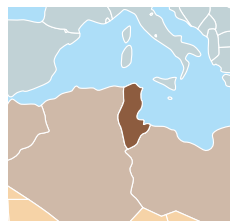




Middle East **Tunisia**



Irrigation Perimeters Improvement Project in Oases in South Tunisia

Contributing to water resources conservation by developing irrigation and drainage systems in oases in southern Tunisia

[External evaluator]

Yuriko Sakairi and Yasuhiro Kawabata, Sanshu Engineering Consultant Co., Ltd.

| Rating | | |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | b | Overall rating C |
| Relevance | a | |
| Efficiency | b | |
| Sustainability | b | |

Project Objectives

To ensure the stable supply of irrigation water and conserve groundwater resources by improving irrigation and drainage canals in the southern governorates of Gabès, Gafsa, Kébili, and Touzeur in Tunisia, thereby contributing to stable agricultural productivity and regional economic development.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 8,106 million yen / 6,417 million yen
- Loan agreement: December 1996
- Terms and conditions: 2.7% interest rate; 25-year repayment period (including a 7-year grace period); general untied [consulting services: 2.3% interest rate; 25-year repayment period (including a 7-year grace period); general untied]
- Final disbursement date: January 2006
- Executing agency: Ministère de l'Agriculture et des Ressources Hydrauliques (MARH) [Ministry of Agriculture and Water Resources]
- Website URL: <http://www.ministeres.tn/html/ministeres/attribution/agriculture.html>



A concrete farm ditch

Effects of Project Implementation (Effectiveness, Impact)

Since a smaller number of oases than planned were covered by this project, the number of beneficiary farmers in the four governorates totaled 32,360, representing about 82% of the planned value. Apart from Gabès where the project was implemented as planned, the total area cultivated under the project was 52% of the plan, on average.

On a positive note, the MARH has reported that the reduction in water losses due to leakage more efficient irrigation have resulted in higher crop yields and better quality of the crops. In a beneficiary survey, respondents replied that the project contributed to greater stability of water supply, more even water distribution, increased crop yields, and prompted more young people to return to farming.

This project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant to Tunisia's national policies and development needs at the times of both appraisal and ex-post evaluation.

Boosting agricultural production has remained high on the agenda for the five-year plan, water resources development plan, and the water sector long-term strategy of the Tunisian government.

Efficiency

This project took longer in duration (139% of the planned period) and cost less than planned (75% of the planned cost); therefore the evaluation for efficiency is moderate. The extended period and the lower costs were the result of a rather inadequate schedule and cost projections made in the Feasibility Study that was prepared based on sampling data that covered only 5% of the project's entire target area.

Sustainability

Though some problems have been observed in terms of the degradation of canals, sustainability of this project is fair. No major problems have been observed with the technical and financial aspects of the executing agency, namely the MARH, or the organizations responsible for the operation and maintenance (O&M) of the irrigation systems, that is, the Commissariat Régional au Développement Agricole (CRDA), which is in charge of the major and technical aspects of O&M, and the Groupement de Développement Agricole (GDA), which is responsible for minor and day-to-day O&M functions. With regard to the technical aspects, the MARH and CRDA provide technical assistance to the GDA. With regard to the financial aspects, the CRDA partly funds the activities of the GDA and the water fee collection rate is almost 100%. On the other hand, degradation of the concrete canals can be observed in some areas and the cause of this is now under investigation. The MARH has stated that it will implement studies to assess the condition of canals and to analyze and improve water quality.

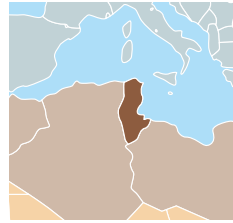
Conclusion, Lessons Learned, Recommendations

In light of the above, this project is evaluated to be fairly satisfactory. Two major lessons have been learned from the project. First, when a new concept is introduced (for example, concreting farm ditches or developing drainage, as in this project), its local adaptability should be considered in the project design. Second, guidance regarding water conservation should be provided together with the development of the facilities. Including guidance for agricultural associations and farmers on how to save water as a project component could result in more efficient irrigation.



Treated Sewage Irrigation Project

Limited effects produced in an effort to stabilize irrigation water supply using treated sewage water

Middle East
Tunisia**[External evaluator]**

Yuriko Sakairi and Yasuhiro Kawabata,
Sanshu Engineering Consultant Co., Ltd.

Rating

| | | |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | c | Overall rating D |
| Relevance | a | |
| Efficiency | b | |
| Sustainability | a | |

Project Objectives

To provide a stable supply of irrigation water and conserve groundwater resources by building the infrastructure for irrigation (including water storage facilities, pumping stations, and water distribution pipes) that is designed to use sewage water treated at 12 treatment facilities in ten regions in Tunisia – Bizerte, Menzel Bourguiba, Béja, Medjez El Bab, Jendouba, Nabel, Siliana, Msaken, Jerba Aghir, and Medenine – thereby contributing to stable agricultural production and regional economic development.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 1,707 million yen / 1,332 million yen
- Loan agreement: March 2005
- Terms and conditions: 2.7% interest rate; 30-year repayment period (including a 10-year grace period); general untied [consulting services: 0.75% interest rate; 30-year repayment period (including a 10-year grace period); partially untied]
- Final disbursement date: October 2005
- Executing agency: Ministère de l'Agriculture et des Ressources Hydrauliques (MARH) [Ministry of Agriculture and Water Resources]
- Website URL:
<http://www.ministeres.tn/html/ministeres/attribution/agriculture.html>

Effects of Project Implementation (Effectiveness, Impact)

The development of irrigation systems designed to use treated sewage water under the project has alleviated water shortages to some extent. This has produced a number of benefits, including the diversification and qualitative improvement of crops, and higher income and better living standards for farmers due to year round agricultural production.

On the other hand, the project has fallen far short of planned targets. The total area irrigated with treated sewage water is about 20% of the planned figure in the summer and as low as 7% in the winter. The total number of farmers that have benefited from the project remains at about 61% of the planned number. There are three major reasons for this unsatisfactory performance. First, implementation of the project was cancelled in two regions. Second, the practice of using irrigation was not established yet since there was not much time between project completion and ex-post evaluation. Third, high levels of precipitation temporarily reduced the demand for irrigation water.

This project has produced limited effects, and its effectiveness is low.

Relevance

This project has been highly relevant with Tunisia's national policies and development needs at the times of both appraisal and ex-post evaluation. The project was consistent both with the ninth five-year plan for 1996-2000, which considered the agricultural sector an important element of economic development, and with the eleventh five-year plan for 2006-2010, which regards agriculture as an important sector and calls for water resources conservation, including the expansion of irrigation systems that take advantage of treated sewage water.

