agency

Survival Rate and Preservation Rate

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

Source: material provided by the executing agency

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

Conclusion, Lessons Learned and Recommendations

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

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

Key Point of Evaluation

Constraints in evaluation on afforestation projects and corresponding measures

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

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

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

Forest Coverage Ratio of Project Implementation Counties

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

Source: material provided by the executing agency

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

Forest Stock Volume (Unit: m³/ha)

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

Source: material provided by the executing agency

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

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

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

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

Socialist Republic of Viet Nam (ODA Loan)

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

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

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

Overall

B

Effectiveness and Impact	3
Relevance	3
Efficiency	1
Sustainability	3

Project Description

Loan amount / Disbursed amount:

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

Loan agreement:

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

Terms and conditions:

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

Final disbursement date: September 2014

Executing agency:

Ho Chi Minh City People's Committee

Project Objectives

Overall Goal:

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

Project Purpose:

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

Output:

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



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



Traffic monitoring by Management Center of Saigon River Tunnel



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

Effects of Project Implementation (Effectiveness, Impact)

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

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

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

Relevance

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

Baseline, Target and Actual Figures Regarding Annual Average Daily Traffic

(Unit: PCU/day)

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

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

Baseline, Target and Actual Figures Regarding Travel Time

(Unit: Minute)

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

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

Efficiency

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

Sustainability

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

Conclusion, Lessons Learned and Recommendations

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

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

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

Key Point of Evaluation

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

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

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

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

*Since a bribery case occurred in this project in 2008, JICA has been carrying out preventive measures against fraud in official development assistance (ODA) projects (https://www.jica.go.jp/english/notice/141009_01.html).
 For the background information and corresponding measures on this case, see P98 and thereafter of "Country Assistance Evaluation of Vietnam (Third Party Evaluation)" published by Ministry of Foreign Affairs of Japan (<http://www.mofa.go.jp/policy/oda/evaluation/FY2015/pdfs/vietnam.pdf>).

Republic of Peru (ODA Loan)

Provincial Cities Water Supply and Sewerage System Improvement and Expansion Project

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

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

Overall

D

Effectiveness and Impact	2
Relevance	3
Efficiency	1
Sustainability	2

Project Description

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

Loan agreement: April 1999

Terms and conditions:

Interest Rate
Main work: 1.7%, 0.75%
Consulting service: 0.75%
Repayment Period (Grace Period)
Main work: 25 years (7 years)
Consulting service: 40 years (10 years)
Conditions for Procurement
Main work: general untied
Consulting service: bilateral tied

Final disbursement date: December 2011

Executing agency:

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

Project Objectives

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

Project Purpose:
To improve water supply and sewerage services in the target area

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



Water Treatment Plant in Piura



El Indio Sewage Treatment Plant (Piura)



Distribution Reservoir (Chimbote)

Effects of Project Implementation (Effectiveness, Impact)

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

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

In both cities, residents have reported an improvement of the

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

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

Relevance

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

Efficiency

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

State of Achievement of the Primary Indicators

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

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

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

Sustainability

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

Conclusion, Lessons Learned and Recommendations

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

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

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

Key Point of Evaluation

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

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

standard fails to reach the target.

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

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

Bhutan (Grant Aid)

The Project for Restoration and Improvement of Vital Infrastructure for Cyclone Disaster

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

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

Overall**B**

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	2

Project Description

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

Exchange of notes: August 2011

Project Completion: June 2014

Implementing agency:

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

Project Objectives**Overall Goal:**

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

Project Purpose:

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

Output:

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



After the construction of Dolkhola Bridge



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



After the construction of Kela Bridge



Former Kela Bridge which was a suspension bridge for pedestrians

Effects of Project Implementation (Effectiveness, Impact)

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

Relevance

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

Efficiency

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

Sustainability

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

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

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

(Source: Documents provided by JICA and Implementing Agency)

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

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

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

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

Change of Average Access Time of Each Bridge

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

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

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

(Source: Beneficiary Survey results)

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

Conclusion, Lessons Learned and Recommendations

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

Key Point of Evaluation

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

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

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

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

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



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

Uganda (Grant Aid)

