Internal Ex-Post Project Evaluation 2011

Evaluation Report

May 2023

Japan International Cooperation Agency

（JICA）

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List of Internal Ex-post Evaluation

Type of Assistance	Project Start Year*	Type of Evaluation	Country	Sector/Theme	Project Name	Project Number
G	2004	Ex-post Evaluation	Niger	Water Supply	The Project for Water Supply for Guinea Worm Eradication in Zinder Region (Projet d'Approvisionnement en eau potable en vue de l'Eradication du ver de Guinée dans la région de Zinder)	0401700
G	2004	Ex-post Evaluation	China	Health / Health Care	The Project for Improvement of Medical Care Level in the Xinjiang Uygur Autonomous Region	0405000
G	2004	Ex-post Evaluation	Benin	Water Supply	The Project for Rural Water Supply (Phase V) Projet d'approvisionnement en eau potable dans la région rurale (Phase V)	0407500
G	2004	Ex-post Evaluation	Eritrea	Roads	The Project for Rehabilitation of Bridges on the Asmara-Massawa Road	0410200
G	2004	Ex-post Evaluation	Gambia	Water Supply	The Project for Rural Water Supply (Phase II)	0410400
G	2004	Ex-post Evaluation	Mozambique	Health / Health Care	The Project for Improvement of the Institute of Health Science of Quelimane	0410500
G	2004	Ex-post Evaluation	Senegal	Water Supply	Project of Water Supply in Rural Area (Projet d'approvisionnement en eau en milieu rural)	0412200
G	2004	Ex-post Evaluation	Guatemala	Water Supply	The Project for Ground Water Development in Rural Area (El Proyecto de Desarrollo de Aguas Subterráneas en Áreas Rurales)	0412400
G	2005	Ex-post Evaluation	Pakistan	Rivers / Erosion Control	The Project for the Improvement of the Flood Forecasting and Warning System for Lai Nullah Basin	0504600
G	2005	Ex-post Evaluation	Uganda	Roads	The Project for the Improvement of Traffic Flow in Kampala City	0505200
G	2005	Ex-post Evaluation	Kiribati	Ports	The Project for Rehabilitation of the Betio Port	0507900
G	2005	Ex-post Evaluation	Tuvalu	Electrical Power	The Project for the Upgrading of Electric Power Supply in Funafuti Atoll	0508200
G	2005	Ex-post Evaluation	Cambodia	Education	The Project for the Construction of Primary Schools in Phnom Penh, Phase II	0508800
G	2005	Ex-post Evaluation	Ethiopia	Water Resources Development	The Project for the Water Supply in Amhara Regional State	0509700
G	2005	Ex-post Evaluation	Malawi	Water Resources Development	The Project for the Groundwater Development in Lilongwe West	0510000
G	2005	Ex-post Evaluation	Malawi	Transportation / Traffic / General	The Project for the Reconstruction of Mainroad 5 Bridges between Balaka and Salima	0510100
G	2005	Ex-post Evaluation	Rwanda	Road Transport	The Project for the Rehabilitation of Public Transport	0510200
G	2005	Ex-post Evaluation	El Salvador	Health / Health Care	Project for Rehabilitation of Infrastructure and Equipment of the Rosales National Hospital (El Proyecto de Rehabilitacin de la Infraestructura y Equipamiento del Hospital Nacional Rosales)	0510400
G	2006	Ex-post Evaluation	India	Water Supply	The Project for the Development of Groundwater in the State of Uttar Pradesh	0512900
T	2006	Ex-post Evaluation	Indonesia	Higher Education	The Project for Improving Higher Education Institutions through University-Industry-Community Links (Hi-Link) in Gadjah Mada University	200600399
T	2004	Ex-post Evaluation	Thailand	Business Management	Project on Technical Strengthening of National Institute of Metrology Phase II	200601096
T	2004	Ex-post Evaluation	Thailand	Sewerage	Project for Improvement of Sewage Treatment Plants Management in Thailand	200601126
T	2005	Ex-post Evaluation	Thailand	Health / Health Care	The HIV/AIDS Regional Coordination Center (RCC) Project	200601174
T	2005	Ex-post Evaluation	Laos	Health / Health Care	The Project for Strengthening Medical Logistics In Lao P.D.R	200601505
T	2002	Ex-post Evaluation	China	Environment Issue	The Sino-Japan Friendship Center for Environmental Protection Project Phase 3	200601991
T	2005	Ex-post Evaluation	China	Health / Health Care	Hospital Infection Control Project in Guangzhou	200602029
T	2005	Ex-post Evaluation	Mongolia	Weather / Earthquakes	Development of Human Capacity for Weather Forecasting and Data Analysis	200602157
T	2005	Ex-post Evaluation	Bangladesh	Environment Issue	Project for Sustainable Mitigation of Arsenic Contamination under the Integrated Local Government System	200602299
T	2005	Ex-post Evaluation	Papua New Guinea	Primary Education	Project for Strengthening Long Distance Education	200602785
T	2005	Ex-post Evaluation	Palau	Urban Sanitation	Improvement on Solid Waste Management in the Republic of Palau	200602884
T	2002	Ex-post Evaluation	Costa Rica	Fisheries	Project on Sustainable Fisheries Management for the Gulf of Nicoya	200602933
T	2005	Ex-post Evaluation	El Salvador	Urban Sanitation	The project on Integrated Solid Waste Management for Municipalities in El Salvador	200603020
T	2001	Ex-post Evaluation	Argentina	Mining	Regional Geologic Mapping with Advanced Satellite Sensors	200603305
T	2004	Ex-post Evaluation	Argentina	Forestry / Forest Preservation	The Natural Environment Conservation Project in the Iguazu Area	200603318
T	2001	Ex-post Evaluation	Bolivia	Health / Health Care	Strengthening Regional Health Network of Santa Cruz Department of the Republic of Bolivia	200603356
T	2003	Ex-post Evaluation	Brazil	Health / Health Care	The Healthy Municipality Project in the Northeast Brazil	200603431
T	2004	Ex-post Evaluation	Brazil	Forestry / Forest Preservation	The project for Forest Conservation and Environmental Education in the Eastern Amazon	200603450
T	2005	Ex-post Evaluation	Chile	Health / Health Care	Project for Strengthening of the National Food Safety Program	200603534
T	2005	Ex-post Evaluation	Palestine	Population / Family Planning	Project for Improving Reproductive Health with a Special Focus on Maternal and Child Health	200604023
T	2006	Ex-post Evaluation	Jordan	Education	Capacity Development of Learning Resources Centers (LRCs) for Science Education utilizing ICT	200604075
T	2006	Ex-post Evaluation	Turkey	Electrical Power	The Project for Energy Efficiency Improvement of Power Plant in Turkey	200604283
G	2006	Ex-post Evaluation	Kyrgyz Republic	Roads	The Project for the Improvement of the Equipment for Road Maintenance in Naryn	0604300

Type of Assistance	Project Start Year*	Type of Evaluation	Country	Sector/Theme	Project Name	Project Number
G	2006	Ex-post Evaluation	Azerbaijan	Electrical Power	The Project for the Improvement of Mushviq Substation in Baku	0604400
T	2004	Ex-post Evaluation	Ghana	Forestry / Forest Preservation	Participatory Forest Resource Management Project in the Transitional Zone	200604642
T	2005	Ex-post Evaluation	Ghana	Primary Education	Project to Support the Operationalisation of the In-Service Training Policy	200604654
T	2006	Ex-post Evaluation	Ghana	Tourism / General	The Tourism Development Project Through Strengthening Public-Private Partnership	200604657
T	2005	Ex-post Evaluation	Kenya	Environment Issue	Project for Improvement of Emvironmental Management Capacity in Nakuru Municipality and the Surrounding Areas	200604718
T	2005	Ex-post Evaluation	Kenya	Health / Health Care	Project for Improvement of Health Services with a focus on Safe Motherhood in the Kisii and Kericho Districts	200604720
T	2004	Ex-post Evaluation	Kenya	Forestry / Forest Preservation	Intensified Social Forestry Project in Semi-arid Areas of Kenya	200604735
G	2006	Ex-post Evaluation	Cameroon	Water Resources Development	Project for Rural Water Supply （Phase IV） （Projet d'hydraulique rurale （Phase IV））	0605400
T	2006	Ex-post Evaluation	Sierra Leone	Agriculture / General	Agricultural Development Project in Kambia District	200605497
G	2006	Ex-post Evaluation	Nepal	Broadcasting	The Project for the Improvement of Short Wave and Medium Wave Radio Broadcasting Stations	0608700
T	2004	Ex-post Evaluation	Ecuador	Weather / Earthquakes	Project for Enhancement of the Volcano Monitoring Capacity	200608739
G	2006	Ex-post Evaluation	Kenya	Water Resources Development	The Project for Rural Water Supply	0609200
G	2006	Ex-post Evaluation	Bolivia	Health / Health Care	The Project for Improvement of Health Supply Center （CEASS） (El Proyecto de Mejoramiento de la Central de Abastecimiento y Suministros de Salud)	0609900
G	2006	Ex-post Evaluation	Solomon Islands	Roads	The Project for the Reconstruction of Bridges in East Guadalcanal	0610000
G	2006	Ex-post Evaluation	Federated States of Micronesia	Ports	The Project for the Improvement of the Weno Harbor	0610100
G	2007	Ex-post Evaluation	Uzbekistan	Health / Health Care	The Project for Improvement of Primary Medical Services in Tashkent and Djizak Regions	0611100
G	2006	Ex-post Evaluation	Malawi	Health / Health Care	The Project for Improvement of Rural Health Care Facilities	0611700
G	2006	Ex-post Evaluation	Montenegro	Health / Health Care	The Project for Improvement of Medical Equipment for Main Hospitals	0612200
G	2007	Ex-post Evaluation	Indonesia	Broadcasting	The Project for Expansion of Radio Broadcasting Coverage in the Remote Areas	0702000
G	2007	Ex-post Evaluation	Nepal	Electrical Power	The Project for the Construction of New Kawasoti Substation	0702100
G	2007	Ex-post Evaluation	Maldives	Education	The Project for Construction of the Second Girls Secondary School in Male'	0704600
G	2007	Ex-post Evaluation	Cameroon	Communications / Broadcasting / General	The Project for Improvement of Radio Broadcasting Equipment （Projet d'aménagement de l'équipement pour la radiodiffusion）	0705300
G	2007	Ex-post Evaluation	Mozambique	Education	The Project for Construction of the Cuamba Teacher Training Center	0706100
G	2007	Ex-post Evaluation	Bosnia and Herzegovina	Roads	The Project for Improvement of the Equipment for Road Maintenance	0706600
G	2007	Ex-post Evaluation	Tuvalu	Ports	The Project for Improvement of Funafuti Port	0706900
G	2007	Ex-post Evaluation	Philippines	Water Transport / Ships	The Project for Enhancement of Communications System for Maritime Safety and Security	0707000
G	2007	Ex-post Evaluation	Uzbekistan	Population / Family Planning	The Project for Improvement of Medical Equipment for Obstetrics and Gynecology Research Institute	0707900
G	2007	Ex-post Evaluation	Eritrea	Health / Health Care	The Project for Improvement of Regional Medical Service	0708300
G	2007	Ex-post Evaluation	Morocco	Weather / Earthquakes	Project for Improvement of Equipment for the Flood Control （Projet de aménagement des équipements de protecion contre les inondations）	0709400
G	2007	Ex-post Evaluation	Ukraine	Health / Health Care	The Project for Improvement of Medical Equipment for Children's Hospitals	0710800
G	2007	Ex-post Evaluation	Moldova	Agricultural Machinery	The Project for Improvement of Equipment for the National Training Center for Agricultural Mechanization	0710900

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Niger Office, Burkina Faso Office: March, 2013

Country Name	The Project for Water Supply for Guinea Worm Eradication in Zinder Region (Projet d'Approvisionnement en eau potable en vue de l'Eradication du ver de Guinée dans la région de Zinder)
Niger	

I. Project Outline

Project Cost	E/N Grant Limit: 814 million yen		Contract Amount:813 million yen
E/N Date	June, 2004		
Completion Date	February, 2007		
Implementing Agency	Ministry of Water Resources, Environment and the Fight Against Desertification (MHE/LCD) (Present: Ministry of Water Resources and Environment (MHE))		
Related Studies	Basic Design Study: February, 2003 - August, 2003		
Contracted Agencies	Consultant	Japan Engineering Consultants Co., Ltd. (Currently, Eight-Japan Engineering Consultants Inc.)	
	Contractor	A consortium of Nissaku Co., Ltd. and Sojitz Corporation	
	Supplier	Sojitz Corporation.	
Related Projects (if any)	Japan's cooperation • The project for water supply for guinea worm eradication (Grant Aid, 1997-2000) • Japan Overseas Cooperation Volunteer: dispatch of 2 volunteers to guinea worm office at the Regional Direction of Public Health and the Fight against Endemic for Zinder region Other donors' cooperation • Water, hygiene and sanitation sector support project for the Danish International Development Agency (DANIDA, 2003-2006) • Project of water supply in rural areas (construction of 175 boreholes) (World Vision (NGOs), from 2004 to 2008) • Construction program boreholes (AQUADEV (NGO))		
Background	Niger government attempted to raise water coverage ratio from 51.5% in 2000 to 100% in 2010. However, the ratio in Zinder Region decreased from 75% in 1990 to 55% in 2001 and many people had difficulty in accessing safe water. As a result, there were many people infected with guinea worm parasites which are infected through drinking water. In response to the situation, the government of Japan implemented "The Project for water supply guinea worm eradication (1997-2000)" which constructed 167 boreholes (construction of 90 new boreholes and rehabilitation of 77 boreholes) in 128 villages in Mirriah District, Zinder Region, which had the highest incident rate of guinea worms. The project had been successful in eradicating guinea worms; however, there were new incidents of guinea worms in Zinder region after 2003 and there was a need for decreasing water borne diseases including guinea worm parasites. Under this situation, the government of Niger requested the government of Japan to implement an additional water supply project.		
Project Objective	Outcome To supply safe and stable water in 88 villages in Mirriah, Zinder Region by constructing boreholes and procuring equipment necessary for the construction and for awareness raising activities.		
	Outputs Japanese side • Procuring equipment necessary for awareness raising, water quality measurement, and repairs of pumps, and parts for repairing previously procured vehicles • Construction of 93 boreholes in 88 villages • Support for village awareness raising activities for water use and sanitation (Soft component) Niger side • Lands for borehole construction • Securing access to the construction sites (repair of roads)		

II. Result of the Evaluation

Summary of the Evaluation

Modern water supply facilities had not been fully constructed in Niger, and people used unsafe water from lakes and shallow wells. Incidence of guinea worm was high in Zinder Region with 21,000 infected people among 33,000 nationwide. In particular, many infected people were found in Mirriah.