Efficiency

This project took longer in duration and cost less than planned; therefore the evaluation for efficiency is moderate.

Although water transmission and irrigation distribution pipes were constructed largely according to plan, the actual outputs were slightly less than planned since the number of target regions was reduced by two. The actual project period was 137% of the planned period due to delays in the provision of consulting services and in the procurement of equipment and materials. The actual project cost was 70% of the planned cost because civil works were cancelled in some regions, while it cost more in others due to the surging prices for materials.

Sustainability

No major problems have been observed in the capacity of the executing agency nor its operation and maintenance system; therefore, sustainability of this project is high. The regional general directorate for regional civil engineering of the MARH offers technical assistance and the Commissariat Régional au Développement Agricole (CRDA) provides training for the Groupement de Développement Agricole (GDA) and guidance on crop cultivation for the farmers involved. Although the project impact was low at the time of this evaluation, the farmers will likely make greater use of the irrigation water. It is also likely that the irrigation facilities will continue to be properly operated and maintained.

Conclusion, Lessons Learned, Recommendations

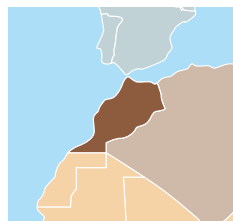
In light of the above, this project is evaluated to be unsatisfactory. The National Sanitation Utility (ONAS) and the MARH should work together to monitor water quality and develop plans for water quality improvements in an effort to convince farmers of the safety of the treated sewage water. They should also mount information campaigns directed at farmers before launching any similar projects to gain their understanding of and participation in such projects.



A reservoir of treated sewage water in Medenine



Middle East Morocco



Expressway Construction Project; Casablanca South Ring Road Construction Project

Contributing to economic development in and around Casablanca by constructing expressways

[External evaluator]

Yuriko Sakairi and Yasuhiro Kawabata, Sanshu Engineering Consultant Co., Ltd.

| Rating | | Overall rating B |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | b | |
| Relevance | a | |
| Efficiency | b | |
| Sustainability | a | |

Project Objectives

To improve road safety and speed up physical distribution by repairing and widening an existing road and constructing a new expressway (approx. 56.4 km) between Casablanca and Settat and building another expressway (approx. 35 km) in the southern part of Casablanca in anticipation of the growth of the volume of traffic in this part of the city, thereby improving the climate for private investment and promoting economic development in the region.

Outline of the Loan Agreement

- Loan amount / disbursed amount:
 - (i) Expressway Construction Project: 9,568 million yen / 7,514 million yen
 - (ii) Casablanca South Ring Road Construction Project: 7,046 million yen / 4,793 million yen
- Loan agreement: (i) December 1997; (ii) June 1998
- Terms and conditions: (i) 2.7% interest rate; 30-year repayment period (including a 10-year grace period); general untied [consulting services: 2.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied]
- (ii) 2.2% interest rate; 30-year repayment period (including a 10-year grace period); general untied [consulting services: 0.75% interest rate; 40-year repayment period (including a 10-year grace period); partially untied]
- Final disbursement date: (i) May 2003; (ii) September 2005
- Executing agency: Société Nationale des Autoroutes du Maroc (ADM)
- Website URL: <http://www.adm.co.ma>

Effects of Project Implementation (Effectiveness, Impact)

The annual average daily traffic near Casablanca on the Casablanca-Settat Expressway has been on a par or above the planned value. The traffic volume has been extremely low at points further than 20km from Casablanca, due partly to the fact that the segment to Marrakech, a major city in the south, was not yet opened in 2005 and 2006. The traffic volume on the South Ring Road has remained at 45 to 70% of the planned value. One reason is that the Casablanca-Rabat Expressway, which runs parallel to the road, has sufficient capacity, thus not causing drivers to divert to the South Ring Road to avoid traffic jams.

A beneficiary survey found that 51% of the respondents highly evaluate the economic benefits of the projects. Some 88% feel that their household income has increased due to the road improvements. Better access to markets and to government offices has been experienced by 78% and 60% of the respondents, respectively.

These projects have produced certain effects, and their effectiveness is moderate.

Relevance

These projects have been highly relevant with Morocco's national policies and development needs at the times of both appraisal and ex-post evaluation. The Expressway Development Master Plan of 1991 put a high priority and called for the completion by 2004 of the section that includes the Expressway Construction Project. At the time of the ex-post evaluation, an improved investment climate was one of the two major development goals of the Moroccan government.

Efficiency

This project took much longer in duration (241%) while the cost was lower than planned; therefore the evaluation for efficiency is moderate. Delays were caused by underestimations made in the original plans and the time required for changes to the designs and civil works as well as for land acquisition, which took longer than expected.

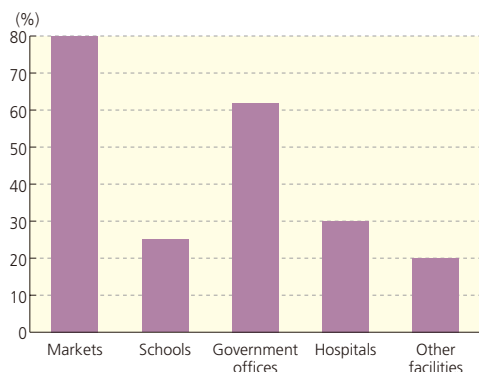
Sustainability

No major problems have been observed in the capacity in the executing agency nor its operation and maintenance system; therefore sustainability of this project is high. With only a few years in public use, the roads need only routine O&M for their maintenance. The question is whether it is possible to secure sufficient funds to finance the large-scale repair work that will be required in 5 to 10 years.

Conclusion, Lessons Learned, Recommendations

In light of the above, these projects are evaluated to be satisfactory. At the time of the appraisal, no major problems were anticipated in relation to the land acquisition and resettlement during project implementation. However, separation of communities as a result of land acquisition called for extra measures, including construction of additional road crossing facilities. A lesson learned is that building consensus among affected people through information disclosure and sufficient prior consultations is the key to efficient project implementation.