The Project for Construction of Rice Research and Training Centre

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

External Evaluator: Isao Dojun, Chuo Kaihatsu Corporation

Overall

B

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Grant limit / Actual Grant amount: 6.51million yen

Exchange of notes: March, 2009

Project Completion: November, 2010

Implementing agency:
National Agricultural Research Organization (NARO)

Project Objectives

Overall Goal:

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

Project Purpose:

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

Output:

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



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



Rice Experimental Field and Exhibition of Various Rice Varieties



Scene of a Training for Researchers by a Japanese Expert

Effects of Project Implementation (Effectiveness, Impact)

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

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

Relevance

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

Efficiency

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

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

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

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

NaCRRI Rice Cultivation Researcher Figures

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

Source: Answer to questionnaire by NaCRRI

NaCRRI Rice-Related Research Report and Paper Figures

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

Source: Answer to questionnaire by NaCRRI

Sustainability

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

Conclusion, Lessons Learned and Recommendations

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

Key Point of Evaluation

Synergistic Effects of a Grant Aid and a Technical Cooperation

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

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

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

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

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

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

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

External Evaluator: Mari Nishino, Chuo Kaihatsu Corporation

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

Overall**C**

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	2

Project Description

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

Exchange of notes:

Detailed Design: January 2011
Construction: August 2011

Project Completion: July 2013

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

Project Objectives**Overall Goal:**

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

Project Purpose:

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

Output:

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



The Institute of Medical Education, Kinshasa



Multipurpose Hall accommodating 200 people



Practical training room: Nursing/Midwifery Depts.



Well organized commodity warehouse

Effects of Project Implementation (Effectiveness, Impact)

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

Relevance

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

Efficiency

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

Sustainability

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

Target and Actual Figures of Quantitative Indicator

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

Source: Documents provided by JICA and the implementing Agency

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

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

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

Conclusion, Lessons Learned and Recommendations

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

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

Key Point of Evaluation**Recognizing Gaps Between Policy and Practice, and Fostering Common Understanding Among Stakeholders**

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

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

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

Republic of Kenya (Technical Cooperation)**Strengthening of Mathematics and Science Education (SMASE)****Extending mathematics and science education based on a student-centered approach to Kenya and other African countries**

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

Overall**A**

Effectiveness and Impact 3

Relevance 3

Efficiency 3

Sustainability 2

Project Description

Total cost: 1,003 million yen

Period of cooperation: January 2009 – December 2013

Partner country's implementing organizations:

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

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

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

Main equipment provided: Training materials and equipment

Project Objectives

Overall Goal:

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

Project Purpose:

Kenya Component: Quality of Mathematics and Science education at Primary and Secondary school levels in Kenya is strengthened through In-Service Education and Training (INSET).
WECSA Component: Capability of INSET providers to implement ASEI-PDSI^{*2} based INSET in member countries is strengthened.

Output:

Kenya Component:

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

WECSA Component:

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

^{*1} Member countries of the Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa (SMASE-WECSA), an intra-regional cooperation network in Africa.^{*2} ASEI-PDSI: Activity, Student-centered, Experiment and Improvisation/Plan, Do, See and Improvement.**Effects of Project Implementation (Effectiveness, Impact)**

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

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

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

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

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

Relevance

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



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



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



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

Number of participants in SMASE INSET and related workshops

(Unit: person)

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

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

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

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

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

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

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

Efficiency

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

Key Point of Evaluation**A Trial Integrated Evaluation of a Technical Cooperation and a Grant Aid**

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

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

Sustainability

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

Conclusion, Lessons Learned and Recommendations

Overall, this project is evaluated to be highly satisfactory.

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

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

Republic of Indonesia (Technical Cooperation)**The Project on Enhancement of Civilian Police Activities/The Project on Enhancement of Civilian Police Activities (Phase 2)**

“Shift from national army to civilian police” Training civilian police officers to be trusted by residents

External Evaluator: Ito Haruo, ICONS Inc.

Overall**A**

Effectiveness and Impact	3
Relevance	3
Efficiency	2
Sustainability	3

Project Description

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

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

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

The number of experts dispatched:

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

The number of technical training participants:

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

Main equipment provided: Vehicle, equipment for on-the-scene criminal identification, education and training equipment, equipment for communication and command control, building BKPM¹, etc.

