Asia Indonesia

Multipurpose Dam Hydroelectric Power Plant Project

Contributing to easing the tight supply-demand balance of electricity and alleviating dependency on oil by efficiently utilizing water resources for hydroelectric power generation

【External Evaluator】
Masami Sugimoto, SHINKO Overseas Management Consulting, Inc.

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	b	
Sustainability	a	

Project Objectives

To meet rapidly growing electricity demand in each service area, by constructing hydroelectric power plants of 6.2MW, 28MW and 17.2MW at PLN Java Bali System, Wilayah IV service area (Lampung Province), and Wilayah VIII service area (South Sulawesi Province) respectively, thereby contributing to the target areas' economic development and improvement of the peoples' standard of living.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 6,291 million yen / 4,044 million yen
- Loan agreement: December 1996
- Terms and conditions: 2.7% interest rate (2.3% for consulting services); 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: March 2007
- Executing agency: Electricity Company owned by the Indonesian State (PT. PLN (Persero))
- Website URL: http://www.pln.co.id/

Bili-Bili Power Plant

Effects of Project Implementation (Effectiveness, Impact)

This project constructed hydroelectric power plants attached to the three multi-purpose dams, namely Wonorejo (in East Java Province), Batutegi (in Lampung Province), and Bili-Bili (in South Sulawesi Province). Though electricity generation is subordinate, and priority is placed on other uses including irrigation and water supply, the plants are generating electricity almost as planned and are contributing to ease the lack of electricity in each service area. Results of the beneficiary survey conducted on the Wonorejo hydroelectric power plant supplying electricity to East Java Province show that only 15% of households and 7% of business entities had evaluated the quality of power supply "Excellent" before the project; however, both ratios increased to 89% and 85% respectively after the project. In addition, the ratio answering that power failure "scarcely happened" were 28% and 57% respectively before the project, but those rates also increased after the project to 83% and 100% respectively. Therefore, the project has largely achieved its objectives, and its effectiveness is high.

Relevance

This project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation. Development plans at the times of appraisal and ex-post evaluation placed emphasis on the improvement of power supply reliability and hydroelectric power development aiming for alleviating the oil dependency, and development of alternative energy including hydropower is progressing throughout Indonesia.

Efficiency

Though project cost was lower than planned, project period was much longer than planned (153% against the plan), therefore, the evaluation for efficiency is moderate. The main reasons for delay in project implementation included the economic turmoil due to the Asian Currency Crisis in 1997, subsequent delay in procedures due to reforms in the administrative structure, laws and regulations, and additional procurement of spare parts to cope with water pollution.

Sustainability

No major problem has been observed in the technical capacity of 3 hydroelectric power plants nor their operation and maintenance system, taking account of allocation of engineers who are mostly well educated or experienced in other existing hydroelectric power plants and systematic trainings for staff at PLN's training center specialized in hydroelectric power generation in Padang, West Sumatra Province. There is no problem observed in terms of financial capacity, either. Therefore, sustainability of this project is high.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. Recommendations would be to improve inter-agency management arrangement between the Ministry of Public Works (the executing agency of the respective multi-purpose dam projects), and PLN (the executing agency of the hydroelectric power plants), and also internal management practices among the different institutions within PLN.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Indonesia

Upland Plantation and Land Development Project at Citarik Sub-watershed

Contributing to the conservation and economic development of a river basin through participatory farm/forest land conservation

【External Evaluator】
Koichiro Ishimori, Value Frontier Co., Ltd.

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To alleviate sediment runoff and enhance farm productivity by conserving farm / forest land and stabilizing torrents and their banks in the catchment basin (33,388 ha) of the Citarik River that flows through Bandung and Sumedang Prefectures in West Java Province, thereby contributing to river basin conservation and economic development.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 4,128 million yen / 3,960 million yen
- Loan agreement: December 1995
- Terms and conditions: 2.3% interest rate; 30- year repayment period (including a 10-year grace period); general untied
- Final disbursement date: December 2006
- Executing agency: Directorate General of Regional Development, Ministry of Home Affairs

Effects of Project Implementation (Effectiveness, Impact)

The planned volume of annual sediment runoff and control rate of sediment runoff for twelve tributaries of the Citarik River were approximately 1.2 million tons and 81% respectively, whereas the actual volume and control rate were approximately 1.97 million tons and 69% respectively in 2007. Both indicators achieved more than 85% of the plan.

A flood caused by 60 mm of rainfall in 2005 during project implementation inflicted damage on an area of 2,800 ha. In 2007, a similar flood due to the same amount of rainfall inflicted only an area of approximately 15 ha; the flooded area was dramatically reduced. According to an economic survey on 120 out of about 300,000 households residing in the area of the Citarik River basin, the average agricultural income per household after the project was nearly twice as the income prior to the project, that is, from about Rp. 0.77 million to Rp. 1.50 million (inflation-adjusted income).

This project has largely achieved its objectives, and its effectiveness is high.

Relevance

In the West Java Province, high priority is assigned to river basin control measures to alleviate sediment runoff and floods with aims of stabilizing people's livelihood and promoting agriculture. This project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Although project period was much longer than planned (170% of the plan), project cost was lower than planned (82% of the plan), therefore the evaluation for efficiency is moderate.

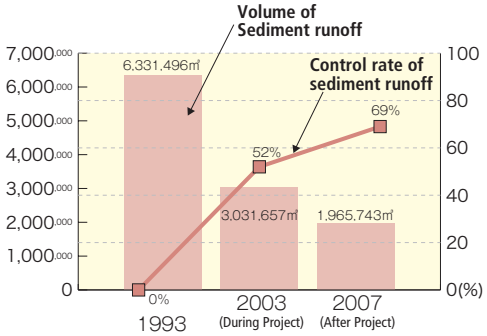
Sustainability

Though some problems have been observed in terms of operation and maintenance of torrent and bank facilities and water level recorders provided under this project, sustainability of the project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. Recommendations include developing the capacity of the Village Maintenance Committee (KKLD) in terms of the maintenance of torrent and bank facilities, allocating an adequate budget to the operations and maintenance of roads and irrigation facilities in Bandung and Sumedang, repairing the broken automatic water level recorders, and transferring the recorders to the Citarum Forest Conservation Sub-center.

Volume and control rate of sediment runoff



[Source] F/S and Executing Agency

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Indonesia

Small Ports Development Project in Eastern Indonesia

Supporting job creation and vitalizing the regional economy by improving ports in regions where road transportation is not available

【External Evaluator】
Nobuyuki Kobayashi, OPMAC Corporation

Rating

Effectiveness, Impact	b	Overall Rating C
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To enhance the efficiency of maritime transportation and improve safety by improving facilities such as mooring facilities in 12 non-commercial ports in East Nusa Tenggara, Maluku, West Papua and Papua, thereby contributing to the promotion of economic and social development in the targeted provinces.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 3,111 million yen / 2,509 million yen
- Loan agreement: January 1998
- Terms and conditions: 2.7% interest rate; (2.3% for consulting services); 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: September 2005
- Executing agency: Directorate General of Sea Communication, Ministry of Transportation (DGST)
- Website URL: http://www.dephub.go.id/id/

Effects of Project Implementation (Effectiveness, Impact)

The number of regular sea route services on the Pioneer Route (sea routes supported by the Indonesian government) has increased by approximately 70% from 19 services (2003) before the project to 32 (2007) after the project. The cargo load and number of passengers of the Pioneer Route also recorded a significant increase from 2003 to 2007. Increase in the cargo load was especially large, and shipment of goods to other regions has become more lively. Results from the questionnaire survey to business offices located near the target ports show that over 90% of the respondents had the opinion that the passenger and freight services had either "improved" or "slightly improved". The "improvement in safety" was quoted as the major reason for the improvement, indicating that the project is highly evaluated for its contribution to safety. More than half of the respondents noted that the number of new businesses and employment opportunities increased after the project. Although, some pointed out that only certain storekeepers, etc, were able to enjoy the benefits of the port, and port management data attained on site was limited to only two ports due to reasons of safety, this project has produced certain effects, and its effectiveness is moderate.

Relevance

The project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation. All ports targeted under the project were on the Pioneer Route and had inadequate facilities before the project. As the Pioneer Route ensures the minimum mode of transportation for the local people and commodities, the development need for the ports is extremely high.

Efficiency

Although project cost was lower than planned, project period was much longer than planned (210% of the plan); therefore the evaluation for efficiency is moderate. No change was made in the selection of target ports, and development of the mooring facilities was implemented almost as planned. The reason for the delay was the prolonged time required for the conclusion of contracts for consultant and main contractor. As a result of competitive bidding, the project cost was 84% of the plan.

Sustainability

Though some problems have been observed in terms of the operation and maintenance system and the financial status of DGST, sustainability of this project is fair. Confusion was observed in managerial responsibility of the port of Elat, where the provincial government substantively took over port administration. In addition, collection and management of port operation data at the targeted ports are not adequate. The DGST has not been able to adequately manage budgets, such as allocation based on actual port conditions, and there is a persistent issue in the monitoring system of port administration.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be fairly satisfactory. Given that the monitoring system of the port operation is not established and allocation of budget and personnel is not based on actual operational conditions, recommendations to the executing agency are to gather and manage basic port operation data and have it fed-back to port administration, and to clarify the responsibility of maintenance and administration.