Facilities to which access has noticeably improved



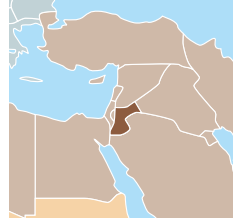
Source: Beneficiary Survey



Second Human Resources Development Sector Investment Project

Supporting to assure high quality of vocational training and academic education

Middle East
Jordan



[External evaluator]

Hiroimitsu Muta, Tokyo Institute of Technology;
Ryo Sasaki, International Development Center of Japan

Rating

| | | |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | b | Overall rating C |
| Relevance | a | |
| Efficiency | b | |
| Sustainability | b | |

Project Objectives

To expand education opportunity, including basic, secondary and vocational education, and to assure its quality, all across Jordan, through construction and expansion of school facilities and provision of equipment and furniture targeting (i) comprehensive schools (academic and vocational education), (ii) community colleges, and (iii) vocational training centers; thereby contributing to Jordan's industrial development

Outline of the Loan Agreement

- Loan amount / disbursed amount: 7,123 million yen / 6,027 million yen
- Loan agreement: July 1997
- Terms and conditions: Interest rate: 2.7% (2.3% for consulting services); 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: November 2005
- Executing agencies: National Center for Human Resources Development (NCHRD) [overall management], Ministry of Education (MOE), Al-Balqa Applied University, Vocational Training Corporation

Effects of Project Implementation (Effectiveness, Impact)

The effectiveness of the project varies according to the different kinds of schools and courses. The effectiveness is high for academic education courses in comprehensive schools, where some 90% of the student quota is filled, almost 100% of the students graduate, and most students go on to a higher stage of education. It is limited for vocational training courses at comprehensive schools, where the rate for achieving the quota stands at around 50%, the graduation rate at 55% (on par with the national average), and the rate of employment after graduation ranges from 10 to 60%, depending on the course. The effectiveness of the project is also limited for vocational training centers, some of which fail to attract a sufficient number of students. On average, 55 to 65% of the graduates land a job. The number of graduates from vocational training centers has been on the decline in recent years. The effectiveness is high for community colleges. Community colleges covered by this project have been attracting more and more students while the total number of students in Jordan has been declining slightly. In addition, the graduation rate is almost 100% at these schools.

This project has produced indirect effects as well. It has helped increase the likelihood of women entering the workforce in a country where the proportion of female students who enroll in school and working women is small. The project has also offered opportunities for unemployed young people, who might in the future constitute a socially destabilizing factor in Jordan. In sum, this project has made a certain level of contribution to the country.

Therefore, this project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant with Jordan's national policies and development needs at the times of both appraisal and ex-post evaluation. At the time of the appraisal, the Jordanian government was focusing on building more school facilities to cope with the natural increase in the number of students, improving vocational training, and enhancing the quality of education as priorities in its Ten-Year Education Reform Program. This program remained the basic framework for educational reform in Jordan at the time of the ex-post evaluation.

Efficiency

This Project produced a level of outputs that was almost as planned at a lower cost (85% of the planned cost), but took longer than planned (168% of the planned period); therefore the evaluation for efficiency is moderate. The extension of the project period was mainly due to delays in the procurement, payment, and construction work.

Sustainability

No major problems have been observed in the capacity or the operation and maintenance (O&M) system of the executing agency. However, there is some cause for concern about the sustainability of the project. For one thing, a certain proportion of the provided equipment and furniture has not been put to good use. For another, the demand for vocational training has not necessarily been increasing in Jordan. Though these problems have been observed, sustainability of this project is fair.

Conclusion, Lessons Learned, Recommendations

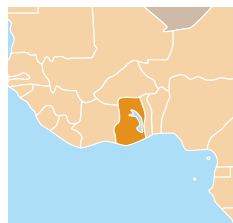
In light of the above, this project is evaluated to be fairly satisfactory. A major lesson learned is the need to decide on project implementation after carefully studying the policies of the recipient government, their consistency, and demand trends. It is advisable that the Jordanian government should commit to take measures to increase demand, once it emphasizes vocational training as a matter of government policy.



A class in a vocational training course at newly-established Jabal En-Naser comprehensive school



Africa Ghana



Project for the Promotion of Farmers' Participation in Irrigation Management



Contributing to the improvement of farmers' income from irrigation farming

Rating

Secondary evaluation

Overall rating

B

Project Objectives and Cooperation Framework

《 Objectives 》

The project aims to strengthen the technical abilities of the Ghana Irrigation Development Authority (GIDA) concerning irrigation farming and to develop a legal arrangement which will promote farmers' participation in irrigation management. The project thereby aims to promote the farmers' participation in irrigation management.

《 Cooperation Framework 》

Overall goal:

- Income per farmer from irrigated agriculture is increased in irrigation schemes under GIDA.
- Farmers participation in irrigation management is developed in Ghana.

Project purpose:

- Foundation for farmers' participation in irrigation facility management of irrigation schemes under GIDA, based on the regulations and agreements, is established.
- GIDA's function in service delivery on irrigation farming technology* is strengthened.

Outputs:

- Legal arrangement to promote farmers' participation in irrigation management is prepared.
- Implementation of farmer's participation in irrigation facility management between GIDA and farmers' organization is prepared
- Capacity of GIDA staffs in planning and implementation of training on irrigation farming technology is improved.

Outline of the Project

- Total cost (Japanese side): 250 million yen
- Period of cooperation: October 2004 to September 2006
- Partner country's implementing agency: the Ghana Irrigation Development Authority (GIDA)
- The number of experts dispatched: 7 experts (long-term), 2 experts (short-term)
- The number of technical training participants taught in Japan: 1 participant
- Main equipment provided: generators, motorcycles, etc.



Farmers working in the field (the Ashaman project district)

Effects of Project Implementation (Effectiveness, Impact)

Project purpose (effectiveness): Laws which support the Joint Irrigation System Management (JISM) are being established through the revision of the irrigation authority act. Joint irrigation management between the GIDA and farmers' cooperatives has already started in 10 project districts. The project has an excellent reputation as is seen in the participants' satisfaction with the training programs held by the GIDA staff (95% of participants were satisfied with the training). Although the GIDA has not conducted training independently, it is likely that the project purpose will be achieved by the end of the project period.

Forecast for the achievement of the overall goal (impact): The GIDA and the farmers are highly motivated to work on JISM, and the GIDA staff also have sufficient technical abilities. Therefore, it is expected that JISM will be introduced in the rest of the project districts. In the districts which have already prepared for the introduction of participatory irrigation management over the past 10 years, more than 70% of farmers have increased their incomes or stabilized their level of income due to the introduction of JISM. Therefore, it was considered that the overall goal can be achieved as long as appropriate facility management can be maintained after the project ends.

Relevance

The overall goal of the project is consistent with the nine strategies for agricultural modernization (development of irrigation facilities, strengthening of dissemination systems, market development, etc.) in the Poverty Reduction Strategy Paper (PRSP) for the Second Period produced by the government of Ghana. The project is also consistent with Japanese ODA policy because Japan's Country Assistance Program for the Republic of Ghana stipulates infrastructure improvements for increasing productivity, including the development of irrigation facilities. Therefore, the project is relevant to both countries' policies.