This project has largely achieved its objectives: The water coverage ratio has increased, the quality of drinking water has improved, and people's awareness has been raised in Mirriah, Zinder Region. In addition, the number of patients of water borne diseases such as diarrhea and cholera has decreased, and the workload of collecting water has decreased. Furthermore, the project has contributed to eradication of guinea worms. As for sustainability, problems have been observed in financial aspect. The Regional Direction of Water Resource, Zinder under the Ministry of Water Resources and Environment has insufficient budget for support and technical guidance to water point management committees and pump

repairers and for maintenance of the equipment procured by the project.

For relevance, the project has been highly relevant with Niger's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Niger's development policies "to increase the water coverage ratio to 100% by 2010 as set in National Hydraulic Program (1999-2000) and to increase the water coverage ratio to 58% in rural areas by 2015 (100% in urban areas) as set in National Drinking Water Supply and Sanitation Program (PN-AEPA, 2011-2015)", development needs "to decrease incidents of the water borne diseases including guinea worm by providing safe water in Zinder Region where the prevalence is high", as well as Japan's ODA policy (support for education, health, rural development and water supply as the prioritized area).

Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project has largely achieved its objective of supplying safe drinking water in Mirriah, Zinder Region. The water coverage ratio has increased from 61% in 2002 to 72% in 2011. Among 10 villages visited during the site survey, the quality of water satisfied the standards of the Niger in 8 villages (The pumps were broken and being repaired at 2 villages). According to interviews with 40 beneficiaries (rural residents) in 10 villages, the awareness of people have changed: Before the project, people used unsafe water from the ponds and shallow wells, however people now use water from the boreholes for drinking and cooking purposes and for their domestic animals. In addition, people wash ingredients, clothes, and their hands more often than before.

According to interviews with the Regional Direction of Public Health and the Fight against Endemic Zinder (the "Regional Direction of Public Health Zinder") and rural residents, the number of water borne diseases such as diarrhea and cholera have decreased drastically in the target areas after the project. In particular, together with the effects of other borehole construction projects supported by Japan's previous grant aid and other donors, currently there is no guinea worm parasite in Mirriah*. The Regional Direction of Public Health Zinder recognizes that the project has contributed to the guinea worm eradication. In addition, this project has contributed to the decrease of workload of collecting water.

There is no negative impact on natural environment. Lands for the boreholes were acquired properly based on the domestic laws and no resettlement occurred.

Therefore, effectiveness/impact of this project is high.

*The prevalence of guinea warm in Mirriah, Zinder decreased from 1,528 in 1996 to 36 in 2002.

Quantitative Effects

	2002Actual (BD)	2007 Planned (Target Year)	2007 Actual (Target Year)	2012 Actual (Year of ex-post evaluation)
Indicator 1 Served population in the target 88 villages (persons)	21,350	80,210	N/A.	N/A
Indicator 2 Water coverage ratio in Mirriah (%)	61	66	73.01 (data for 2009)	72.38 (data for 2011)

Source : SYNTHESE REF 2009, and Rapport sur les indicateurs 2011.

Note : Indicator 2 : area-wise water coverage ratio

3 Efficiency

The inputs were appropriate for producing the outputs of the project, and both the project cost and the project period were within the plan (ratio against the plan: 99%, 97%).

Therefore, efficiency of this project is high.

4 Sustainability

99 boreholes in 91 villages constructed under this project are operated and maintained by water point management committees in the target villages. At the same time, Regional Direction of Water Resource Zinder under the Ministry of Water Resources and Environment (the "Regional Direction of Water Resource Zinder") is responsible for selection and supervision of pump repairers, preparing the basic infrastructure for pump sales and distribution networks, and urgent repairs of pumps. Operation and maintenance by the water point management committees are limited to the simple works such as daily checkups, and repair works, which are carried out by trained pump repairers, and spare parts are supplied by private suppliers. In the 10 villages where the site survey was conducted, most committees function well, and no serious problem of pump repair work was found, although there are problems of shortage of pump repairers and long waiting time for procuring parts from suppliers, whose sales offices are in Zinder city. Equipment procured by the project is maintained by The Regional Direction of Water Resource Zinder and the Regional Direction of Public Health Zinder. Therefore, there is no problem in institutional aspect.

The project has no technical problem. The water point management committees and the pump repairers carry out

operation and maintenance by observing guidelines. The staff at the Regional Direction of Water Resource Zinder own technical skills of urgent repair works and operation of the equipment procured by the project. In financial aspect, maintenance costs of boreholes (especially pumps) are funded by the user charges the committees collect from water users. Although some committees do not keep the account appropriately, basically there is no financial problem in the committees. On the other hand, The Regional Direction of Water Resource Zinder does not have sufficient budget for providing training and support for the water committees and pump repairers, and for the maintenance of the equipment provided by the project. Therefore, this project has some problem in financial aspect. On the current status of operation and maintenance, boreholes in the 10 villages visited during the survey are well maintained; however, the Regional Direction of Water Resource Zinder does not have information on the rest of the wells (88 wells). The equipment provided by the project is maintained well.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for implementing agency:

- The Regional Direction of Water Resource Zinder and the Regional Direction of Public Health Zinder are responsible for maintenance of the equipment provided by the project; however, they do not carry out maintenance and inspection properly due to budget shortage. The equipment is expected to be used for further construction of boreholes and for awareness raising activities. Therefore, both departments need to secure budgets for maintenance.
- Since members of water point resource committees change often, the committees want Regional Direction of Water Resource to provide technical guidance and support for daily maintenance and inspection. In addition, there are needs for developing pump repairers and strengthening a system for parts supply. MHE needs to respond to those issues as soon as possible.

Lessons Learned to JICA

- The efforts by the water point management committees for their maintenance of boreholes (especially pumps) should be appreciated. However, since parts suppliers do not have agents/sales offices in district level, it takes long time to procure spare parts, and therefore, coordination between the pump repairers and parts suppliers is very difficult. Coordination among water point management committee, pump repairers and parts suppliers is important for sustainable use of boreholes. In planning of future similar projects, it is necessary to consider including a component of strengthening a system for prompt and stable supply of spare parts.

A borehole facility

A borehole facility

Internal Ex-Post Evaluation for Grant Aid Project

conducted by China office: March, 2013

Country Name	The Project for Improvement of Medical Care Level in the Xinjiang Uygur Autonomous Region
People's Republic of China	

I. Project Outline

Project Cost	E/N Grant Limit: 1,158 million yen	Contract Amount: 970 million yen
E/N Date	July, 2004	
Completion Date	December 2005	
Implementing Agency	Responsible Agency : Ministry of Commerce of the People's Republic of China (Foreign Trade & Economic Cooperation Department of Xinjiang Uygur Autonomous Region) Implementing Agency : Health Bureau of Xinjiang Uygur Autonomous Region, Health Bureau of Hotan City Implementing Agency(Administering Authorities) : People's Hospital of Xinjiang Uygur Autonomous Region, People's Hospital of Hotan City	
Related Studies	Basic Design Study: March – November 2003	
Contracted Agencies	Consultant	INTEM Consulting, Inc.
	Suppliers	Marubeni Corporation, Ogawa Seiki, Co. Ltd.
Related Projects (if any)	Grant Aid : Improvement of Equipment for Shui Mo Gou Hot Spring Sanatorium In Ulumqi (1987), The Project for Promotion of Infectious Diseases in Western Seven Provinces (2002) Grant Assistance for Grassroots Human Security Projects : The Project for Supply of Medical Equipment for the People's Hospital of Xinjiang Uygur Autonomous Region (1998), The Project for Emergency Assistance for the Qianshan Township Hospital in Yiwu Country, Xinjiang Uygur Autonomous Region (2001)	
Background	Located far from the central part of the People's Republic of China with the desert area being widely spread, Xinjiang Uygur Autonomous Region has lagged behind in the rapid Chinese economic development. The People's Hospital of Xinjiang Uygur Autonomous Region, serving as the top-referral hospital in the region as well as the training institute of those health professionals, have played the vital role not only to provide the emergency medical care to the entire region but also to deliver the medical services into the frontier area of the region. Since medical facilities and equipment of the hospital have been deteriorated across the ages and the maintenance and repair works have not been properly conducted due to the budgetary constraints, it has become difficult for the hospital to provide the top-referral services to its target population. Under these circumstances, the Government of China requested the Grant Aid Assistance to Japan to renovate the medical equipment in the People's Hospital of Xinjiang Uygur Autonomous Region. After the series of discussions, it was decided that, considering the benefits to the Xinjiang Uygur Autonomous Region which has a broad area, such assistance should also be intended to the People's Hospital of Hotan City which has assumed a role of a center hospital in southern area. And both hospitals have often collaborated through the referral network, such that the People's Hospital of Xinjiang Uygur Autonomous Region dispatched medical assistance team to the People's Hospital of Hotan City.	
Project Objectives	Outcome To scale up the medical services as well as to raise its quality standards of the People's Hospital of Xinjiang Uygur Autonomous Region and the People's Hospital of Hotan City by provision and proper installment of adequate equipment.	
	Outputs Japanese side: Provision and proper installment of medical equipment to two targeted hospitals - 125 items of medical equipment to the People's Hospitals of Xinjiang Uygur Autonomous Region:C-arm Angiographic System, Anesthesia Machine、Microscope、Automatic Chemical Analyzer, Automatic Slide Stainer、Ultrasound Scanner for Cardiac examination, Holter system、ambulance, etc. - 30 items of medical equipment to the People's Hospitals of Hotan City: X-ray TV system、Automatic Film Developer、Respirator, etc. Chinese side: - To prepare the site to install the equipment - To secure the utilities to operate the equipment - To bear the cost of custom clearing, administrative process of equipment procurement - Proper operation and maintenance of equipment Japanese Side	

II. Result of the Evaluation

Summary of the Evaluation
Established in 1934, the People's Hospital of Xinjiang Uygur Autonomous Region, the top-referral hospital in the region, has made much effort to improve the medical wards and related facilities and equipment with the constructive assistance

from the regional government. However, the maintenance and repair works have not been properly conducted due to the budgetary constraints, it has become difficult for the hospital to provide the top-referral level services. The People's Hospital of Hotan City, established in 1986 as a clinic with only out-patient services at the beginning, has installed facility and equipment step by step, and served as the center hospital of the southern region to provide secondary level medical services. However, with the deteriorated medical facilities and equipment, it has become difficult to provide even the usual daily medical care.

Under these circumstances, the project was implemented with the purpose to scale up the medical services as well as to raise its quality standards of the People's Hospital of Xinjiang Uygur Autonomous Region and the People's Hospital of Hotan City by provision and proper installment of adequate equipment.

The project has largely achieved to improve the medical services in the Xinjiang Uygur Autonomous Region in both quantitatively and qualitatively. Indicators such as the average waiting days for operation, the total number of operations and the diagnostic accuracy have shown the great progress in comparison of the time before the project, the target year and at the time of ex-post evaluation. It was identified that progress of quantitative effects has also reflected on the improvement of overall patient satisfaction. Furthermore, it has become possible for both hospitals to newly practice the cardiac surgery and the gallstones as well as to give a rapid diagnosis of stomach cancer. And the technical standard (capacity) of clinical doctors has also been greatly improved and the referral network between two hospitals has been further strengthened. As a whole, it can be said that the project has largely achieved its intended purpose.

As for sustainability, the institutional, technical and financial sustainability have been secured, but there are some minor problems observed in terms of current status of operation and maintenance due to that the after-service cares by agent have not been available in China for some equipment. For relevance, the project has been highly relevant with China's development policy, development needs and Japan's ODA policy at the time of ex-ante evaluation and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly consistent with China's development policy, such as the improvement of the medical services specified under the 12th Five-Year Plan for Health (2011-2015), and development needs to renovate the medical infrastructure of major hospitals maintaining the good quality of medical services in the Xinjiang Uygur Autonomous Region, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project has largely achieved to improve the medical services in both quantitatively and qualitatively. In both hospitals, indicators of quantitative effects, such as the average waiting days for operation, the total number of operations per year and the diagnostic accuracy have shown the great progress in comparison of the time before the project, the target year and at the time of ex-post evaluation. In both hospitals, the average waiting days for operation has been decreased to just about three days in spite of the drastic increase of total volume of operations. Such positive changes have been partly attributable to the fact that the time required for diagnostic test has been reduced by providing equipment, and improvement of quantitative ability for operations by effective utilization of those equipment. As a whole, the technical capacity of surgery has been greatly improved by proper utilization of medical equipment provided by the project. In order to cope with the increasing demand of medical services, the People's Hospital of Xinjiang Uygur Autonomous Region has made further efforts to upgrade the medical equipment through independent procurement, such as the Automatic Chemical Analyzer in 2011. It was identified that those independent procurement has also contributed to improvements of indicators. According to the clients' satisfaction survey investigated by both hospitals, the satisfaction level of the patients has been improved because of reduction of waiting time for consultation and inspection as well as better services and respectful attitude toward clients by the health professionals in both hospitals. As a whole, it can be said that the project has largely achieved its intended purpose for qualitative effects.

As for the impacts, it has become possible for both hospitals to newly practice the cardiac surgery and the gallstones as well as to give a rapid diagnosis of stomach cancer. And the technical standard (capacity) of clinical doctors has been greatly improved. Medical doctors of the People's Hospital of Xinjiang Uygur Autonomous Region, who have often given the technical guidance and training for those doctors working in other hospitals of the region, have transferred the technologies using equipment provided by the project. Also, the referral network between two hospitals has been streamlined and their collaboration mechanism has been further strengthened. One of the examples is that the patients of the People's Hospital of Hotan City can receive the remote diagnosis services from the People's Hospital of Xinjiang Uygur Autonomous Region. And if the patients need to be transferred to the People's Hospital of Xinjiang Uygur Autonomous Region, they are served with priority. More than 100 patients, such as those seriously cases, can now receive such rapid diagnosis and priority treatment. Therefore, effectiveness/impact of this project is high.

