Simhadri Thermal Power Station Project (I)-(IV)

Asia
India

Contributing to industrial development by meeting electricity demand growth

External Evaluator: Keishi Miyazaki, OPMAC Corporation

Outline of the Project

- Loan amount / Disbursed amount:(I) 19,817 million yen / 19,371 million yen; (II) 12,194 million yen / 12,191 million yen; (III) 27,473 million yen / 27,294 million yen; (IV) 5,684 million yen / 1,251 million yen
- Loan agreement: (I) February 1997; (II) March 2001; (III) February 2002; (IV) March 2003
- Terms and conditions: (I) 2.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied (II-IV) 1.8% interest rate; 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: (I-IV) April 2007
- Executing agency: National Thermal Power Corporation Ltd. (NTPC)

Project Objectives

Overall Goal: To contribute to industrial development, and thereby, to promote employment creation and improvement of people's living standards through electrification of rural areas and households in Andhra Pradesh State (AP State)

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Project Purpose: To meet electricity demand growth and assure stable electricity supply in AP State

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Output: Construction of 1,000 MW coal-fired thermal power station

Simhadri Thermal Power Plant


Central Control Room

Effects of Project Implementation (Effectiveness, Impact)

In AP State of southern India, the agricultural sector has been a large electricity consumer. Because of this, as well as the development of the IT industry, the industrial sector faced a shortage of electricity supply, and the shortage had become a bottleneck to the economic development.

The power station constructed by this project has operated steadily since 2004, when construction was completed. All key operation and effect indicators have achieved their targets, including a maximum output of 1,000 MW and a plant load factor of 97.27% in FY2009/2010. As of 2009, the power station shared 8% of the total installed power generation capacity and 11.9% of the generated electrical energy in AP State, and provided around 8,000 GWh of stable electrical energy supply per year as a base-load power generation plant. This project contributed to mitigating the electricity demand and supply gap in AP State, and in the process, supported its industrial development. This project has therefore largely achieved its objectives, therefore its effectiveness is high.

Relevance

Both at the time of appraisal and at the time of the ex-post evaluation, the objectives of this project were in alignment with the Indian development plan. The need to enhance the power generation capacity of AP State to mitigate its severe shortage of electricity supply, was also high at both times. At the time of appraisal, the project was consistent with Japan's Country Assistance Program for India, and therefore, its relevance is high.

Efficiency

Both the actual project cost and period were below the planned cost and period, and therefore, efficiency is high. Factors which contributed to the early completion of the project include: (1) As a model project for NTPC, priority was given to the mobilization of personnel, budget, and other resources for this project; (2) The project implementation capacity of the contractor and NTPC were high; (3) The AP State government and the municipality government strongly supported this project; and (4) The land acquisition and resettlement process were conducted smoothly.

Rating

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

Key Operation and Effect Indicators

		2003/04	2005/06	2007/08	2009/10
Maximum Output (MW)	Plan	1,000	1,000	1,000	1,000
	Actual	1,000	1,000	1,000	1,000
Plant Load Factor (%)	Plan	56.08	85.00	85.00	85.00
	Actual	87.90	88.38	88.57	97.27
Availability Factor (%)	Plan	80.00	89.00	89.00	89.00
	Actual	90.30	93.72	87.68	94.38
Auxiliary Power Ratio (%)	Plan	8.00	7.50	7.50	6.00
	Actual	<8.00	<7.50	<7.50	<6.00
Gross Thermal Efficiency (%)	Plan	33.60	35.00	35.00	35.00
	Actual	>33.60	>35.00	>35.00	>35.00
Net Electricity Energy Production (GWh)	Plan	4,495	6,962	6,962	6,962
	Actual	7,244	7,304	7,324	8,051

[Source] NTPC

* Plant Load Factor (%) = Gross Generated Energy / (Rated Output x Annual Hours) x 100
Availability Factor (%) = (Annual Operating Hours / Annual Hours) x 100
Auxiliary Power Ratio (%) = (Annual Auxiliary Power Consumption / Annual Power Generation) x 100
Gross Thermal Efficiency (%) = Annual Power Generation x 860) / (Annual Fuel Consumption x Fuel Calorific Value) x 100
Net Electricity Energy Production (GWh) = Annual Power Generation - Annual Auxiliary Power Consumption

Sustainability

NTPC, the operation and maintenance (O&M) agency of this project, is the largest electric power company in India. It has received many awards presented by the Ministry of Power to outstanding power stations, and the technical capacity of its staff is very high. Simhadri Power Plant conducts maintenance based on the annual maintenance plan, and manuals and the like are established and utilized. No major problems have been observed in the O&M system, technology, and financing, therefore, sustainability of the project is high.

Interview of resettled people

Key Point of Evaluation: Project Satisfies Environmental Standards

This project has been praised for taking environmental and anti-pollution measures, as well as for minimizing the project's adverse environmental impact through the implementation of JICA's supplementary study (Special Assistance for Project Implementation [SAPI]). At the same time, it has satisfied appropriate environmental standards. Thus, this project serves as a good reference for other projects.

The Environment Impact Assessment (EIA) of this project was conducted by NTPC in 1994 prior to the project's start, and Techno-Economic Clearance was obtained from AP State. However, with the enactment of new government regulations in India thereafter, a supplementary environmental study was conducted through SAPI in 2001 after the project started, which recommended improvements to environmental measures and revised fly ash utilization measures. Other recommendations included the installation of additional environmental monitoring stations around the power plant, in order to enhance the monitoring of the ambient air concentration. Three monitoring stations were additionally installed by NTPC.

Further still, at the monitoring stations, the ground concentration of major parameters used to measure air pollution levels, such as Suspended Particulate Matter (PSM), Sulfur Dioxide (SO_2), and Nitrogen Oxide (NOx), all met Indian environmental standards (same with effluent water), thanks to the installation of a high stack, establishment of electrostatic precipitators, utilization of low-sulfur coal, and the installation of desulfurization equipment. The monitoring data is checked online at the central control room of the power plant, and the same monitoring data can be accessed at the NTPC headquarters and the Ministry of Environment and Forests, which manages the environmental problems of the region.

Conclusion, Lessons Learned and Recommendations

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

The land acquisition and resettlement process is a bottleneck to the implementation of some ODA projects. In this project, the compensation procedures were implemented in a transparent and participatory manner with the involvement of various stakeholders, including NTPC, landowners, the municipality government, and community representatives, based upon clear guidelines. Also, the compensation land price was higher than the ordinary price and under favorable terms, as the land price was determined based on negotiations with landowners on the basis of the available market land price. This process was integrated with a community development program aimed at improving the inhabitants' living standards as well as creating employment opportunities. This helped to increase inhabitants' understanding and cooperation for the project, and the land acquisition and resettlement process proceeded smoothly. Such a comprehensive approach for land acquisition and resettlement can be a best practice to be shared with other projects.

Recommendations to the executing agency are: (1) To expand the green belt area in order to cope with the environmental risks brought about by future population growth in the communities neighboring the plant; and (2) To address employment issues of resettled inhabitants (consider utilization of public support measures and promotion of initiatives in collaboration with local governments and NGOs).

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html

Development Policy Loan (DPL) (I) - (IV)

Asia
Indonesia

Promoting policy and institutional reforms in Indonesia through budget support

External Evaluators: Masumi Shimamura and Kenji Wakasugi, Mitsubishi UFJ Research and Consulting Co. Ltd. / Masami Sugimoto, SHINKO Overseas Management Consulting, Inc.

Outline of the Project

- Loan amount / Disbursed amount:(I) 10,794 million yen; (II) 11,729 million yen; (III) 11,777 million yen; (IV) 22,080 million yen (Disbursed amounts all equal to loan amounts)
- Loan agreement: (I) March 2005; (II) March 2006; (III) March 2007; (IV) March 2008
- Terms and conditions: (I) 1.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied; (II) 1.5% interest rate; 30-year repayment period (including a 10-year grace period); general untied; (III) 1.5% interest rate; 30-year repayment period (including a 10-year grace period); general untied; (IV) 0.7% interest rate; 15-year repayment period (including a 5-year grace period); general untied
- Final disbursement date: (I) March 2005; (II) March 2006; (III) March 2007; (IV) March 2008
- Executing agencies: Ministry of Finance, Coordinating Ministry of Economic Affairs (EKUIN) (I-IV)

Project Objectives

Overall Goal: To contribute to the
(1) Promotion of Indonesia's macroeconomic stability;
(2) Improvement of investment climate;
(3) Improvement of public financial management and anti-corruption efforts; and
(4) Poverty reduction.

↑

Project Purpose: To continue policy and institutional reforms and to promote policy dialogue between Japan and Indonesia

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Output: Coordination with the World Bank and ADB and support of policy and institutional reforms in Indonesia

Evaluation Approach

Recently, in addition to conventional project-type assistance, budget support assistance has been provided to support improvements in the policies and systems of partner governments, or to assist countries affected by financial and economic crises. JICA, too, has provided this type of assistance, including development policy loans, by mainly utilizing ODA loans. Nonetheless, evaluation methods for budget support assistance are not necessarily established internationally. Hence, in initiating the evaluation of this project, the evaluation framework was developed through reviewing the activities of other donors and JICA related to evaluation methods for budget support in general, in cooperation with domestic advisors who have in-depth knowledge of budget support, donor coordination, and public financial management.

The Development Policy Loan (DPL) for Indonesia is intended to support the country's macro-economy faced with the financial gap, and to support policy and institutional reforms promoted by the Indonesian government itself such as "improvement of investment climate"; "public financial management"; and "service delivery for poverty reduction". JICA has supported Indonesia's reforms through the provision of funds by way of budgetary support, policy dialogue with the Indonesian Government, donor coordination, and formulation of institutional frameworks such as the organization of taskforces. In light of the structure of DPL assistance, an evaluation framework based on three independent perspectives was developed to analyze achievements during ex-post evaluation: (1) achievements related to the Indonesian Government's policy and institutional reform; (2) effects of DPL funding from the macroeconomic perspective; and (3) achievements related to facilitation of policy and institutional reform.

As this evaluation focuses mainly on policy and institutional reform aspects, effects of DPL funding from the macroeconomic perspective (2) mentioned above have been minimalized. At the time of evaluation, Indonesia's reform itself was still on-going, and it was judged premature to observe the project's effectiveness (tangible changes). Therefore, the evaluation of reforms is restricted to the review of progress from a monitoring perspective. In rating DPL, the existing five criteria of DAC were not applied, but comprehensive judgments were made on a pilot basis from the perspectives of attempts and achievements to facilitate policy and institutional reform, relevance of project, and sustainability.

Achievements and Progress in DPL Components

The achievements and progress of the DPL components of (1) public financial management, (2) improvement of investment climate, and (3) poverty reduction are evaluated as follows:
In the area of (1) public financial management reform, although the effect of tangible improvements has to await the further progress of required actions to be taken in succeeding DPL phases, it can be acknowledged from the planned actions taken according to the policy matrix in DPL (I)-(IV) that steady advances have been made towards the realization of this goal in the near future. Regarding (2) improvement of investment climate,

Rating (trial)

Attempts and Achievements	a	Overall Rating A
Relevance	a	
Sustainability	b	

which is expected to promote Indonesia's economic growth and offer benefits to companies operating in Indonesia, reforms in tax administration and customs clearance contributing to the reduction of business transaction costs have been implemented. Progress and effects of reforms have been observed through the integration of customs procedures, and the reduction of time required for customs clearance and VAT refunds. In the area of (3) poverty reduction, each policy action has been fulfilled and its progress can be evaluated favorably. The monitoring of the poverty reduction program, one of the policy actions, has laid the groundwork for improving the efficiency of the program as a whole.

Feedback Workshop

Attempts and Achievements to Facilitate Policy and Institutional Reform

Without DPLs that support Indonesia's policy and institutional reforms, the speed and degree of reform would not have been as high as now, in each of the component areas. Through the DPL process of policy dialogue, donor coordination, and establishment of groups, such as taskforces for the implementation of policy actions, the following effects have been generated: (1) "pushing effect": promotion of reform through supporting reform promoters within the Indonesian Government; (2) "symbolizing effect": demonstration of commitment towards reform of Indonesian Government in and outside the country; and (3) "coordination effect": strengthening of coordination within the Indonesian Government, among donors, and between the Indonesian Government and donors. These effects have contributed to advancing Indonesia's reform process.

Relevance

Reform areas targeted by DPL assistance have been in line with the Indonesian Government's development policy needs and priorities. The functions of DPL coped with the issues faced by the Indonesian Government when advancing reform. In addition, it was appropriate that JICA chose to implement co-financing (DPL) in light of Japan's/JICA's overall assistance policy at the time. Furthermore, from a macroeconomic viewpoint, DPL funding was necessary to fill Indonesia's financial gap. Therefore, the relevance of the project is high.