Efficiency

The plan had to be revised due to some unexpected situations such as changing the members of experts midway through their assignment and a delay in the World Bank's irrigation facility improvement project which is related to the JICA project. Through flexible responses such as prioritizing project activities, the project was able to continue providing inputs, starting from the districts which had irrigation facilities which were in good condition. The project avoided procuring new equipment by using existing equipment, therefore the project achieved lower equipment costs (i.e. better efficiency) than similar projects in the past.

Sustainability

In the national irrigation policy, the GIDA is defined as the facilitator for irrigation development. The GIDA staff also have sufficient skill and knowledge regarding farming, water management, etc. Therefore, it is likely that JISM will continue to be disseminated and take root after the project ends. Securing a large enough budget is essential for maintaining the level of activities that the project achieved, therefore the Ministry of Food and Agriculture (MOFA) needs to make further efforts to secure the budget.

Conclusion, Lessons Learned, Recommendations

Although the financial aspect of the GIDA needs to be reviewed, the GIDA has sufficient knowledge and skills. The laws to support the implementation of JISM are also in place. Therefore, it is likely that the project purpose will mostly be accomplished by the end of the project period. Recommendations for the next steps include: strengthening farmers' organizations in each project district; developing strategies to introduce JISM into project districts which have not yet introduced JISM; etc.

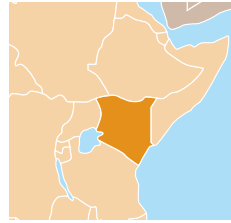
* They include technical services for cultivation, water management and cooperative activities.



Strengthening of Wildlife Conservation Education

Facilitating public understanding regarding wildlife conservation by educating citizens

Africa Kenya



Rating

Secondary evaluation

Overall rating

B

Project Objectives and Cooperation Framework

《 Objectives 》

In order to enhance public awareness of ecosystem conservation, the project is aimed at strengthening the capacity of the Kenya Wildlife Service (KWS) (which is responsible for the sustainable conservation of the natural environment and the management of national parks and reserves) to effectively implement wildlife conservation education.

《 Cooperation Framework 》

Overall goal:

- To enhance awareness and participation in wildlife conservation by Kenyan citizens.

Project purpose:

- To strengthen the institutional capacity of the KWS for the effective implementation of wildlife conservation education.

Outputs:

- An education implementation strategy has been developed.
- The capacity of the education officers has been strengthened.
- Appropriate development, operation and maintenance of education tools, materials, equipment and facilities have been improved.

Outline of the Project

- Total cost (Japanese side): 93 million yen
- Period of cooperation: February 2005 to February 2008
- Partner country's implementing agency: the Kenya Wildlife Service (KWS)
- The number of experts dispatched: 2 experts (long-term), 3 experts (short-term)
- The number of trainees received in Japan: 8 people
- Main equipment provided: audio-visual equipment, captive management equipment, etc.

Effects of Project Implementation (Effectiveness, Impact)

Project purpose (effectiveness): It is expected that the project will mostly achieve its project purpose. Many education-related officers have obtained the skills required to produce educational tools and teaching materials. The skills are used in educational activities which are conducted based on the Conservation Education Strategy. Educational tools, teaching materials, equipment and facilities are frequently utilized and maintained in a good condition. Information displays in facilities are also improved.

Forecast for the achievement of the overall goal (impact): It is expected that the overall goal will also be achieved in the long-term. The project is showing the importance of education activities which can send clear messages to different targets including residents, children and tourists. By providing wildlife conservation education to many children in particular, it is expected that they will participate in wildlife conservation activities more vigorously when they become adults.

Relevance

The relevance of the project is high for the following reasons. The Kenyan government recognizes the need to educate its people about the importance of ecosystem conservation. Human resources development in this area and conservation education are included in its Wildlife Policy (draft) as major issues. The Japanese government also included conservation of the natural environment in the Environmental Conservation Initiative for Sustainable Development (EcolSD) as one of the priority areas, as well as support for ecosystem conservation in its Country Assistance Program for Kenya.

Efficiency

The project was conducted efficiently. The inputs were provided appropriately as planned. It also minimized the provision of equipment by effectively utilizing existing equipment which was provided by the Japanese government through past Cultural Grant Aid, etc. Some of the expected outputs have already been achieved and the others are also expected to be achieved by the end of the project.

Sustainability

Organizational and financial sustainability is expected for the following reasons. The education departments in the KWS were strengthened through organizational reforms. The KWS also stated that it would secure the budget for educational activities and training activities after the project ends, and was considering an increase in the number of education-related officers. Regarding technical sustainability, the participants in the project's training activities are sharing what they have learned through the training within their own organizations. Therefore, it is expected that the project's effects will continue to be disseminated to various organizations.

Conclusion, Lessons Learned, Recommendations

The project activities were carried out seamlessly and the project is expected to achieve its project purpose. Therefore, JICA's cooperation for this project will be completed as planned. In order to continue and strengthen the activities established by the project, the KWS should make sure that there is an increase in the number of education-related officers (which is currently under consideration) and secure the necessary budget.

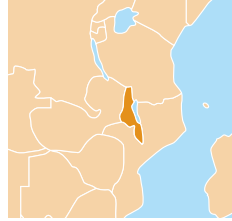
Lessons learned from the project which can be used for other projects include the importance of the consistency of the project content with the partner government's policy, and the importance of a close relationship between the project content and the counterpart organization's operations.



Teaching materials produced by the project



Africa Malawi



Strengthening of Mathematics and Science in Secondary Education through In-service Training in Malawi (SMASSE INSET Malawi)

Contributing to the improvement of the teaching skills of teachers by providing training for mathematics and science teachers in secondary education



Rating

Secondary evaluation

Overall rating

B

Project Objectives and Cooperation Framework

《 Objectives 》

The project conducts In-Service Education and Training (INSET) for mathematics and science teachers in secondary education in the South East Education Division (SEED), in order for them to be able to develop experimentation methods and improve teaching methods concerning mathematics and science lessons. The project thereby aims to improve the teachers' capabilities.

《 Cooperation Framework 》

Overall goal:

- The quality of the teaching of math and science is improved in secondary schools in Malawi.

Project purpose:

- An INSET system for secondary math and science teachers is established in SEED.