Quantitative Effects

Indicators		Implemented Hospital	(Before the project) 2002 Actual	(After the project) 2006 Planned	2006 Actual	(Ex-post Evaluation) 2011 Actual
Indicator 1 Technical capacity	① Average waiting days for operation	PH of XUAR	5 days in avg	3 days in avg (Reduced 2days in avg)	n/a*	Approximately within 3 days
		PH of HC	4.6 days in avg	2.6 days in avg (Reduced 2days in avg)	2.8 days in avg	3.3 days in avg

of surgical operation	② Total volume of operations per year	PH of XUAR	9,000 cases/year	10,350 cases/year (15% increase)	Approximately 13,000 cases/year	Approximately 49,000 cases/year
		PH of HC	510 cases/year	612 cases/year (20% increase)	478 cases/year	1,517 cases/year
Indicator 2 Improvement of diagnostic accuracy		PH of XUAR	89%	95% (6 points increase)	n/a*	96% (7 points increase)
		PH of HC	93.9%	98.9% (5 points increase)	98%	98.9% (5 points increase)

(Source：People's Hospital of Xinjiang Uygur Autonomous Region and People's Hospital of Hotan City)
＊As the specific data for the year 2006 was not available, it is shown as "n/a".
PH of XUAR = People's Hospital of Xinjiang Uygur Autonomous Region
PH of HC = People's Hospital of Hotan City


C-arm Angiographic System (PH of XUAR)


X-ray diagnostic apparatus (PH of HC)


Anesthesia apparatus for operating room (PH of HC)

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 84%), project period slightly exceeded the plan (ratio against the plan: 117%) because of much time required on the custom clearance of equipment. The outputs of the project were produced as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The operation and maintenance of medical equipment provided by the project have been carried out by the People's Hospital of Xinjiang Uygur Autonomous Region and the People's Hospital of Hotan City. Health Bureau of Xinjiang Uygur Autonomous Region and its affiliated Bureau, Health Bureau of Hotan City, are responsible to supervise those two hospitals. The institutional, technical and financial sustainability of this project effect have been secured. In both hospitals, full-time staff has been assigned to the operation and maintenance of those equipment, and repair technicians and dedicated staff members have properly received the technical training, and the regular maintenance and check-up has been kept. Medical equipment provided by the project have been well utilized and spare-parts have been procured by themselves whenever needed; however, there are some equipment with which no aftercare services are available in China, and thus it has been difficult to procure its spare parts in local markets. In such cases, both hospitals have tried their best to do the minimum possible repairs by themselves or to set a limitation in use.

Therefore, there are some problems in the current status of operation and maintenance and the sustainability of this project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

For equipment with which no aftercare services are available in China, these two hospitals has repaired them by themselves or set a limitation in use. Both hospitals should consider measures to solve the problem by directly contact with headquarters of manufactures if necessity arises.

Lessons learned for JICA:

1. The project has provided and installed the medical equipment for both of the top-referral hospitals in the region as well as one of the core hospitals of the city in the region. It is considered as very effective to upgrade the medical equipment and facilities of two hospitals at the same time, in order that referral activities such as patient transfers between these two hospitals from city level to provincial level have carried out smoothly, serving to further strengthen the referral network as well. Therefore, it is proven to be effective to target two or more hospitals at the same time if they are linked together under the referral network.
2. In order for the smooth operation and maintenance of medical equipment, it is very important to examine the conditions of domestic aftercare services prior to the procurement and to obtain the mutual agreement with recipient hospitals.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Benin office: March, 2013

Country Name	The Project for Rural Water Supply(Phase V)
Benin	Projet d'approvisionnement en eau potable dans la région rurale (Phase V)

I. Project Outline

Project Cost	E/N Grant Limit: 814 million yen		Contract Amount: 805.5 million yen
E/N Date	(Phase 1/2) June 2004, (Phase 2/2) July 2005		
Completion Date	(Phase 1/2) May 2005, (Phase 2/2) February 2007		
Implementing Agency	La Direction Général de l'Eau du Ministère des Mines, de l'Energie et de l'Eau (General Directorate of Water, Ministry of Mining, Energy and Water :DGEau)		
Related Studies	Basic Design Study: March – August 2003		
Contracted Agencies	Consultant(s)	Sanyu Consultants Inc.	
	Contractor(s)	Nissaku Co., Ltd.	
	Supplier(s)	Sojitz Corporation	
Related Projects (if any)	• Construction of 310 water supply facilities (1998) (Grant Aid, DANIDA) • Construction of 50 water supply facilities (2000) (Grand Aid, UNICEF)		
Background	The Government of Benin envisaged an increase in the water supply ratio from 49% in 2002 to 64.7% in 2005 by construction of new water sources in 2,200 sites and rehabilitation of the existing water sources in 1,314 sites in order to serve safe water to 878,500 villagers by 2005. Also Departments of Collines, Zou and Couffo were identified at the high risk areas of Guinea worm disease. Since 1984, the Japanese government has supported Benin for improving accessibility of water by the grand aid project of "the Project for Rural Water Supply (Phase 1- 4)" and contributed to expansion of the water served population in the rural area of Benin.		
Project Objectives	Outcome To construct and rehabilitate the deep well facilities in Department of Collines, Zou and Couffo in order to increase the water served population in the target areas.		
	Outputs(s) Japanese Side a) Construction of 113 deep wells with man- powered hand pump at 95 villages b) Rehabilitation of the existing100 deep wells at 100 villages c) Procurement equipment for well boring, groundwater exploration and education for the local residents (Maintenance truck and vehicle, Vehicle for exploration, GPS, Groundwater survey equipment, Water quality test equipment) d) Procurement equipment for awareness campaign (Vehicles, Motorbike, Spare parts) e) Soft component regarding technical assistance for operation and maintenance of wells ➢ Strengthening the administrative organization concerning the awareness on good water use with hygiene and sanitary practices ➢ Establishment of O&M system of water (i.e. Water Management Committee) at 195 villages ➢ Training of pump servicepersons Beninese Side: a) Implementation of awareness campaign in the target villages b) Provision of land for well construction c) Provision of operation & maintenance (O&M) cost for the equipment procured by the project		

II. Result of the Evaluation

Summary of the Evaluation
Since there are few available water sources in Departments of Collines, Zou and Couffo, the local residents had to go a long distance for fetching water, which negatively affected children's education opportunities. Also due to drinking unsafe water taken from the existing water sources, chronic water-borne diseases including Guinea Worm, Cholera and diarrhea disease were widely spread in the areas. This project has largely achieved the objectives of improving accessibility of safe drinking water and improving sanitary and hygiene awareness of the local people in the target areas by construction of 113 deep wells and rehabilitation of the existing100 deep wells as well as implementation of awareness campaign in the target areas. Also the project had positive impacts on reduction in water fetching labor and incidence of water-borne diseases. As for sustainability, some problems have been observed in term of structural and financial aspects due to lack of human and financial resources of the municipalities in the target areas which is the O&M agency of the project facilities and equipment. For relevance, the project has been highly relevant with Benin's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan. In the light of above, this project is evaluated to be satisfactory.

1 Relevance
This project has been highly relevant with Benin's development policy ("improvement in accessibility of safe drinking water" in the Poverty Reduction Strategy Paper 2003-05 and the Growth and Poverty Reduction Strategy 2011-15), development

needs (“reduction of water drawing labor and chronic water-borne diseases in Collines, Zou and Couffo”), as well as Japan’s ODA policy “the Japan’s Country Assistance Strategy to Benin” with priority area of human basic need including water supply at the time of both ex-ante and ex-post evaluations. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of the increase in the water served population and water served ratio in the target areas. The water served population in the target area was increased from 674,250 in 2002 to 969,750 in 2007 and 2,159,357 in 2011. Similarly, the water served ratio in the target area was improved from 41% in 2002 to 56.5% in 2007 and 68.3% in 2011. The number of deep wells in use constructed and rehabilitated by the project was materialized as planned in 2007. According to the results of interview survey with more than 300 local residents including village chiefs, water management committee members and women in Collines and Zou, the sanitary and hygiene awareness of the local people was improved by the project. For example, the local people became to take care of their appearances such as taking bath twice or three times a day and washing their clothes frequently. They are also accustomed to cover the buckets and barrels to prevent any foreign matter from getting inside water. The water quality of deep wells in the target area satisfies the national water quality standards.

The project has positive impacts on reduction in water fetching labor and incidence of water-borne diseases. The labor time and distance for fetching water was significantly reduced by more than a half. It further led to improvement in educational opportunities for children and in social activities for women such as selling agriculutrual product in the market. Also according to the statistical data regarding the incidence of water-borne diseases in 4 municipalities such as Glazoue and Dassa in Collines and Zakpota and Zogbodomey in Zou, the number of diarrhea patients was reduced significantly in the areas due to the supply of good quality water. Guinea worm disease has been completely eradicated. It should be noted that the above mentioned achievement of project objectives and positive impacts are attributed not only by this project but also the precedent Japan’s grant aid projects and other factors including donors’ assistances(*).

No negative environmental impact was observed and the land acquisition was properly implemented according to the related guidelines and regulations in Benin. No resettlement of people was conducted.

Therefore, the effectiveness of the project is high.

Quantitative Effects

Indicator(unit)	baseline value (2002)	target value (2007)	actual value (2007)	actual value (2011)
Indicator 1 Water served population in the target area (people)	(Actual) 674,250	(Plan) 836,250	(Actual) 969,750	(Actual) 2,159,357
Indicator 2 Water served ratio in the target area (%)	41	45	56.5	68.3
Indicator 3 No. of deep wells in use constructed and rehabilitated by the project (no. of wells)	N.A.	New: 113 Rehabilitation: 100	New: 113 Rehabilitated: 100	New: 113 Rehabilitated: 98

Source: DGEau

Note 1: The project target area includes Departments of Collines, Zou and Couffo.

Note 2: Water served ration = Water served population in the target area / Total population in the target area.

Note 3: Beneficiary of the project is 162,000 local residents in 195 villages.

Note 4: Since the actual value at ex-post evaluation in 2012 was not available, the available actual value in 2011 was provided alternatively.

(*): Since 1984 the Japan has provided the grand aid project “the Project for Rural Water Supply (Phase 1)~(Phase 4)” to Benin for construction of deep wells and procurement of equipment. Until 2012, total 1,713 well facilities have been constructed by Japan’s grand aid and 2,453 by other donors in the project target area.

3 Efficiency

Although the project cost was within the plan (99%), the project period slightly exceeded the plan (103%) because of delays in the project implementation due to electoral process in 2006-2007. Outputs were produced mostly as planned. Therefore, efficiency of this project is fair.

4 Sustainability

Until 2009 the Water Management Committee (WMC) established in each village was fully responsible for O&M of the well facilities rehabilitated and constructed by the project. In case of maintenance beyond the capacity of WMC, pump service persons assist the WMC for the maintenance of the well facilities. The Service Department of Collines, Zou and Couffo under the GDEau was in charge of monitoring of the well facilities and implementation of awareness campaign in the target villages as well as O&M of equipment provided by the project.

However, due to the establishment of decentralization law, the above existing O&M framework was drastically changed and a new management system of rural water supply was introduced in 2010. After 2010, Municipalities (city level) in Collines, Zou and Couffo were mandated to be primarily responsible for O&M of well facilities in their respective administrative areas as an owner of the facilities. In the new management system, Municipalities can outsource the O&M work to the private managements, community representatives and NGOs as well as pump service persons. Also Municipalities are in charge of the O&M of the equipment provided by the project. The existing WMC has continued to be engaged in the O&M activities of the well facilities in a village level as O&M contractors. The role of the DGEau is limited to provide the technical advice to the municipalities.

Regarding the institutional aspect, though some problems may be observed in some Municipalities due to lack of staff specialized in water business management, in general, there are appointed staff who take care of all the facilities, including water facilities. But the situation is progressively generalized with specialized staff appointed, as recommended by decentralization law. Regarding the technical aspect, no problems are observed since most of Municipalities have technical capacities as far as well facilities are concerned and they receive technical supports from the DGEau from time to time. Municipalities manage to have preventive maintenance of well facilities once or twice a year. Also WMC and pump service persons have received technical training for maintenance of well facilities by the DGEau. Regarding the financial aspect, some problems are observed since Municipalities have a budgetary constraint by lack of financial resource collection through tax. The water fee collection system though WMC does not function well in some villages. Hence, operation and maintenance budget for the project facilities and equipment is partially not secured at present. The facilities and equipment of the project have been used continuously and severe malfunction of the water pump was not observed in the target areas. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- The number of staff at DGEau and Municipalities need to be increased; otherwise planning, implementing, monitoring and evaluating the projects would be difficult to realize. To accomplish these activities, the number of staff should be boosted up (civil engineer, social intermediation staff for example). Also DGEau needs to continue supporting Municipalities in institutional capacity development and monitoring for some more years due to the difficulties faced by Municipalities in implementing the new management system (capacity development, and transfer, financial support especially as social intermediation is concerned).

Lessons learned for JICA

- Sustainability of the project should be more emphasized through soft component projects (sensitization actions, capacity development, support to NGO and private contractors who engage in O&M activities) and look to integrate other schemes: volunteers program, experts, etc. Besides, regular monitoring system should be implemented by DG Eau and Municipalities for other similar projects if any (The Project for Rural Water Supply, phase 6).

Community of Legbaholi, Village of Allahe, Department of Zou

Community of Fidjrosse, Village of Zogbodomey, Department of Zou

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Kenya office: March, 2013

Country Name	The Project for Rehabilitation of Bridges on the Asmara-Massawa Road
Eritrea	

I. Project Outline

Project Cost	E/N Grant Limit: 663 million yen (1) 270 million yen, (2) 393 million yen		Contract Amount: 660 million yen (1) 269 million yen, (2) 391 million yen
E/N Date	(1) August, 2004 (2) August, 2005		
Completion Date	March, 2007		
Implementing Agency	Infrastructure Department, Ministry of Public Works		
Related Studies	Basic Design Study: March, 2003 – July, 2004		
Contracted Agencies	Consultant(s)	Construction Project Consultants, Inc. – Nippon Koei Co., Ltd. (JV)	
	Contractor(s)	Fujita Corporation.	
	Supplier(s)	-	
Related Projects (if any)	Other donors' cooperation EU/EDF: improvement of the Asmara-Massawa Road (1993-1997)		
Background	The Asmara-Massawa Road is a road that directly connects Massawa, the largest international trade port in Eritrea and Asmara, the capital. As much as 98% of the export and import (mostly import) is distributed to all parts of the country through this road. Since there is no alternative route for this road, the Asmara-Massawa Road is recognized as the sole lifeline for Eritrea and given the greatest priority. The road was constructed in the 1930s. After the independence in 1993, EU assisted in the improvement of the road, which included the improvement of small bridges of less than 25m in length but not the six major bridges that are 25m or longer due to budgetary constraints. This Grant Aid project was therefore requested for improvement of those bridges.		