Pioneer Route Service Data at Targeted Ports

	Cargo Volume (tons)			Number of Passengers		
	LOADING	UNLOADING	TOTAL	EMBARKATION	DISEMBARKATION	TOTAL
2003	202	1593	1795	4538	4315	8853
2007	4753	5901	10654	10490	14233	24753
INCREASE RATIO	2253%	270%	494%	131%	230%	180%

[Source]DGST

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Indonesia

Bajoe-Kolaka & Palembang-Muntok Ferry Terminal Development

Contributing to the improvement of reliability, safety, and convenience of ferry transport services by developing the facilities of ferry terminals

【External Evaluator】
Tomoo Mochida, OPMAC Corporation

Rating

Effectiveness, Impact	b	Overall Rating C
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To enhance the reliability, safety and convenience of ferry transport services and to expand inter-regional network functions by developing basic facilities such as mooring facilities and terminals for two ferry routes among the "central trunk routes" in the Indonesian National Ferry Transportation Network (Bajoe in South Sulawesi Province ~ Kolaka in Southeast Sulawesi Province, and Palembang in South Sumatra Province ~ Muntok in Bangka Island in Bangka-Belitung Province), for which demand is expected to increase, thereby contributing to the development of the regional economy and the narrowing of regional disparities.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 3,129 million yen / 2,789 million yen
- Loan agreement: December 1995
- Terms and conditions: 2.5% interest rate (consulting services: 2.3%); 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: June 2005
- Executing agency: Directorate General of Land Transportation (DGLT), Ministry of Transportation
- Website URL: http://www.dephub.go.id/id/

Location of the project site

Ferry terminal constructed under this project (Muntok)

Effects of Project Implementation (Effectiveness, Impact)

The actual numbers of passengers and vehicles in 2007 for the route between Bajoe and Kolaka remained at 10% and 44%, respectively, of the 2010 plan. The reasons are an introduction of an alternative route and change in numeration method of passengers. The actual number of passengers and vehicles in 2007 for the route between Palembang and Muntok also remained at 17% and 70%, respectively, of the 2010 plan. The reasons are the operation of high-speed boats along a similar route, change in numeration method of passengers, restriction of boarding capacity, and erratic operation of the ferryboats. Furthermore, it is assumed that an opening of an air route between Pangkal Pinang and Palembang in Bangka Island and the drop in the production of tin ores also affected the volume of transport. On the other hand, positive impacts are noted such as the ferry terminals' contribution to economic development in the related regions, the installation of a movable bridge enabling vehicles to board or alight from the boat more smoothly, and decrease in waiting time for ferries. This project has produced certain effects, and its effectiveness is moderate.

Relevance

This project was planned in accordance with Indonesia's development policies. Importance of the "central trunk route" connecting Sumatra, Kalimantan and Sulawesi within the national transportation networks of Indonesia can be confirmed at the time of ex-post evaluation. It is evaluated that the project is relevant with the policies, particularly taking note of its contribution to smoother distribution of commodities. This project has been highly relevant with Indonesia's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Although project cost was lower than planned (79%), project period was much longer than planned (180%); therefore the evaluation for efficiency is moderate.

Sustainability

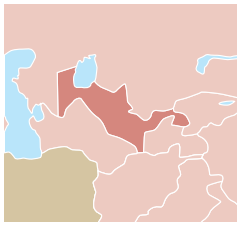
To varying degrees, overall ferry terminals have been taking proactive measures in order to improve their services. However, improvements in personnel shortage and technical capacity in terms of operation and maintenance still need to be addressed, therefore sustainability of the project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be fairly satisfactory. A lesson learned is that it is necessary to look into the possibility of alternative routes or modes of transportation in broader areas at the feasibility study stage; some of the ferry terminals had already been covered by an ODA Loan project in the past. Recommendations include transferring the project smoothly from the executing agency to the O&M organization, implementing environmental monitoring in the O&M of the terminals in the future, and coordinating with the local government in implementation and the O&M.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Uzbekistan



Senior Secondary Education Project

Contributing to human resource development of the young population in Uzbekistan by expanding Secondary Specialized Professional Education system through teachers' trainings, etc.

【External Evaluator】
Hajime Onishi and Kazuyoshi Inokuchi, Mitsubishi UFJ Research and Consulting Co., Ltd.

Rating

Effectiveness, Impact	b	Overall Rating C
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To develop human resources necessary for the transition toward a market-oriented economy by providing overseas training for teachers and instructors and educational equipment at 50 model agricultural Professional Colleges (PCs), central to the ongoing educational reform in Uzbekistan, and thereby contributing to the development of the market-oriented economy.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 6,347 million yen / 5,973 million yen
- Loan agreement: January 2001
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied
- Final disbursement date: September 2005
- Executing agency: Ministry of Higher and Secondary Specialized Education (MHSSE), The Center of Secondary Specialized Professional (Vocational) Education (CSSVE)

Comparison of Operation and Effect Indicators

Operation & Effect Indicators (Unit)	Baseline (2001)		Target (Year: unknown)		Actual (October 2008)	
	National	Target PCs	National	Target PCs	National	Target PCs
Actual Number of Students per Number of Students at Full Capacity (%)	80	80	120	120	150	170
Increase rate in the Number of Students (%)	N.A.	N.A.	53	44	198	202
Increase in the Number of PCs	N.A.	N.A.	464	N.A.	355	N.A.

[Source] Answers to the questionnaire to CSSVE (Data on the Increase in the Number of PCs is extracted from JICA internal documents)

Effects of Project Implementation (Effectiveness, Impact)

The indicator of "actual number of students per number of students at full capacity" in 2008 was 170% on average in 50 target PCs, which was drastically worse than 80% at the time of project appraisal in 2001 and is below the target value of 120%. Also, the indicator of "increase rate of the number of PCs" in 2008 is reported as 355%, which has not achieved the target value of 464%. Moreover, it is pointed out that some of the procured equipment (especially food processing equipment) is not properly used and the curriculum of many PCs has not yet been made in a manner that effectively utilizes the procured equipment.

On the other hand, according to a beneficiary survey, positive effects were recognized, such as enhancement in the quality of course content, improvement in the performance of teachers and students, improvement in the management of PCs, and positive impacts on businesses of private companies that hired graduates of PCs. Therefore, this project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant with Uzbekistan's national policies and development needs at the times of both appraisal and ex-post evaluation. There has been no significant change in the educational policy of Uzbekistan and the development of industrial human resources, meeting the changes in the market economy is still regarded as one of the most urgent issues to tackle.

Efficiency

The actual period was slightly longer than planned and the project cost exceeded the plan; therefore the evaluation for efficiency is moderate. The background to the increase in the total cost was extra civil works at some PCs. In addition, the cost to construct new PCs exceeded the originally expected cost.

Sustainability

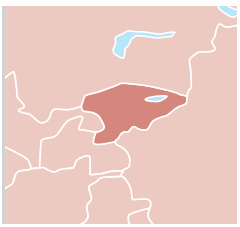
In the short run, there are some issues in i) continuous transfer of operation skills regarding educational equipment among instructors, ii) difficulties of securing spare parts for some equipment, and iii) low level of operation and maintenance (O&M) of food processing equipment. On the other hand, it can be noted in the medium and long term that i) there is an adequate O&M budget from the central government, ii) the training system for teachers and instructors is well established, and iii) the positive effects arising from the additional assistance by JICA in 2007 are anticipated. Though some problems remain in the short run, sustainability of this project is fair.

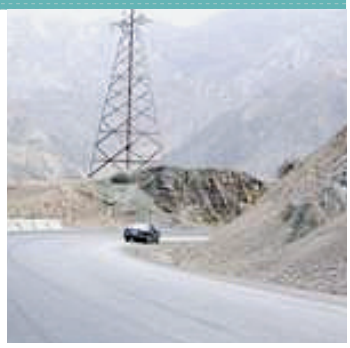
Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be fairly satisfactory. A major lesson learned is to allow a wide margin for risks in advance, especially in the former socialist countries such as the former Soviet Union where law enforcement and governmental administrative procedures are likely to require a long time.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Kyrgyz Republic





Bishkek-Osh Road Rehabilitation Project (I) (II)

Contribution to the revitalization of local economics and year-round transportation safety assurance through rehabilitation of an arterial road connecting two major cities

【External Evaluator】
Nobuko Shimomura, Koei Research Institute International Corp.

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To enhance the efficiency and safety of road transportation by partially rehabilitating an artery road connecting Bishkek and Osh and procuring necessary equipment for maintenance, thereby contributing to economic development in the Kyrgyz Republic. The targeted section of the road is the 166 kilometers out of approximately 619 total kilometers that required immediate rehabilitation.