Project Objectives

Overall Goal:

Phase 1

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

Phase 2

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

Project Purpose:

Phase 1

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

Phase 2

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

Output:

Phase 1

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

Phase 2

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

Effects of Project Implementation (Effectiveness, Impact)

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

As a result of the Project, residents of target areas, Metro Bekasi and Bekasi, increased their confidence in police officers. Meanwhile, the indicator related to confidence from residents was declined significantly at the time of end-line survey in Phase 2 (in 2012) due to the bribery incidents involving the INP². On the other hand, the results of beneficiary survey at the time of the ex-post evaluation indicated that almost 80% or more of the residents have confidence in police officers, and police officers also have positive awareness on the civilian police activities. Therefore, it is evaluated that the civilian police activities are being established at the target areas. Training related to civilian police activities has been implemented in 16 provinces out of 31 provinces nationwide at the time of ex-post evaluation, and these provinces have disseminated training by themselves. In addition, training on civilian police activities has been

institutionalized in the educational institutions of the INP and those institutions provide periodic training nationwide to police officers of training stages. Police-related personnel also pointed out that despite the increase in population due to the influx of outside workers³, the tendencies in decreasing the number of crimes and increasing crime resolution rate in the coverage areas of the BPRs is the positive impact of the promotion of civilian police activities by the Project.

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

Relevance

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



Door to door visit by a police officer

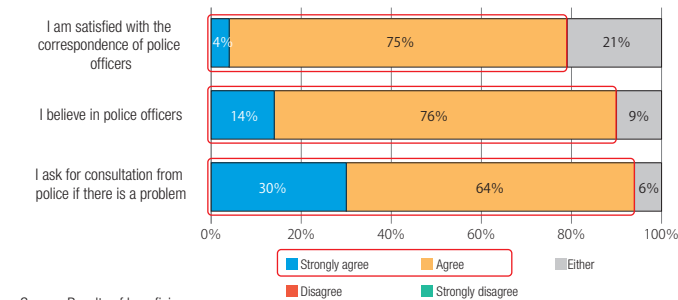


Training on on-the-scene criminal identification by instructors

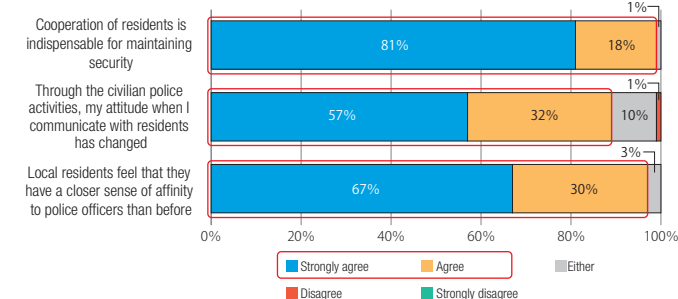


Serving residents by police officers in the Indonesian police box (BKPM)¹

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

Awareness of Bekasi Residents to Police Officer

Source: Results of beneficiary survey

Awareness of Police Officers in BPRs

Source: Results of beneficiary survey

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

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

Efficiency

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

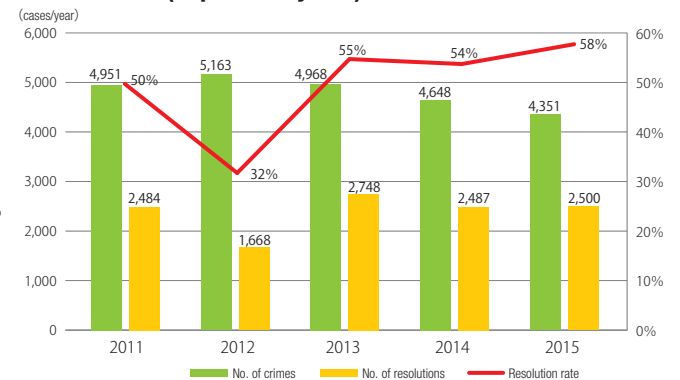
Sustainability

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

Key Point of Evaluation**Analyze quality of activities in the areas where project effects are disseminated by beneficiary survey**