Project Objectives

Outcome

To secure a smooth and safe traffic on the Asmara-Massawa Road (110km in length), the arterial road that connects Asmara the capital and the international trade port in Massawa, by improvement of major five bridges on the road.

Outputs(s)

Japanese Side

Improvement of bridges on the Asmara-Massawa Road (110km in length):

Name of bridge	Location (from Asmara)	Construction works
Gindae Bridge	45km	Construction of a new bridge together with the construction of the bypass (Note)
Gahtelay 1 Bridge	69km	Replacement of superstructure of the existing bridge
Dogali 1 Bridge	94km	Repair of the existing bridge
Dogali 2 Bridge	97km	Construction of a new bridge in a location near the existing bridge
Emculu Bridge	105km	Repair of the existing bridge

(Note) The Eritrea side was responsible for the construction of the Gindae Bypass around the same time as this project (outside the scope of this project).

Eritrea Side

- Land acquisition
- Necessary procedure for the construction works
- Demining upon necessity
- Civil works associated with the bridge construction

II. Result of the Evaluation

Summary of the Evaluation

After the independence in 1993, Eritrea started its efforts to reconstruct infrastructure that had been heavily damaged due to the 30-year military struggle for independence. However, the six bridges over 25m in length on the Asmara-Massawa Road were not included in the target of the improvement of the road, and were left in a dangerous condition with breakage of some major components due to aging and collision[1]. Since this road was the lifeline that connected Massawa, the Eritrea's largest trade port, and Asmara the capital without alternative routes, there were concerns that leaving the bridges as they were would possibly cause hindrance to the traffic and lead to negative effects on the Eritrean economy.

[1] The Basic Design Study for this project found that one of the six bridges still had enough soundness at that time (and therefore excluded from the scope of this project).

This project has mostly achieved its objective of securing a smooth and safe traffic on the most important arterial road by improving the major five bridges on it, as the reinforcement of the structures extended the lifetime of the bridges, and the indicators (such as waiting time for letting oncoming vehicles pass) mostly reached the expected level. As for sustainability, while operation and maintenance (O&M) of the bridges are smoothly carried out under the O&M system in the semi-public sector, some problems have been observed in terms of the financial aspects and current status of O&M due to the reduction of budget and some damages that are left unrepaired.

For relevance, the project has been highly relevant with Eritrea's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Eritrea's development policy "Reconstruction and maintenance of the Asmara-Massawa Road" as set in the Road Sector Development Plan of Eritrea (2003 and 2005), development needs (improvement of bridges on the most important arterial road with no alternative route), as well as Japan's ODA policy to assist in the reconstruction and development of infrastructure, at the time of both ex-ante and ex-post evaluation.
Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has mostly achieved its objective of securing a smooth and safe traffic on the most important arterial road by improving the major five bridges on it. Based on the interview with the implementing agency, the reinforcement of the structures extended the lifetime of the bridges (though the specific number of years was not clear). The newly-constructed three bridges had two lanes, which eliminated two-way traffic and thus reduced the waiting time for letting oncoming vehicles pass to zero. On the two bridges that were repaired, the waiting time was almost the same as before the project (i.e., as planned), indicating that the traffic condition has not worsened. Also, the Gindae Bridge, a new bridge on the Gindae Bypass that the Eritrean side constructed around the same time as this project, has improved traffic safety as heavy vehicles now use the bypass and do not travel through busy downtown any more. The traffic volume of the target road sections has not changed from before the project as far as the collected data tells.

Regarding the impact, goods that are landed at the Massawa Port for land transportation to Asmara are all transported on the Asmara-Massawa Road, the only arterial road. Based on the interview with the implementing agency and site observation, it is obvious that the improvement of the bridges by this project has enhanced the distribution of goods. Also, there observed development along the road such as irrigated agriculture and markets. In addition, no negative impact was seen on natural environment.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

	Base line value (year of BD) (2003)	Target value (target year) (2008)	Actual value (target year) 2008	Actual value (ex-post evaluation year) (2011)
Maximum waiting time for letting oncoming vehicles pass on the target bridges	(actual value) maximum 4 minutes (due to two way traffic on one lane)	(target value) 0 minute (double lanes eliminated waiting time for oncoming vehicles)	(actual value) 0 minute	(actual value) 0 minute on the double-laned three bridges
(Supplementary indicator) Annual average daily traffic on the target bridges (vehicles/day)	(actual value) (2004) 814 around Gindae Bridge 593 around other bridges	(target value) N/A	(actual value) 472 (estimated based on one-hour traffic count in a JICA study)	(actual value) 554 at Nafasit (between Asmara and Gindae) (count by Ministry of Transport and Communication)

Sources: JICA and Ministry of Transport and Communication
Note: although the Basic Design study did not designate this supplementary indicator as an indicator for evaluation, it was used to check whether the road (with bridges) has been used in the same volume as before the project.

3 Efficiency

Although the project cost was as planned (ratio against the plan: 100%), the project period slightly exceeded the plan (ratio against the plan: 111%) because it took time for detailed design and tender. The outputs were produced mostly as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The facilities developed by the project are maintained by the Construction Corporation in the semi-public sector, and the implementing agency Department of Infrastructure, Ministry of Public Works is responsible for supervision of maintenance works. Although the status of the Construction Corporation was changed[2], it was to streamline the organizational structure of maintenance and thus appropriate for the continuity of the effects of this project. In the technical aspect as well, no problem has been observed as the Corporation provides regular training to its staff and invests in human resources and equipment.

[2] The Construction Corporation was the Road Transport Construction Department (at the time of the ex-ante evaluation of this project) before it was transferred to the semi-public sector.

In the financial aspect, while specific budget information was not available, it is considered that a certain amount of budget is allocated for maintenance of the target bridges as the Department of Infrastructure has allocated road maintenance budget in general, and the maintenance cycle, namely, periodic checking of road conditions – repair planning – budget allocation – implementation of repair work, is functioning. At the same time however, a downward trend is seen in the amount of budget compared to the time of the ex-ante evaluation.

As for the current status of operation and maintenance, the steady implementation of road maintenance despite the budget decrease is seen in that (i) the road maintenance cycle is functioning as mentioned above, (ii) overloading control, which is crucial particularly for ensuring the durability of the two repaired bridges, is properly practiced according to the Ministry of Transport and Communication, and (iii) no noticeable damages are seen in the structure of the mentioned two bridges. On the other hand, damages on the portal bracings that were pointed out in the defect inspection study still occur repeatedly (but repaired in each case). Also, minor problems are seen on the Gindae Bridge such as a missing steel lattice drain cover and damage on the bridge name plate.

Therefore, the project has some problems in the financial aspect and the current status of operation and maintenance, and sustainability of the effects of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

While the bridges are generally maintained well, there is a room for improvement such as the missing lattice drain cover on the Gindae Bridge and delays in repair of portal bracings.

Gindae Bridge (new construction) and the bypass road

Dogali 2 Bridge (new construction) (existing bridge at the back)

Baring of Emculu Bridge (repaired)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Senegal office: March, 2013

Country Name	The Project for Rural Water Supply (Phase II)
Republic of Gambia	

I. Project Outline

Project Cost	E/N Grant Limit: 276 million yen (Stage I), 256 million yen (Stage II), 296 million yen (Stage III)		Contract Amount: 275 million yen (Stage I), 252 million yen (Stage II), 292 million yen (Stage III)
E/N Date	(Stage I) September, 2004, (Stage II) June, 2005, (Stage III) July, 2006		
Completion Date	(Stage I) March, 2006, (Stage II) March, 2007, (Stage III) January, 2008		
Implementing Agency	Department of Water Resources (DWR), Department of State for Fisheries and Water Resources		
Related Studies	Basic Design Study: August, 2003-February, 2004		
Contracted Agencies	Consultant(s)	Stage I-III: Japan Techno Co., Ltd.	
	Contractor(s)	Stage I-III: Nissaku Co., Ltd.	
	Supplier(s)	-	
Related Projects (if any)	Cooperation by Japan ・The Project for Rural Water Supply (Phase I) (Grant Aid,1991-93) ・The Project for Rural Water Supply Phase III (Grant Aid, 2010-2012) Cooperation by Other Donors ・SSP I-III (Construction of deep wells and shallow wells) (Saudi Arabia, 1984-85, 1985-87, 2001-04) ・Solar pump systems (European Development Fund,1992-95, 1998-99, 1997-02, 2002-03)		
Background	In Gambia, 47% of rural population still depended on unsafe water despite that supply of good quality drinking water in less developed rural areas was the most prioritized issue. In that context, the Project for Rural Water Supply (Phase I) had been implemented under the grant aid by Japan since 1992. However, since it was suspended due to the coup in July, 1994, the construction of water supply facilities could not be completed in 20 villages out of the 30 target villages. In addition, depreciation of the Gambian currency and escalation of diesel price constrained procurement of sufficient volume of diesel as fuel for operation of the water facilities constructed by the Project Phase I. Therefore, the government of Gambia requested Japan to support construction of water facilities with solar pumping systems in the rest of 20 sites and convert the existing facilities to solar system.		
Project Objectives	Outcome To supply safe water to the population in the target areas by construction and rehabilitation of water facilities in 29 villages in North Bank Region, Lower River Region, West Coast Region and Central River Region.		
	Outputs Japanese Side ・Construction of deep wells and water supply facilities in 20 sites ・Rehabilitation of existing water pumping system in 4 sites ・Provision of vehicles and necessary equipment for maintenance of deep wells and water facilities ・Soft component: institutional building for operation and maintenance (O&M) of the water supply facilities by the villagers; hygiene education; and strengthening monitoring and supervising capacity of DWR and local governments for O&M of the water supply facilities. Gambian Side ・Land preparation ・Preparation of access roads		

II. Result of the Evaluation

Summary of the Evaluation

In the rest of 20 sites within the target areas, due to the suspension of the Phase I of the Project, about 90% of the sample households still depended on shallow wells contaminated by coliform. The villagers had been facing problems, including shortage of safe water, time consuming water fetching caused by congestion at the existing water sources, long distance to the water sources, frequent troubles of hand pumps, and heavy work load to pump up water. On the other hand, in the sites where the constructions of water facilities were completed by the Project Phase I, the villagers also faced shortage of safe water due to limited operating hours of the water facilities since they cannot afford fuel for the operation of water facilities.

The project has achieved the objectives of supply of safe water to the population in the target areas due to the adequate operation of deep wells and the increase in available volume of safe water. As for sustainability, some problems have been observed in terms of structural and financial aspects as well as current status of operation and maintenance due to the limited coverage of the maintenance contract with local maintenance companies, the limited budget for regular visits for the project sites by motivators to supervise O&M and leaks of the water tanks.

For relevance, the project has been highly relevant with Gambia's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Gambia's development policies of the Poverty Reduction Strategy Papers 2003-2005 and 2007-2011 ("provision of adequate and good quality of water"), development needs ("stable access to safe water and improved sanitation of households"), as well as Japan's ODA policy to Gambia for provision of BHN, including safe water, at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has achieved its objectives of supply of safe water to the population in 24 villages in North Bank, Western and Lower River. All the 24 wells installed by the Project are operated adequately through the year though the number of deep wells installed by the Project decreased from 29 to 24 due to the cancellation of rehabilitation work for the existing facilities in 5 sites. The available volume of safe water increased from 15-20 litter per person per day before the Project to 35 litters in 2009 and has been sustaining at the time of ex-post evaluation in 2012. In addition, the population with access to safe drinking water in the target sites increased from approximately 50,000 in 2003 to 60,000 in 2009. Since a project by the European Commission (EC) and the Project Phase III by JICA covered the 5 sites where this Project Phase II could not cover, the coverage of population expanded to approximately 75,000 in 2012. As a result, the coverage ratio of water supply in rural areas of Gambia also increased to 64% in 2009 from 53% in 2002.

The installation and rehabilitation of deep wells brought about improvement of water quality in the project sites which fulfills the WHO/Gambian standards for drinking water. In addition, the improvement of water quality reduced water borne diseases, in particular, diarrhea and dysentery in 22 communities surveyed by the ex-post evaluation. Also, the Project contributed to reduction of time and burden of water fetching for women and children. Since the water taps were installed every 100 persons according to the policy of the government of Gambia, accessibility of villagers to water tap significantly improved. According to the site survey covering 22 sites, the longest distance to the nearest tap is 40 meters. According to the interview, the women in the project sites can spend more time for income generating activities because of less burden of water fetching.

In addition, health and sanitation practices of the villagers and sanitary environment in the project sites improved thorough the hygiene education campaigns introduced by the soft component of the Project. The increase in water supply to health centers and schools in the project sites improved sanitation and environment of those facilities.

Regarding the environmental and social considerations, no adverse environmental and social impact has occurred by the Project (no land acquisition problem or resettlement). However, it was found that more water induces planting of trees (reforestation) in the target areas.

Therefore, effectiveness/impact of this project is high.

Qualitative Effects

	Actual (2003, BD)	Target (2015)	Actual (2009)	Actual (2012) (Ex-post evaluation)
Indicator 1: The number of deep wells installed by the Project which can be operated adequately through the year	(Actual) 9 existing water supply facilities were limitedly operated.	(Plan) 29 wells	(Actual) 24 wells	(Actual) 24 wells
Indicator 2: Increase in the population with access to safe drinking water in the project sites of 29 villages	(Actual) Approximately 50,000 people	(Plan) Approximately 80,000 people	(Actual) Approximately 60,000 people	(Actual) Approximately 75,000 people
Indicator 3: Increase in available water volume/person/day through the year	(Actual) 15-20 litter per person per day	(Plan) 35 litter per person per day	(Actual) 35 litter per person per day	(Actual) 35 litter per person per day

(Source) Site surveys in 6 villages in North Bank, 2 villages in Western and 9 villages in Lower River / Field Survey during the Ex-post Evaluation.

3 Efficiency

Both the project cost and project period were within the plan (ratio against the plan: 98% and 88%). Due to the sharp depreciation of exchange rate and price escalation, the outputs have been changed but were appropriate. Therefore, efficiency of this project is high.