Outline of the Loan Agreement

■Loan amount / Disbursed amount:
(I) 3,016 million yen/ 2,533 million yen,
(II) 5,250 million yen / 5,050 million yen
■Loan agreement:
(I) March 1997, (II) October 1998
■Terms and conditions:
(I) 2.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied
(II) 1.8% interest rate; 30-year repayment period (including a 10-year grace period); general untied, [consulting service: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied]
■Final disbursement date: (I) June 2002, (II) December 2006
■Executing agency: Ministry of Transport and Communications (MOTC)
■Website URL: http://www.mtk.kg/

Improved road (the Kok Bel Pass)

Effects of Project Implementation (Effectiveness, Impact)

Although it was highly difficult for passenger vehicles to pass through the nation's mountainous path due to challenging road conditions before the project, the number of passenger vehicles surged drastically after the project completion. The project reduced the travel time (e.g. Toktogul – Karakul: 96km) by nearly 50% from more than 4 hours to 1 to 2 hours. Further, the project reached the expected outcomes for reduction in travel cost and average annual daily traffic volume that increased from less than 700 vehicles/day to approximately 2,000 vehicles/day. Particularly, conditions in winter months prominently improved as the project enhanced the accuracy of avalanche forecasts as well as reduced the time required for disaster rehabilitation by installing a satellite communication system in the capital Bishkek and at four other road maintenance offices.

Given increases in both the volume of international cargo and traffic, including construction materials from Russia and Kazakhstan and agricultural products from the south to Bishkek, the rehabilitated road is gaining international significance.

A beneficiary survey demonstrates the project's impact, suggesting that 70 to 80% of the respondents were satisfied in terms of employment opportunities and income increases. The project also contributed to improving access to the nation's social services such as hospitals. Although an increase in traffic accidents is a concern of residents along the road, this project has largely achieved its objectives and its effectiveness is high.

Relevance

Due to the Kyrgyz alpine topography, steep mountains of 3,000 meters in altitude lie between the two principal cities located in north and south of the country. The Bishkek-Osh Road is a major artery road, linking the northern and southern regions without passing through the neighboring country of Uzbekistan. Since hydropower resources, a major export of Kyrgyz Republic, are concentrated in an area along the Bishkek–Osh Road and some hydroelectric power plants are planned to be constructed in the vicinity of this area, the project was highly prioritized.

In addition to the need for foreign technology, the Asian Development Bank and Islamic Development Bank provided financial aid for zones other than those covered by the Japanese ODA Loan. This project has been highly relevant with Kyrgyz Republic's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Although project cost was mostly as planned, project period was significantly longer than planned, therefore the evaluation for efficiency is moderate. Factors causing the delay include design changes to enhance safety, natural disaster, economic crisis, and procurement delay due to border closure.

Sustainability

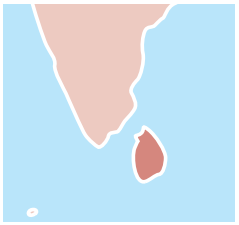
Although capacity development by the project on the engineers of executing agency was recognized, some problems have been observed in terms of operation and management capacity, such as difficulty to identify the actual conditions accurately as various data (e.g. traffic volume and equipment control) were not consistent, therefore sustainability of the project is fair.

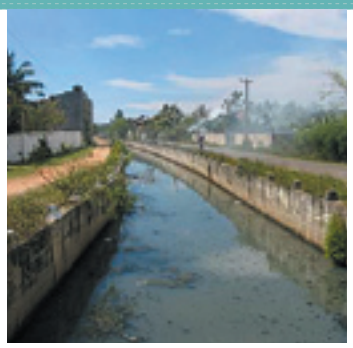
Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. However, as the number of traffic accidents has doubled from 49 cases in 2002 to 98 cases in 2007, further cooperation between the executing agency, transport police, and related parties must take place in the future to strengthen countermeasures and prevent traffic accidents.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Sri Lanka





Greater Colombo Flood Control and Environment Improvement Project (II)(III)

Contributing to flood control by improving old or underdeveloped drainage systems

【External Evaluator】
Tomoko Tamura, Kaihatsu Management Consulting Inc.

Rating

Effectiveness, Impact	b	Overall Rating C
Relevance	a	
Efficiency	a	
Sustainability	c	

Project Objectives

To mitigate flood damage by improving underdeveloped or old drainage systems in the most flood-affected areas of Greater Colombo, namely the five areas within the Colombo Municipal Council area and two areas in the Dehiwala Mount Lavinia Municipal council, thereby contributing to the improvement of living conditions in the area. Additionally, phase II aimed at improving the living conditions in the project area through provision of water-supply, sewerage systems, and electricity.

Outline of the Loan Agreement

■Loan amount / Disbursed amount:
(Phase II): 4,367 million yen / 3,548 million yen
(Phase III): 6,180 million yen / 5,874 million yen
■Loan agreement :
(Phase II): July 1994; (Phase III): October 1996
■Terms and Conditions:
(Phase II): 2.6% interest rate; 20-year repayment period (including 10-year grace period); general untied
(Phase III): 2.1% interest rate; 20-year repayment period (including 10-year grace period); general untied
■Final disbursement date:
(Phase II): October 2001; (Phase III): December 2005
■Executing agency: Sri Lanka Land Reclamation and Development Corporation (SLLRDC)
■Website URL: http://www.landreclamation.lk/

Side drains with slab lids requiring easy operation and maintenance (Attidiya)

Effects of Project Implementation (Effectiveness, Impact)

Inundation damage has been mitigated in all targeted areas of the project. However, a considerable degree of inundation damages still remain in some target areas of phase II. This mainly resulted from the following two reasons; a) development of secondary drainage and side drains was not carried out by the responsible authorities, namely Colombo Municipal Council and Road Development Authority respectively, while population density grew in the low income residential area and b) lack of adequate maintenance of the drainage facilities developed in the phase II. Therefore, this project has produced certain effects, and its effectiveness is moderate.

Relevance

Flood control of Greater Colombo, constituted by Sri Lanka's largest city and its surroundings was identified to be the most prioritized area in the national policies of the urban environmental and flood control sector. Inundation damage in all project target areas was serious, and the urgency and need for implementation of flood control measures at the time of appraisal was extremely high. The necessity for flood control in the target areas at the time of the ex-post evaluation is still high, as the area has become more urbanized and more populated. This project has been highly relevant with Sri Lanka's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Project period for phase II was longer than planned while that of phase III was carried out almost as planned. The total period of these projects combined was slightly longer than planned. As for project cost, both phases were lower than planned. When taking only these factors into consideration, the rating for efficiency could have been moderate. However, taking into consideration the additional construction and water quality and environmental improvement programs in phase III, which were identified as necessary during the course of project implementation, the efficiency of the project is high.

Sustainability

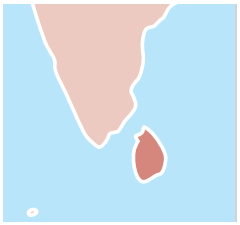
The current operation and maintenance (O&M) conditions and implementation system of the drainages developed by phase III is fairly good. However, it is not clear whether the responsibility of O&M of the drainage developed in the phase II lies with SLLRDC or Colombo Municipal Council, and the fact that O&M of such drainage is not being conducted is a problem. Therefore, the sustainability of this project is low.

Conclusion, Lessons Learned and Recommendations

In light of the above, the project is evaluated to be fairly satisfactory. Lessons learned are that for drainage development projects in Sri Lanka, it is necessary to duly study roles of the local authorities regarding O&M upon appraisal, and if needed, to assist organizational and technical capacity building of such local authorities in order to establish an appropriate system of O&M. In addition, it is essential to adopt a comprehensive approach which includes activities not only for main drainages but also for secondary drainages and side drains, etc. Recommendations to the SLLRDC and the Colombo Municipal Council are to resume discussions about the transfer of O&M responsibility of the drainages developed in phase II and to clarify where the responsibility of O&M lies.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Sri Lanka



Medium Voltage Distribution Network Reinforcement Project

Providing stable supply of electricity through the construction of express lines and the installation of switchyards

【External Evaluator】
Ryujiro Sasao, IC Net Limited

Rating

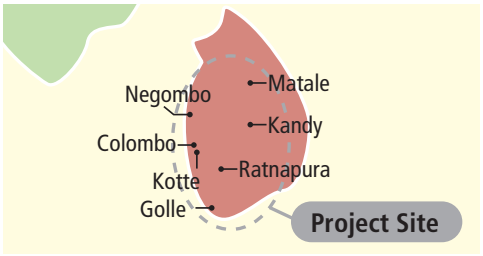
Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To ensure a stable supply of electricity through the reinforcement of system capacity, the reduction of loss and the improvement of the quality of electricity distribution (voltage) by constructing express lines and switchyards within the medium-voltage (33kV) distribution network in Sri Lanka, thereby contributing to the economic development of Sri Lanka and the improvement of the living environment of residents.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 5,973 million yen / 3,411 million yen
- Loan agreement: September 1998
- Terms and conditions: 1.8% interest rate (0.75% for consulting services) ; 30-year repayment period (including a 10-year grace period) ; general united
- Final disbursement date: June 2005
- Executing agency: Ceylon Electricity Board, CEB
- Website URL: http://www.ceb.lk/



Standard Operation/Effectiveness Indicators of Distribution Business

	2003 (completion of facilities)	2004	2005	2006	2007
Maximum electric power (kW)	1,516	1,563	1,748	1,893	1,842
Household electrification rate (%)	67.9	73.4	76.7	78.1	80.1
Amount of electricity sold (Gwh)	6,208	6,667	7,255	7832	8,276
Distribution loss rate (%)*	13.7	13.1	13.3	12.6	11.7

[Source] CEB
*Note: Figures for 2003 and 2004 are based on the CEB loss reduction program report (2003-4), and figures for 2005-2007 are estimated from the figures of system loss.