Sustainability

From the viewpoint of whether DPL would be able to comprehensively cope with the government's important policy issues, there are indications that policy actions are becoming smaller in scale. In addition, it is judged that more time is still required for the coordination mechanism fostered by DPL to become rooted within the government and ensure its sustainability. On the other hand, DPL as a platform for policy dialogue will continue to function as a possible forum to generate fruitful policy proposals for both Japan and Indonesia. The sustainability of DPL's effects is further strengthened by enhanced public financial management, which supports the effective functioning of DPL, and by the establishment of groups for the implementation and promotion of policy actions. Therefore, sustainability of the project is fair.

Conclusion, Lessons Learned and Recommendations

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

DPL is a program that contributes to framework setting, such as regulations and rules for policy and institutional reform. Therefore, the implementation of policy actions alone will only yield limited changes. Reform is promoted by carrying out finely-tuned technical cooperation (TC). From the donor point of view, DPL and TC are complementary with each other and are expected to generate synergetic effects in various stages of the reform process. Opportunities are increasing for JICA to further utilize experts and actively participate in Indonesia's policy and institutional reform. Therefore, regarding lessons learned, it is crucial to bring into DPL policy dialogue the issues identified through TC and, at the same time, it is equally important to feed back the policy issues discussed in the DPL framework to the implementation of TC in order to advance reform.

Regarding recommendations to JICA, by utilizing functions which have been formulated and strengthened through DPL and levering DPL, it is expected that JICA will, for example, firmly build foundations to realize package-type infrastructure exports from an All-Japan perspective, through ascertaining the needs of the Indonesian Government and maintaining close communication with government officials from the project identification and preparation stage.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

The Project for Strengthening of Polytechnic Education in Electric-Related Technology

Asia
Indonesia

Contributing to development of skilled technicians by strengthening polytechnic institute in electrical engineering

External Evaluator: Yusuke Hasegawa, International Development Center of Japan

Outline of the Project

- Total cost (Japanese side): 1,011.35 million yen
- Period of cooperation: October 1999 to September 2006 (of which follow-up period was October 2004 to September 2006)
- Partner country's implementing organization: Directorate General of Higher Education (DGHE), Ministry of National Education; Electric Engineering Polytechnic Institute in Surabaya (EEPIS)
- The number of experts dispatched: 8 experts (long-term); 119 experts (short-term)
- The number of technical training participants: 31 participants
- Main equipment provided: Computer, calibrators/measuring instruments for research, equipment for experiment, etc.

Project Objectives

Overall Goal: Well-trained electric-related polytechnic teachers are provided to polytechnics nationwide and they provide education needed for skilled technicians in industrial development.

Project Purpose: To provide EEPIS with the ability to educate (1) well qualified electric related polytechnic teachers and (2) skilled information technology technicians as well.

Outputs:
1. In-service Diploma 4 courses (teachers' training courses/1.5 years) for electronic engineering, electrical engineering, telecommunications engineering, and information technology are established and well managed.
2. Pre-service Diploma 4 courses (teachers' training courses/4 years) for electronic engineering, electrical engineering, telecommunications engineering, and information technology are established and well managed.
3. Diploma 3 course for information technology is established and well managed.
4. In-service teachers' short-training courses in electric-related subjects are established and well managed.
5. The research and teaching capacity of EEPIS teaching staff members is strengthened.
6. Management system of EEPIS is strengthened.

Effects of Project Implementation (Effectiveness, Impact)

As part of Indonesia's efforts aimed at the enhancement of polytechnics that develop skilled technicians needed for industrial development, EEPIS was chosen as the national resources polytechnic (NRP) for the education and training of polytechnic teachers in electrical engineering.

All of the newly established courses of EEPIS are well-managed. The number of teachers, as well as the number and share of teachers who earned master's or doctoral degrees, increased, and the number of academic papers presented by teachers has also risen overall. However, although the capacities of existing teachers have increased, the project has not produced a sufficient number of new teachers through D4 courses. Of the graduates of D4 courses in 2007, 8% (2 out of 25 graduates) have become teachers at polytechnics, while the figure remains at 20% if those who became vocational high school teachers are included. Meanwhile, graduates of D3 courses are much in demand among companies, and almost all graduates find employment or start their own business at an early stage. The courses are thus believed to have developed human resources sought by companies.

The project has produced various impacts further to the overall goal, both inside and outside Indonesia. On the one hand, EEPIS has served as a model school for other polytechnics and educational institutions in Indonesia. On the other hand, EEPIS has provided assistance for the capacity development of higher educational institutions for engineering in East Timor and Rwanda (dispatching experts from EEPIS for JICA projects and receiving trainees). Based on the above facts, although the overall goal is not sufficiently achieved so far, this project has been producing certain effects, therefore its effectiveness is fair.

Participants review their study materials in electrical engineering

Relevance

The project was in line with the national development plan of Indonesia (PROPENAS), which emphasizes the improvement in quality of higher education as well as the strengthened

* Indonesia's higher education institutions consist of academic type (including universities, specialized universities, and single department colleges) and specialized and vocational type (including polytechnics and academies). Both types of institutions are intended for high school graduates. Specialized and vocational education institutions offer Diploma 1 (D1) through Diploma 4 (D4) programs.

Rating

Effectiveness, Impact	b
Relevance	a
Efficiency	a
Sustainability	b

Overall Rating: B

Number of EEPIS Teaching Staff by Degree (Unit: Persons)

Fiscal Year	Department								(A) Master+Doctor Total	(B) Total Teaching Staff	(A)/(B)
	Electronic		Telecom		Electric		IT				
	Master	Doctor	Master	Doctor	Master	Doctor	Master	Doctor			
1999	2	0	2	1	4	0	0	0	9	69	13.0%
2000	2	0	4	1	4	0	0	0	11	80	13.8%
2001	2	0	5	1	4	0	1	0	13	117	11.1%
2002	3	0	8	1	4	0	2	0	18	105	17.1%
2003	7	1	10	1	6	0	6	1	32	109	29.4%
2004	13	1	13	1	8	0	6	1	43	108	39.8%
2005	16	2	14	1	11	0	10	1	55	122	45.1%
2006	19	3	16	1	12	0	13	1	65	120	54.2%
2007	23	3	19	1	13	0	16	1	76	133	57.1%
2008	26	3	22	1	13	1	16	1	83	133	62.4%
2009	29	3	24	1	18	2	19	1	97	138	70.3%

[Source] EEPIS

connections with industry. It also coincided with Indonesia's needs for skilled technicians and Japan's ODA policy as of the project's start. The cooperation policy which emphasized the improvement of counterpart (C/P) staff capabilities by providing training in Japan or additional education within the country was appropriate, as well as the methodology adopted for the project - e.g., the dispatch a number of short-term experts for new courses, which consisted of technical curriculums, while dispatching long-term experts for the D3 course in a new subject. Therefore, the relevance of the project is high.

Efficiency

Each element, notably the dispatch of experts, the acceptance of trainees, and provision of equipment, were implemented mostly according to plan. Apart from a small portion, the inputs were overall appropriate. The project cost exceeded the plan by around 20-30%. However, the inputs for the cooperation for the Pre-service IT D4 course, which was later added, were not included in the original plan. Considering these circumstances, the cost difference between actual and planned cost is small. Therefore, efficiency of the project is high.

Sustainability

The Indonesian government regulation regarding teacher qualification, set forth in 2005, defined minimum academic requirement for polytechnic teachers as Master's degree. As a result, D4 graduates are no longer automatically qualified as polytechnic teachers. Furthermore, while the operational capacity of EEPIS was strengthened, the operational capacity of the Job Arrangement System (JAS) was not necessarily strengthened. Therefore, there are some problems with the policy background and the structural aspect of the executing agency, and the sustainability of the project's effects is fair.

Completion ceremony for training provided by EEPIS for Rwandan educational institution

Key Point of Evaluation: High Capacity of Executing Agency allows Delivery of Impact

EEPIS continues to serve as a central organization in Indonesia for producing skilled technicians in electrical engineering which is one of the goals of this project. Drawing on the high level of capacity accumulated through the project, EEPIS also succeeded in having various impacts after the project ended. Examples include the provision of new in-service D4 (1.5 years, evening) courses through web-based distance learning and study programs in three new subjects, provision of support to other polytechnics, and participation in robot contests. Bearing in mind that EEPIS has actively undertook activities and expanded operations in order to develop technicians, and furthermore, has had impact domestically and internationally, a lesson learned identified by the ex-post evaluation is that when the same kind of cooperation for educational institutions is being planned, it is important to ascertain whether the executing agency has sufficient capacity including financial and management capability and strong commitment to the project activities.

Conclusion, Lessons Learned and Recommendations

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

Cooperation which involves the establishment of a new course, or the improvement of management at an educational institution, requires a long time for input to yield any output. As in this project, output may be generated after the project ends. A lesson learned may be to include in the project design a mechanism which will enable the executing agency to confirm the achievement of outputs even after the project ends. This includes the hosting of a debrief meeting when output is generated.

After more than 20 years of cooperation from Japan, EEPIS has developed to become an influential cooperation partner of JICA. Considering EEPIS's high capabilities and motivation, JICA is recommended to sustain its relationship with EEPIS as an organization that supplies experts for JICA projects or offers third country trainings as an important cooperation resource.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Project for Improvement of Equipment for Demining Activities (Phase IV)

Asia
Cambodia

Largely contributing to promote landmine clearance in Cambodia

External Evaluator: Koichiro Ishimori, Value Frontier Co., Ltd.

Outline of the Project

- Grant limit / Actual grant amount: 1,761 million yen / 1,525 million yen
- Exchange of notes date: August 2004
- Project completion date: June 2005
- Implementing agency: Cambodian Mine Action Centre (CMAC)

Project Objectives

Overall Goal: To contribute to the improvement of social and economic infrastructure, including ensuring peoples' safe livelihood and promoting the re-use of national land and resettlement

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Project Purpose: To increase the efficiency and safety of landmine clearance activities

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Output: Replenishment of landmine clearance equipment of the implementing agency and construction of the Central Workshop

Central Workshop

Brush cutter

Effects of Project Implementation (Effectiveness, Impact)

The landmines that were buried across the country (estimated to be 4 million to 6 million) due to the Vietnam War and the Civil War in Cambodia from the early 1960s to the early 1990s are still not cleared even today. For this reason, the Government of Cambodia established the Cambodian Mine Action Centre (CMAC) in 1992 and landmine clearance activities have been conducted. However, equipment aging and malfunctions have decreased the efficiency of CMAC's activities.

This project aimed to increase CMAC's annual clearance area from 10.5 km^2 in 2003 to 20.0 km^2 in 2007. 22.1 km^2 were cleared as of 2005, and the initial objective was achieved ahead of schedule. The total land cleared from 2006 to 2009 was 123.8 km^2; thus, the 120 km^2 target of the National Strategic Development Plan (2006-2010) was also achieved one year ahead of schedule. The annual number of landmine casualties in the project area decreased by a large margin from 664 in 2003 (before the project) to 134 in 2009, owing to the increased land area cleared of landmines and the widespread landmine risk education conducted by CMAC. In addition, in a beneficiary survey of 100 households living in the project area, all responded that the landmine clearance led to the establishment of new schools and health centers, and has allowed them to feel reassured of their lives. Thus, it was confirmed that the project has been contributing to improving the livelihood of residents.

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

Relevance

This project was consistent with the landmine clearance goals of the Cambodian Government's Socioeconomic Development Plan and CMAC's Five Year Strategic Plan. It was also in line with the country's mine clearance needs and Japan's Country Assistance Strategy for Cambodia. Therefore, the relevance of the project is high.

Efficiency

The project period was nine months as planned, and the project cost was lower than planned. Therefore, the efficiency of the project is high.