Outputs:

- Core trainers for cluster-level INSET are trained.
- The physical and material environment for INSET is improved.
- Secondary math/science teachers are trained at cluster-level INSET.
- Leadership at the school, divisional and the Ministry* levels is strengthened in terms of INSET administration. (* The Ministry of Education, Science and Technology)

Outline of the Project

- Total cost (Japanese side): 220 million yen
- Period of cooperation: September 2004 to September 2007
- Partner country's implementing agency: the Ministry of Education, Science and Technology (MoEST)
- The number of experts dispatched: 1 expert (long-term), 1 expert (short-term), 12 third-country experts
- The number of technical training participants taught in Japan: 3 participants



Students conducting an experiment in a class taught by a teacher who participated in INSET

Effects of Project Implementation (Effectiveness, Impact)

Project purpose (effectiveness): The project is getting close to achieving the four outputs as planned, namely "training Core Trainers," "improving the local INSET Centres," "conducting local INSET" and "training headmasters and MoEST officials." Therefore, it was determined that the project was close to achieving its project purpose.

Forecast for the achievement of the overall goal (impact): The impact of the project is being observed. For example, improvements in teaching methods have been observed in the project area, and it is also reported that the students' attitude towards mathematics and science lessons have improved due to the improved teaching methods. Some neighboring areas are also requesting the introduction of INSET. However, for the overall goal ("the quality of teaching of math and science is improved in secondary schools in Malawi") to be achieved, the government needs to produce and implement concrete policies.

Relevance

Malawi's education policy paper stipulates "improvement in the quality of education" as one of its priorities. Malawi's "National INSET Policy" (draft) also states that training new teachers and providing INSET is essential for ensuring teacher quality. The scope of the project is relevant according to these policy objectives. The project's content also meets the target group's needs, because the teachers themselves are aware that continuous INSET is necessary.

Efficiency

It was determined that the project was conducted efficiently for the following reasons. The inputs provided by both Japan and Malawi have been used appropriately. Furthermore, the project utilized existing resources effectively by collaborating with a similar project implemented in Kenya. These elements contributed to the achievement of the project outputs.

Sustainability

The continuation of INSET in the project area has been ensured through the following elements. The efforts of school heads contributed to establishing systems that ensure the continuity of INSET in the project area. Since teachers (the participants in INSET) became aware of the necessity for and the effectiveness of INSET, they have been asking for the expansion of INSET.

Conclusion, Lessons Learned, Recommendations

The project is close to achieving the goals which were set in the initial plan. In order to maintain the outputs achieved by the project, it was recommended that the Malawian counterparts should independently conduct seamless in-service training under INSET, and that the training budget should be disbursed in a timely and appropriate manner. The following lessons were learned from the project: (1) It is more effective to conduct project monitoring as part of the government's monitoring; and (2) in order to use the government's monitoring system, the government's monitoring capacity needs to be strengthened; (3) In order to strengthen the system for implementing INSET at the local level, it is important for the project to assist with the training activities provided by the schools designated as the INSET centers for the neighboring schools.



Coastal Wetland Conservation in the Yucatan Peninsula

Improving the capacities of the environmental administration agencies and promoting wetland conservation through joint activities with related organizations.

Latin America
Mexico

Rating

Secondary evaluation

Overall rating

C

Project Objectives and Cooperation Framework

《 Objectives 》

In order to improve the ecosystem conservation situation of the Ria Celestun Biosphere Reserve (RBRC) located in the Yucatan Peninsula, the project is aimed at supporting environmental conservation activities and the residents' sustainable resources management activities, which are jointly conducted by various organizations including the RBRC management office, the local government and NGOs.

《 Cooperation Framework 》

Overall goal:

- Conservation of the wetland ecosystem of the RBRC is improved.

Project purpose:

- Environmental management activities are carried out properly in the RBRC through leadership by the RBRC office.

Outputs:

- Mangrove ecosystem restoration in the RBRC is promoted.
- The sustainable use of natural resource is practiced by community-based organizations (CBOs).
- Solid waste management is improved.
- A mechanism for information sharing concerning wetland conservation in the RBRC among related organizations and residents is established.
- The knowledge and capacity of the residents concerning the importance of the RBRC are improved through environmental education.

Outline of the Project

- Total cost (Japanese side): 350 million yen
- Period of cooperation: March 2003 to February 2008
- Partner country's implementing agency: the National Commission of Nature Protected Areas (CONANP)
- The number of experts dispatched: 4 experts (long-term), 19 experts (short-term)
- The number of trainees received in Japan: 17 people
- Main equipment provided: PCs, equipment for surveys and research, etc.



Mexican counterpart explaining the mangrove restored under the project

Effects of Project Implementation (Effectiveness, Impact)

Project purpose (effectiveness): It is expected that the project will achieve most of the set indicators for the project purpose. The RBRC management office has established and managed task forces on wetland conservation. The office also produced a detailed annual activity plan for the project. It was considered that the RBRC management office has the basic capacity to conduct appropriate environmental management activities since the office has demonstrated its leadership abilities when coordinating and cooperating with the related government agencies, residents' organizations, NGOs, etc. in the above-mentioned processes. Therefore, the project's effectiveness is considered to be at a satisfactory level. However, further organizational improvement is needed in order for the RBRC management office to conduct these activities independently.

Forecast for the achievement of the overall goal (impact): The Mexican side has a plan to further rehabilitate mangroves in the RBRC by utilizing the skills and knowledge that they acquired through the pilot mangrove reforestation which was conducted under the project. Solid waste management in the RBRC has also been improved through the project activities. It is expected that restoration of the mangrove forest will be continued and the appropriate management of solid waste will be strengthened by further strengthening the capacity of the RBRC office in terms of institution, coordination and technical skills. Therefore, there is a good prospect of achieving the overall goal of the project.

Relevance

The relevance of the project is high. The Mexican National Development Plan stipulates the conservation and the sustainable utilization of natural resources and environmental education as priority issues. The Japanese government also regards the strengthening of capacity for the management of ecosystems as one of the priority areas for aid. Therefore, the project is consistent with both countries' policies. In addition, Japan has appropriate techniques and experience in the fields of mangrove rehabilitation, the promotion of ecotourism and waste management (which are the project's main activities), therefore these areas were appropriate for Japan to conduct technical cooperation.

Efficiency

The project achieved a moderate level of efficiency. The project's activities were not smooth in the initial stage of the project because of the replacement of the head of the RBRC office and changes in its policy, but the activities became smooth after obtaining a consensus on the cooperation content. It is expected that the project will achieve its outputs in general.

Sustainability

The political and financial sustainability of the project is considered to be at a satisfactory level. However, the organizational and technical sustainability has not been sufficiently ensured, due to the delay in the project activities.

Conclusion, Lessons Learned, Recommendations

The project achieved most of the indicators which were set for each output. However, it is considered that the sustainability of some outputs were not secured due to the delay in the project activities. In order to fix and extend the results of the project, it is desirable to extend the cooperation period for around two years and to strengthen the capacity of the RBRC office, such as by developing a medium-term and long-term conservation vision and recruiting the necessary number of personnel.