Effects of Project Implementation (Effectiveness, Impact)

The voltage level indicators for the target regions show that the voltage levels at major points at peak times have improved and generally fit into the scope of 95%-105%, which is the internal target of the CEB. In addition, through the field survey, decrease in the number of power outages at a sewing plant near the switchyard (gantry) compared with before the implementation of the project, and resolution of voltage reduction problems were confirmed. As for impacts on the surrounding environment, it was confirmed that there were no adverse effects on humans, the natural nor residential environment. While protests by landowners occurred during the land acquisition process for the construction of gantries, there are currently no unsolved problems. This project has largely achieved its objectives and its effectiveness is high.

Relevance

The continued expansion of Sri Lanka's medium-voltage distribution resulted in problems such as capacity shortage, voltage reduction and high rates of distribution loss. In order to improve this situation and meet increasing electricity demand, it was regarded that the construction of express lines and the installation of switchyards (gantries) were necessary. The Medium Voltage Distribution Development Plan 1995-2005 by the government of Sri Lanka included the need to tackle this issue. This project has been highly relevant with Sri Lanka's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

The construction of facilities was carried out generally as planned. However, the original plan was modified slightly due to the development of the distribution network that had already been started and due to changes in priorities. Although project cost was lower than planned, project period was significantly longer than planned; therefore the evaluation for efficiency is moderate.

Sustainability

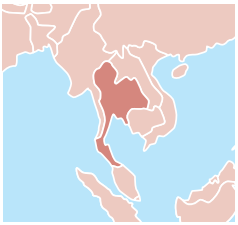
Although there are no serious problems regarding the operation and maintenance system of the facilities, problems are recognized in the shortage of engineers and financial status of CEB; therefore sustainability of this project is fair.

Conclusion, Lessons Learned and Recommendations

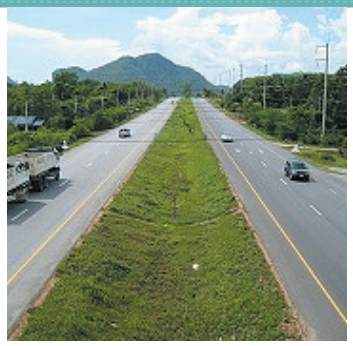
In light of the above, this project is evaluated to be satisfactory. A recommendation to CEB is to introduce an electricity pricing system that reflects the costs and to clarify the cost structure of the distribution system, thereby implementing an efficient management system.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Thailand



Regional Road Improvement Project (III)



Assisting regional economic development and promotion of economic relations with neighboring countries by widening regional main trunk roads

【External Evaluator】
Keishi Miyazaki, OPMAC Corporation

Rating

Effectiveness, Impact	b	Overall Rating A
Relevance	a	
Efficiency	a	
Sustainability	a	

Project Objectives

The objectives of this project are to meet the increasing traffic volume, improve velocity and reduce traffic accidents by widening two-lane main trunk national highways connecting Thailand's North-South Corridor and East-West Corridor to four-laned national highways for approximately 343km, thereby contributing to regional economic development and the promotion of economic relations with neighboring countries.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 19,544 million yen / 17,068 million yen
- Loan agreement: September 2000
- Terms and conditions: 2.2% interest rate; 25-year repayment period (including a 7-year grace period); general untied [Consulting Service: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied]
- Final disbursement date: January 2007
- Executing agency: Department of Highways (DOH), Ministry of Transport

Widened National Highway 403 (Junction with Nakhon Si Thammarat- National Highway 41)

Effects of Project Implementation (Effectiveness, Impact)

The achievement rate for the seven target sections in 2008 regarding the actual traffic volumes against the planned volume is as follows; 37% for the Phitsanulok-Uttaradit section (national highway (NH) 11) , 61% for the Khon Kaen-Nong Ruea section (NH12) , 31% for the BanPhai-Borabue section (NH23), 44% for the Khon Kaen-Chiang Yuen section (NH209), 85% for the Chian Yuen-Yuang Talat section (NH209), 56% for the Mukdahan-Nikhom Kham Soi section (NH212), 54% for the Don Sak-Sichon section (NH401), and 63% for the Nakhon Si Thammarat-NH41 Junction section (NH403).

The above figures indicate that the project has not achieved the targets; however, in all target sections the travel time after implementation was reduced to between 1/4 to 1/2, and average velocity also improved by approximately three times compared to the time before the project implementation. In addition, smoother and more efficient commodity distribution, the promotion of the local economy and regional development, and the promotion of economic relations with neighboring countries have been recognized as positive impacts. This project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant with Thailand's National Plans for Economic and Social Development, development plan of the road sector, the Mekong Region's development policy. Its high priority and consistency with development needs is recognized at the times of both appraisal and ex-post evaluation.

Efficiency

The original outputs of the project were implemented almost as planned with an addition of the widening of two sections. Though project period was slightly longer than planned, considering the additional construction, it can be evaluated that project period was within its initial schedule, therefore efficiency of the project is high.

Sustainability

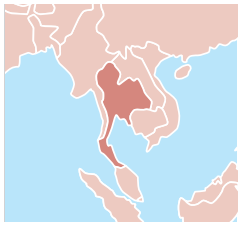
No major problem has been observed in the capacity of the executing agency nor its operation and maintenance system; therefore, the sustainability of the project is high. DOH is the operation and maintenance (O&M) agency for this project, and the Bureau of Highways and its district offices carry out O&M of the target sections.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. As for recommendations to further improve the sustainability of the project, it is proposed that DOH utilize their own Pavement Management System (PMS), to be introduced within 2009, and promote the establishment of an effective O&M system that includes the efficient distribution of O&M budget.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Thailand



Thailand-Japan Technology Transfer Project

Support of academic exchange between leading universities of Thailand and Japan by development of human resources and research facilities

【External Evaluator】
Takako Haraguchi, International Development Associates Ltd.

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	a	
Sustainability	b	

Project Objectives

To improve the level of science and technology (S&T) education and research and development (R&D) activities at the Faculty of Science and Faculty of Engineering of Chulalongkorn University situated in the capital city of Bangkok by improving the academic standard of instructors as well as enhancing educational and research facilities, thereby contributing to the industrial development of Thailand.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 7,308 million yen / 6,444 million yen
- Loan agreement: September 1995
- Terms and conditions: 2.7% interest rate (consulting services: 2.3%); 25-year repayment period (including a 7-year grace period); general untied
- Final disbursement date: October 2006
- Executing agency: Chulalongkorn University
- Website URL: http://www.chula.ac.th/cuen/index.htm

Effects of Project Implementation (Effectiveness, Impact)

The number of instructors holding PhD degrees largely increased at both the Faculty of Science and Faculty of Engineering from 44% prior to implementation of the project to 70% after the project. The 37 instructors who received degrees from this project have all remained at Chulalongkorn University and are included in the above increase in PhD holders.

As a result of this project, more than 30 new courses were established and coursework improved in total 93 existing courses. The numbers of research publications in 2008 were 231 and 136 from Faculties of Science and Engineering, respectively. The rates of increase of publications issued from those Faculties are higher than that of the entire University. Many of the research outputs, based on new methods acquired by instructors through the project's academic exchanges, and from equipment purchased through this project, have already been published. 80% of the equipment purchased under this project were used at the time of the ex-post evaluation. As external evaluation related to this project, the THES-QS World University Rankings, a leading international ranking for universities, ranked Chulalongkorn University in 30th place in natural sciences and 24th in technologies among Asian universities in 2009. Also, the target faculties and their members involved in this project have received a number of awards.

Regarding the impact on industries, the contribution by academic services from Faculties of Science and Engineering to companies' R&D activities were observed. Meanwhile, concrete R&D outputs such as patents and licensing agreements with companies, are expected in the future.

At the time of the ex-post evaluation, a satisfaction survey to instructors of the Faculties of Science and Engineering found that 82% of total 92 respondents are either "highly satisfied" or "satisfied" with both the implementation process and the outcomes of the project. The survey also showed high satisfaction with the creation of opportunities to collaborate with Japan.

Therefore, this project has largely achieved its objectives, and its effectiveness is high.

Relevance

This project has been highly relevant with Thailand's national policies and development needs at the times of both appraisal and ex-post evaluation. The national development plan has included human resource development and promotion of high-level education and research activities through expansion of S&T at the times of both appraisal and ex-post evaluation.

Efficiency

Both project period and costs were almost as planned; therefore, efficiency of the project is high.

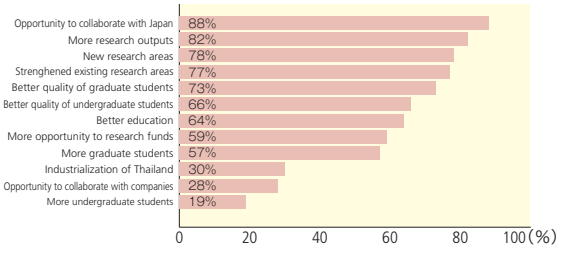
Sustainability

There is some concern as to whether the education and research equipment improved under this project will be properly operated, updated, and maintained until such time the long-term impact (particularly transfer of technology to the industrial sector) of the project occurs; therefore, sustainability of this project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. One of the lessons learned from this project is that it effectively combined human resource development ("soft" aspects) and facility development ("hard" aspects), which should serve as a good reference for other projects. It is recommended that Chulalongkorn University utilize unused equipment, execute effective and sustainable operation and maintenance, and promote technology transfer to industries.