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

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

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

Source: Questionnaire to BPRs

Conclusion, Lessons Learned and Recommendations

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

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

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

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

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

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

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

External Evaluator: Ryutaro Koga, Global Group21 Japan

Overall**B**

Effectiveness and Impact	2
Relevance	3
Efficiency	2
Sustainability	3

Project Description

Total cost: 2,947 million yen

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

Partner country's implementing organizations:

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

The number of experts dispatched:

Long term: in total 12 persons
Short term: in total 295 persons

The number of technical training participants:

Japan: 10 persons

Main equipment provided:

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

Project Objectives

Overall Goal:

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

Project Purpose:

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

Output:

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



E-JUST Temporary Campus/Dormitories



SRTA-CITY Institute where laboratories exist



Robot produced by student laboratory activities

Effects of Project Implementation (Effectiveness, Impact)

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

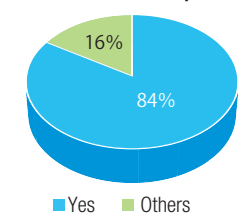
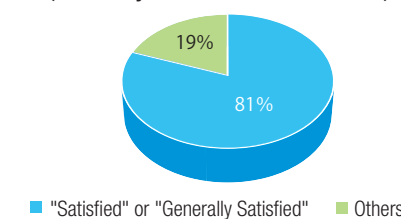
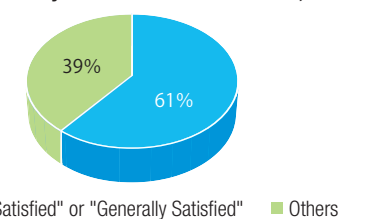
research and educational outputs were realized such as an increase in the number of papers published in international journals and a high degree of completion rate of students within deadline. Based on the above, the effectiveness and impact of this project are judged to be fair.

Relevance

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

Efficiency

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

Number of Research Papers and Presentations in International Academic Conferences (As of September 2013)**Proportion of Graduates who wrote Papers based on Activities in Laboratories (As of December 2016 Ex-post Evaluation)****Satisfaction with University Management by students and faculty (As of May 2013 Terminal Evaluation)****Satisfaction with University Secretariat by students and faculty (As of May 2013 Terminal Evaluation)**

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

Sustainability

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

Conclusion, Lessons Learned and Recommendations

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

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

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

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

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

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

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

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

Measures for Projects Evaluated as Having Issues

Measures for Projects Cited as Having Issues

Topographic Mapping Project for Peace and Development in Mindanao Philippines

1. Overview of the evaluation results and issues observed

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

2. Recommendations and lessons learned

It was recommended that the Japanese and Philippine sides share the

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

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

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

Sihanoukville Port Special Economic Zone Development Project Cambodia

1. Overview of the evaluation results and issues observed

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

2. Recommendations and lessons learned

The implementing agency was recommended to prepare a marketing

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

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

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

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

1. Overview of the evaluation results and issues observed

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

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

2. Recommendations and lessons learned

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

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

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

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

1. Overview of the evaluation results and issues observed

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

2. Recommendations and lessons learned

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

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

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

Provincial Cities Water Supply and Sewerage System Improvement and Expansion Project Peru

1. Overview of the evaluation results and issues observed

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

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

2. Recommendations and lessons learned

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

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

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

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

Sudan

1. Overview of the evaluation results and issues observed

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

2. Recommendations and lessons learned

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

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

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

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

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

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

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

Nigeria

1. Overview of the evaluation results and issues observed

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

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

2. Recommendations and lessons learned

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

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

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

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

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

Collaboration with Experts for Operations Evaluation

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

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

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

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

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

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

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

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



Flood gate



A resettlement site

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

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

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

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

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

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

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

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

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



The GCT RR Architecture Department building



Female students learning in the Architecture Department

* Diploma of Associate Engineering

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

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

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

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

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

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

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

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

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

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

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



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



An exterior view of catchment well

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

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

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

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

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

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

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

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



Overall rating

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

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

Evaluation by criteria:

◇Relevance:

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

◇Effectiveness / Impact:

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

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

◇Efficiency:

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

◇Sustainability:

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

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

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

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

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

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

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

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

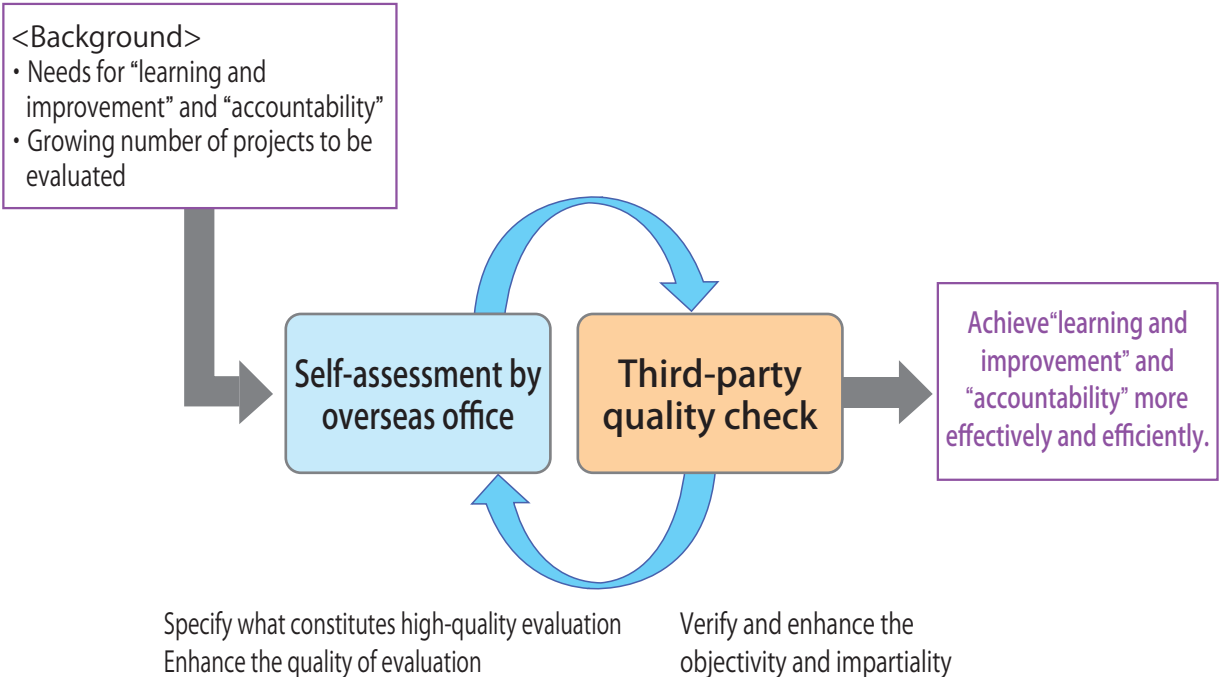
◇Self-assessment:

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

◇Third-party quality check:

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

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



Internal Evaluation Training for Overseas Office Staff

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

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

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

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

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



evaluation training (Morocco Office)



evaluation training (Cambodia Office)



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

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

In-depth data verification helped improve the project evaluation

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

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

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

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



A ladder engine introduced by the Project

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

Good Practice The HIV Prevention Strengthening Project in Madagascar

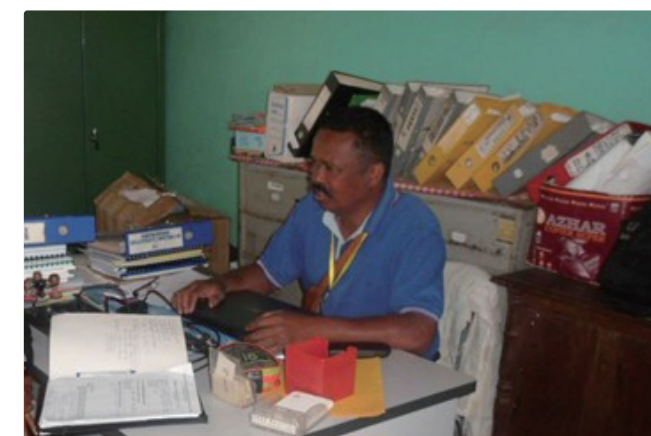
Importance of the data system maintenance for the better understanding of the project effect

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

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

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

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



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