4 Sustainability

The water supply facilities constructed or rehabilitated by the Project are operated and maintained by the Villager Water Committees (VWCs) under the support and the supervision of DWR. A total of 12 DWR field staff (motivators) provides necessary technical, administrative and moral supports for VWCs. For the major repair of the solar pumping

systems, a local maintenance company (private service provider) is responsible by entering a maintenance contract with VWCs. 15 VWCs out of 22 VWCs have enough management capacity of VWC, including tariff collection, the rest of VWCs still have room to improve their capacity, in particular management of their funds. There is need for frequent visits to be undertaken by the DWR motivators to continue to guide the communities and to provide the necessary support. Although the motivators trained under the software component of the Project have the capacity to train the communities, but the budgetary constraints of DWR has been limiting factor. Because of the same constraints, the Motivators are not able to carry out routine monitoring of the water supply facilities in the project sites. Most of VWCs keep enough funds to cover necessary expenses for daily O&M of the water facilities. While annual revenue of VWCs ranges from GMD18,000 to GMD127,000, the communities spend on repairs and other forms of managing their systems which varies from GMD20,000 to GMD70,000 annually. In the case of communities to be improved, their VWCs are regularly having a meeting to ensure that the required maintenance funds are collected. The total budget allocated to the Rural Water Supply Division of the Department of Water Resources is not enough to cater for the numerous follow up visits required to be made to the Project sites. On the other hand, all the water supply facilities in the 24 sites are functioning and well maintained. No cracks and leakages on tanks constructed under Phase I. However, leaks of the water tanks due to cracks of concrete part were observed at most of the new installation sites of Phase II visited during the ex-post evaluation field survey. The cracks were repaired during the warranty period but some signs of leakages persisted.

The Project has some problems in structural and financial aspects as well as the current status of operation and maintenance due to the issues mentioned above. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- In order to ensure sustainable operation and maintenance of the water facilities, DWR needs to allocate more budgets for the activities by the motivators including their regular visits in the communities to provide necessary support for the VWCs.
- It is recommended that DWR facilitate changes in the maintenance contracts with local maintenance company (private service provider) in order to cover repair of pipe network, borehole and tank.

Lessons learned for JICA

- Since the cracks of concrete part of the water tanks may be caused by mismanagement of construction process, it is necessary to put more attention on supervision and control by the consultant over the works by subcontractors, in particular works for the major part of facilities such as concrete works of water tanks, in order to ensure quality and sustainability of the facilities installed by project.
- The soft component of the Project largely contributed to capacity building of the motivators of DWR who support VWCs activities. It is important to enhance capacity of such motivators in order to assure effectiveness and sustainability of rural water supply project since capacity of water committee at village level is key for operation and maintenance of water supply facilities.

Public water tap in Fass

Water supply facilities in Jali Sering Mass

Water supply facilities in Medina

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Mozambique office: March, 2013

Country Name	The Project for Improvement of the Institute of Health Science of Quelimane
Mozambique	

I. Project Outline

Project Cost	E/N Grant Limit: 926 million yen		Contract Amount: 925 million yen
E/N Date	September, 2004		
Completion Date	March, 2006		
Implementing Agency	The Ministry of Health		
Related Studies	Basic Design Study: November, 2003-July, 2004		
Contracted Agencies	Consultant(s)	Yamashita Sekkei Inc.	
	Contractor(s)	Dai Nippon Construction	
	Supplier(s)	SEM Corporation	
Related Projects (if any)	Cooperation by Japan ・The project for capacity Improvement of health training institutes (Technical Cooperation, August, 2005–August, 2008) ・The project for strengthening pedagogical and technical skills of teachers of health training institute (Technical Cooperation, January, 2012-December, 2015) ・Dispatch of Advisor for Health (October, 2009 – October, 2010) ・Dispatch of JOCV (Midwives and laboratory medical technologists) Cooperation by Other Donors ・Expansion of facilities by PROSAUDE (Donor fund for the health sector) (2010)		
Background	In Mozambique, approximately 80% of death causes have been perinatal disorder, disorder by malnutrition, and disorder of endocrine system. In the background, there has been an issue of lack of medical facilities and medical staff. In addition to the shortage of the number of medical staff, their knowledge level has not been sufficient. Thus, since improvement of quality of medical service through trainings of medical staff at basic and middle level is a key issue for the country, the government of Mozambique requested the government of Japan to support improvement and expansion of the Institute of Health Science of Quelimane (hereinafter referred to as "The Institute of Quelimane") in Zambezia Province.		
Project Objectives	Outcome To Improve the educational environment and contents of the Institute of Health Science of Quelimane by construction of facilities and provision of educational equipment.		
	Outputs(s) Japanese Side ・Construction of facilities: 6,350.54 m^2 of total areas, including administrative building, general class room building, special class room building, auditorium, cafeteria, dormitories for students and teachers, and so on.) ・Provision of equipment: training materials, general equipment (office equipment, audio visual equipment), furniture and buses (one each of medium and small sizes) Mozambique Side ・Procurement and development of sites, construction of fences, exteriors and lines of electricity, telephone and water pipe. ・Procurement of office furniture, fixture, other equipment and consumables except items provided by the Japanese side		

II. Result of the Evaluation

Summary of the Evaluation

In Mozambique, the health sector strategy targeted to establish one health center for every 10,000 habitants and to reduce the number of habitants per medical staff to 1,000 people by 2005 in order to address key issues such as expansion of health and medical services. However, the national average number of habitants per medical staff was 2,000-3,000 people. In particular, Zambezia Province, the project site, had the worst coverage of medical staff in the country: 5,595 people per medical staff. Although there has been the Institute of Quelimane in the Zambezia Province, it was pointed out that the Institute had been facing the problems of inadequate educational environment and contents due to the lack of educational facilities and equipment.

The project has achieved the objectives of improvement of educational environment and contents of the Institute of Quelimane due to the improvement of educational environment and quality of education, as well as the substantial increases in the number of courses at the newly constructed facilities by the Project, the number of student enrolled in those courses, the number of graduates from those courses and the number of graduated placed for medical institutions. As for

sustainability, problems have been observed in terms of financial aspects and current status of operation and maintenance, due to the unclear future budget for maintenance of the facilities and the insufficient maintenance for a part of the facilities.

For relevance, the project has been highly relevant with Mozambique's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Mozambique's development policies of the Action Plan for Reduction of Poverty (PARPA 2001-2005 [Plano de Acção para Redução da Pobreza Absoluta] and PARP 2011-2014 [Plano de Acção para a Redução da Pobreza]) and the Strategic Plan for the Health Sector (PESS: Plano Estratégico para o Sector da Saúde) ("promotion of equitable access to health service", "expansion of medical service" and "human resource development of health staff"), development needs ("improvement of the number of habitants per medical staff through the increase in the number of medical staff"), as well as Japan's country assistance policy to Mozambique for supporting human resource development of health staff, which is one of the priority areas at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has achieved its objectives of the increase in the number of courses, students enrolled, and graduates of the Institute of Quelimane well above the target values. In terms of the number of courses, due to the necessity to develop more advanced medical staff in order to improve quality of medical service in the country, the number of the basic courses at this institute had been phased out[1] in line with the National Training Plan 2011-2015 (PNF: Plano Nacional de Formação). On the other hand, the number of mid-level courses increased from the planned target value of 5 courses with 5 classes to 6 courses with 22 classes in 2010. In addition, the advanced course (1 course with 1 class) was started in 2011. The number of students enrolled in the mid-level courses reached to 247 in 2010 which was far above the target value of 150 though the number of students enrolled in the basic courses was below the target value due to the reduction of the number of courses. In 2011, the number of the students in the mid-level courses increased 681 students by 4.5 times of the target value in 2010. Also, the number of graduates from the mid-level courses considerably increased by more than 19 times: from around 20 graduates in 2003 to 386 in 2011. As a result, the number of graduates of the Institute of Quelimane who are placed in the primary healthcare facilities also increased from 202 in 2007 to 386 in 2011. Since the upgrading of courses requires to improve quality of the teachers of the institute, the JICA's technical cooperation project, "The project for strengthening pedagogical and technical skills of teachers of health training institute"(January, 2012 – December, 2015), has been supporting capacity development of teachers of institutes to foster health staff.


Class for the Midwife Training Course

According to the interviews and the questionnaire survey with the teachers and students of the Institute of Quelimane, it is pointed out that the quality of practical training classes and educational contents have been improved through the enhanced educational environment, enabling more practical trainings by the facilities and equipment provided by the Project. The graduates working for the medical institutions recognize usefulness of the training contents of the institute, because they can provide higher and more specialized medical services with skills acquired in the courses of the institute. Also, the staffs of the medical institutions where the graduates work for appreciate their performance. Furthermore, the graduates have been disseminating their skills acquired in the courses of the institute to their colleagues.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

	Actual (2003, BD)	Target (2010)	Actual 2010	Actual (2011)
Indicator 1: The number of courses at the newly constructed school building by the Project	(Actual) Basic Level: 4 courses (5 classes) Mid-Level: 1 course (1 class)	(Plan) Basic Level: 4 courses (4 classes) Mid-Level: 5 courses (5 classes)	(Actual) Basic Level: 1 course (1 class) Mid-Level: 6 courses (6 classes)	(Actual) Mid-Level: 6 courses (22 classes) Advanced Level: 1 course (1 class)
Indicator 2: The number of student enrolled in the courses at the newly constructed school building by the Project	(Actual) Total: 137 Basic Level: 105 Mid-Level: 32	(Plan) Total: 270 Basic Level: 120 Mid-Level: 150	(Actual) Total: 274 Basic Level: 27 Mid-Level: 247	(Actual) Total 697 Basic Level: 681 Advanced: 16
Indicator 3: The number of graduates from the	(Actual) Basic Level: 50	(Plan) N.A.	(Actual) Total: 203	(Actual) Total: 386

[1] The basic level courses of the Institute of Quelimane were shifted to the Institute of Health Science of Mocuba, in Zambezia Province.

courses at the newly constructed school building by the Project	Mid-Level: around 20	(Reference: Enrollment Limit) Basic Level: 120 Mid-Level: 150	Basic Level: 27 Mid-Level: 176	Mid-Level: 386

(Source) The report of follow-up survey (February, 2009) and the information collected by the site visit for the ex-post evaluation

3 Efficiency

Although the project cost was mostly as planned (100% against plan), the project period slightly exceeded the plan (101% against plan). Therefore, efficiency of this project is fair.

4 Sustainability

The Institute of Quelimane, including school buildings constructed by the Project, is managed by the Directorate of Human Resources of the Ministry of Health through the Provincial Directorate of Health of Zambezia. There are 250 staffs in total, including 95 teaching staff and 155 general staff. Under the Directorate of Infrastructure Maintenance of the Ministry of Health, the Provincial Directorate of Health of Zambezia is also responsible for maintenance of the facilities of the institute. In the case of extensive repair work, the technical staffs of the Provincial Directorate of Health provide appropriate support for the institute. For the daily operation and maintenance, there is no problem in technical aspects due to the sufficient skills and experiences of the teaching staffs and technical staffs of the institute. All the facilities constructed by the Project have been fully utilized on the good conditions. The equipment for practical trainings provided by the Project have been also utilized for the practical training classes. The budget for the Institute of Quelimane in 2011 was the revenue of approximately 23 million meticais and the expenditure of 21 million meticais. According to the management staff of the institute, it has not been able to repair broken windows in some class rooms and unfunctional septic tank for the toilets of the male dormitories due to the insufficient budget to cover the costs of operation and maintenance for the facilities. In addition, it is projected that the maintenance cost will increase for future. Also, the buses provided by the Project have not been repaired and utilized, although the students of the institute need those buses to commute to the hospitals in the city of Quelimane for on-site trainings. Due to the distance of 12 km from the city and no other transportation mean, the students of the institute have been facing inconvenience for commuting to the hospitals.

The Students preparing an practical training using the training equipment provided by the Project

The Project has some problems in financial aspects as well as the current status of operation and maintenance due to the issues mentioned above. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is necessary for the Institute of Quelimane to request the Ministry of Health and the Provincial Directorate of Health of Zambezia continuously allocate sufficient budget to them, since it is projected that the necessity of budget for maintenance of the facilities will increase in future.
- The Institute of Quelimane needs to conduct adequate regular inspection and maintenance of the buses in order to avoid troubles.
- It is recommended to take measures for the students to commute from the institute to the hospitals in the city for their on-site trainings since the institute is located in the site far from the city and without well-developed public transporation system.

Lessons learned for JICA

- It is necessary to strongly suggest implementing agencies to continuously allocate necessary maintenance budget, including cost for regular inspection, for equipment provided by project such as vehicles.
- It is preferable to check availability of transportation for commuting between training institution and hospitals for on-site trainings and to carefully select a site for construction of the institution when the project site is far from the city.
- In addition to enhanced educational environment through provision of facilities and equipment for medical training institution by grant aid project, technical cooperation project aiming at level up of teaching staff of the institution contribute to effective utilization of the facilities and equipment provided by the grant aid project, as well as to reinforcement of project effects since the synergy effects of both projects enable upgrading of medical staff who can improve quality of medical services.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Senegal office: March, 2013

Country Name	Project of Water Supply in Rural Area
Senegal	(Projet d'approvisionnement en eau en milieu rural)

I. Project Outline

Project Cost	E/N Grant Limit: 495 million yen (Phase I) and 355 million yen (Phase II)	Contract Amount: 494 million yen (Phase I) and 353 million yen (Phase II)
E/N Date	Phase I: November, 2004, Phase II: June, 2005	
Completion Date	Phase I: March 2006, Phase II: March, 2007	
Implementing Agency	Ministère de l'Habitat, de la Construction et de l'Hydraulique, Direction de l'Hydraulique Rurale (since December, 2011)	
Related Studies	Basic Design Study: March, 2004 to September, 2004	
Contracted Agencies	Consultant(s)	Phase I: Japan Techno Co., Ltd., Phase II: Japan Techno Co., Ltd.
	Contractor(s)	Phase I: Nissaku Co., Ltd, Phase II: Nissaku Co., Ltd.
	Supplier(s)	Phase I: Kanematsu Corporation, Phase II: None
Related Projects (if any)	・Grant Aid: Project of Water Supply in Rural Area (17 projects in total from 1979 to 1998) ・Technical Cooperation: Project for Safe Water and the Support on Community Activities (PEPTAC) (Phase I:2003-2006 and Phase II: 2007-2010), ・Belgium: Project for water supply facilities including establishment of ASUFOR (1997-02 and 2002-08)	
Background	In Senegal, 60% of the population inhabited in rural areas with limited access to safe water. More than 40% of the rural population had no other choice to use unsanitary and unhealthy water from surface and rain water or shallow wells more than 10 km away from villages. Fetching water, including long-way conveyance, was heavy burden for women and children in rural areas. Thus, the sustainable safe water supply in rural areas was one of priority issues for the country. The government of Senegal targeted the installation of 1,800 motorized water supply facilities in rural areas until 2010 in "the Special Program of Water (PHS: le Programme Spécial de l'Hydraulique)". Although 958 water supply facilities were installed up to 2003, they could not cover the target population yet; therefore, the government of Senegal requested the government of Japan to support the construction of water supply facilities in the priority sites in the program.	
Project Objectives	Outcome To sustainably supply safe water of 35 litter/person/day for the population of 45,070 in Louga, Matam, St. Louis, Tambacounda Kaolack and Thiès by construction and rehabilitation of water supply facilities.	
	Outputs Japanese Side ・Newly installation of water facilities in the 10 sites of Saré Gaty, Thicky, Touba Sam, Mboussobé, Diabal, Yoli, Guénnène, Boustane, Thiagnaf, Oudallaye ・Rehabilitation of existing water facilities constructed by the past grant aid projects in the 4 sites: Malème Niani, Kathiote, Ngomène, Keur Yaba Diop ・Equipment: Vehicles for O&M and equipment for measurement test ・Soft Component: 10 Water Users Association (ASUFOR : Association de Usagers de Forages) established in the newly installed sites and 2 ASUFORs reorganized in the rehabilitated sites, and water charge systems in the 12 sites. Senegal side ・Land preparation ・Development of access roads ・Installation of water meter provided by the Japanese side	

II. Result of the Evaluation

Summary of the Evaluation

In the target areas, the most of population depended on the traditional shallow wells which dried up in the dry season for their water source. The waiting time for fetching water per household per day was around 78 minutes for households in the sites without water supply facilities and around 44 minutes for households in the sites with water supply facilities. Therefore, construction of water supply facilities was a critical issue to ensure sustainable and stable water supply in rural areas.