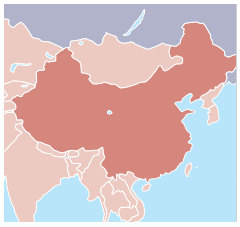
Satisfaction of instructors (beneficiaries) with project effects



[Source] Beneficiary survey

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia China



Tangshan Water Supply Development Project

Contributing to the improvement of the living environment through the supply of safe water 24 hours a day by developing water supply facilities

【External Evaluator】
Yasuhiro Kawabata and Junko Miura, Sanshu Engineering Consultant

Rating

Effectiveness, Impact	b	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	a	

Project Objectives

To meet the increasing water demand in Tangshan City due to economic development and urbanization, and to provide safe and stable water supply, by constructing water supply plants with a total supply capacity of 210,000 m³/day in the six districts / counties (Guye District, Luannan County, Qian'an City, Qianxi County, Tanghai County, Fengnan District) in Tangshan City, thereby contributing to the improvement of the living environment.

Outline of the Loan Agreement

- Loan amount / Disbursed Amount: 2,841million yen / 2,835 million yen
- Loan agreement :March 2001
- Terms and conditions: 1.3% interest Rate; 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement data: July 2006
- Executing agency: Tangshan Municipal People's Government

Effects of Project Implementation (Effectiveness, Impact)

The implementation of the project increased water supply capacity as planned (210,000 m³/day). Before the project, water supply was conducted only at morning, day and night for a total of 6-8 hours. After the project, the water supply system runs 24 hours a day. In addition, before the project, many households were using self-drilled wells with sanitary problems, but after the project, safe water, 100% of which passes water quality tests, is now being supplied to each household. The beneficiary survey indicated that, beneficiaries recognize that water pressure (94% of respondents), color, taste, and smell (86% respectively) improved due to the project. The same survey reported the improvement of living environment and contribution to economic activities, such as decrease of water fetching labor, decrease in the need to store water in basins, and improvement of sanitary conditions, as effects of the project. However, many households and companies are still using self-drilled wells, which have problems on safety, and the utilization rate of the facilities has not reached 80% in any one of the districts/counties. Therefore, this project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant with China's national policies and development needs at the times of both appraisal and ex-post evaluation. The Tangshan City's 9th Five-Year Plan aimed to achieve coverage of 95% (year 2000) of water supply system in counties other than the urban areas at appraisal. At the ex-post evaluation, the Tangshan City's Long term Plan 2010 aimed at increasing the coverage of water supply system to 100% (year 2010).

Efficiency

Though project cost was lower than planned (85% of the plan), project period took much longer than planned (204% - 377% of the plan); therefore the evaluation for efficiency is moderate. The causes for delay included: 1) the initial planned construction period (22months) was not realistic, 2) the Project Office was responsible for the procurement of major equipment for all six districts/counties with different commencement dates and construction periods and thus coordination required substantial time.

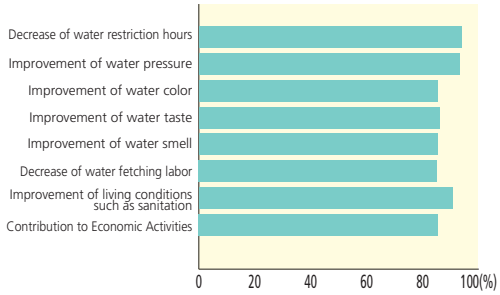
Sustainability

The current financial status of the water supply companies responsible for operation and management (O&M) of this project is not at a desired level, but improvement is anticipated. No major problems have been observed in the O&M system and techniques of any one of the water supply companies in the respective six district / counties. They have the required number of well skilled personnel as well as an organized O&M manual and training system, and the operation and management status is fair. Therefore, sustainability of this project is high.

Conclusion, Lessons Learned and Recommendations

In light of the above, the project is evaluated to be satisfactory. Lessons learned are that in a project involving a number of water supply companies across administrative regions, it is desirable to conduct procurement capacity assessment for each and to entrust the construction and the procurement of equipment if their capacity is judged to be sufficient. As for recommendations, stricter enforcement of regulations to close down self-drilled wells and maintaining a steady supply of safe water from the system or wells developed by the project is proposed.

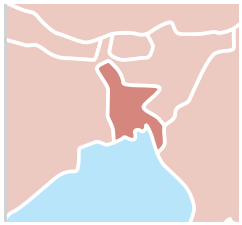
Beneficiaries' Satisfaction on Project Effects



[Source] Beneficiary Survey

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Bangladesh



Power Distribution and Efficiency Enhancement Project

Contributing to improvements in the living conditions of residents and development of regional economies through rural electrification and rehabilitation of urban power distribution systems

【External Evaluator】
Kenji Momota, IC Net Limited

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

Objectives of the 2 subprojects that constitute this project are as below:

(1) Rural Electrification Project

To promote electrification and enhance the efficiency of facilities in Munshiganj and Sunamganj by establishing Palli Bidyut Samity (PBS, i.e., electrification cooperative) and constructing and/or rehabilitating power distribution systems in the target regions, thereby contributing to improving socioeconomic conditions and developing regional economies in the target regions.

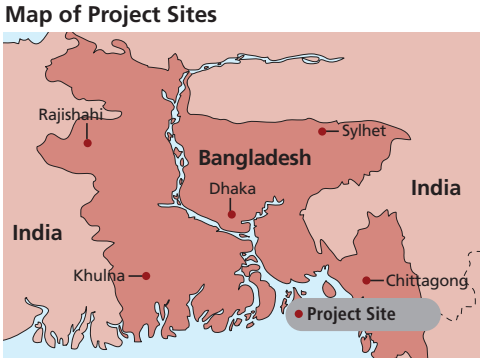
(2) System Loss Reduction Pilot Scheme

To reduce system loss and develop designing and O&M capacity of executing agencies in six feeders selected in four areas (Chittagong, Mymensingh, Rajshahi, and Khulna) under the jurisdiction of the Bangladesh Power Development Board (BPDB) and the two areas (Dhanmondi and Jurain) under the jurisdiction of the Dhaka Electricity Supply Authority (DESA), by the rehabilitation of power distribution networks and installation of watt-hour meters for measurement, and, based on the result, to formulate a nationwide implementation plan, thereby contributing to a stable supply of electricity and the development of regional economies.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 4,376 million yen / 4,003 million yen
- Loan agreement: July 1999
- Terms and conditions: 1% interest rate; 30- year repayment period (including a 10-year grace period); general untied
- Final disbursement date: September 2007
- Executing agencies: Rural Electrification Board (REB), Bangladesh Power Development Board (BPDB), Dhaka Electricity Supply Authority (currently reorganized as Dhaka Power Distribution Company Limited)
- Website URL: http://www.reb.gov.bd/

Map of Project Sites



Effects of Project Implementation (Effectiveness, Impact)

This project has largely achieved its objectives, and its effectiveness is high.The condition of the facilities developed under the project are good, and the system loss rate has greatly improved from 46% to roughly 11-13%. The number of electrified households has grown to approximately 200,000 in total in Munshiganj and Sunamganj, and the electrification rate has reached 60-70%. The rate is expected to grow further when the transfer of control over the power distribution facilities currently owned by the Bangladesh Power Development Board (BPDB) is carried out.

The findings of the beneficiary survey indicate that some 80-90% of the respondents appreciate improvements in their living environment due to electrification, such as shortened cooking time and increased study time. At the same time, the growth of agriculture and industries has been seen in the target regions. Electrification has enhanced regional economic activities, as seen by the construction of cold storage facilities for agricultural products.

On the other hand, the improvement of power distribution systems in six districts in urban areas has greatly reduced the rate of power loss from about 30-70% before the implementation of the project to some 5-15%. The significant growth of Dhanmondi, one of the target districts, as a commercial district, shows the project's contribution through stabilized power supply.

Relevance

The project has been highly relevant with Bangladesh's national policies and development needs at the times of both appraisal and ex-post evaluation. Under the current administration, issues of rural electrification and the enhancement of efficient power distribution are priority policies in the power sector, hence the project's importance remains high.

Efficiency

Although project cost is lower than planned, project period is slightly longer than planned (104% of the plan); therefore the evaluation for efficiency is moderate. The major cause of the delay was the need to amend the design for the urban power distribution system to meet the increased demand in the target districts.

Sustainability

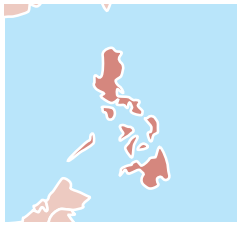
Though no problem has been observed in the capacity of the present executing agency nor its operation and maintenance (O&M) system, both the Palli Bidyut Samity (electrification cooperative) and the Bangladesh Power Development Board in charge of the urban district have incurred deficits; due mainly to a hike in the power procurement price. There is concern that the financial problem may inflict an adverse effect on the O&M system in the future. Therefore, sustainability of this project is fair.