Rating

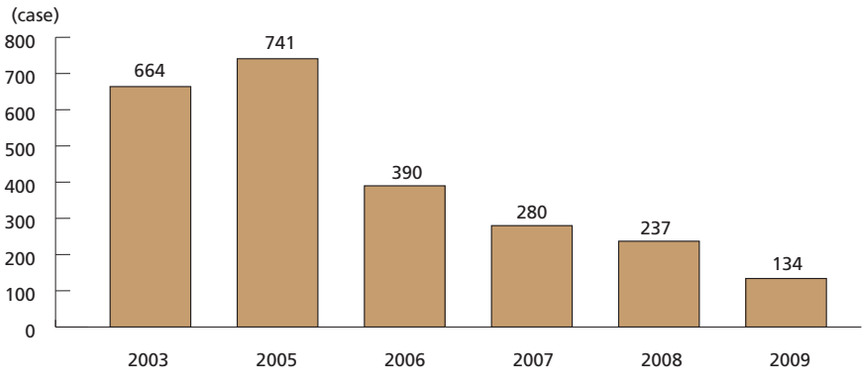
Effectiveness, Impact	a	Overall Rating A
Relevance	a	
Efficiency	a	
Sustainability	a	

Operation and Effect Indicators of Landmine Clearance Activities

Indicators (unit)	2003	2005	2006	2007	2008	2009
Land cleared of landmines (km^2)	10.5	22.1	26.8	27.7	33.8	35.5
Locations cleared of landmines (place)	225	543	585	570	755	572
Accidents during clearance (case)	6	11	6	4	0	1

[Source] CMAC

Number of Landmine Casualties in the Project Area



[Source] CMAC

A staff searching for landmines

Sustainability

Operation and maintenance is under control. Six Demining Units (DU) of the implementing agency oversee equipment operations, while the Central Workshop constructed by this project appropriately conducts maintenance. No problems have been observed related to the technical capacity and financial situation of the implementing agency. Therefore, sustainability of the project is high.

Conclusion, Lessons Learned and Recommendations

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

Lessons learned were that major factors contributed to reducing the annual number of landmine related casualties were, notably, the increases in the land area cleared of mines, and the widespread of landmine risk education towards people by CMAC. Due attention should be paid to the implementation of landmine risk education when extending assistance for landmine clearance activities in other countries in the future.

Recommendations to the implementing agency include diversifying sources of funds and expanding funds for landmine clearance activities. Funds may be requested from governments of developed and developing countries that have not supported CMAC, or multinational companies that are interested in landmine clearances as their Corporate Social Responsibility (CSR).

Recommendations to JICA include continuing offering assistance for the replenishment of aging equipment, in order to maintain the pace of CMAC's activities.

BOX Assistance for Countries Undergoing Reconstruction or Countries with Weak Governance

JICA has been strengthening its assistance for post-conflict countries in the midst of the reconstruction process as well as fragile countries with weak governance. A comparative analysis of this fiscal year's ex-post evaluations of JICA's projects in these countries showed that in some cases, efficiency (extended project period) and sustainability (fragile implementation systems) had room for improvements.

The reasons for the delays included delays in customs clearance of imported materials (Angola), delays in project design review and government approval (Nepal), long transport times due to numerous checkpoints and unfinished roads (northeastern Sri Lanka), and measures for the multinational construction team to leave the country due to the worsening security situation associated with the presidential election (Afghanistan). On the other hand, there were also cases like the Cambodia project, in which the activities of the implementing agency were appropriate and the construction completed on time.

As for sustainability, challenges included fragile maintenance structures owing to budget shortages and shortages in the number and capacities of technical staff (Timor-Leste). On the other hand, in some cases, technical cooperation projects and training in Japan, aimed at developing staff capacity, were conducted in coordination with financial cooperation projects, which led to increased sustainability (Cambodia, Timor-Leste).

From the analyses, it is evident that assistance for these countries is effective if sufficient information is gathered about the political and social situations, and on this basis, the project establishes cooperative ties with stakeholders, sets a project period with some leeway, and is implemented in parallel with assistance for increasing project sustainability.

Capacity-development through internal training (Nepal)

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html

Jilin Song Liao River Basin Environmental Improvement Project

Asia
China

Contributing to mitigate further deterioration of water quality through construction of sewage/ wastewater treatment facilities

External Evaluator: Kenji Momota, IC Net Limited

Outline of the Project

- Loan amount / Disbursed amount: 12,800 million yen / 12,638 million yen
- Loan agreement: December 1998
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); partial untied
- Final disbursement date: July 2005
- Executing agency: People's Government of Jilin Province

Project Objectives

Overall Goal: To improve the standard of living and health of residents in and around the Songhua and Liao River Basins

↑

Project Purpose: To improve the water quality of both rivers

↑

Output: Implementation of environmental pollution control projects in both river basins

Sewage treatment facility

River basin areas covered by this project

Effects of Project Implementation (Effectiveness, Impact)

In the basins of Songhua River and Liao River in Jilin Province, the water pollution had become serious due to the recent economic development, which brought with it increases in household sewage and industrial wastewater generation that far exceeded the capacity of sewage and wastewater treatment facilities. To implement control-at-source measures that were urgently needed, this project was scheduled to carry out 9 sub-projects*: (1) 5 Sewage Treatment Projects; (2) 3 Industrial Wastewater Treatment Projects; and (3) 1 Monitoring Capacity Enhancement Project.

The Sewage Treatment Projects play a pivotal role in the sewage treatment services of the cities concerned. The projects have shown good performance in removing pollutants; both the Chemical Oxygen Demand (COD) and Biochemical Oxygen Demand (BOD) removal rates were better than the planned targets, despite the fact that the amount of sewage treated was 61% of the planned amount. On the other hand, none of the Industrial Wastewater Treatment Projects are currently still in operation (dismantled after construction, operation discontinued due to bankruptcy), and these projects cannot be considered to have produced effective results. Regarding monitoring capacity, the project was effective in increasing the accuracy of the water quality measurements and increasing the technical capability of the officials. Concerning water quality improvement in nearby rivers and water systems, although no clear trends were observed (see "Key Point of Evaluation" on p.35), about 60% on average responded in the beneficiary survey that water quality had improved. Furthermore, it was confirmed from interviews with farmers and fishermen that a certain degree of improvement was made with respect to the impact of water quality improvement on their agricultural/fishery activities. Considering the above, this project has somewhat achieved its objectives, and therefore, its effectiveness is fair.

Relevance

Both at the time of project appraisal and ex-post evaluation, the project was sufficiently in line with the development plan and needs of China and Japan's prior ODA policy. Therefore, its relevance is high. However, there was room for improvement in the establishment of project objectives and the selection of sub-projects.

Efficiency

Although the project cost was within the plan, the project period far exceeded the plan. Therefore, efficiency of the project is fair. The reasons for the delay include the outbreak of SARS in 2003/2004 that forced suspension of construction work and delay in procurement of local currency needed for the project.

* One project was later cancelled and implemented using Chinese funds.

Rating

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

Plan/Actual Comparison of Major Operation and Effect Indicators

Indicator (unit)	Total (sub-project statistics)		
	Plan	Actual	Actual/Plan
Sewage treated (x 10,000 t/d)	63	38	61%
Reference: population served (x 10,000)	198	242	122%
COD removed (t/y)	61,605	43,119	70%
COD removal rate (%)	64	86	136%
BOD removal (t/y)	39,374	24,281	62%
BOD removal rate (%)	86	91	106%
SS removed (t/y)	59,614	25,736	43%
SS removal rate (%)	88	94	107%

*1 COD, BOD, SS = Indicators used to represent the degree of water contamination. The higher the values, the higher the degree of water contamination.
*2 Removal rate is calculated by comparing the quality of incoming sewage and that of outgoing effluent at each treatment plant. The figures shown here are compiled from the average rate of each treatment plant.
*3 No verifiable data were available on the removal rates of COD, BOD and SS Wastewater Treatment Projects. The evaluation is based only on the data for Sewage Treatment Projects.
[Source] Response of questionnaire administered to executing agency

Sustainability

The Environmental Protection Agency of Jilin Province that oversees and supervises the entire project and the state-owned enterprises which are the executing agencies of sub-projects still in operation (sewage treatment plants) are in good condition respectively, showing no major concerns about their operation and maintenance, technological capacity, and finances. Meanwhile, among the sub-projects, the industrial wastewater treatment is no longer in operation. Therefore, sustainability of the project's effects is fair.

Beneficiary survey

Key Point of Evaluation: Evaluation from the Viewpoint of "Mitigating Further Deterioration of Water Quality of Targeted Water Systems"

This ex-post evaluation attempted to evaluate the project against the project objective assumed at the time of project appraisal, i.e., "improvement of water quality of nearby rivers" sub-projects. However, no clear trend was apparent. Reasons behind this may include the following. (1) Though termed "nearby rivers," some span more than 100 km, and furthermore, the impact of other sewage and wastewater beyond the scope of this project prevents the measurement of the project's direct effects. (2) In the last two years alone, wastewater generation in the entire city of Changchun has increased.

In the case of this project, many external factors affect the project and its objective – improving the water quality of rivers – that no exact evaluation is possible. Nonetheless, those sub-projects that are operating play an important role as the sewage treatment facilities in their respective communities, and their pollutant removal function is performed generally as planned.

In the context of such increases in the wastewater generation in the entire basin, this project needs to be evaluated not from the viewpoint of "improvement of water quality of entire basin", but rather from the viewpoint of "mitigating further deterioration of water quality of targeted water systems and removing pollutants". If the project objective is established based on the viewpoint of "mitigating further deterioration of water quality of targeted water systems and removing pollutants", then there have been good results. Had it not been for this project, the quality deterioration of the water systems would have aggravated further. Thus, the project has produced certain effects, from the perspective of preventing the deterioration of targeted water systems.

Conclusion, Lessons Learned and Recommendations

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

The sub-projects that were cancelled or discontinued were vulnerable to bearing the impact of the Chinese government policy of privatizing state-owned enterprises and other major changes in the business climate of the time because the executive agencies of these sub-projects were private companies. Regarding lessons learned for program-type projects that consist of sub-projects, when executing agencies which are susceptible to market situations are involved as in this project, it is essential that the project design permits the readjustment of sub-projects according to any situation changes during the project implementation, and a flexible approach is taken during the implementation phase.

In addition, while this project had set a large objective of "improving water quality in Songhua/Liao River Basin", it is considered too ambitious, given the size and scope of the project. To permit the appropriate analysis and evaluation of development outcomes, it is necessary to set objectives at the time of project appraisal that are more clearly relevant to the project and are more readily verifiable. With respect to sub-project selection, it is necessary to set out the selection criteria with stronger attention to the overall project objective, and apply the criteria to the appraisal and examination of sub-projects.

Regarding recommendations, the executing agency is encouraged to work more proactively toward improved collection and disclosure of water quality data that is important for project monitoring.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Northern Rural Infrastructure Development Project

Asia
Bangladesh

Contributing to vitalize the rural economy through construction and rehabilitation of roads, etc.

External Evaluator: Keisuke Nishikawa, Ernst & Young Advisory Co., Ltd.

Outline of the Project

- Loan amount / Disbursed amount: 6,593 million yen / 6,304 million yen
- Loan agreement: July 1999
- Terms and conditions: 1.0% interest rate; 30-year repayment period (including a 10-year grace period); general untied
  [Rural Development Engineering Center portion: 0.75% interest rate; 40-year repayment period (including a 10-year grace period)]
- Final disbursement date: March 2007
- Executing agency: Local Government Engineering Department (LGED)

Project Objectives

Overall Goal: To contribute to regional economic development

↑

Project Purpose: To improve the distribution network of the region

↑

Output: Development of rural road (Feeder Road B), construction of Rural Development Engineering Center (RDEC), and rehabilitation of roads damaged by the 1998 flood, in five districts (Jamalpur, Sherpur, Mymensingh, Netrokona, and Kishoreganj) in the northern area of Bangladesh

Rural road built by the project (Mymensingh District)

Bridge constructed by the project (Jamalpur District)

Effects of Project Implementation (Effectiveness, Impact)

In the northern areas of Bangladesh, the inadequacy of markets and rural roads has impeded transport and commerce flows. Constructing and improving roads and other rural infrastructure on a continuing basis is important for developing the regional economy. For this reason, this project was implemented through co-financing with the Asian Development Bank (ADB) and other organizations.

As a result of this project, annual average daily traffic (AADT) generally increased, the average speed of travel improved significantly (3 km/hr to 20 km/hr), and transportation costs decreased to about one-third overall. Road construction also generated numerous direct employment, and provided employment opportunities to about 1,200 women in routine road maintenance work. Furthermore, access to government services, medical care, education and other social services improved significantly, and the construction of highly-durable structures prevented damage from flood. The number of retail shops along the road also increased noticeably, and all respondents to a beneficiary survey answered that their income increased as a result of the road construction and improvements. This project has largely achieved its objectives; therefore, its effectiveness is high.

Relevance

From the time of project planning to the ex-post evaluation, the development plan of Bangladesh consistently underlined the importance of rural development for mitigating poverty. Japan's ODA policy was in alignment with the plan. Rural infrastructural improvements are essential to the socioeconomic development of rural areas, where 80% of the Bangladeshi population reside, and thus continue to have high importance. Thus, the relevance of this project is high.