Latin America **Brazil**



Jaiba Irrigation Project II

Contributing to increase agricultural production and regional economic development by building irrigation facilities

[External evaluator]

Kenji Momota, IC Net Limited

| Rating | | Overall rating B |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | a | |
| Relevance | a | |
| Efficiency | c | |
| Sustainability | a | |

Project Objectives

To construct agricultural facilities and provide financing to farmers and agricultural cooperatives in Jaiba, Minas Gerais State, as Phase II of the Jaiba Irrigation Project, in order to expand the irrigation area and to improve agricultural production and productivity, thereby contributing to enhancement of the socio-economic status of Minas Gerais State.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 14,740 million yen / 14,282 million yen
- Loan agreement: September 1991
- Terms and conditions: 4.0% interest rate; 25-year repayment period (including a 7-year grace period); general untied
- Final disbursement date: September 2005
- Executing agency: Minas Gerais State Government (Planning and General Coordination State Secretariat [SEPLAG]; State Secretariat of Agriculture, Livestock and Supply [SEAPA]; Minas Gerais Electricity Center [CEMIG]; State Development Bank of Minas Gerais State [BDMG]
- Website URL: <https://www.mg.gov.br/>

Effects of Project Implementation (Effectiveness, Impact)

The irrigated area in the Jaiba II district totals about 19,200 ha, almost achieving the planned figure of 20,000 ha. The utilization rate of this district was about 36% by April 2008, less than two years since the irrigation infrastructure went into full operation. This rate, however, is expected to rise substantially in a few years as all lots have already been sold out. The development of the Jaiba II district has been led by large-scale farmers and enterprises. It is expected that sugar cane, a raw material for bio-ethanol, production will exceed 60% of total agricultural production in this district.

Irrigation projects have had a substantial impact on the regional economy and this project is no exception. Such projects have therefore been playing a pivotal role in the regional economy. For example, the Gross Regional Domestic Product (GRDP) of Minas Gerais State has been steadily on the rise. In addition, the involvement of large-scale farmers has created many employment opportunities.

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

Relevance

This project has been highly relevant with Brazil's national policies and development needs at the times of both appraisal and ex-post evaluation. Northeast Brazil, including the northern part of Minas Gerais State, occupies about 20% of agricultural production in the country, underlying the significance of the project. The project originally expected migration of small and medium-sized farmers with farms of 5 to 25 ha. Actually, however, large-scale farmers with hundreds of hectares of farmland occupy the majority of lands. This shift was an appropriate since it was aimed at coping with changes in the project environment, such as the increase of demand for large-scale intensive by rising production costs.

Efficiency

This project took longer than planned (160% of planned period) and cost exceeded the plan in proportion to the outputs; therefore the evaluation for efficiency is low. The project was delayed for two major reasons. First, it took more than three years to obtain environmental approval as environment-related regulation in Brazil got stricter. Second, additional construction work was required, including the construction of a trunk road.

Sustainability

No major problems have been observed in the capacity of the executing agency, nor its operation and maintenance (O&M) system; therefore, sustainability of this project is high. Since the water fees are still under negotiation, the state government is bearing the costs for its O&M. In the long term, there is expected to be no major problems with the technical and financial aspects.

Conclusion, Lessons Learned, Recommendations

In light of the above, this project is evaluated to be satisfactory. The evaluator proposes two major recommendations. First, to enhance the productivity of the entire area including Jaiba 1 district which is in difficulty in developing its productivity, it is necessary to transfer the technology and experience of large-scale farmers and enterprises to small and medium farmers within the Jaiba 2 district. Second, it is advisable to improve operation efficiency by harmonizing O&M rules and even consolidating the O&M system for Jaiba I and II districts. Currently, Jaiba I district is managed by the Federal Government and Jaiba II district by the State Government.



Harvesting at a banana plantation



Rural Highway Rehabilitation and Improvement Project (2)

Latin America **Peru**



Contributing to regional economic development by upgrading major roads linking inland and coastal regions

[External evaluator]
Kenji Momota, IC Net Limited

Rating

| | | |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | a | Overall rating B |
| Relevance | a | |
| Efficiency | c | |
| Sustainability | a | |

Project Objectives

To secure the smooth flow of traffic and to secure access to markets and employment opportunities for those living in poverty by improving the transverse roads that connect the interior and coastal areas, thereby contributing to the economic revitalization of interior areas and alleviation of regional disparities.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 9,184 million yen / 9,183 million yen
- Loan agreement: November 1997
- Terms and conditions: 2.7% interest rate; 25-year repayment period (including a 7-year grace period); general untied
- Final disbursement date: March 2006
- Executing agency: Ministry of Transport and Communication (MTC)
- Website URL: <http://www.mtc.gob.pe/portal/itramites.htm>

Effects of Project Implementation (Effectiveness, Impact)

The annual average daily traffic (AADT) has increased on the two arterial roads that have been upgraded under this project. The AADT on the northern road between Chiclayo and Chongoyape (60 km) grew by 1,847 vehicles before the project to 3,212 vehicles at the time of the ex-post evaluation, up 71%. Likewise, it rose 191%, from 46 vehicles to 134 vehicles, on the southern road between Abancay and Chahuanca (120 km). The travel time for a passenger car was substantially reduced from 90 to 120 minutes to 50 to 60 minutes on the northern road and from 200 to 240 minutes to 120 to 140 minutes on the southern road.

Road improvement projects have had a major impact on the regional economy and this project is no exception. The Gross Regional Domestic Product (GRDP) of the regions covered by the project has been steadily on the rise. Many residents have noted a number of economic benefits from improved access, including an increase in the number of tourists, more job opportunities, and improved convenience in daily life.

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

Relevance

This project has been highly relevant with Peru's national policies and development needs at the times of both appraisal and ex-post evaluation. The roads upgraded under the project provide regional hub cities (Chiclayo in the north and Cusco in the south) with a link to a major road network, underlying the significance of roads as a foundation of regional economic development.

Efficiency

Both project period and project costs were higher than planned; therefore the evaluation for efficiency is low. It took 268% of the planned period and 125% of the planned cost. Extension of the project period occurred because the Peruvian government put a priority on financing for Phase I of this project after it imposed restrictions on external borrowing, and the procurement process was temporarily suspended due to the lack of funds.

Sustainability

No major problem has been observed in the capacities of the executing agencies (a government agency in the north an outsourced private company in the south) nor their operation and maintenance (O&M) system; therefore sustainability of this project is high. The O&M budget is appropriately allocated and there are no major problems in the technical aspects.