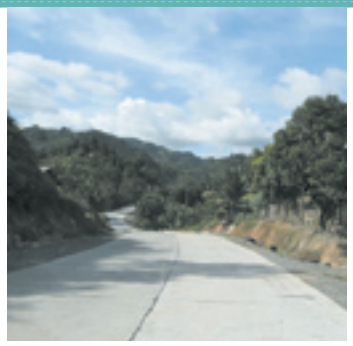
Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. Recommendations are: to shorten the time of load shedding, review the power procurement cost (or electric power selling price), expand the number of connections by transferring control over the power facilities owned by the BPDB, and improving profitability by securing large (e.g. industrial and commercial) consumers. Also, it is recommended that similar projects be implemented in other areas, as the effectiveness of the project in urban districts is high.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Philippines





Arterial Road Links Development Project, Phase III

Contributing to promotion and enhancement of local economies through the improvement of major arterial roads

【External Evaluator】
Yasuhiro Kawabata and Hiroshi Aoki, Sanshu Engineering Consultant

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To promote human and material exchange, efficient transportation and cost reduction by improving the north-south arterial roads, east-west arterial roads and circular roads of major islands, which comprise the National Arterial Road Network, thereby contributing to development & vitalization of regional economies.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 13,564 million yen / 11,772 million yen
- Loan agreement: September 1998
- Terms and conditions: 2.2% interest rate (consulting services: 0.75%); 30-year repayment period (consulting services: 40-year) (including a 10-year grace period); general untied (consulting services: partially untied)
- Final disbursed date: January 2006
- Executing agency: Department of Public Works and Highways (DPWH), Project Management Office (Each Region and DPWH)
- Website URL: http://www.dpwh.gov.ph/

Annual average daily traffic volume (AADT) of the Project Roads (unit: vehicle/day)

Road Name	Sections	2006	2007	2008
Mindoro West Coast Road	San Jose-Rizal	503 (258)	711 (271)	832 (286)
	Sablayan-Sta. Cruz	1,029 (301)	1,649 (316)	1,119 (332)
	Mamburao-Abra de Ilog	747 (264)	881 (278)	1,128 (292)
Bongabon-Baler Road	San Luis-Ma. Aurora-Basal	1,620 (898)	1,327 (947)	1,730 (999)
Cebu South Coast Road	Talisay-Naga	15,460 (9,355)	17,532 (9,862)	18,814 (10,397)
	Naga-Carcar	–	8,079 (6,575)	8,252 (6,932)
P-J FRIENDSHIP ROAD	San Juanico Bridge	2,867	4,679	8,181
	San Juanico-Calbiga	1,565 (987)	2,309 (1,026)	3,393 (1,066)

Note: Figures with ( ) are estimated volume.
[Source] DPWH

Effects of Project Implementation (Effectiveness, Impact)

The annual average daily traffic volume of all the sections exceeds the planned volume. Along the Mindoro West Coast Road, the traffic volume increased by 26 to 33% per year on the average in the last two years, particularly in the north Mamburao-Abra de Ilog and the south San Jose-Rizal. The traffic volume of the Bongabon-Baler Road has increased by 7% in the last two years. Along the Cebu South Coast Road, the traffic volume has increased by 22% in the last two years in the coastal Talisay-Naga section, close to Cebu. The traffic growth in the Visayas section along the Philippines –Japan Friendship Road was 185% in the last two years. According to a beneficiary survey to 300 residents along the roads, the following effects were confirmed: reduction of traffic congestion and thus reduction of travel time; increase of employment opportunities in neighboring towns; increase in income. Moreover, the freight movement has increased, and thus the project contributes to increase of transport of agricultural and industrial products and reduction of transport costs. Therefore, the project has largely achieved its objectives and its effectiveness is high.

Relevance

The project has been highly relevant with the Philippines' national policies and development needs at the times of both appraisal and ex-post evaluation. The paved ratio of the Philippines' highways is low, and the road sections covered under this project have been unpaved, though they are located in the agricultural products supplying areas to Metro Manila. The deteriorated road sections hampered smooth and efficient transport, and thus the subject sections were high priority sections to be improved.

Efficiency

Although project cost was lower than planned (about 89% of the planned), project period was slightly longer than planned (125% of the planned). Therefore, the evaluation for efficiency is moderate. The main reasons for delay of implementation are: i) substantial delay in selection of a consultant; ii) delay of commencement of detailed designs; and iii) delay in procurement of contractors.

Sustainability

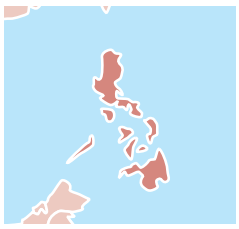
As of 2008, the roads covered under this project have been properly maintained, and the quality of the roads is good. On the other hand, under the current practice for budget allocation at the national level, there is some concern about the proper allocation of budget for road maintenance, which is expected to increase. Therefore, sustainability of this project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. Given the delay in the project period due to the delay in procurement, the lesson learned is that a detailed and practical procurement implementation plan should be developed with the executing agency at the project appraisal stage. Moreover, since a number of design changes arose for the project, efforts should be made to increase the accuracy of the feasibility studies.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Philippines



Third Elementary Education Project

Contributing to the improvement of school management through community participation in the poorest provinces

【External Evaluator】
Akihiro Nakagome and Hisae Takahashi, Ernst & Young SN Global Solution Co., Ltd.

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	a	
Sustainability	b	

Project Objectives

To improve academic performance, completion rates, and access to elementary education, as well as to strengthen institutional capacity of the Department of Education and promotion of participation of local governments and communities by constructing and rehabilitating school buildings, procuring textbooks and instructional materials, delivering in-service training and promoting School-Based Management (SBM) in 23 of the Philippines' poorest provinces, thereby contributing to the overall improvement of the quality of elementary education.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 11,122million yen / 9,561 million yen
- Loan agreement: March 1997
- Terms and conditions: 2.7% interest rate (2.3% for consulting services); 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: June 2006
- Executing agency: Department of Education
- Website URL: http://www.deped.gov.ph/

Effects of Project Implementation (Effectiveness, Impact)

The project constructed and rehabilitated school buildings, procured textbooks / instructional materials, delivered training to principals and teachers, and implemented SBM. As a result, the target to reduce the gap in academic performance in the National Achievement Tests (NAT), between the national average and that of the targeted provinces was achieved. Of special note is that the NAT average score in the targeted provinces (45.8 points) surpassed the national average (39.9 points) in 2005. Although the completion rate, enrollment number, and net enrollment rate did not reach the target as planned (planned target being 76%, 2 million students, 91-95% respectively), the actual record for '07-'08 reached more than 80% of the plan (actual record being 92.8%, 1.75 million students, 76.0%).

Comparing 1996 and 2007, before and after the project, the number of students per classroom and the enrollment rate of junior high school in the targeted provinces have both improved, and the gap between the national average has declined as well. Additionally, the project conducted local procurement for the building and rehabilitation of the school facilities, and equipment and necessities etc., thereby contributing to the re-energizing of the local economy by approximately 6 billion Pesos for school building construction and 350 million Pesos for procurement of equipment.

This project has largely achieved its objectives, and its effectiveness is high.

Relevance

The project has been in line with Education for All (EFA) at the times of both appraisal and ex-post evaluation and priority was placed on the improvement of the education environment for high-quality basic education. This project has been highly relevant with the Philippines' national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

The project period was almost as planned and project cost, though affected by the change in foreign exchange rate, was within the planned value. An increase in output was achieved by reducing unit cost through joint procurement with other donors. Therefore, efficiency of the project is high.

Sustainability

Though some problems have been observed in terms of the allocation of budget to the school sites and the implementation status of teacher's training, etc., because identification of such issues and counter-measures are already being considered, sustainability of this project is fair.

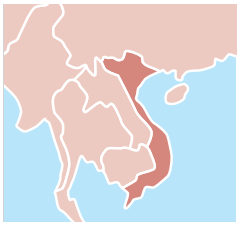
Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. Lessons learned were that the holistic approach with a good balance between hard and soft components brings substantial results. As for recommendations, appropriate allocation of budget to the school sites, effective utilization of experiences by sharing experiences with other regions, and support for a continuous implementation of training programs that meet the needs of the beneficiaries are proposed.

School building constructed by the project

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Viet Nam



Coastal Communication System Project in Southern Part of Viet Nam

Ensuring the safety of ship navigation and enabling prompt response to maritime accidents by modernizing the coastal communication system

【External Evaluator】
Viet Nam-Japan joint evaluation team 2008[1]

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	b	
Sustainability	a	

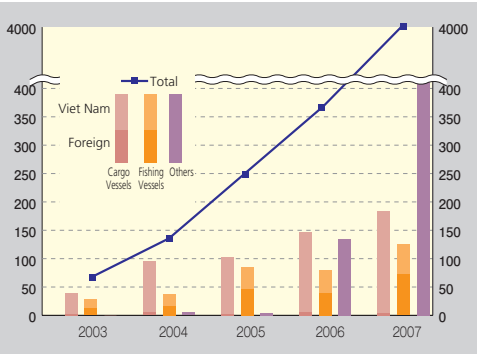
Project Objectives

To ensure the safety of ship navigation on international and domestic sea routes and to enable prompt response to maritime accidents by the establishment of the Global Maritime Distress and Safety System (GMDSS: stipulated by the 1988 amendments to the 1976 SOLAS Convention) in the southern part of Viet Nam, thereby contributing to the promotion of the shipping and fishing industries.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 1,866 million yen / 1,490 million yen (total)
- Loan agreement: March 2000
- Terms and conditions: 1.8% interest rate; 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: January 2007
- Executing agency: Ministry of Transport (MOT), Viet Nam National Maritime Bureau (VINAMARINE)

Number of Maritime Facilities Assisted by Coastal Radio Communication System (2003-2007)



Effects of Project Implementation (Effectiveness, Impact)

With the introduction of GMDSS, Viet Nam became able to observe the provisions of the SOLAS Convention[2] and the regulations of SAR Convention[3]. Expansion of the coverage area also enabled communication with large ships in the open sea in almost all ocean areas and with small ships in inshore areas.