Efficiency

The project cost was lower than planned (96% of planned cost). While the project period was slightly longer than planned (104% of planned period), this was due to additional construction work in response to the damages incurred from the 2004 flood. The change in plan was relevant; therefore, efficiency of the project is high.

Rating

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

Improved Average Speed of Travel and Reduced Transportation Costs*

District	Speed of travel (km/hr)		Transportation costs (Taka/km)	
	Before	After	Before	After
Jamalpur	3	10	7.46	1.83
Sherpur	3	20	7.55	2.27
Mymensingh	3	20	7.25	2.45
Netrokona	3	20	5.55	2.92
Kishoreganj	4	20	5.44	2.05

* The transportation cost reductions represent the difference between the fees the residents paid for the means of transportation before and after the project.
[Source] Beneficiary survey

Sustainability

The segments of the road that were developed and/or improved by the project were generally in good condition, thanks to the routine maintenance performed by women's groups. The RDEC Setting-up Project (technical cooperation project) has also helped to prevent major problems from arising on the technical front. However, some problems were observed related to the prospects of securing the maintenance budget. Therefore, the sustainability of the project is fair.

Women's group performing road maintenance work

Key Point of Evaluation: Synergistic Effects of ODA Loan and Technical Cooperation

The RDEC constructed by this project is a training facility of LGED. A two-phase JICA technical cooperation project has been underway since the RDEC was constructed (2003-2006, 2007-2011[plan]) to set up its training program, with the purpose of enhancing engineers' skills.

As a result of Japan's support, RDEC has been able to hold a range of training programs, which has contributed immensely to improving the capacities of LGED staff in charge of rural infrastructure development and maintenance. According to a questionnaire survey administered to the trainees, 97% responded that the training was either "very useful" or "useful." 60% responded that they "fully" applied the knowledge they gained in their routine activities, while another 39% responded "partly". Therefore, both trainee satisfaction and the frequency with which they use the acquired knowledge at work are high. All respondents agreed that "RDEC is functioning as the nucleus of the LGED's technical capacity enhancement". As seen from above, in terms of increasing the operation and maintenance capacity from a mid- to long-term perspective, it is extremely effective to implement hard assistance (construction of RDEC) in parallel with other assistance intended to set up and establish a training program within the center.

Conclusion, Lessons Learned and Recommendations

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

In terms of lessons learned, this road maintenance scheme through the organization of women's groups may be replicable and applicable to similar projects in other countries as a model for rural road maintenance. The combination of the loan project and the ensuing technical cooperation project was a major characteristic of this project. Its approach of enhancing the capacity of LGED staff while utilizing the training facility constructed with ODA loans, contributed to increasing the sustainability of this project, and the two had clear synergy.

The executing agency is recommended to secure the maintenance budget, as well as consider cost reduction measures, including outsourcing some of the pavement repair work to private companies. It is also recommended that JICA, together with ADB and other donors, encourages the Bangladeshi Government to place a stronger focus on road repair and maintenance.

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html

The Project for Improvement of Roads between Dili and Cassa

Asia
Timor-Leste

Supporting post-independence reconstruction through road rehabilitation

External Evaluators: Akihiro Nakagome and Hisae Takahashi, Ernst & Young SN Global Solution Co., Ltd.

Outline of the Project

- Grant limit / Actual grant amount: 1,492 million yen / 1,483 million yen
- Exchange of notes date: May 2004
- Project completion date: February 2006
- Implementing agency: Ministry of Transport, Communication and Public Works (Current: Ministry of Infrastructure [MOI])

Project Objectives

Overall Goal: To promote the vitalization of agriculture in the neighboring regions, and improve the living standard of residents

↑

Project Purpose: To ensure safe and smooth transportation between the two areas

↑

Output: Rehabilitation of the roads and bridges of the Dili-Cassa portion of a core artery

A road with surface damage

Rehabilitated Dili-Cassa Road

Effects of Project Implementation (Effectiveness, Impact)

In Timor-Leste, 70% of infrastructure was destroyed due to the civil war and destruction which occurred just after the direct balloting to decide on extension of self-rule in 1999. Following the interim rule of the United Nations, the country gained independence in 2002. However, the economic situation has worsened again. The section of the road covered by this project is part of a core artery linking the capital city of Dili with Suai, a major city in the south and a center for agricultural development. The road is a vital part of the country's distribution network. However, the road was seriously damaged, due to heavy rainfall on steep slopes with fragile ground in mountain areas.

The traffic volume for the road sections rehabilitated under the project increased, by a large margin, compared to the time of planning. For example, traffic volume increased between Aileu and Aituto, between Aituto and Ainaro, and between Ainaro and Cassa by 88%, 77%, and 300%, respectively. The time required to travel between Ainaro and Cassa, for instance, has also been cut by roughly one-half. In the beneficiary survey, 89% responded that "access to markets or public services became easier owing to the improvement of the road", and 94% responded that "the improvement of the road contributed to promoting agricultural activities in this area". This project has largely achieved its objectives, therefore its effectiveness is high.

Relevance

Both at the time of planning and ex-post evaluation, this project was in alignment with the National Development Plan that specified transport infrastructure improvements, as well as with Japan's ODA policy. The road section covered by this project is a core artery linking the capital city with a major city that serves as a center for agricultural development. For this reason, this project has been highly relevant with the country's development plan, development needs, as well as Japan's ODA policy, therefore its relevance is high.

Efficiency

Both project period and project cost were mostly as planned, therefore, efficiency of the project is high.

Sustainability

The National Directorate of Roads, Bridges and Flood Control (DRBFC) of the MOI operates and manages roads and bridges since the project's completion. However, due to personnel

Rating

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

Qualitative Effects, Etc. of Road Rehabilitation

Saving transit time

Do you think the transit time to access to market as well as public services has been saved ?	Yes	No
	99(98%)	2(2%)

Problems before the project

What kind of traffic problems did you have before the improvement of this road? (Multiple Answers)	Deterioration of road / bridge	Long transit time	Others
	92	38	4

Improvements on the above problems

Were those problems resolved or improved after the rehabilitation?	Yes	No	N/A
	90(89%)	7(7%)	4(4%)

Vitalization of agriculture

Do you think the improvement of this road contributed to promoting agricultural activities in this area ?	Yes	No	N/A
	95 (94%)	3 (3%)	3 (3%)

How did the improvement of road contribute to agricultural activities? (Multiple Answers)	Transportation time saved	Access to market improved	Crops damaged in transit decreased
	48	40	29

Improvement in living standard

Has the access to markets or public services become easier after 2005 owing to the improvement of the road?	Yes	No
	90 (89%)	11 (11%)

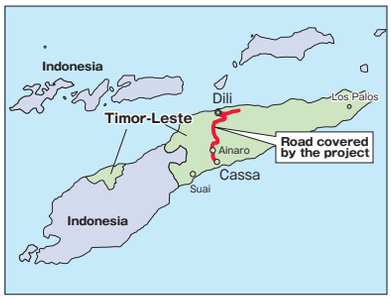
To which place has it become easier to get access? Please choose all that correspond. (Multiple Answers)	Market	Church	Education Services
	101	44	35
	Shops	Health Services	Others
	35	19	5

Have you experienced any changes in your income due to the improvement of the access to market or public services?	Yes	No
	87 (86%)	14 (14%)

(To the 87 respondents who answered "yes" to the above question) How has your income changed after the rehabilitation of road & bridge?	Increased	Decreased	N/A
	61 (70%)	14 (16%)	12 (14%)

[Source] Beneficiary survey

and budgetary shortages, damages were observed on some sections of the road covered by this project, including cracking and defects. Some sections were confirmed as not being in a sufficiently maintained state. In other cases, damage affecting road safety was confirmed. Major problems have been observed in terms of the structure, technology, and financial situation in the maintenance of this project; therefore, the sustainability of the project's effects is low.



Key Point of Evaluation: Increased Sustainability through Coordination with Technical Cooperation Project

This evaluation raised some concerns over sustainability. However, road maintenance is expected to improve through the JICA technical cooperation project for the MOI, "The Project for the Capacity Development of Road Works in Timor-Leste", which started in June 2010.

Prior to this project, the "The Project for the Capacity Building of Road Maintenance" was implemented from 2006 to 2008. The project developed a road maintenance database and several manuals for the DRBFC. It also developed an equipment registry within the Public Institute of Equipment Management (IGE) of the MOI, and technical assistance was provided on the use of the manuals. However, the project outcomes have not been sufficiently utilized due to organizational and individual capacity shortages and personnel shortages. Therefore, the sustainability of this Grant Aid project was evaluated to be low.

In view of the importance of sustaining these outcomes, the Technical Cooperation project currently being implemented aims to provide technical guidance on construction and maintenance as well as improve the management of the overall road maintenance process through the OJT.

Timor-Leste is a new country that gained independence in 2002. Its governance system is insufficient, and the country continues to struggle with developing human resources who will play critical roles in the society. In Timor-Leste, therefore, this aid framework of grant aid combined with capacity building through technical cooperation has been appropriate.

Conclusion, Lessons Learned and Recommendations

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

A lesson learned is, for projects in countries with weak governance such as Timor-Leste, the items reviewed during project formulation need to include giving advice on methods of maintaining relevant data, along with project implementation. Furthermore, when considering the project plan, care needs to be given to ensure that it takes into consideration the balance between project cost and effects that can be realized over the medium- to long-term, based on a more careful detailed study of conditions in the field and on ascertaining the maintenance capabilities of the implementing agency on which project sustainability depends.

Regarding recommendations to the implementing agency, it is noted that road damage resulting from installation of water pipes and conditions in which excessive driving speeds impeded traffic safety were confirmed. For this reason, it is recommended that future planning is conducted which will help maintain the roads and bridges comprehensively in the future. The DRBFC should play a central role in such planning, in cooperation with the Department of Water and Sanitation (a part of the MOI in charge of water and sewer pipes), the police (in charge of traffic controls), and other agencies.

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html

Lower Agusan Development Project (Irrigation Component)

Asia
Philippines

Through joint evaluation, executing agency proposes improvement plan

External Evaluator: Haruko Awano, IC Net Limited*

Outline of the Project

- Loan amount / Disbursed amount: 4,040 million yen / 3,899 million yen
- Loan agreement: August 1995
- 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: National Irrigation Administration (NIA)

Project Objectives

Overall Goal: To contribute to regional economic development

↑

Project Purpose: To improve the living standard of farmers and increase rice production in the area

↑

Output: Construction of irrigation facilities covering 7,930 ha of farmland in the lower Agusan River basin

Irrigation pumping station on the East bank of Agusan River

Lateral canal and irrigation field

Effects of Project Implementation (Effectiveness, Impact)

The lower Agusan River basin is blessed with abundant rainfall and fertile plain, and has a big potential for agricultural development. However, due to the frequent flooding of the river, a development plan comprised of flood control and irrigation project components was proposed by the Philippines Government.

In the project area (of the irrigation component), rice production yield per 1 ha increased to 4.3t (actual) and exceeded the planned amount of 4t (dry season). According to a beneficiary survey, the proportion of respondents who said they had absolutely no water during the dry season also declined substantially from about 50% (before project) to 1.5% (after project), with half responding they had sufficient amount of water. Meanwhile, an average of 25% (rainy season) and 31% (dry season) of the farmers increased their cultivated area for rice. With rice production now possible during the dry season, many of the farmers reported increases in annual farm incomes.

However, the actual irrigated and planted area was only 18% of the planned amount, or 1,440 ha, and therefore, the effects were limited. The Economic Internal Rate of Return (EIRR) was also low as 0.25%. The large reduction in planted area was due primarily to the conversion of the target area for housing and other purposes. Other reasons included facility malfunctions, lack of farmers' capital, and absence of landowners. The NIA has formulated an improvement plan to expand the planted area, and has begun repairs of malfunctioning facilities.

Therefore, the project has achieved its objectives at a limited level, and its effectiveness is low.

Relevance

Both at the time of appraisal and at the time of the ex-post evaluation, the Medium-Term Philippine Development Plans identified increasing rice production through irrigation facility improvements as an objective. However, at the time of appraisal, Butuan City had a Land Use Plan which envisaged converting one-fourth of the project area into residential and industrial areas. At the time of evaluation, urbanization had progressed and more of the farmland had converted into residential areas, etc. There were some inconsistencies between the project and the land development plan for the project area. Therefore, the relevance of the project is fair.

* This project was jointly evaluated with the National Economic and Development Agency (NEDA) of the Philippines Government.