Conclusion, Lessons Learned, Recommendations

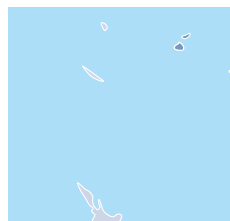
In light of the above, this project is evaluated to be satisfactory. The evaluator proposes a number of recommendations. For the northern road, safety measures should be strengthened to reduce speeding vehicles, and an agreement should be reached with the residents so that they stop setting up illegal speed bumps. The southern road faces two major challenges: the risk of soil erosion and landslides, and the risk of accidents at points of poor visibility. The construction of retaining walls along this mountainous road will require a large budget with careful consideration to cost effectiveness.



A tollgate at Pomalca in the city of Chiclayo



Nadi-Lautoka Regional Water Supply Project



Contributing to longer water service hours in areas prone to water cuts with surging demand

[External evaluator]

Jun Arakawa, Mitsubishi UFJ Research & Consulting Co., Ltd.

| Rating | | |
|-----------------------|---|----------------------------|
| Effectiveness, Impact | a | Overall rating B |
| Relevance | a | |
| Efficiency | b | |
| Sustainability | b | |

Project Objectives

To relieve water shortages due to the insufficient system capacity and meet the emerging demand for water among consumers and industries by improving and expanding water supply network in and around Nadi-Lautoka, thereby contributing to improved health and welfare among local residents and to the development of the national economy, with a focus on tourism – the largest source of foreign currency for Fiji.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 2,287 million yen / 2,244 million yen
- Loan agreement: February 1998
- Terms and conditions: 2.5% interest rate; 25-year repayment period (including a 7-year grace period); general untied
- Final disbursement date: April 2004
- Executing agency: Water and Sewerage Department (WSD), Ministry of Finance, National Planning, Sugar Industry and Public Utilities (Water and Energy)

Effects of Project Implementation (Effectiveness, Impact)

As the figure below shows, this project is designed to improve and expand the intermediate stages of the water supply flow (mainly purification plants, distribution reservoirs, and transmission pipes). The daily water supply capacity has increased to 103 million liters, surpassing the target of 93 million liters. The purification plants are operating at almost full capacity.

The project has produced tangible benefits in the target areas, including longer water service hours, the reduced number of water trucks dispatched, and the increasing trend in the number of newly connected households per year. Some problems have remained, for example, water cuts occur as a result of leakage from the network of distribution pipes, and, according to the beneficiary survey, there are some areas where improved health and welfare of the residents were not achieved by this project. Still the project, with its focus on a major tourist spot, partly contributed to the increasing number of tourists.

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

Relevance

This project has been highly relevant with Fiji's national policies and development needs at the times of both appraisal and ex-post evaluation. The importance of improving and expanding the water supply network to cope with an increasing population and demand was adequately recognized by the time of the appraisal, as evidenced by the formulation of the Nadi-Lautoka Regional Water Supply Project Master Plan ("Master Plan") in 1996. Also at the time of the ex-post evaluation, the significance of further water supply measures based on the outcomes of this project was recognized at policy levels.

Efficiency

The project period was longer than planned (127% of the planned period) and the project cost slightly exceeded the plan (121% of the planned cost), therefore the evaluation for efficiency is moderate. As a major factor for the extended duration and extra cost, the Fijian government reported the suspension of this project due to a change in political situation.

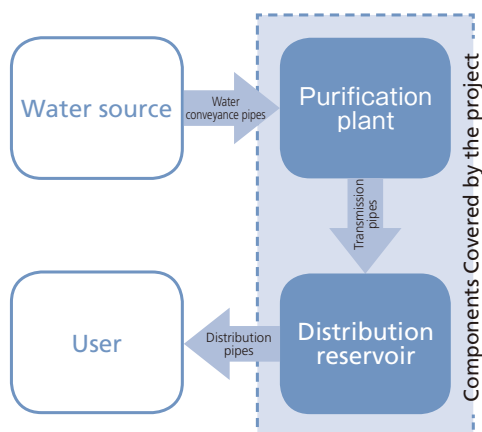
Sustainability

Though some problems have been observed in the technical and organizational aspects of the executing agency, notably the structural shortfall in human resources and financial difficulties, sustainability of this project is fair. Regarding human resources, sufficient number of local workers with an inadequate level of skills and insufficient number of those in managerial positions with sufficient skills have been observed. While financial difficulties are due to the water supply services operated on a strict government budget, this will be eased when the Water and Sewerage Department (WSD) becomes a self-financed public corporation.

Conclusion, Lessons Learned, Recommendations

In light of the above, this project is evaluated to be satisfactory. A major lesson learned from the project is the need for project formulation and monitoring that consider the entire flow of water supply. The evaluation proposes two major recommendations: (i) steady steps for WSD toward its transformation into a public corporation so as to address the issues of insufficient human resources and financial difficulties, (ii) immediate start of revising the Master Plan to ensure the effectiveness of water supply services in Fiji as a whole.

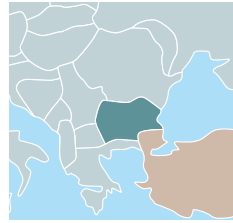
Relationship between this project and the entire water service flow





Project on Development of Business Management Skills Training Center for Small and Medium sized Enterprises Managers in Bulgaria

The project contributed to training business leaders. Further strengthening of the operational system is needed.

Europe **Bulgaria**

Rating

Secondary evaluation

Overall rating

C

Project Objectives and Cooperation Framework

《 Objectives 》

99% of Bulgarian companies are small- and medium-sized enterprises (SMEs). The project will develop a practical training program for SME managers who have little opportunity to learn practical managerial skills. The project thereby aims to create an environment in which SME managers can learn practical management techniques.

《 Cooperation Framework 》

Overall goal:

- Managerial Skills of SME managers who participated in the training courses established in the Project are enhanced, resulting in concrete successful outputs in their companies.
- Practical educational quality of the Business Skills Training Center is maintained and further developed by the Institute for Postgraduate Studies at the University of National and World Economy - Sofia (IPS) and other Bulgarian authorities concerned

Project purpose:

- Practical Business Skills Training Center for SME managers is established in IPS.

Outputs:

- Business courses necessary for enhancing practical (not theoretical) skills of Bulgarian SME managers are developed or improved in the IPS.
- Teaching materials and methods for the improved courses are developed / maintained.
- Managers / Lecturers / Instructors for the above-mentioned courses are developed.
- Effective methods of recruiting training participants (especially from SME managers) are studied and systematically established.
- Monitoring and after-service system for ex-participants of the courses is prepared in IPS.

Outline of the Project

- Total cost (Japanese side): 188 million yen
- Period of cooperation: March 2004 to March 2007
- Partner country's implementing agency: the Institute for Postgraduate Studies (IPS) at the University of National and World Economy - Sofia
- The number of experts dispatched: 3 experts (long-term), 11 experts (short-term)
- The number of technical training participants taught in Japan: 12 participants
- Main equipment provided: projectors, screens, etc.