This Project has achieved the increase in the population with access to safe water and the accessible volume of safe water in the 14 sites in the 6 target provinces. As for sustainability, some problems have been observed in terms of financial aspect due to the insufficient budget of the Center for Maintenance (BPF: Brigade des Puis et des Forages) to supervise and support ASUFORs although most of the water facilities newly installed or rehabilitated by the Project have been well maintained and function due to the improvement of the technical capacity and the adequate level of water charge collection by ASUFORs by the JICA's technical cooperation of PEPTAC. For relevance, the Project has been highly relevant with Senegal's development policy, development needs, as well as Japan's ODA policy. For efficiency, although the project cost was as planned (ratio against plan, 100%), the project period slightly exceeded the plan (ratio against plan, 104%).

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

1 Relevance

This Project has been highly relevant with the Senegal's development plan of the Special Program of Water (PSH: le Programme Spécial de l'HYdraulique) and "the Millenium Programme of Water drinking and Sanitation (PEPAM: le Programme d'Eau Potable et d'Assainissement du Millénaire)", development needs of sustainable access to safe water, as well as Japan's ODA policy, at the time of planning and ex-post evaluation. Therefore its relevance is high.

2 Efficiency

Although the project cost was as planned (ratio against plan: 100%), the project period slightly exceeded the plan. (ratio against plan: 104%). Therefore, efficiency of this project is fair. In terms of the outputs, there were some changes from the plan, such as the decrease in the number of satellite villages due to the economic reasons and the installation of facilities by other project, changes in the design of water system to ensure the water volume and quality and for the parallel use of existing well. Those changes in outputs did not affect the achievement of the project objectives.

3 Effectiveness/Impact

Water Tower constructed by the Project

The Project has achieved its objectives of the increase in the population with access to safe water and the volume of safe water supply in the 14 sites of the 6 target provinces. The population access to safe water in the target sites expanded to 38,364 in 2011 (85% of the target value) from 30,285 in 2003. Also the volume of safe water utilized in the target sites increased to 28 litter/person/day in 2011 (80% of the target value) from 0-25 litter including unsafe water in 2003 while the water facilities can supply 35 litter/person/day as planned. The quality of water supplied through the water supply facilities constructed by the Project fulfills the standard of the country in line with the WHO (World Health Organization) standard. The improved water quality and the expanded access to safe water brought about the improvement of hygiene environment of households and communities in the target sites. As a result, water borne diseases such as diarrhea and dermatosis decreased in the target sites. Also, according to the Directorate of Exploitation and Maintenance (DEM: Direction de l'Exploitation et de la Maintenance), the installation or rehabilitation of the water supply facilities decreased the time of fetching water by 40%. The reduction of work load of fetching water enables the women to spend more time for income generation activities as well as the girls to go and stay at school. Therefore, its effectiveness/impact is high.

	2003 (Base Year)	2007	2011 (Ex-post Evaluation)	2014 (Target Year)
Indicator 1 : An increase in the population with access to safe water in the 14 sites of the 6 target provinces	(Actual) 30,285*	(Actual) 32,077	(Actual) 38,364	(Plan) 45,070
Indicator 2: An increase in the volume of safe water supply in the 14 sites of the 6 target provinces	0-25litter /person/day*	26 litter /person/day	28 litter /person/day	35 litter /person/day

(Source: Direction de l'Hydraulique Rurale)
(Note) * The baseline value includes supply of water with unsafe quality.

4 Sustainability

Most of water supply facilities constructed or rehabilitated by the Project have been well operated and maintained by ASUFORs. DEM is responsible for operation and maintenance (O&M) of the installed water supply facilities at the central level. At the community level, ASUFORs are established for O&M of those facilities and BPFs under the Subdivision of Maintenance (SM: Subdivision Maintenance) supervise and support ASUFOR. Due to the JICA's technical cooperation project of PEPTAC aiming at capacity building of ASUFORs, ASUFORs improved their technical capacity to the water supply facilities as well as their management capacity including collection of water charge, management of funds at bank account, and holding regular meetings. For example, ASUFOR in Kathoiote, one of the sites, charges 400 CFA/m^3 for the dry season and 200 CFA/ m^3 in the rainy season. According to the site survey and the interview with DEM, most of ASUFOR can cover their O&M cost by their water charge. On the other hand, BPFs, which provide supports for ASUFORs, including repair malfunctions which cannot be fixed by ASUFOR and regular checkups for preventing malfunctions of water facilities, do not have enough budget to implement their activities. The institutional structure for O&M of rural water supply facilities has been sustained as the project implementation despite the reform of rural water supply has been under discussion. Therefore, sustainability of the project is fair.

Members of ASUFOR

III. Recommendations & Lessons Learned

Recommendation for Executing Agency:

It is strongly recommended that DEM allocate enough budgets to BPFs in order to implement necessary activities to support ASUFORs. Also it is necessary for DEM to make efforts to continue capacity development of BPFs and ASUFORs which have been supported by the international donors, including JICA.

Lessons Learned for JICA

In order to ensure sustainability of water supply services at community or village level, strategic coordination with technical cooperation can effectively support to establish community level organizations which can be responsible for daily operation and maintenance of facilities and to enhance their technical and management capacity.

Internal Ex-Post Evaluation for Grant Aid Project

Conducted by Guatemala Office:March, 2013

Country Name	The Project for Ground Water Development in Rural Area
Guatemala	(El Proyecto de Desarrollo de Aguas Subterráneas en Áreas Rurales)

Ⅰ Project Outline

Project Cost	E/N Grant Limit: (1) 537 million yen (2) 440 million yen		Contract Amount: (1) 421 million yen (2) 438 million yen
E/N Date	(1) November, 2004 (2) June, 2005		
Completion Date	March, 2007		
Implementing Agency	Institute for Promotion of Municipality (INFOM) O&M agencies: Water Associations (Communities) involved.		
Related Studies	Basic Design Study: February 2004-August 2004		
Contract Agencies	Consultant(s)	Japan Techno Co., Ltd.	
	Contractor(s)	Urban Tone Corporation	
	Supplier(s)	Mitsubishi Corporation	
Related Projects (if any)	[Japan's cooperation] -Development Study on Ground Water Development in Central Plateau (Technical Cooperation, 1994-95) -Strengthening Water Associations and Community Development (Technical Cooperation, 2010-2013) -Construction of Water Supply Facilities in 9 Municipalities in 6 Departments in Central Plateau (Grant Aid, 1997-98) -Construction of piped water facilities in Municipality of Quetzaltenango (Grant Aid, 2003- 2005) [Other donors' cooperation] IDB&ASPAIN, BCIE, KfW, UNICEFF, Taiwan		
Background	In Guatemala, it is difficult for people particularly who live in rural area to access to safe water. Access rate to piped water was 59.6% in rural, 89.5% in urban (Census in 2002) in terms of existence of water supply facilities. However, it is said that real access rate to piped water for rural population was 40% because of unstable water amount from drying spring water. To improve water access rate in rural areas, Rural Water Supply Unit (UNEPAR) of INFOM promoted groundwater development and planned to construct 100 wells in next five years, and requested the Japanese government for assistance in procurement of necessary equipment for excavation and development of water supply facilities in selected communities where new water sources were urgently needed.		
Project Objectives	Outcome To promote ground water development in rural areas by construction of water supply facilities and procurement of necessary equipments to develop ground water.		
	Output(s) Japanese Side - Procurement component (for nationwide): Preparation of equipments related to ground water development (two sets of excavators & supporting vehicle, machine for ground water exploration, supporting equipment for operation and maintenance - Construction component (for selected communities): Construction of water supply facilities with the source from ground water in 14 sites (deep wells, water tanks, electric pumps, etc) - Soft component: capacity development of engineers/technicians for excavation and ground water exploration; establishment of operational/administrative mechanism for ground water development Guatemalan Side - Allocation of staffs, Site preparation; Engineers/technicians for soft component (technology transfer); Necessary data; Construction of incidental facilities; Preparation (construction) of water supply facilities with the source from ground water (Further part from Water Tank) in 14 communities; O&M cost.		

Ⅱ Result of the Evaluation

Summary of the Evaluation
To improve rural access to safe water, the government of Guatemala planned to construct 20 wells per year, totaling 100 wells in next five years (as of the ex-ante evaluation of this project in 2004). However, only one existing excavator of INFOM/UNEPAR, which was in charge of ground water development, was deteriorated after more than 20 years in use. Therefore, procurement of two excavators, each of which to construct 10 boreholes a year, was urgently needed. Also, there was an urgent request from the Guatemala side for development of water supply facilities at selected rural communities (14 sites) where there were no water supply facilities or insufficient water supply from spring-fed existing facilities.This project partially achieved promotion of ground water development in rural areas as shown in the increasing number of drilled wells (as the outcome of the procurement component) and positive comments of users of the water supply facilities developed by the project (as the outcome of the construction component), though the achievement level of the construction component could not verified quantitatively due to lack of evidence to show the amount of water supply. As for sustainability, there was no serious problems observed on the procurement component due to the adequate well-drilling implementation structure with capable staff, continuity of operation and regular maintenance of the equipment with budget allocation. Regarding the construction component, however, some problems have been observed in terms of structural, technical and financial aspects as well as the current status of operation and maintenance due to constant changes of local

staff, this situation consequently caused difficulties in keeping knowhow on O&M activities, difficulties in collecting water tariff and consequent shortage of budget to prepare necessary items for O&M.

For relevance, the project has been highly relevant with Guatemalan development policy and needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency as well, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with the Guatemalan development policy ("Improving access to safe water" as set in the Policy Guideline in National Development Plan 2004-2008 and 2009-2013), development needs: ("Better access to safe water in rural area"), as well as Japan's ODA policy ("Assisting in reduction of urban-poor gaps") and JICA's cooperation priorities at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has partially achieved its objectives of promoting groundwater development, i.e., to equip UNEPAR with the capacity to drill 20 wells per year (as a result of the procurement component) and to supply safe water to the 14 model sites (as a result of the construction component).

Drilling machine

Regarding the effectiveness of procurement component, the achievement level of expected outcome, the number of wells drilled was almost 80% of the target. The less number of wells than planned was due to budget shortage on the Guatemalan side.

As for the effectiveness of the construction component, the data on the actual amount of safe water supply was not available. Although the water supply facilities developed by this project had not been used yet in 5 sites out of the 14 sites for first two years after the completion[1] because electricity supply had not started[2], 12 out of 14 facilities were physically functioning as of October 2011. However the facilities are operated during limited period of time of a day or week in some sites due to, according to the interviews with communities and social promoters (staffs of UNEPAR regional offices), high operating costs and the refusal of some users to pay the service fees.

Nevertheless, the interviewees in the sites where the facilities are operating said that access to water has been improved compared to before the project, which has resulted in, as positive impacts, less burden of fetching water for women and children (local residents).

Therefore, effectiveness/impact of this project is fair.

Quantitative effect

Indicator	baseline value (2004)	target value (2010 or 2011) (target year: five years after first operation)	actual value (2007)	actual value (2008)	actual value (2009)	actual value (2010) (target year)	actual value (2011) (target year)
Number of wells drilled per year (outcome of the procurement component)	1 /year	20 /year	4	17	27	20	10
Total wells drilled (accumulated number) (outcome of the procurement component)	NA	100 (2011)	4	21	48	68	78
Amounts of safe water supply in the 14 sites where the project constructed the facilities (outcome of the construction component)	42-50 liter/day /person	90 liter/day /person	N/A	N/A	N/A	N/A	N/A

Source: Interviews with INFOM/UNEPAR

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 88%, 100%). Therefore, efficiency of this project is high.

4 Sustainability

[1] The detailed planning study for JICA Technical Cooperation Project," Strengthening Water Associations and Community Development" collected some data on water supply amount per minute in 2009: it ranged from 6 liter/minute (Los Encuentros) to 68 liter/ minute (La Giralda). Although it was not certain how many hours a day the facilities operated, these amounts are most likely below the planned values (94-1,453 m^3/day, which are equivalent to 65-1,009 liter/minute under the assumption that the facilities operate 24 hours a day), which were calculated as maximum possible supply based on the population projection for 2026.

[2] There was no electricity supply in two more sites, but the local governments purchased diesel generators and operated the pumps.

Regarding the sustainability of the effects of the procurement component, the equipment provided by the project is maintained by INFOM/UNEPAR, the implementing agency.

This component has no serious problem in structural, technical and financial aspects as well as the current status of operation and maintenance of the implementing agency: Ground Water Program, changed from Ground Water Unit in 2008, of INFOM has maintained the structure for drilling with the sufficient number of capable staff, and the drilling machines and other equipment are under operation and regular maintenance with budget allocation.

As for the construction component, the facilities/ equipment provided by the project are maintained by water management committees composed of local communities., The implementing agency, INFOM/UNEPAR is responsible for technical support.

Pump station and water tank (Chimaltenango Department)

This component has some problems in structural, technical and financial aspects as well as the current status of operation and maintenance of the implementing agency. In the structural aspect, although the structure of water management was sustained what it was considered desirable at the time of ex-ante evaluation, it has some problems due to the constant replacement of social promoters/technicians. In the technical aspect, all ex-trainees from the soft component of this project were transferred, and INFOM/UNEPAR does not provide technical assistance periodically, except in emergency.