Rating

Effectiveness, Impact	c	Overall Rating D
Relevance	b	
Efficiency	c	
Sustainability	c	

Rice Yield (per 1 ha)

Area	Change	Rainy Season Average				Dry Season Average			
		% of Respondents	Before Project (kg)	After Project (kg)	After/ Before(%)	% of Respondents	Before Project (kg)	After Project (kg)	After/ Before(%)
West	Increase	82	3,556	4,452	125%	68	1,585	3,657	231%
	Decrease	15	3,814	2,993	78%	19	2,380	1,220	51%
	No Change	3	4,430		–	13	3,909		–
East	Increase	76	3,821	4,843	127%	89	1,491	4,392	295%
	Decrease	15	2,011	1,950	97%	0	–	–	–
	No Change	9	3,124		–	11	2,410		–

[Source] Beneficiary survey

Efficiency

Project cost slightly exceeded the plan (107% of plan), while project period significantly exceeded the plan (160% of plan). Efficiency is therefore low. Major factors behind the project extension included delays in land acquisition, inclement weather, and changes in the design of irrigation canals, etc.

Sustainability

There were no problems with either NIA's organizational structure or its technical capacity. However, the maintenance capacity of the Irrigation Associations (IAs) which maintain the terminal facilities is low, and the turnover of maintenance responsibilities for the laterals to the IAs has not progressed. In addition, the cost of power for pumping irrigation is high and water use revenue is limited due to reductions in the irrigated and planted area. Thus, NIA relies heavily on government subsidy (roughly 70%) and significant challenges face the financial sustainability of the project. Therefore, the sustainability of the project's effects is low.

Key Point of Evaluation: Formulation of Action Plan through Joint Evaluation

This ex-post evaluation was jointly undertaken with the National Economic and Development Authority (NEDA) of the Philippines. NEDA is the social and economic development planning and policy coordinating body, and for the joint evaluation, was responsible for the evaluation of the project's relevance and efficiency. It contributed to information collection and analyses, and in extracting recommendations and lessons learned, it gave proactive feedback to the executing agency (NIA) based on the country's situation. In addition, while this project was faced with sustainability issues, the NIA has made efforts to make improvements as well. Specifically, with the cooperation of local engineers involved in this evaluation, the NIA first reviewed the situation and issues faced by each district, and explored measures for the areas needing facility repairs. It also re-established the target irrigated area. Thus, it formulated an action plan including a financial sustainability achievement plan, and aims to conduct project follow-up and ensure sustainability.

Discussing evaluation results with NIA and NEDA

Conclusion, Lessons Learned and Recommendations

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

The effect and impact of the project was significantly reduced due to the conversion of the irrigation project area into areas for other purposes. As a lesson learned, the project area should be critically reviewed and determined with the participation of the recipient local governments, referring to their land use development plans, etc. Regarding the planted area, a realistic plan should be formulated and appraised in light of external risks. With regard to maintenance, the financial sustainability of the executing agency and its dependence on government subsidy should be considered. In particular, the impact of the high power cost for pump irrigation on maintenance needs to be taken into account.

Also, in order to ensure the commitment of beneficiary residents and design projects which reflect the local situation, local governments and beneficiary residents should be actively involved from the design stages of projects through pre-project discussions, etc.

Recommendations to the executing agency include conducting facility repairs in accordance with the irrigation improvement plan, and implementing training sessions to increase the capacity of the IAs. It is also advised that the NIA coordinates with financial institutions and the Department of Agriculture to facilitate loan provisions and agriculture extension services to farmers.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Integrated Reforestation Project

Middle East
Tunisia

Contributing to improve natural environment through an "integrated approach" combining reforestation and regional development activities

External Evaluator: Akemi Serizawa, Sanshu Engineering Consultant

Outline of the Project

- Loan amount / Disbursed amount: 4,080 million yen / 3,999 million yen
- Loan agreement: March 2000
- Terms and conditions: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied
- Final disbursement date: July 2007
- Executing agency: Directorate General of Forestry (DGF), Ministry of Agriculture and Hydraulic Resources

Project Objectives

Overall Goal: To contribute to improvement of Tunisia's natural environment

↑

Project Purpose: To prevent soil erosion, increase forest area, and improve living conditions of the target communities

↑

Output: Implementation of reforestation and regional development activities in four regions of northwestern Tunisia

Forests rehabilitated by the project (Béja)

Forest road constructed by the project

Effects of Project Implementation (Effectiveness, Impact)

In Tunisia, the national forest area decreased by approximately 70% from the early 20th century to the mid-1950s due to over logging during the period of colonization, among other reasons. While the forest area had recovered through reforestation, further efforts have been urged in order to prevent soil erosion and conserve the natural environment.

Under this project, 5,915 ha of land were reforested, surpassing the planned 3,300 ha. This contributed to increasing Tunisia's national forest area (959,000 ha/2000 to 1,304,000 ha/2009) as well as national forest coverage (9.2%/2000 to 13.0%/2009). Furthermore, it is estimated that the project prevented 57,000 m^3 of soil erosion per year on the 5,566 ha of land where water and soil conservation facilities were built. In addition, the regional development component is confirmed to have reduced the extent of human pressure on forest resources (see "Key Point of Evaluation" on p.43). The executing agency's data also indicate a decline in illegal logging in the project area. This project has largely achieved its objectives, therefore its effectiveness is high.

Relevance

The First and Second Forestry Strategy of Tunisia identified increase of forest area and socioeconomic development of the forest zones as their objectives. Furthermore, at the time of appraisal, the country had not achieved the objective set forth in its National Plan of Reforestation, Anti-Desertification and Soil Conservation to increase national forest cover to 15% by 2000, and further efforts were urged to increase forest area. This project is also consistent with Japan's ODA policy at the time of appraisal, which identified rural development as a priority area. Therefore, its relevance is high.

Efficiency

Although the project cost was lower than planned (93% of plan), the project period was slightly longer than planned (104% of plan); therefore, the efficiency of the project is fair.

Rating

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

Contribution of the Project to Tunisia's National Plan of Reforestation, Anti-Desertification and Soil Conservation

	Target of the national plan by 2000	Original target of this project (by Dec 2005)		Achievement of this project (July 2007)	
			Share		Share
1) Soil conservation	3,000,000 ha	5,805 ha	0.19%	6,306 ha	0.21%
Soil conservation work	——	5,150 ha	——	5,566 ha	——
Plantation of semi-forests (sylvo-pastoral)	——	655 ha	——	740 ha	——
2) Forest coverage (15% by 2000)	Additional 635,000 ha	3,300 ha	0.52%	5,915 ha	0.93%
Plantation	——	1,300 ha	——	3,359 ha	——
Plantation on Wadi banks	——	550 ha	——	807 ha	——
Plantation around dams	——	1,450 ha	——	1,749 ha	——

[Source] Appraisal document, project completion report

Sustainability

The DGF of the Ministry of Agriculture and Hydraulic Resources and the Forestry Departments of the Regional Commissaries for Agriculture Development (CRDA) conduct the operation and maintenance of this project. A follow-on ODA loan project and other similar projects are managed under the same structure. That the forests and infrastructure rehabilitated or constructed by this project are well maintained, speak to the fact that the technical capacity and the operation and maintenance budget of the DGF and CRDAs are appropriate. The sustainability of this project's effects is therefore high.

Observation tower constructed by the project

Key Point of Evaluation: An "Integrated Approach" towards Sustainable Forest Management and Improved Livelihood of Residents

In Tunisia, dry climate as well as the excessive exploitation of forest resources (e.g., plants, firewood) by the relatively poor populations living in the forest zones has been one of the causes of deforestation. Since the 1990s, the "integrated approach" of conducting reforestation activities and socioeconomic development activities simultaneously, has been standardized in the country. The approach was introduced with World Bank assistance after the 1990s, with a view to diversifying the source of income of residents through the socioeconomic development of forest zones and to reduce the pressure on the natural environment. This project, too, has supported the establishment of 13 Agriculture Development Groups and created Community Development Plans through a participatory process involving the residents. The plans included small projects which reflected the needs of the residents, and some were implemented under the socioeconomic development component of this project.

According to a beneficiary survey administered in the two governorates of Béja and Le Kef (respondents: 80 residents and 22 CRDA personnel), some responded that while there are residents who continue to illegally exploit forest resources for sales purposes, illegal logging in the project area has decreased because of this project. This was due to the diversification of income source, the introduction of energy saving cooking stoves, and improvements in legal compliance and environmental awareness. All residents responded that their living conditions improved. Specifically, roughly 80% noted increases in incomes through livestock breeding, beekeeping, vegetable farming and fruit growing, among other activities, with another 80% noting improvement of access due to development of forest roads. All residents who started income generation activities (90%) indicated in the survey that they still continue the activities. Thus, it is clear this project contributed to improving the living conditions of the residents in the project area.

Conclusion, Lessons Learned and Recommendations

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

The socioeconomic development components of this project included activities that were beyond the mandate of the DGF and the forestry departments of the CRDAs. Therefore, it was necessary to coordinate with other sections of the Ministry of Agriculture and CRDAs, as well as other governmental and local authorities and aid agencies. In projects such as this which adopt an "integrated approach", some activities may extend beyond the functions of the executing agency. Therefore, awareness and arrangements need to be developed within the executing agency for coordinating with other organizations.

In addition, in order to pass down the know-how of community activities and maintain the motivation of facilitators, the executing agency is advised to regularize the position of facilitators by the national budget if possible, who will be tasked with organizing forest users and promoting their socio-economic livelihood.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Establishment of Extension System for Artisan Fisheries in Morocco

Middle East
Morocco

Contributing to conservation of fishery resources through a new extension system

External Evaluator: Hajime Onishi, Mitsubishi UFJ Research & Consulting

Outline of the Project

- Total cost (Japanese side): 597.48 million yen
- Period of cooperation: June 2001 to May 2006
- Partner country's implementing organization: Ministry of Fisheries (Ministère de l'Agriculture et de la Pêche Maritime, MPM)
- The number of experts dispatched: 8 experts (long-term); 11 experts (short-term)
- The number of technical training participants: 15 participants
- Main equipment provided: Extension activities-related equipment, Audio & Visual aids, etc.

Project Objectives

Overall Goal: To improve the socio-economic conditions of artisanal fisherpersons along with conservation of marine resources

↑

Project Purpose: To develop and establish efficient extension system in fishing villages

↑

Outputs:
- Practices and situation of artisanal fisheries are understood
- Extension programs on relevant themes for fisherpersons are developed
- Curriculum and teaching materials are developed and technical capacity of Extension Coordinators (V/Cs) is improved
- Extension activities are carried out effectively on selected sites
- Monitoring, evaluation and feedback mechanism is established

Effects of Project Implementation (Effectiveness, Impact)

At the time of project planning, the Government of Morocco identified that the correction of income disparity among regions and the conservation of fishery resources were priority policy issues, and intended to promote the development of fishery-related skills of approximately 48,000 artisanal fisherpersons. However, no specific or systemic extension project had been started.

In this project, nearly all the planned outputs for the development and establishment of the extension system were achieved. Specifically, the confirmed outputs included: (1) the selection of extension themes for which fisherpersons had strong needs through a precise baseline survey; (2) the creation and use of the curriculum, teaching materials for the training of the Extension Coordinators (V/Cs) and fisherpersons, and visual aids for the mobile class on each theme; and (3) the increase in number of mobile classes held (2001: 76 times, 2004: 187 times, 2005: 299 times, 2006: 224 times). Each output greatly contributed to the development of the extension system. In addition, a budget dedicated to the National Fisheries Extension Center (CNVM) was appropriated starting from 2006, and financial support was available for the realization of extension activities. While the project had no significant impact on the incomes of fisherpersons, the establishment of fishery cooperatives contributed to improving the business environment and the project generated many positive impacts, including the achievement of the overall goal (see table on p.45). This project has thus largely achieved its objectives; therefore, its effectiveness is high.

Artisanal fisherpersons and Extension Coordinator

Relevance

Both at the time of planning and at the time of project completion, the project was highly consistent with the national development plan of Morocco as well as the development strategies for the fisheries sector, which set out education of artisanal fisherpersons. The project is also highly consistent with Japan's ODA policy for Morocco. Furthermore, the need for improvement of artisanal fisherpersons' fishing-related skills through extension activities was still significant. Therefore relevance of this project is high.

Efficiency

The amount of inputs of the Japanese side was close to the plan. The Moroccan side contributed a larger number of Extension Coordinators (V/Cs) and extension workers (Vs) than initially planned, and greatly contributed to the achievement of the project objective. Additionally, there was no problem with the project cost and period of cooperation. The inputs were appropriate, therefore, efficiency of the project is high.