The number of communications transmitted through the Viet Nam Coastal Communication System has grown annually, and the amount of information such as navigational warnings, search and rescue information, meteorological forecasts and weather forecasts provided by VISHIPEL (the operator of the coastal radio communication system) has nearly doubled between 2003 and 2007. The number of maritime facilities assisted by the coastal radio system has increased near 10 times from 362 in 2006 to 3,454 in 2007. According to the beneficiary survey, improved communications between ships to shore and ships to ships, expansion of the coverage area, improved accessibility and quality of information were recognized as project effects.

There are still many constraints in the existing implementation capacity in SAR activities in Viet Nam and strengthening of its capacity is required. However, this project has a positive impact on strengthening SAR activities in Viet Nam and has supported the establishment of favorable conditions for investment in and development of the maritime sector in Viet Nam.

Therefore, this project has largely achieved its objectives, and its effectiveness is high.

Relevance

This project has been highly relevant with Viet Nam's national policies both at the times of appraisal and ex-post evaluation. This project was carried out as the second phase of the "Coastal Communication System Project (L/A signed: 1996)" which was implemented through a Japanese ODA Loan project to assist the coastal communications system in the northern part of Vietnam, from Da Nang northward.

Efficiency

Although project cost was lower than planned, project period was longer than planned; therefore the evaluation for efficiency is moderate. The following factors were pointed out as the reasons for the delays: a prolonged period for surveying the locations of the coastal radio stations and preparing bidding documents; a prolonged period for approving the technical design, bidding documents and evaluation results; and an additional period spent on procurement of the Automatic Identification System (AIS)[4] equipment.

Sustainability

No major problem has been observed in the capacity of the executing agency, nor its operation and maintenance system; therefore, sustainability of this project is high. Technical cooperation by JICA experts dispatched to Viet Nam Maritime Communication and Electronics Company (VISHIPEL) also contributed to such high sustainability of the project. The O&M agency is VISHIPEL, which is a state-owned enterprise under VINAMARINE and MOT.

Conclusion, Lessons Learned and Recommendations

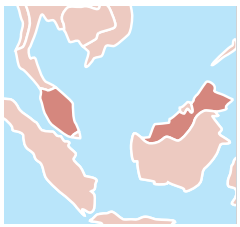
In light of the above, this project is evaluated to be highly satisfactory. Major lessons learned from this project are the effective combination of construction and O&M training for infrastructure projects and the necessity for strengthening the close coordination among related authorities during the preparation stage.

A major recommendation to the Vietnamese Government is to establish detailed and practical guidelines to improve SAR coordination. Recommendations to Ministry of Agriculture and Rural Development (MARD) and Provincial People's Committees are the promotion of maritime safety education for fishermen and the improvement of the coastal communication equipment of fishing boats.

1. The ex-post evaluation of this project was conducted jointly with the Vietnamese government. The joint evaluation team for this project has 10 members, including 9 Vietnamese evaluators (from MPI, MOT, the executing agency, other organizations concerned, and the evaluation consulting firm) and Keishi Miyazaki, a Japanese external evaluator from OPMAC Corporation.
2. SOLAS (Safety of Life at Sea) Convention: International Convention for the Safety of Life at Sea
3. SAR (Search and Rescue) Convention: International Convention on Maritime Search and Rescue
4. Automatic Identification System (AIS) is an information and communications system that utilizes maritime VHF frequencies to send and receive data including the ship's identity, type, position, course, speed, navigational status and other safety-related information both between suitably equipped vessels and between suitable equipped vessels and shore stations. The SOLAS Convention requires AIS to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Asia Malaysia



Port Dickson Power Station Rehabilitation Project

Contributing to the stabilization of the power system, improvement of atmospheric environment, and diversification of energy source by shifting to highly efficient combined cycle gas turbine power station

【External Evaluator】
Mitsue Mishima, OPMAC Corporation

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	b	
Sustainability	a	

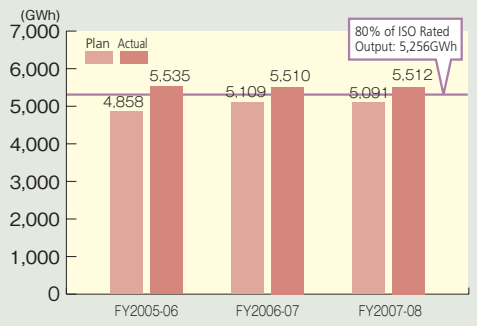
Project Objectives

To provide stable power supply and reduce the amount of hazardous gas emission by demolishing seriously deteriorated and inefficient oil-fired power plant facilities (240MW out of 600MW in the project) and replacing them with highly efficient combined cycle gas turbine power generation facilities with low emission of hazardous gas in Port Dickson Power Station located in Negeri Sembilan state, thereby contributing to the stabilization of the power system and diversification of energy sources in Peninsular Malaysia.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 49,087million yen / 48,607million yen
- Loan agreement: March 1999
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: June 2006
- Executing agency: Tenaga Nasional Berhad (TNB)
- Website URL: http://www.tnb.com.my/tnb/index.php

Plan and actual of receiving-end output



[Source] TNB

Effects of Project Implementation (Effectiveness, Impact)

Since FY2005-06, actual output of the combined cycle gas turbine power generation facilities renewed in the project exceeded the planned values, recording approximately 5,500GWh per year. Capacity factor and availability factor are high. The project is estimated to be effective in reducing emissions of NOx, SOx and CO_2 in comparison to oil-fired power station, and the results of atmospheric environment monitoring satisfied the standard set by the Environment Bureau. In Peninsular Malaysia, the project makes up 6% of total capacity and 14.5% of output. The project can be evaluated for its contribution to stabilizing power supply with highly reliable power generation facilities suitable to providing base load electricity. In terms of diversification of energy sources, the project contributed to reducing oil based power generation share and increasing gas based power generation. Simultaneously the highly efficient gas-fired power generation is considered economically effective in reducing fuel cost. Moreover, in terms of technical impact, the lessons learned by TNB in terms of project management impacted the operation of other power plants. The power station, which is known as a model case in Malaysia, accepts over 1,000 visitors from inside and outside the country. In light of the above, the project has largely achieved its objectives and, its effectiveness is high.

Relevance

This project has been highly relevant with Malaysia's national policies and development needs at the times of both appraisal and ex-post evaluation. The project, with its achievements in high-efficiency energy shift and alleviation of environmental impact, was consistent with the 7th and 8th Five Year Plan (1996-2005), which upheld the diversification of energy sources to reduce heavy dependency on oil. In addition, according to forecast and analysis on the reserve margin in the Peninsula, strengthening of power generation facilities was urgently needed.

Efficiency

Project cost was less than planned (81% of the plan), while the project took slightly longer than planned; therefore, the evaluation for efficiency is moderate. Delay was caused due to demolition work of the existing power station.

Sustainability

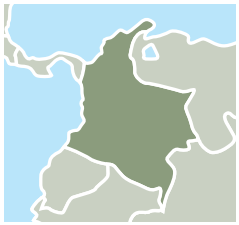
No major problem has been observed in the capacity of the executing agency nor its operation and maintenance system; therefore, sustainability of this project is high. There are sufficient employees to implement daily operation and maintenance and periodic operation and maintenance are outsourced to REMACO (TNB Repair and Maintenance Sdn. Bhd), a subsidiary of TNB. Training is periodically conducted for TNB employees, and rank and skills of REMACO are deemed sufficient. Regarding finance for operation and maintenance, there is also no major negative factor that may influence the project in the short-run.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. As a lesson learned, sufficient preparation time should be incorporated in the work schedule in advance, since detailed planning is required in case of constructing a new facility within the site of an existing power plant.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Latin America **Colombia**



Bogota Water Supply Improvement Project

Constructing reservoirs and related facilities to stabilize water supply, thereby improving living conditions and supporting industrial development

【External Evaluator】
Kenichi Inazawa, Office Mikage, LLC

Rating

Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	b	
Sustainability	a	

Project Objectives

To expand the water supply capacity of the water treatment plant, to stabilize the water supply, and to increase the number of population served by constructing a reservoir and pumping station, installing a monitoring and controlling system, and procuring vehicles and heavy machines in Bogota City, thereby contributing to the improvement of the health of the residents and to the industrial development of the city.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 8,375 million yen / 6,374 million yen
- Loan agreement : December 1991
- Terms and conditions: 4.75% interest rate; 25-year repayment period (including a 7-year grace period); compound untied
- Final disbursement date: December 2004
- Executing agency: Bogota Aqueduct and Sewer Company (Empresa de Acueducto y Alcantarillado de Bogota) (EAAB)

Effects of Project Implementation (Effectiveness, Impact)

The initial plan anticipated average supply of water to be 2,113 thousand m^3/day in 2005. The actual value in 2008 was 1,299 thousand m^3/day, falling short of the initial plan. This is due to the decrease in water demand since the mid-1990s, resulting from 1) improvements in the water tariff structure (raising water rates) by the executing agency and the water-saving campaign promoted by the Bogota municipal government, and 2) appropriate measurement and control of water consumption due to the placement of water meter equipment to each household. The population of Bogota city is increasing and it is expected that in the future, water demand will rise again, and volume of water supply will increase accordingly. The beneficiary survey shows that the water quality and pressure are generally fair, and the water service provided by the executing agency is gaining credibility from the beneficiaries. Therefore, this project has largely achieved its objectives, and its effectiveness is high.