In the financial aspect, some water users do not agree with paying the tariff, because that people don't get used to payment for water in Guatemala, which affect financial conditions of water management committees. In other communities, there is a lack of agreement between the Water Committee/ Association Directive and community establishing the proper tariff. As for the status of operation and maintenance, some facilities have problems such as insufficient chlorination, due to inability in renewal of some parts and lack of fuel, both resulting from the shortage of budget.

Therefore, sustainability of this project is low. Nevertheless, JICA technical cooperation project "Strengthening Water Associations and Community Development" started trainings to current committee members and INFOM/UNEPAR staff to strengthen their capacity.

Ⅲ Recommendations & Lessons Learned

Recommendations for Counterpart Agency:

INFOM/UNEPAR is recommended to strengthen its institutional capacity in order to provide more technical assistance to the communities for the operation for maintenance and administration.

Lessons Learned for JICA:

Water management committee should have enough capacity so that they could fulfill their responsibility for the operation, maintenance and management of the water systems in order to guarantee the sustainable water systems. (Note: the JICA technical cooperation project to strengthen water management committees is on-going to address this issue)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Pakistan Office: March, 2013

Country Name	The Project for the Improvement of the Flood Forecasting and Warning System for Lai Nullah Basin
Pakistan	

I. Project Outline

Project Cost	E/N Grant Limit: 661 million yen		Contract Amount: 659 million yen
E/N Date	August, 2005		
Completion Date	March, 2007		
Implementing Agency	Pakistan Federal Flood Commission (FFC), Meteorological Department (PMD), Tehsil Municipal Administration, Rawalpindi (TMA)		
Related Studies	Basic Design Study: August, 2004 – March, 2005		
Contracted Agencies	Consultant(s)	CTI Engineering International	
	Contractor(s)	Mitsubishi Corporation	
	Supplier(s)	-	
Related Projects (if any)	[Japan's cooperation] ・ The study on comprehensive flood mitigation and environmental improvement plan of Lai Nullah Basin (Technical Cooperation, 2003) ・ Strengthening of Flood Risk Management in Lai Nullah Basin (Technical Cooperation, 2007-2009) ・ Project for National Disaster Management Plan in the Islamic Republic of Pakistan (Technical Cooperation, 2010 -2012) ・ Emergency Import Support Loan (flood and disaster control) (Japanese ODA Loan, 2011) [Other donors' cooperation] ・ River improvement for flood area of Lai Nullah Basin (ADB, 2003)		
Background	Lai Nullah basin (234.8km^2), the economically and politically important area, faced frequent floods during monsoon season (July-September), causing damages approximately every three years. The flood on July 2001 was the largest (by the time of the Basic Design of this project), causing 74 deaths and 3,000 partially- or fully destroyed houses. The flood forecast was not accurate, and flood warning was not issued immediately, thus causing insufficient time for evacuation.		
Project Objectives	Outcome To strengthen flood forecasting and warning system in Lai Nullah Basin by developing related facilities and equipment.		
	Outputs(s) Japanese Side ・ Construction of 2 water level gauging stations, 6 rainfall gauging stations and 10 flood warning posts ・ Procurement equipment at PMD Islamabad Master Control Station, 6 rainfall gauging stations, 2 water level gauging stations, TMA Rawalpindi Executive Warning Station, 10 flood warning posts, 2 monitoring station ・ Soft component: technical assistance in management and engineering Pakistan Side ・ Site clearance ・ Construction of security facilities for equipment ・ Utilities		

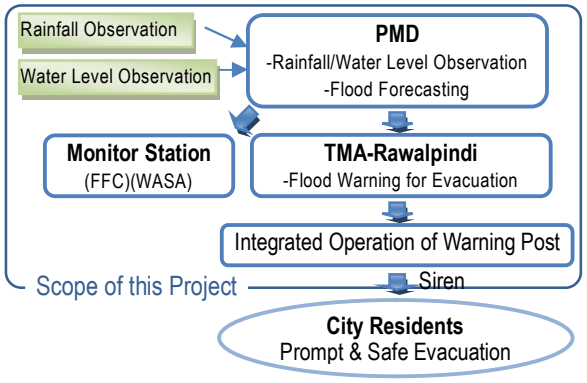


Figure1:Scope of the Project

II. Result of the Evaluation

Summary of the Evaluation

Lai Nullah basin faced frequent floods during monsoon season, causing damages approximately every three years. The flood forecast was not accurate, and flood warning was not issued immediately, thus causing insufficient time for evacuation.

This project achieved the expected outcome, which is to strengthen flood forecasting and warning system in Lai Nullah Basin, as shown in the rain gauging capacity on both banks of the basin and increasing the warning coverage area, and contribution of the system (both hard and soft components) to surprisingly mitigate damages by massive rains and floods occurred in 2010 and 2011.

As for sustainability, some problems have been observed in terms of structural and technical aspects and current status of operation and maintenance due to difficulties in deployment of capable staff and lack of some spare parts However, the relevant authorities try to ensure necessary budget and maintain the operations established through the Project on their own.

For relevance, the project has been highly relevant with Pakistan's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with the Pakistan's development policy (e.g. mitigation of flood damages as set in the National Flood Mitigation Plan), development needs (e.g. better flood forecast and warning in the Lai Nullah basin), as well as Japan's ODA policy "Country Assistance Policy toward Pakistan" at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has achieved its objectives of ensuring the rain gauging capacity on both banks of the basin and increasing the warning coverage area by construction of rainfall and water level gauging stations, flood warning posts, and the procurement of related equipment, while some equipment such as telemeter and information and communications device has not been fully utilized due to lack of capacity (see "4. Sustainability"). Although this problem has not affected the effectiveness so far as the conditions of the equipment is still good, it may cause troubles to the system in the future in case of more serious problems with the equipment. The effects of this project has been combined with the effects of the technical cooperation project to strengthen the forecasting and warning system and attained the zero casualties during the recent floods in 2010 and 2011. Therefore, effectiveness/ impact of the project is high.

PMD Master control room for flood forecasting and warning system

Quantitative Effects

Indicator(unit)	baseline value (2005)	target value (2010)	actual value (2010)	actual value (2011)
Rain gauging area	approx. 50% (average rainfall on only eastern bank of the basin)	100% (average rainfall on both banks of the basin)	100% (average rainfall on both banks of the basin)	100% (average rainfall on both banks of the basin)
Warning coverage area	10% of flood area in 2001 (100 year probability rainfall)	60% of flood area in 2001 (100 year probability rainfall)	Approx. 60% of flood area in 2010 (100 year probability rainfall)	Approx. 75% of flood area in 2011 (100 year probability rainfall)

Source: Interview to PMD and Federal Flood Commission (FFC)

3 Efficiency

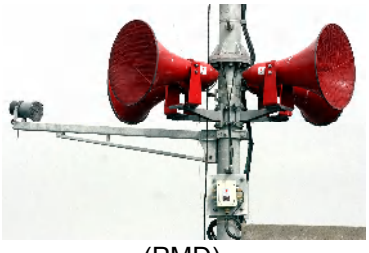
The outputs of the project were produced mostly as planned, and both project period and project cost were within the plan (ratio against plan: 97%, 95%). Therefore, efficiency of this project is high.

4 Sustainability

The facilities/ equipment provided by the project have been maintained by the respective agencies: Federal Flood Commission (FFC) in charge of coordination, flood planning and monitoring, Pakistan Meteorological Department (PMD) in charge of forecasting, Tehsil Municipal Administration, Rawalpindi (TMA) in charge of warning, and Rawalpindi Water and Sanitation Authority (WASA) in charge of drainage and monitoring.

The project has some problems in structural and technical aspects and the current status of operation and maintenance. On the structural aspect, difficulties are observed in deployment of capable staff in FFC, where PMU for O&M has not been established since the construction of their working place is still on going. No serious problem is seen in other organizations. On the technical aspect, some staff members of FFC and PMD lack capacity to operate and maintain the equipment, though PMD has its own training system to improve the capacity of the staff. As for the current status of operation and maintenance, there is a lack of some spare parts to troubles in FFC and PMD due to unavailability of the concerned equipment in Pakistan. However, no problem has been observed in the financial aspect: despite the financial crunch in Pakistan these years, all relevant agencies are trying to maintain the system and staff by themselves (i.e., they are given budgetary priority since the necessity of the project is well recognized in Pakistan), and have actually maintained minimum budget to operate the system so far. Therefore, sustainability of this project is fair.

Water level gauging station



(PMD)
Warning system (TMA)

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- Construction of the working space for FFC should be accelerated to maintain their activities.
- Constant trainings for FFC will be needed to operate and maintain systems.
- PMD should continue to implement training to improve capacity of its own staff for operation and maintenance of the equipment.
- Some equipment need spare parts in case of failure of the system. PMD should make a provision for additional maintenance budget for smooth equipment operation.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Uganda office: March, 2013

Country Name	The Project for the Improvement of Traffic Flow in Kampala City
Uganda	

I. Project Outline

Project Cost	E/N Grant Limit: 778 million yen		Contract Amount: 771 million yen
E/N Date	June, 2005		
Completion Date	September, 2007		
Implementing Agency	・ Ministry of Works, Housing and Communications (Current Uganda National Roads Authority (UNRA) under Ministry of Works and Transport (MOWT)) ・ Kampala City Council (Current Kampala Capital City Authority (KCCA))		
Related Studies	Basic Design Study: August 2004 - March, 2005		
Contracted Agencies	Consultant(s)	Nippon Koei Co., Ltd.	
	Contractor(s)	-	
	Supplier(s)	Kounoike Construction Co., Ltd.	
Related Projects (if any)	Japan's cooperation : ・ Project for Improvement of Trunk Roads in Kampala (1998, Grant Aid) ・ Project for Improvement of Trunk Roads in Kampala, PhaseII(2002, Grant Aid) ・ The Study on Greater Kampala Road Network and Transport Improvement (2009-2010, Technical Cooperation) ・ Follow-up Cooperation for The Project for the Improvement of Traffic Flow in Kampala City (2012, Technical Cooperation)		
Background	The Government of Uganda (GOU) had implemented the structural adjustment policy since 1987 and had developed the Public Investment Plan (1996/97-1998/99) with the development goals of continuous economic growth and others. Expansion of the transportation sector was deemed as an essential way to achieve the above-mentioned goals, and therefore, GOU formulated a 10-Year Road Sector Development Program and other road sector policies. In the mean time, the capital, Kampala city which is the center of economy of Uganda had long been faced with problems of increase of traffic volume and traffic accidents thereby, as well as frequent flooding of roads and junctions because of poor drainage due to the hilly location of Kampala city. Under this circumstance, with the request of GOU, JICA conducted the study "Improvement of Trunk Road at Kampala Urban Interface Sections" from December 1996 to November 1997 on the basis of the above mentioned 10-year program. Based on this study, several traffic congestion alleviation projects in Kampala city were implemented including traffic congestion alleviation projects supported by Japan and drainage improvement projects supported by World Bank. Under the circumstance, this project was expected to alleviate heavy traffic congestion around junctions in the city center.		
Project Objectives	Outcome To ensure the safe and smooth traffic in Kampala City by improving facilities of 6 existing junctions and 2 roads.		
	Outputs Japanese Side ・ Pavement/expansion, drainage, traffic lights installment on 6 crossings (Clock tower, Shoprite, Katwe/Mengo Hill, Kampala/Entebbe road, Jinja road, Africana) and 2 roads (Nsambya road (200m) and Entebbe road (300m) Ugandan Side ・ Land acquisition ・ Connection of low-voltage line to traffic signal systems ・ Relocation of public assets (electricity, communication and water lines) in the construction site ・ Provision of temporary site and electricity		

II. Result of the Evaluation

Summary of the Evaluation

Rapid growth of traffic volume in Kampala had caused serious traffic congestion and thereby traffic accidents often occurred. Urgent measures for the main cause of this traffic congestion such as insufficient traffic capacity of junctions, frequent flooding of road sections and damage of pavement were needed.

The project has largely achieved its objective of ensuring the safe and smooth traffic in Kampala City including the junctions of the project site as both the travel time and the number of traffic accident has decreased. As for sustainability, some problems have been observed in technical aspect in accordance with retirement/resignation of the staff as a result of organizational restructuring. However, training for basic operation and maintenance skills was carried out by follow-up cooperation by Japan.

For relevance, the project has been highly relevant with Uganda's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period has slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Uganda's development policy (Developing an efficient traffic system which contributes to economic growth and poverty eradication as set in Public Investment Plan 1996/97-1998/99 and National Development Plan 2010/11-2014/15), development needs (Measures for increase of traffic volume, and thereby traffic congestion and traffic accidents), as well as Japan's ODA policy (Economic infrastructure (road, power and others) as one of the 4 priority areas in Japan's ODA to Uganda) at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project has largely achieved the project objective of ensuring safe and smooth traffic flow in Kampala City. Travel time from Entebbe road to Jinja road (4.7km) has been shortened. According to interviews with the implementing agencies and road users, introduction of traffic lights system, separating pedestrians from vehicles in the crossings has improved the traffic flow, and thereby reducing the number of traffic accidents. However, the increase of traffic volume has exceeded the prediction and therefore traffic jam has not been resolved fully. The implementing agencies have a view that traffic flow cannot be controlled only by improving facilities of junctions any more, and they have come up with other interventions such as construction of elevated bridges and increase of passenger carriage by introducing bus lanes.

On the impact, as a result of increase of traffic capacity and order and controlled traffic flow, public transport service has improved and lives of local residents have become more convenient: the number of scheduled return trips that commuter taxis can operate has increased, and larger passenger capacity buses have been introduced. People's road safety awareness and observation of traffic safety requirements/regulations need to be improved, however, it is difficult to solve those issues only by implementing agencies and measures need to be taken by the related authorities/institutions as a whole. Also, there were no negative impacts to the natural environment observed that could be attributed to the project.

Therefore, effectiveness/impact of this project is high.

Quantitative Effect

	2004 Actual (BD)	2007 Planned	2008 Actual (One year after completion)	2012 Actual (at the time of ex-post evaluation)
Indicator 1 Shortening of travel time	It takes long (38 minutes) from Entebbe road to Jinja road (4.7 km) because of jam in the round-about.	Shortened	8-13 minutes	10-15 minutes
Supplemental indication Traffic volume per day on Entebbe road and Jinja road	①Entebbe road：10,157/day ②Jinja road：15,532/day	N/A	①13,816/day ②21,928/day	①32,789/day ②46,337/day

(Source: measured during project site visit on September 20, 2012 and interview with the implementing agencies.)