Rating

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

Acquisition of Knowledge by Artisanal Fisherpersons

Views of Artisanal Fisherpersons on the Effects of Extension Programs on Fishing Activities

Responses	No. of Respondents	%
Extension programs have contributed to our fishing activities	75	68.2
Extension programs have not contributed to our fishing activities	4	3.6
No answers / No opinions	31	28.2
Total	110	100.0

Detailed Contribution to Fishing Activities

(Question to those who answered some contributions in the table above)

Responses	No. of Respondents	%
Learning of maintenance skills of outboard engines	67	89.3
Understanding of importance of maritime safety	64	85.3
Better understanding of fishing techniques and management	62	82.7
Better knowledge of hygiene	42	56.0
Learning of GPS usage	30	40.0

* Note: Multiple answers

Implication of Cooperative Activities on Artisanal Fisherpersons

Views of Artisanal Fisherpersons on the Impact by the Establishment of Cooperatives

Responses	No. of Respondents	%
The establishment of cooperatives has affected the fishing activities	83	75.5
The establishment of cooperatives has not affected the fishing activities	4	3.6
No answers / No opinions	23	20.9
Total	110	100.0

Detailed Impacts by the Establishment of Cooperatives

(Question to those who answered some impacts in the above table)

Responses	No. of Respondents	%
Being able to receive more financial support than before	32	38.6
Being able to receive more technical support (incl. maintenance support) than before	23	27.7
Being able to use more equipment (boat, outboard engines, fishing instruments, etc.) than before	31	37.3
Being able to share fishing knowledge and techniques	37	44.6
Being able to sell the fish more expensive than before	14	16.9

* Note: Multiple answers

[Source] Results of beneficiary survey

Sustainability

Although there are some issues regarding the recruitment of personnel to replace V/Cs and additional training for newcomers, a certain number of extension activities are confirmed to have been carried out from the time of project completion to date. Also, no major problems are observed with the operation and maintenance arrangements of the implementing organinzation. Regarding financial aspects, further budgetary measures are necessary, and therefore, slight concern remains over sustainability. Therefore, the sustainability of the project is fair.

Larache National Extension Center

Key Point of Evaluation: Importance of Understanding Local Needs

From the interviews of the V/Cs and Vs of this project and the results of the beneficiary survey, it was concluded that the extension themes selected for this project, such as cooperatives formulation and maritime safety, were in line with the needs of the local community. By selecting themes which coincide with community needs, community interest in extension activities increased. The high level of satisfaction towards the extension activities was also apparent from the survey results. In addition, there was a high degree of understanding about the extension activities. Thus, the implementation of extension activities on themes that match the needs contributes to increasing not only satisfaction, but also interest and degree of understanding.

There was a strong understanding of the local needs because a baseline survey was conducted not only at the start of the project, but also at the mid-term phase. Furthermore, the content of the survey and the process were relevant, and the survey results were utilized in selecting the themes. Ultimately, this contributed to the project's success.

Conclusion, Lessons Learned and Recommendations

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

In this project, the high quality of the baseline survey (the accuracy in understanding the needs of the beneficiaries) contributed to the selection of extension themes, and was one of the factors that led to the success of this project. When formulating and implementing similar projects containing extension activities in the future, it is advisable to allocate enough time for the baseline survey to understand the needs of the beneficiaries, and to confirm the accuracy of the baseline survey in the mid-term evaluation. If any problem is found, an additional survey should be conducted. Furthermore, in this project, the preliminary survey on the activities of female artisanal fisherpersons was not enough, and as a result, it was extremely difficult to carry out activities targeting women. When implementing similar projects in Muslim regions, in particular, it is essential to precisely understand the cultural and social background of the recipient country.

As for recommendations, the executing agency is advised to explore the following, among others: (1) reducing the number of extension target sites aimed at carrying out extension activities by utilizing the existing resources more efficiently and effectively; (2) paying an allowance to V/Cs and Vs in order to maintain their motivation; and (3) so that artisanal fisherpersons can enjoy the tax exemption on fuel, expediting the tax exemption application process or swiftly coordinating with customs with a view to facilitating the introduction of tax exemption.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

The project for Improvement of Josina Machel Hospital

Africa
Angola

Contributing to the improvement in health services as part of post-war reconstruction assistance

External Evaluator: Yasuhiro Hiruma, International Techno Center Co., Ltd.

Outline of the Project

- Grant limit / Actual grant amount:
  (I) 1,136 million yen / 1,095.3 million yen
  (II) 2,847 million yen / 2,803.99 million yen
- Exchange of notes date:
  (I) July 2002; (II) May 2003
- Project completion date: August 2005
- Implementing agency: Ministry of Health

Project Objectives

Overall Goal: To improve the quantity and quality of health services throughout Angola

↑

Project Purpose: To restore its role as the top referral hospital

↑

Output: The reconstruction/repair of Josina Machel Hospital in Luanda Province, the largest national general hospital in Angola, and improvement of medical equipment

Josina Machel Hospital

Effects of Project Implementation (Effectiveness, Impact)

In Angola, an unstable situation continued for over 20 years due to the civil war which lasted until 2002. The health sector, was in disarray as well. The lack of proper maintenance resulted in the dilapidation of health facilities and equipment. Medical supplies were in short supply, and the referral system of health facilities were barely functioning.

The situation was as serious for the Josina Machel Hospital, identified as one of the central health facilities in Angola. However, through this project, health facilities and equipment were built or repaired, and both the quantity and quality of health services improved. The creation of a consultation room for each clinical department reduced the waiting time of patients. The renewal of examination, diagnosis and other equipment, as well as improvements in patient flows in the hospital, have realized higher quality and efficient examinations and treatment, and promoted the use of the hospital. As a result, in 2010, the number of beds in the wards increased by 34%, the number of laboratory tests increased by 378%, and the number of surgical operations increased by 59% compared with 2002. In addition, the implementation of technical training as part of the Soft Component has made the hospital staff more aware of equipment maintenance and management. Thus, this project has achieved its objectives; therefore, its effectiveness is high.

Relevance

Improvement of the core hospitals was considered the highest priority issue in the Five-Year Health Development Plan (2000 - 2004) of the Government of Angola, and improvement of the core hospitals was also given priority in current health policies. Japan and Angola have agreed on cooperation in the health sector as part of reconstruction assistance; therefore, the relevance of this project is high.

Efficiency

Under this project, facilities were newly built or repaired, including the hospital's outpatient and laboratory departments, and medical equipment were procured, including equipment for the operating room and X-ray. While the project cost was lower than planned (97%), the project period extended by one month due to delays in customs clearance of imported materials, shutdown of cement plant operations, among other reasons. Therefore, the efficiency of the project is fair.

Rating

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

Major Operation Indicator

Indicator	Baseline (At the planning stage: 2002)	Actual (2010)
(1) Number of beds in the wards	400	534
(2) Bed occupancy rate	79.1%	86.7%
(3) Number of referred patients	2,854	6,990 (2007 actual figure)
(4) Number of laboratory tests	41,637	157,527
(5) Number of surgical operations	10,341	16,448

[Source] Implementing agency

Outpatients

Eye examination equipment provided by the project

Sustainability

At the time of evaluation, no major problems are observed with the maintenance of the facilities and equipment, and the sustainability of the project is high. However, there are concerns over the future sustainability of the outsourced maintenance system. In addition, since only limited types of spare parts are available in the domestic market, it will be necessary for the government to take the lead in efforts to explore new procurement routes. Meanwhile, the outcomes of the technical training provided to staff under the Soft Component may not be come out in the short term. Therefore, continuous implementation of similar training by the hospital is required. Thus, the maintenance system and technology component of this project have minor problems. Therefore, the sustainability of the project's effects is fair.

Key Point of Evaluation: Project Also Contributes to Development of Health Workers

This project was the first full-fledged reconstruction assistance project which Japan conducted after the end of the civil war in 2002 in Angola, where the civil war since 1975 took a heavy toll on the country's socio-economic systems. In 1996 a grant aid was provided to repair the facilities of the Josina Machel Hospital, and this project was a more extensive follow-on project of the grant aid. Specifically, the objective was to restore the functions of the hospital and develop a central health facility by conducting a full-scale renovation and repair of the hospital and procuring equipment after more than 20 years in which maintenance was not properly undertaken.

From 2007, a JICA technical cooperation project, "Training for capacity building at Josina Machel Hospital", was initiated to increase the capacity of staff from the hospital and health centers nearby, in making further enhancements to the Soft Component of this project. Roughly 750 people were trained over three years on four courses, such as "nursing" and "hospital management". Several nurses who received training in maintenance and daily handling of medical equipment responded that they now "pay more attention to the handling of equipment than before". Such technical training for health workers not only increases the sustainability of this project, but also contributes to the "development of health workers" set forth in the Strategic Plan (2010-2011) of the Ministry of Health.

Conclusion, Lessons Learned and Recommendations

In light of the above, despite the slight problems found in efficiency and sustainability, this project as a whole is evaluated to be satisfactory.

Regarding lessons learned, it was confirmed that technical training focusing on facility and equipment maintenance (Soft Component of this project) is an effective way to ensure long-term use of equipment in countries like Angola, where there are few opportunities for technical education. When designing the Soft Component, it is necessary to consider the conditions of the country, including situations related to use, maintenance and operation of facilities and equipment, and the minimum technical standards required for the achievement of high project effect.

Regarding recommendations, in order to strengthen the maintenance arrangements of the hospital, the implementing agency is advised to prepare equipment procurement plans in five-year and ten-year terms. Furthermore, it is recommended that the Ministry of Health and the hospital take the lead in exploring ways to procure supplies and spare parts which are not readily available in the Angolan market directly from the manufacturers or agents in neighboring countries, until the Angolan market has developed.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Northern Main Road Construction Project

Africa
Swaziland

Contributing to the promotion of trade and economic development of northern districts through building of roads

External Evaluator: Yasuhiro Kawabata, Sanshu Engineering Consultant

Outline of the Project

- Loan amount / Disbursed amount: 4,412 million yen / 4,412 million yen
- Loan agreement: January 2001
- Terms and conditions: 2.2% interest rate; 30-year repayment period (including a 10-year grace period); general untied
  [Consulting service portion: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied]
- Final disbursement date: May 2007
- Executing agency: Ministry of Public Works and Transport (MOPWT)

Project Objectives

Overall Goal: To contribute to the economic development of Swaziland's northern districts

↑

Project Purpose: To promote trade mainly of agricultural products with peripheral countries

↑

Output: Pavement of roads and replacement of bridges for MR5 (Mliba – Tshaneni) and MR6 (Madlangampisi – Msahweni) among arterial roads in the Swaziland's northern region

MR5/MR6 branching point (Madlangampisi): Before the project

Same location: After the project

Effects of Project Implementation (Effectiveness, Impact)

In Swaziland, the development of its economy is limited through domestic demand expansion alone. Priority was thus given to improving its access to neighboring countries and enhancing trade. In particular, it was a challenge to improve access to the Maputo Corridor (a road connecting Pretoria, the capital of South Africa with Maputo, the capital of Mozambique), which is the largest corridor in the neighboring regions, and improvement of arterial roads in Swaziland's northern area was needed.

Compared with the base year (2000), traffic volume after the project's completion (as of 2009) increased roughly 2.7 times on MR5 and roughly 3 times on MR6. In addition, after the project's completion, travel time on both roads (traveling the entire stretch) was reduced by about one-half (see table on p.49). Furthermore, from a beneficiary survey administered in the project area, it was confirmed that the improvement of the existing road from dirt road to paved road contributed to promoting the smooth distribution of goods and improving transport capacity, which in turn is contributing to the economic development of the region (see "Key Point of Evaluation" on p.49). This project has largely achieved its objectives; therefore, its effectiveness is high.

Relevance

At the time of appraisal, Swaziland's National Development Plan identified improvement of arterial roads as one of the priority areas. At the time of evaluation, improvement of arterial roads was still given priority. This project has been highly relevant with the Swaziland's development plan and needs, as well as Japan's ODA policies; therefore, its relevance is high.