Relevance

This project has been highly relevant with Colombia's national policies and development needs at the times of both appraisal and ex-post evaluation. At the time of appraisal, securing backup water source and constructing the supporting facilities to provide stable clean water were regarded as necessary. At the time of the ex-post evaluation, this project retains its high level of importance as a foundation for consecutive supply of clean water and to meet future increase in demand.

Efficiency

Though project cost was lower than planned (92% of the plan), project period was much longer than planned (356% of the plan); therefore, the evaluation for efficiency is moderate. The main cause for the delay is as follows; while a turnkey contract was introduced for the procurement of the monitoring and control system under which a detailed design was to be implemented by a contractor, the executing agency was unfamiliar with the procurement procedures, and preparation of the bidding documents and the procurement procedures required a long time.

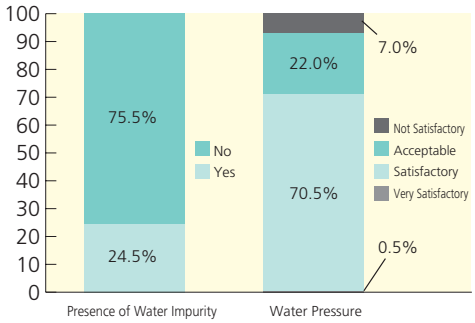
Sustainability

No major problem has been observed in the capacity of the executing agency nor its operation and maintenance system, therefore, sustainability of this project is high.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be highly satisfactory. With regards to the delay in procurement of the monitoring and control system, the procurement capacity of the executing agency could have been forecasted to some extent. Aid organizations should have verified the capacity of the executing agency at an early stage and carried out more necessary and efficient coordination with the executing agency from the commencement of the project until its completion.

Results of Beneficiary Survey



*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Latin America | Peru

El Niño-Affected Highway Rehabilitation Project

Contributing to smooth road transportation by rehabilitating and improving main trunk roads damaged by the El Niño Phenomenon

【External Evaluator】
Takeshi Yoshida, TREA Ltd.

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To normalize road transportation which was badly damaged by the El Niño Phenomenon by rehabilitating and improving major trunk roads, thereby contributing to smooth road transport in the future.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 15,833 million yen / 15,639 million yen
- Loan agreement: April 1999
- Terms and conditions: 2.2% interest rate; 25-year repayment period (including a 7-year grace period); general untied [Consulting service: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied]
- Final disbursement date: August 2006
- Executing agency: Ministry of Transport and Communication
- Website URL: http://www.mtc.gob.pe/portal/inicio.html

Bridge constructed under the project (Junin Region)

Rock Clearing works (Jauja-Tarma section, Junin Region)

Effects of Project Implementation (Effectiveness, Impact)

For all rehabilitated road sections (total length of approximately 415km) the traffic volume has increased and the travel time was shortened compared to that before project implementation. The Economic Internal Rates of Return (EIRR) for each section were calculated to be 10-33% and a sufficiently high economic profitability was confirmed.

In the beneficiary survey conducted at towns situated along the target roads, many responded that accessibility to markets and to provincial centers improved. Furthermore, respondents predominantly agreed that the employment opportunities for women increased. Respondents in the Cajamarca Region, in the north, generally agreed that household income of those situated along the target roads increased. On the other hand, many respondents in the Junin Region had negative opinions on road safety. This is presumably because of the increased number of traffic accidents due to increase in running speed.

This project has largely achieved its objectives and its effectiveness is high.

Relevance

This project was conducted under the El Niño Emergency Assistance Program of the government of Peru, targeting road sections of high priority. The present administration sets the promotion of exports from the mountainous region as one of their economic policies, and this project contributes to such policy. This project has been highly relevant with Peru's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Although project cost was mostly as planned, project period was much longer than planned due to fiscal problems faced by the government of Peru, resulting in a delay in securing necessary budget required for the project implementation in local currency that lead to a delay in construction. Therefore, the evaluation for efficiency is moderate.

Sustainability

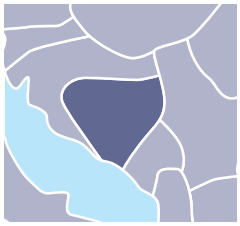
No major problem has been observed in the operation and maintenance (O&M) system and technical capacity of the executing agency. However, some concerns remain in terms of financial resources for O&M, and in the O&M of sections where landslides frequently occur. Therefore, sustainability of this project is fair.

Conclusion, Lessons Learned and Recommendations

In light of the above, this project is evaluated to be satisfactory. Lessons learned are that in the case of projects requiring urgent implementation such as disaster recovery, simplification and time-saving methods for necessary surveys should be considered.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)

Europe Bosnia and Herzegovina



Emergency Electric Power Improvement Project

Contributing to a stable electric power supply in the post-war era by rehabilitating thermal power plants and coal mines

【External Evaluator】
Hajime Sonoda, Global Group 21 Japan, Inc.

Rating

Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	b	
Sustainability	b	

Project Objectives

To increase electricity supply by revitalizing the Kakanj thermal power plant and six coal mines adjacent to four thermal power plants (including the Kakanj plant), thereby contributing to post-war economic reconstruction and the stabilization and improvement of the people's livelihood.

Outline of the Loan Agreement

- Loan amount / Disbursed amount: 4,110 million yen / 4,102 million yen
- Loan agreement: December 1998
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period; general untied
- Final disbursement date: August 2006
- Executing agency:The Federation of Bosnia and Herzegovina: Elektroprivreda Bosne i Hercegovine (EPBiH), Brown Coal Mine Kakanj (BCBK), Brown Coal Mine Breza (BCBR), Coal Mines Kreka-Durdvik (CKMD), Brown Coal Mines Banovici (BCBA). Republic of Srpska: Elektroprivreda Republike Srpske (EPRS)

Kakanj Thermal Power Plant

Effects of Project Implementation (Effectiveness, Impact)

This project provided almost 20% of all post-war facility investment in the two units of the Kakanj Power Plant and the six coal mines. Although the railroad facilities at the Kakanj Coal Mines have not been utilized, over 80% of the facilities supplied by this project have been fully utilized. The facilities have contributed to improving performance of the Kakanj Themal Power Plant and maintaining and restoring productivity at Breza Coal Mines and Kreka Coal Mines. Consequently, the project promoted a drastic increase in energy production at the Kakanj Power Plant as well as securement of necessary coal supply for the four thermal power plants including Kakanj.

Bosnia and Herzegovina's power supply was secured during the post-war era. Since the four thermal plants account for about 70% of the nation's entire power production, this project can be deemed contributory to economic reconstruction and improvement in the people's livelihood. Further, this project had a positive impact for the Kakanj Thermal Power Plant to reduce contaminants in emission gas. Therefore, this project has largely achieved its objectives, and its effectiveness is high.

Relevance

After the war, reconstruction of the electricity sector was given overriding priority, and the revitalization of power generation facilities, power plants, and coal mines was urgently needed. The electricity sector remains important for the country although restoration of the power generation system no longer requires an urgent response. Current concern has shifted to limited production capacity of coal mines. To respond to expected increase in power demand, tireless reinforcement of power generation and coal supply capacity is necessary. Therefore, this project has been highly relevant with Bosnia and Herzegovina's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

Due to delays in L/A effectuation for more than one year, a significant portion of the project, which was originally to respond to emergency needs, were modified. The implementation period at Unit #7 of the Kakanj Thermal Plant and Breza Coal Mines increased significantly. Although the project period was much longer than planed, project cost was almost as planned; therefore, the evaluation of efficiency is moderate.

Sustainability

The technical level of the executing agencies in terms of facility operation and maintenance is high. However, the coal mines hold issues such as surplus of labor force, persistent deficits, and insufficient equipment investment, which bring concerns in financial resources for facility maintenance and renewal. The federal government is trying to solve this issue through management integration with a power company, and close observation must be kept on this situation.

Conclusion, Lessons Learned and Recommendations

In light of the above, despite significant delays in project implementation and the concerns for the future sustainability of the coal mine portion, this project is evaluated to be satisfactory due to its high relevance and effectiveness. A recommendation to the Kakanj Power Plant is to procure necessary equipment for the railroad facilities and to start coal transportation by the railroad. A recommendation to the federal government is to invest in facilities for coal mines continuously.

*All ex-post evaluation reports including this can be referred to in JICA's website, "Evaluations"→"Ex-post Evaluation (ODA Loan)" (URL:http://www.jica.go.jp/english/operations/evaluation/oda_loan/post/)