Effects of Project Implementation (Effectiveness, Impact)

Project purpose (effectiveness): Various training courses (such as the "global management / leadership" course) are being developed and implemented at the MSDC. Over 500 people participated in the courses and the courses are gaining a good reputation. For example, 70% of the participants said that the courses would be useful for their business according to questionnaire surveys. It is expected that the developed training courses will be maintained by recruiting more participants through utilizing the course graduates' networks, etc. Therefore, the project is likely to achieve its project purpose. However, there are some challenges such as overcoming the weak financial situation and cooperating with industry.

Forecast for the achievement of the overall goal (impact): According to the interview survey, the participants on the MSDC regular courses consider that their practical managerial knowledge and skills were significantly improved. Therefore, it is considered that the project can contribute to an improvement in the performance of Bulgarian SMEs. However, the total number of participants is still small. The courses should attract a larger number of participants and continue to be conducted after the project ends.

Relevance

As seen in the "National Economic Development Plan 2002-2006" which was produced under the framework of the Bulgarian government's development plan, the development of SMEs is set as a priority issue in Bulgaria. Therefore, the project is consistent with the Bulgarian development plan. The project is also consistent with Japanese ODA policy which focuses on assistance for the promotion of a market economy.

Efficiency

The Bulgarian government selected an appropriate counterpart which is enthusiastic and has an in-depth understanding of the project purpose, and close communication was established between the Japanese project team and the Bulgarian counterparts. These enabled efficient project implementation. However, the operational system of the MSDC needs to be strengthened and streamlined further.

Sustainability

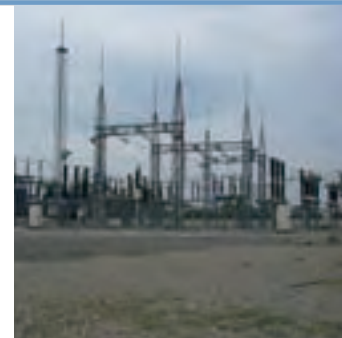
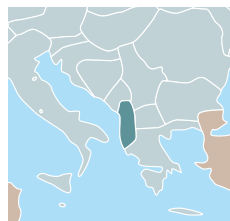
The MSDC is still working on developing its operational system. It needs to efficiently develop concrete collaborative relationships with the private sector and government organizations such as the Ministry of Economy and Energy. It also needs to consider measures to overcome its weak financial position, because it is difficult to earn enough revenue to cover the costs by only operating the MSDC regular courses.

Conclusion, Lessons Learned, Recommendations

Practical training courses for business leaders were established and these courses and seminars are gaining a good reputation. Therefore, it is considered that the project generally achieved its project purpose. In order to ensure the project's sustainability including its financial sustainability, there is a need to produce a future strategy for the MSDC and to strengthen further the center's management abilities. The MSDC should also build a framework for cooperation with industry. Lessons learned for future projects which involve the establishment of training courses at university facilities include: the need for the development of a more efficient and organizational system; and the need for cooperation with industry, etc.



Europe **Albania**



Power Transmission and Distribution Project

Contributing to increased stability and reliability of the power supply system by repairing and reinforcing the country's main transmission and distribution network

[External evaluator]

Yuriko Sakairi and Yasuhiro Kawabata, Sanshu Engineering Consultant Co., Ltd.

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

Project Objectives

To improve the stability and reliability of the power supply system, including reducing technical losses, and promote the efficient management of energy resources by repairing and reinforcing Albania's main transmission and distribution network, thereby contributing to a better living environment and economic development in the project area.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 3,124 million yen / 3,072 million yen
- Loan agreement: December 1996
- Terms and conditions: 2.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied (consulting services: 2.3% interest rate; 30-year repayment period (including a 10-year grace period); general untied)
- Final disbursement date: October 2005
- Executing agency: Albania Power Corporation (KESH)
- Website URL: www.kesh.com.al/

Effects of Project Implementation (Effectiveness, Impact)

Although the total power loss rate stood at 44.6% in 2006, 4% above the targeted rate, the repairs and reinforcements of transmission and distribution facilities under the project lead to the reduction of power loss rates to 33.5% in 2007. The total power loss rate was only 30.2% in the same year in the capital city of Tirana, the area financed by the Japanese ODA loan. According to a beneficiary survey, many households and enterprises experience one or more instances of a power outage or voltage fluctuation per day, and 45% of households and 53% of enterprises said that they often suffer mechanical malfunctions. On the other hand, some respondents noted improvements in the power supply services, due to increased supply of power, more stable voltage, and lower frequency of power outages.

This project has produced certain effects, and its effectiveness is moderate.

Relevance

This project has been highly relevant to Albania's national policies and development needs at the times of both appraisal and ex-post evaluation. The National Development Plan for 1996-1998, placed emphasis on infrastructure development, including the energy sector, and the National Development Plan for 2003-2008, which regards a stable power supply by repairing and reinforcing aging electricity facilities and equipment as the top priority for the energy sector.

Efficiency

Both project period and project cost exceeded the plan; therefore the evaluation for efficiency is low. The actual project period was 136% of planned period mainly because the World Bank and the European Bank for Reconstruction and Development suspended their lending to the project for two and a half years from 1998, citing the deteriorating management of KESH amid social and economic movements in the country (This project was co-financed by six donors). The actual project cost was 152% of the planned cost mainly because it covered additional work that was agreed upon in the project review process following the resumption of the loan.

Sustainability

No major problems have been observed in the capacity of the executing agency nor its operation and maintenance system; therefore, sustainability of this project is high. In terms of technical aspects of maintenance, the executing agency is committed to improving its capacity through regular training. On financial terms, the basis of KESH is somewhat unstable when imports of power increase in dry years. However, because O&M budget allocations for KESH are expected to increase, the O&M of the project will most likely be implemented accordingly.

Conclusion, Lessons Learned, Recommendations

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

Power Supply-Demand Balance (GWh)

| | 2003 | 2004 | 2005 | 2006 | 2007 |
|---------------------|-------|-------|-------|-------|-------|
| Internal generation | 4,811 | 5,395 | 5,356 | 5,451 | 3,813 |
| Imports | 916 | 478 | 524 | 605 | 1,888 |
| Supply | 5,727 | 5,873 | 5,880 | 6,056 | 5,701 |
| Demand | 6,389 | 6,429 | 6,640 | 6,465 | 6,659 |
| Difference | -662 | -556 | -760 | -409 | -958 |

* Figures for 2007 are forecasts.
Source: KESH