Efficiency

Both the project cost (181% of plan) and project period (158% of plan) significantly exceeded the plan; therefore, the efficiency of the project is low. The main reasons for cost increase included a significant rise in commodity prices. In addition, this project did not only conduct simple improvement and pavement work of existing roads. It was similar to

Rating

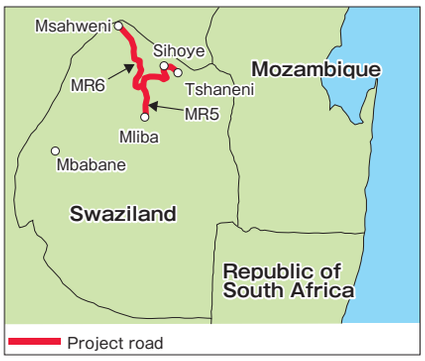
Effectiveness, Impact	a	Overall Rating B
Relevance	a	
Efficiency	c	
Sustainability	a	

Trends in Average Daily Traffic and Travel Time on MR5 and MR6

	Average Daily Traffic (unit: vehicle/day)*1				Travel Time (unit: minutes)*3	
	2000 (Base year)	2002	2004*2	2009 (2yrs after completion)	2000 (Base year)	2009 (2yrs after completion)
MR5	763	888	——	2,057	73	33
MR6	459	——	582	1,366	64	29

*1 A counting station for MR5 is near Sihoye, and that for MR6 is almost the halfway point of the project road section.
*2 Traffic counting was not implemented during the construction work period (2004 - 2007).
*3 MR5: Average running speed (passenger vehicle) between Mliba and Tshaneni (55km) before the project was assumed at 45 km/hour, while after the project assumed at 100 km/hour.
MR6: Same criteria applies to section between Madlangampisi and Msahweni (48km).
[Source] Documents provided by MOPWT

constructing new roads (including additional land acquisition), resulting in substantial increase in construction volume. The main reasons for the project period delay included the fact that the selection of a consultant and contractors as well as the preparation of civil works bidding documents took longer than expected.



Sustainability

Operation and maintenance is conducted through assignments of appropriate staff. However, insufficient manuals were prepared for routine maintenance work, and the budget for maintenance was not necessarily sufficient. Nevertheless, the road surface of both roads is well maintained and no major problems have been observed in the operation and maintenance system and capacity; therefore, the sustainability of the project is high.

Key Point of Evaluation: Increases in Agricultural Exports

Improvements made to MR5 and MR6 which connect to the Maputo Corridor contributed to increasing agricultural exports, including exports of the main products of Swaziland's northern area - sugar and citrus, and to promoting trade with the Southern African Development Community (SADC). For instance, while sugar exports to South Africa temporarily declined, exports have once again picked up since 2008. Today, exports to South Africa make up over 50% of total exports. Citrus exports, too, have been rising. Before the project, both Mozambique's Maputo port and South Africa's Durban port were the ports for exports. However, after the project completion, more products are transported to the Maputo port through MR5, and this project's contributions are highly commended. Major destinations for export are Europe, Russia, and the Middle East countries.

According to a beneficiary survey of 166 respondents in 7 villages along MR5 and MR6, 94% responded that the travel time was shortened. Meanwhile, 67% stated that the project facilitated transport of agricultural products to major cities, and 55% said it promoted the region's economic activities. Among the respondents who live along the project's corridor, 54% indicated that upon completion of the project their household income has increased. From these results, it was confirmed that the roads rehabilitated by this project promote trade and contribute to the economic development of the country (particularly the northern districts).

Conclusion, Lessons Learned and Recommendations

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

In this project, the inaccuracy of the topographic maps, which were the basis for the detailed designs, contributed to the substantial increase in the scale of the construction. As a lesson learned, for future similar projects, before starting the detail designs, the center line of the proposed alignment should be marked on the ground, and detailed supplemental topographic surveys should be carried out along the alignment, particularly in the sections where construction volume will be greatly affected.

In addition, the capacity building (institutional strengthening) of the executing agency was one of the project components, and training programs by foreign experts were included in the project. However, the majority of the programs were not implemented due to the staff's busy schedule with daily work. Proposals for implementing training programs more effectively should be reviewed in detail at the project preparation stage. It is recommended that for future similar projects, staff should undertake short- and mid-term training programs being offered in South Africa and the budget for training be included in the project cost.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

The project for Construction of Primary Schools in Dosso and Tahoua Regions

Africa
Niger

Contributing to the improvement of the learning environment through new or enhanced classrooms and education materials

External Evaluators: Satoru Takahashi and Shimako Narahara, IMG. Inc.

Outline of the Project

- Grant limit / Actual grant amount:
  (I) 705 million yen / 704.6 million yen
  (II) 326 million yen / 323.41 million yen
- Exchange of notes date: (I) June 2003; (II) June 2004
- Project completion date: (I) February 2005; (II) October 2005
- Implementing agency: Ministry of Basic Education and Literacy (now the Ministry of National Education)

Project Objectives

Overall Goal: To increase access to basic education

↑

Project Purpose: To provide 9,250 students with a comfortable learning environment

↑

Output: In Dosso and Tahoua Region*1 , construction and renovation of primary schools and provision of supplies, and awareness raising activities on facility maintenance and sanitation management

Traditional thatched classroom

Classroom building constructed by the project (Konni Department, Tahoua Region)

Effects of Project Implementation (Effectiveness, Impact)

Niger is one of the poorest countries in Sub-Saharan Africa, and net enrolment rate*2 in primary education was 34% in 2000 and was among the lowest in the world. Disparities in basic education between regions and gender were widespread. In order to support the initiatives of the Government of Niger, which has consistently identified improvements in educational environment as a means for increasing access to basic education, this project was implemented in the Dosso and Tahoua Regions where the education environment was particularly dire.

The number of students learning at the 52 primary schools (185 classrooms) constructed or renovated by this project is estimated to be slightly lower than 80% (about 7,250 students) of the project target (9,250). Under this project, non-durable thatched classrooms or aging classrooms were renovated, or new sturdy classrooms made of concrete and other materials were constructed. According to a sample survey of 19 schools, the average number of students per sturdy classroom, including existing classrooms constructed or renovated by the Government or other aid agencies, has decreased and the learning environment has improved. Furthermore, the relocation from the narrow thatched classrooms to bigger and sturdy classrooms has improved the teachers' classes and students' learning environment. Though thatched classrooms had to be rebuilt each year, this project reduced the economic burden borne by parents and guardians for the construction of such classrooms.

Meanwhile, the number of students in the classrooms built by this project is below capacity, especially in rural areas, and the classrooms are not fully utilized (see table on p.51). In addition, the latrine buildings constructed at the same time as the classrooms are not fully utilized. The number of girls enrolled in school, too, has not increased as was assumed at the time of project planning. Also, because JICA's Technical Cooperation project, "The Project on Support to the Improvement of School Management through Community Participation (School for All)" was implemented soon after this project, it was not possible to examine its direct contribution to increasing the School Management Committee's (COGES) facility maintenance and management capacity through this project's Soft Component.

*1 When the basic design of the project was conducted, the administrative units for Dosso and Tahoua were called "Departments". In 2002, Departments were renamed "Regions" based on the government's decentralization policy.
*2 The number of children of official primary school age who are enrolled in primary education as a percentage of the total children of official school age.

Rating

Effectiveness, Impact	b
Relevance	a
Efficiency	b
Sustainability	b

Overall Rating C

Location of and Number of Students per Classroom in 19 Sample Schools

Location*1	Number of Schools	Number of Students per Project Classroom*2
Urban	8	44.9
Rural	11	33.5

*1 In this evaluation, "rural area" refers to an area where population is small and migration into the community hardly occurs. "Urban area" refers to an area that experiences an inflow and growth in population. Both are irrespective of the distances to cities and major roads.
*2 In this project, the target number of students per classroom was 50.
[Source] Ex-post Evaluation Study

Relevance

The Government of Niger sets out in the Ten-Year Education Development Program 2002 - 2012 (Programme Décennal de Développement de l'Education de Niger: PDDE) that improving and increasing enrollment in basic education is a priority issue. The need for constructing classrooms was high in the project area. Assistance to improve the learning environment was also consistent with Japan's ODA policy. Therefore, the relevance of this project is high.

Efficiency

The project cost was generally as planned (99.7% of planned cost). However, the project period was slightly longer than the plan (105% of planned period), and therefore, the efficiency of the project is fair. In addition, the lack of durability (quality and design) of the furniture was a problem at many schools (e.g., screws fall off from student desks and chairs, the plywood surface of the desks peels off).

Sustainability

The durability and quality of the facilities are high, and to date neither sophisticated technologies nor large-scale funding has been necessary for maintenance, although the need for small repairs was confirmed. However, COGES, the body responsible for the maintenance of school facilities, still lacks sufficient capacity to raise funds for operation and maintenance and utilizing those funds. Therefore, the sustainability of the project is fair.

Key Point of Evaluation: From Thatched Classrooms to Durable Classrooms

This project aimed to reduce thatched classrooms as they were vulnerable to bad weather and dust and therefore tended to have an adverse impact on students' health and ability to concentrate on their studies. The newly constructed sturdy classrooms were expected to provide favorable learning environment for students.

From the interviews of teachers and parents/guardians that were conducted for the ex-post evaluation, it was confirmed that the construction of sturdy classrooms had reduced the problems caused by thatched classrooms in a variety of ways. (1) The construction period for thatched classrooms coincides with the harvest season for straw (September - October), and construction often did not finish by the start of the new school term in October. Thus, the construction of sturdy classrooms has enabled classes of the new term to start as scheduled. (2) The growth of vegetation during the rainy season had covered up and led to the collapse of the thatched classrooms. (3) At primary schools which only used to have thatched classrooms, the construction of school buildings has made parents and guardians more conscious about school education. (4) Parents and guardians have increased motivation to enroll and keep their children in school. (5) Both teachers and students are able to concentrate more on the class work. Many of the interviewed noted that the annual fees and offer of service for thatched classroom construction were eliminated or reduced.

Classroom constructed by the project
(Birni Quartier primary school, Dosso Region)

Conclusion, Lessons Learned and Recommendations

In light of the above, the overall rating of the project is fairly satisfactory.

While this project contributed to improving the learning environment, urban schools continue to face a shortage of classrooms. On the other hand, the number of students is low in rural areas and the newly constructed classrooms have not been utilized. It is thus advised that school construction projects adopt a construction plan that further takes into account the population dynamics of the target community. With regards to student desks and chairs, a lessoned learned is to consider their durability in selecting materials and working out an appropriate design.

At the time of planning, this project assumed that the establishment of latrine buildings would promote the enrollment of girl students. However, their construction alone is unlikely to promote girls' enrollment, and careful thought needs to be given for future similar projects.

As for recommendations, it is advised that the implementing agency appropriately stores basic data related to school management (e.g., number of students, number of students who passed the final exam).

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html

The Project on Aquaculture Research and Technical Development of Malawian Indigenous Species

Africa
Malawi

Contributing to productivity improvements through development of fish-farming techniques

External Evaluator: Hajime Onishi, Mitsubishi UFJ Research & Consulting

Outline of the Project

- Total cost (Japanese side): 892.54 million yen
- Period of cooperation: April 1999 to May 2006 (of which May 2004 to May 2006 is extended period)
- Implementing agencies: Department of Fisheries, Ministry of Natural Resources and Environmental Affairs (currently under the Ministry of Agriculture)
- The number of experts dispatched: 14 experts (long-term); 13 experts (short-term)
- The number of technical training participants: 22 participants
- Main equipment provided: Equipment for seed production facilities, vehicle, equipment for on-farm research, etc.

Project Objectives

Overall Goal: To establish appropriate fish-farming techniques in Malawi

Project Purpose:
1. To establish four seed production techniques for new aquaculture species (Mpasa, Ntchila, Nin-gui, and Thamba)
2. To establish appropriate fish-farming techniques for existing species (Tilapia and Clariid catfish)

Outputs:
1.1 Reproductive ecology and spawning habits of new species are clarified
1.2 Brood stock rearing techniques of new species are established
1.3 Induced spawning and larvae rearing techniques for new species are established
2.1 Appropriate species and farming methods for variable physical, technical and socio-economic conditions are clarified
2.2 Constant seed production of the Clariid catfish is achieved
2.3 Techniques developed at the National Aquaculture Center (NAC) are verified at selected fish farms
2.4 Farmer's willingness and interest in fish-farming is promoted
3. Mechanism to continue activities initiated by the project is established

Effects of Project Implementation (Effectiveness, Impact)

Malawi, a landlocked country, has thriving inland fisheries, and Malawians get some 70% of their animal protein from aquatic resources. However, as a result of overfishing and drought, etc., fish catches in large lakes have declined, and ensuring new sources of nourishment by improving Malawi's production efficiency in freshwater fish-farming was a pressing issue.

Through this project, seed production techniques were established for two new aquaculture species. However, because more affordable production techniques which would have enabled their widespread use were not established, Project Purpose 1 was only partially achieved. Regarding Project Purpose 2, an increase in cultured fish production at selected fish farms was confirmed. In addition, during the extension period, in tandem with the dissemination of fish-farming techniques, technique development tests and on-farm research were continued at selected fish farms. "Raising farmer motivation" is the best proof that appropriate seed production techniques have been developed, and it can be said this objective was achieved. With regards to the achievement of the overall goal, no meaningful data were obtained, and it is difficult to judge whether the goal was achieved or not. Nevertheless, many positive impacts were confirmed through the beneficiary survey and interviews of local stakeholders (see table on p.53). The project has somewhat achieved its objectives; therefore, its effectiveness is fair.

Female group members (former select fish farmers)

Relevance

The fishery sector strategies of Malawi identify "promotion of investment in aquaculture in rural areas" and "development of new fisheries resources" as their priority issues. This project is thus consistent with the development policies of Malawi. In addition, the sharp reduction in fishery resources with high food value was acknowledged as a grave issue, and R&D needs exist to search for new sources of nourishment through the development of fish-farming. Therefore, the relevance of this project is high.

Rating

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

Qualitative Impact

Changes in the image of fish-farming	Contribution to the dawning of commercial fish-farming
As a result of the massive expansion of various NAC facilities, expectations rose for fish-farming among farmers in its vicinity. Particularly, it is believed that "the desire of small-holder farmers to participate in fish-farming was greatly motivated." Many people said their image of fish-farming changed dramatically from "fish-keeping" (merely keeping fish in ponds) to "fish production" (raising fingerlings to adult fish).	In Malawi, commercial fish-farming fully got underway in the second half of 2004 when Maldeco started a fish-farming business. Maldeco received supplies of fingerlings from the NAC for the first two years.
Improved livelihood for small-holder farmers	**Collaboration with and contribution to the FAO project**
Many people feel that, for small-scale farms that relied on growing maize and other subsistence farming, the "acquisition of new fish-farming techniques and the adoption of fish-farming have contributed tremendously to improving the livelihood of these farmers".	On the premise that it would be able to use the research output of the project related to the fish-farming techniques used for cultivating the Clariid catfish, the FAO implemented a new project. In 2009, some 250,000 Clariid catfish seedlings were produced.
	Indirect contribution to NGO activities
	In the vicinity of the NAC, NGOs from various countries are engaged in a host of assistance activities involving community development. The introduction of fish-farming is being tried as part of these activities. The NAC provides basic support to these NGOs by offering them fingerlings.

[Source] Interview of local stakeholders

Efficiency

The amount of inputs made by Japan was very close to plan. Although the cooperation cost was relevant, the cooperation period was extended by two years. While the period was extended to make sure the outputs were disseminated, the "dissemination of fish-farming techniques among selected farmers", which was given as the reason for the delay, was included in the initial action scope. Furthermore, some outputs were expected before the extension was made. In light of these facts, the efficient implementation of the project was met with some obstacles; therefore, efficiency is fair.

Sustainability

In light of the policies of the current government that emphasizes the fisheries sector, the budgets of the implementing agency and the NAC have increased substantially and the project's financial sustainability is expected to improve dramatically. Although on the technology front, no major problem has risen as of now, on the system front, the dissemination of fish-farming techniques has had problems regarding the division of roles between the NAC and the local authority (DFO) and resource shortages. Thus, systematic activities are not undertaken. Therefore, the sustainability is fair.

Key Point of Evaluation: Practical Technology Dissemination to Villages

This project also disseminated fish-farming techniques to villages and has achieved successful outcomes. From the results of the beneficiary survey, it was concluded that these activities contributed to increasing target farmers' interest and to increasing their participation in fish-farming. Through this evaluation, it is clear that this project also dramatically changed farmers' image of fish-farming. Farmers said before the project was implemented, the image they had of fish-farming was akin to "fish-keeping" (merely keeping fish in ponds), and to achieve the overall goal, their image of fish-farming had to change. After implementation, their image changed to "fish production" (raising fingerlings to adult fish). Even four years after the project's completion, many farmers interviewed for the beneficiary survey said they "learned the basics of fish-farming through this project".

Although the overall goal of this project was establishment of techniques, this evaluation confirmed that the project had an impact on transforming farmers' attitudes.

Aquaculture pond in Chingali

Conclusion, Lessons Learned and RecommendationsVillages

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

Regarding the important outputs of this project, their prompt dissemination to areas also outside of the project area is recommended. To this end, relevant stakeholders, including local governments, agricultural improvement disseminators, and the NAC, should work together to begin carrying out their dissemination activities in a systematic manner.

The two target groups of this project were initially: "small-holder fish farms" and "partly commercial fish farms". In 2004, however, in response to the change in policy of the Malawian Government, "partly commercial fish farms" were removed. This decision significantly influences the direction of the project. Therefore, at the time this decision was made, "partly commercial fish farms" should have been eliminated from the PDM target in a timely manner, and the revised objectives and activities should have been fully notified to those concerned, including the Malawian counterparts.

* All ex-post evaluation reports including this are available on the JICA website: http://www.jica.go.jp/english/operations/evaluation/index.html

Social Sector Development Project in the Sierra Area II (FONCODES II)

Latin America
Peru

Local residents participate in development of basic infrastructure

External Evaluator: Takeshi Yoshida, Global Group 21 Japan, Inc..

Outline of the Project

- Loan amount / Disbursed amount: 6,794 million yen / 6,758 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 portion: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); bilateral tied]
- Final disbursement date: July 2007
- Executing agency: Social Development and Cooperation Fund (FONCODES)

Project Objectives

Overall Goal: To improve the standard of living in the Sierra area and contribute to reducing poverty

↑

Project Purpose: To meet the basic human needs (BHNs) of local residents

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Output: Implementation of small-scale socioeconomic infrastructure subprojects (e.g., school buildings, health post, community centre) in a participatory manner in four regions in the Sierra area

Newly built elementary school classroom

Irrigation channel constructed by this project

Effects of Project Implementation (Effectiveness, Impact)

In the Sierra area covering some 30% of Peru, two-thirds of the households were classified as "poor", half of which were classified as "extremely poor" (as of 1995). The project area is the poorest, and the development of basic infrastructure was urgently required to improve the livelihood and production activities of the residents. Under this project, 1,726 sub-projects were implemented, including the construction or rehabilitation of school buildings and health posts, improvement of irrigation channels, roads and bridges, electrification, water supply, and establishment of latrines. A total of 1,634,000 people are believed to have benefited from the projects.

The sub-projects are used effectively, and have had some positive effects regarding the expansion and qualitative improvement of the basic infrastructure and/or services in the Sierra. The level of satisfaction of the beneficiaries is very high, with a combined 72% to 99% of respondents either "very satisfied" or "satisfied". Furthermore, following the completion of the irrigation sub-projects, the agricultural income of the residents has clearly increased. It is thus shown that certain impacts leading to improvement of the standard of living did manifest, reflecting the positive utilization of each sub-project. Based on the above, this project has largely achieved its objectives; therefore, its effectiveness is high.

Relevance

The second Fujimori administration (1996 - 2000) set out poverty reduction as a priority policy issue, and the FONCODES was the leading organization to achieve this policy initiative. The same administration has encouraged agriculture and the handicrafts industry in the Sierra area as part of its drive to eliminate poverty. The project was also in line with Japan's ODA policy; therefore, its relevance is high.

Efficiency

The project originally intended to implement 1,987 sub-projects in six sectors in four regions but in actuality implemented 1,726 sub-projects in nine sectors in nine regions. This was the result of selecting sub-projects which also contribute to the rehabilitation of areas devastated by an earthquake to the extent that project cost will be lower than planned. Meanwhile, the project period was extended due to insufficient counterpart funding by the Government of Peru to cover the domestic portion. Therefore, the efficiency of the project is fair.

レーティング

Effectiveness, Impact	a	総合評価 A
Relevance	a	
Efficiency	b	
Sustainability	a	

Impacts of Sub-projects (Sample Responses from Beneficiary Survey)

School Building	• The improvement of the educational environment has enhanced the appetite of pupils for learning. • More than 90% of the beneficiaries (parents) believe that the learning performance of their children has improved.
Health Post	• The medical service has improved, especially for pregnant women, mothers and children. For example, the frequency of illness declined (58%) and medical examination and diagnosis improved (22%). • 40% of the beneficiaries responded that the medical service has improved, but some expressed dissatisfaction with the lack of a fulltime doctor.
Irrigation Channel	• Productivity improved. Together with an increase of the market demand, the improved irrigation has expanded the cultivation of cash crops. As a result, income has increased for some 70% of the beneficiaries.
Road/ Bridge	• Convenience increased, in terms of the sale of products to the market and for the movement of livestock. Commercial activities using vehicles have become possible. 93% of the respondents said that the convenience of daily life increased. 27% said that they have had an economic benefit in terms of sales at the market.
Rural Electrification	• The supply of electricity has been found to be very useful for learning by children (41%) and entertainment (33%). 90% of the respondents said that electricity has been useful in their daily lives. Primarily, it has been found to be useful for learning by children (41%) and entertainment (33%). Though small in number, new businesses have started, including commercial, sewing and flour milling businesses.
Water Supply	• 75% of the respondents said that the heavy labor of fetching water has been reduced, allowing them to use their time more effectively. • Half of the respondents said that the use of more water for hygiene purposes, including hand/face washing and house cleaning, has reduced the occurrence of infectious diseases. 95% said the tapped water supply has improved their daily lives.
Latrines	• The clean toilets have reduced the bad odor. 35% of the respondents said that the use of the latrines has reduced the occurrence of diarrhea. All of the respondents said that the introduction of latrines has improved their daily lives.

[Source] Prepared by the evaluator based on the findings of the beneficiary survey

Sustainability

After completion of all sub-projects, the FONCODES handed over the sub-projects to the body responsible for maintenance, including ministries and agencies and municipalities. Except for the health post and electrification, the beneficiaries also conduct some of the maintenance work. While the maintenance system differs depending on the mode of participation of the management body and residents (beneficiaries), the sub-projects were well-managed overall excluding some water supply facilities. Therefore, the sustainability of the project is high.

Key Point of Evaluation: Prompt Response for Earthquake Rehabilitation

In June 2001, a large, magnitude 8.4 earthquake struck off the coast of southern Peru, killing more than 100 people and destroying over 40,000 buildings. In order to assist with the post-disaster rehabilitation, the initial plan was modified and a decision was made to add five regions which sustained particularly heavy damages to the project area (Arequipa, Moquegua, Tacna, Ayacucho, and Apurimac). A total of 151 sub-projects were implemented, predominantly involving the rehabilitation of school or health post buildings damaged by the earthquake, as well as rehabilitation of a small number of irrigation channels.

In the Arequipa region, the beneficiary survey confirmed the following effects based on the opinions obtained. One person noted, "A part of the school building constructed by adobe collapsed because of the earthquake. At first we continued to hold classes in the remaining part of the school building, but having classes was very difficult as there were not enough classrooms. The new classrooms are safe, well-lighted and students can comfortably concentrate on their studies." (Wambo primary school) Another responded, "The wall of the building collapsed because of the earthquake, and the health post was forced to close temporarily. After the reconstruction, the physical environment for medical services has improved remarkably, with different rooms ensured for each type of medical practice. The residents highly appreciate it." (Maka health post)

By promptly expanding the project area immediately after the earthquake, Japanese funds were directed towards the disaster reconstruction. This project is thus an excellent example of a project which was effectively utilized to match the needs of the recipient country.

A new health post that was built following the earthquake

Conclusion, Lessons Learned and Recommendations

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

In the face of the damage caused by the earthquake which struck some parts of Peru in 2001 during the implementation period of the project, the geographical scope of the project was expanded to allow the reconstruction of school and health post buildings and other work, and the project achieved some positive effects in terms of disaster rehabilitation. A lesson learned for future projects is that prompt and flexible response should be taken at a time of emergency, bearing in mind that a change in project scope may have highly positive impacts/effects which were not originally intended.

Furthermore, like the other projects of FONCODES, sub-projects were carried out in a participatory manner from the planning, implementation, and up to the completion phase, led by a secretariat comprised of the residents. The secretariat has a high sense of ownership, and transparency was ensured. However, the secretariat is a temporary organization that is dissolved after the completion of all sub-projects. On the other hand, in line with the recent decentralization policy, the budget for municipal governments is increasing and their involvement in the project of FONCODES now ranges from project selection to implementation. Therefore, it is advised that the municipalities carry on the experiences of the secretariat, and thereon build a methodology for developing social, economic and sanitary small-scale infrastructures in poverty areas together with FONCODES.

* All ex-post evaluation reports including this are available on the JICA website:
http://www.jica.go.jp/english/operations/evaluation/index.html