(Controlled traffic at Jinja Road Junction)

(Well-maintained drainage on Entebbe road)

3 Efficiency

Although the project cost was as planned (ratio against the plan: 99%), the project period slightly exceeded the plan (ratio against the plan: 112%), because of the delay in the procurement and construction. Outputs were produced mostly as planned.

Therefore, efficiency of this project is fair.

4 Sustainability

The facilities and equipment provided by the project are maintained by Uganda National Roads Authority (UNRA) which operates and maintains roads, and Kampala Capital City Authority (KCCA) which operates and maintains facilities and equipment of junctions. Although the implementing agencies were restructured after the project implementation, both of UNRA and KCCA have sufficient number of maintenance staff and they do not have financial problems since certain amount of operation and maintenance budget has been secured. UNRA has no technical problems, however, KCCA has problems in technical capacity for maintaining traffic signals since most of staff that was trained during project implementation retired and

resigned after organizational restructuring. Current KCCA staff were later trained and have gained basic operation and maintenance skills through follow-up cooperation by Japan. In order to carry out operation and maintenance appropriately, in addition to the skills of responding to troubles, further capacity development such as operation skills of traffic signals in accordance with traffic volume is needed. As to the current status of operation and maintenance, maintenance has been mostly done as planned or more frequently than planned, and all the traffic signals, controls, road surface and drainage were in operation and in good conditions.

Therefore, sustainability of this project is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agencies

1. In response to significant expansion of traffic volume, KCCA needs to acquire operational skills for controlling the safe and smooth traffic.
2. In addition to implementing agencies, the government of Uganda as a whole including traffic police and other related authorities in cooperation, needs to take measures for improving people's road safety awareness and observation of traffic safety requirements/regulations.

Lessons learned for JICA

There are countries where people do not share individual skills acquired through training within an organization. In such case, resignation/retirement of counterparts results in the suspension of operation and maintenance practices. JICA should carry out training for sufficient number of counterparts, and also distribute sufficient number of manuals to an implementing agency, so that the newly hired/allocated staffs can continue operation and maintenance.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Fiji Office: March, 2013

Country Name	The Project for Rehabilitation of the Betio Port
The Republic of Kiribati	

I. Project Outline

Project Cost	E/N Grant Limit: 834 million yen (1st Phase 313 million yen, 2nd Phase 521 million yen)		Contract Amount: 828 million yen (1st Phase 311 million yen, 2nd Phase 517 million yen)
E/N Date	1st Phase: March 2005 / 2nd Phase: July 2005		
Completion Date	January 2007		
Implementing Agency	Kiribati Port Authority (KPA)		
Related Studies	Basic Design Study: August 2004 – February 2005		
Contracted Agencies	Consultant(s)	Nippon Koei Co. Ltd.,	
	Contractor(s)	Dai Nippon Construction	
Related Projects (if any)	Development Study：The Study on Ports Development (1993～1994) Grant Aid：The Project for Improvement of Betio Port (1996～2000）. The Project for Integration of Fisheries Foundation (1999) The Project for Expansion of Betio Port (2011)		
Background	The Republic of Kiribati (hereinafter referred to as "Kiribati") is an archipelagic country composed of 33 atolls scattered near the equator and dateline in the Central Pacific Ocean. Kiribati has no land suitable for farming and its socioeconomic activities heavily rely on imported daily commodities including foodstuffs. Therefore, the marine facilities function as a lifeline for supporting the nation's socioeconomic activities. Betio Port, situated in the capital, functions as a gateway port for the country and plays an important role in providing a lifeline to carry passengers and for mass transportation of cargo. The marine facilities of the port were improved and the New Wharf was constructed under the Project for Improvement of Betio Port between 1996 and 2000 with Japanese Grant Aid assistance. However, 2.5 years after completion of this assistance, the revetment in the New Wharf was damaged by high tide level induced by a depression in November,2002. This resulted in the access road behind the revetment becoming unusable. To prevent further loss in the port and to ensure safe and efficient port operations, there was a pressing need that all damaged facilities including those not currently damaged but may be affected in the future should also be rehabilitated.		
Project Objectives	Outcome To restore and maintain the function of Port of Betio by rehabilitating port facilities in the South Tawara of the Republic of Kiribati		
	Outputs(s) Japanese side: ● Restoration of New Wharf Revetment ● Restoration of Fishery Jetty Revetment ● Restoration of East Mole Revetment ● Procurement of Spare Parts for 80t Truck Crane procured by Japan's Grant aid in 1997. Kiribati side: ● To secure the land for a temporary construction yard. ● To provide one flat barge with associated tug boat owned by KPA free of charge		

II. Result of the Evaluation

Summary of the Evaluation

Betio Port, located in Tarawa, the capital of the Kiribati, was renovated with the assistance of Japanese Grant Aid from 1996 and 2000. However, 2.5 years after the completion of this assistance, the revetment of its New Wharf was damaged by high tide level induced by a depression in November 2002. It was decided that to ensure the durability of the damaged facilities in the future, the renovation/rehabilitation should be carried out not as provisional repairs but for the permanent rehabilitation and to procure the spare parts of the 80t Truck Crane as well. The 80t truck crane was originally donated by the previous assistance in 2000, but had been shutdown for a long time because of unavailability of spare parts.

The project has largely achieved its objectives to restore and maintain the function of Port of Betio by rehabilitating port facilities. After the completion of the project, there has been no damage by the overtopping waves to revetments and other marine facilities. Access roads have become usable and there has been no restriction in handling cargoes. As a result, working hours of handling cargoes has been minimized and the cost of maintenance and repair of revetments has been drastically reduced.

As for the sustainability, the implementing agency has achieved the primary balance surplus, thus the sufficient budget for maintenance has been secured. There is no problem observed in the technical aspect, however, in terms of structural, current status of operation and maintenance, the implementing agency has some problems with that the rules and regulations of port management under the bad weather condition has not been well organized, and the maintenance records of equipment such as the 80t crane truck has not been effectively prepared.

For relevance, the project has been highly relevant with Kiribati's development policy, development needs and Japan's

ODA policy at the time of ex-ante evaluation and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

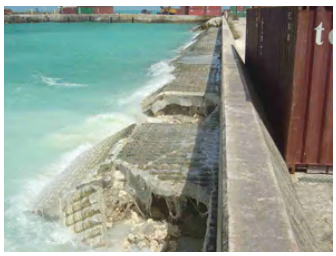
1 Relevance

This project has been highly consistent with Kiribati's development policy, such as "improvement of social infrastructure to achieve economic development" specified under the National Development Strategies (2008-2011)and (2012-2015), and development needs to rehabilitate the marine facilities in the Betio Port serving as a center of the traffic and transportation of the country, as well as Japan's ODA policy toward Pacific Islanders including the Republic of Kiribati, endorsed at the Pacific Islander's Meeting at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

The effectiveness/impact of this project was mainly examined by the qualitative data and information obtained through the field study. This is because that appropriate and measurable indicators were not set out for the evaluation of this project at the time of ex-ante evaluation. Moreover, it was difficult to establish new proxy indicators to examine the secular change over the years, considering its particularities of the project implemented as emergency measures for damages caused by natural disaster. Due to the disaster, access road behind the revetment of the New Wharf of the Betio Port had become unusable. It was anticipated that the damages would expand in the future to the facilities currently not affected because amplified damages were identified even at the container yard, and refrigeration building and fish processing building were affected by both flooding and inundation of overtopping waves.

This project has largely achieved its objectives to restore the function of revetment, such that there has been no damage by the overtopping waves in the port facilities, no distresses identified in the revetment as well. As a result, the access roads have become usable and there has been no restriction in handling cargoes. Since the project completion (2008) till the ex-post evaluation (2012), no erosion damages were reported in the New Wharf Revetment, Fishery Jetty Revetment and East Mole Revetment renovated by the project. The overtopping wave by the cyclone was reported once in 2011, but there were no damages reported. Photos below, taken at the New Wharfs, demonstrates the current conditions improved by the project.



Status of the New Wharf (North) before the project

Current status of the New Wharf (North) after the project

Current status of Fishery Jetty Revetment

80t Truck Crane Truck in operation

The 80t Truck Crane has been in operation as planned. It operates for about 60 hours per month (approximately 2 or 3 days over 3 times a month.) Due to the decrepit condition, it has malfunctioned in every 2 months for about 3 hours each. However, it has still operated with proper repair using the spare parts donated by the project or procured on their own. (The implementing agency independently procured other crane truck to cope with the increasing volume of cargoes this year. Both crane trucks will be evenly used for the operation.)

Furthermore, a number of ripple effects have been observed. They are the drastic cost mitigation of maintenance and repair of revetments, elimination of damages to revetments and vessels, and reduced working hours for handling cargoes. This is because there is no need to go out of the way to a side road. No negative impact was observed in terms of the natural environment. Also, there was no resident relocation/land acquisition.

Therefore, effectiveness/impact of this project is high.

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 99%, 99%).

Therefore, efficiency of this project is high.

4 Sustainability

The facilities/equipments provided by the project are maintained by KPA, the implementing agency. The role and structure of implementing agency is sustained with sufficient staff and maintained as planned. However, the implementing agency has some problems to maintain the effect of the project, such that the rules and regulations of port management under the bad weather condition has not been well developed. As for the financial aspect, the implementing agency has achieved the primary balance surplus, with the self-help efforts to cut down the expenses and to secure the sufficient amount of maintenance cost.

As for the technical aspect, the implementing agency has no problem in dealing with the daily operation and maintenance of port facilities and a 80t truck crane. Training of staff has been carried out as an OJT among others and they all have

sufficient knowledge and skills for maintenance. There is no problem in the current status of operation and maintenance of implementing agency except preparation and management of the maintenance records. Consolidation and management of information is the future challenge for the implementing agency in order to cope with the possible increase of maintenance cost. Overall, as for the sustainability, the implementing agency has minor problems in the structural aspect and the current status of operation and maintenance management.

Therefore, the sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

It is recommended that the implementing agency should properly keep track of the record of equipment maintenance as pointed out at the warranty inspection study (2008).

Currently, the maintenance record has been prepared off and on, and the record may not include all necessary items. By properly keeping track of maintenance records, it would become easier to anticipate the possible troubles, thus to make a proper prediction of necessary spare parts for procurement. Moreover, such record as, the hours spent for handling cargo, the content of cargo, etc., will help to estimate the timing to renew the equipment as well as to upper limit of cargo volume per vessel, etc. In summary, proper consolidation and management of information will eventually contribute to the overall management of port facilities.

Lessons learned for JICA:

In case that there are some difficulties to obtain quantitative data, partly due to the ineffective information management system of the implementing agency, it is important to help them understand the significance of proper information consolidation and management, by dialogue as well as working with them in the process of data collection, through setting up appropriate indicators or proxy indicators.

Moreover, technical cooperation, trainings in particular, that assists identifying the appropriate statistical information that needs to be prepared and utilizing it with analysis would eventually contribute to strengthening the soft skills for operation and maintenance of the implementing agency.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Fiji office: March, 2013

Country Name	The Project for the Upgrading of Electric Power Supply in Funafuti Atoll
Tuvalu	

I. Project Outline

Project Cost	E/N Grant Limit: 925 million yen		Contract Amount: 925 million yen
E/N Date	July, 2005		
Completion Date	December 2006		
Implementing Agency	Tuvalu Electricity Corporation (TEC)		
Related Studies	Basic Design Study: November 2004 – May 2005		
Contracted Agencies	Consultant	Yachiyo Engineering Co., Ltd	
	Contractors	Mitsubishi Corporation and Dai Nippon Construction	
	Suppliers	Mitsubishi Corporation and Dai Nippon Construction	
Related Projects	Non-Project Grant Aid (FY2005 to FY2011)		
Background	Power supply for Funafuti, the capital of Tuvalu, was provided by a single diesel power station - Fogafale Power Station – with total output of 2,045k. However, due to the deterioration of facilities and equipment, the total output of existing generating units (No. 3, No. 4 and No. 5 units) had decreased to 840 kW (40% of full capacity). To make the situation worse, the peak power demand had doubled in the period from 1993 to 2003 with an average annual increase rate of as high as 7.46% while the increase of the supply capacity had fallen short of the demand increase, necessitating regular power cuts. The stable power supply was also needed to respond to expected demand growth for infrastructure development including government offices and others, to vitalize economic activities, and to stabilize social and welfare services.		
Project Objectives	Outcome To ensure stable power supply in Funafuti by installing new generating units at the Fogafale Power Station and upgrading 11 kV distribution facilities and cables.		
	Outputs(s) Japanese Side ・ Installation of new generating units (600kW x 3) at Fogafale Power Station ・ Construction of a power house at Fogafale Power Station ・ Procurement and installation for auxiliary electrical equipment ・ Installation of 11 kV distribution cables Tuvalu Side ・ Removal the existing TEC office on the Fogafale Power Station site ・ Securing or obtaining and clearing land for the new power house and new distribution equipment		

II. Result of the Evaluation

Summary of the Evaluation

Funafuti, the capital of Tuvalu, suffered frequent power failure due to the deterioration of power generation facilities and equipment and needed a stable power supply to respond to growing power demand accompanying with infrastructure development including government offices and others, economic vitalization, and stability in social and welfare services.

The project has somewhat achieved its objectives. After the project completion, there has been no power failure, and the project has vitalized retailing industries and has supplied stable and quality power to public/welfare facilities in Funafuti, including hospitals. However, due to the limited demand growth, the facilities have not been fully utilized and therefore parts of objectives were not successfully achieved. As for sustainability, some problems have been observed in terms of technical and financial aspects as well as the current status of operation and maintenance. TEC needs technical support for alternate maintenance, and faces financial problems of high fuel costs, inappropriate pricing and others. In addition, salt corrosion has hampered the output of facilities installed by the project.

For relevance, the project has been highly relevant with Tuvalu's development policy, development needs, and Japan's ODA policy at the time of ex-ante evaluation and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Tuvalu's development policy "development of basic infrastructure", which is one of the five priority areas of development programmes under the national development strategy, and power supply is an important part of those programmes, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. The project satisfies development needs in terms of stable power supply in Funafuti. The actual peak demand in 2011 was approximately 1MW which is lower than the forecast at the time of ex-ante evaluation (1,848kW peak demand in 2012).

This discrepancy occurs because the initial forecast was made based on the past actual demand trends due to difficulty of obtaining GDP forecast, while actual demand did not reach the target because of the global economic downturn. However,, the project satisfies the development needs at the time of both ex-ante and ex-post evaluation because it supplies stable power supply while there are no power supply sources other than the generating units installed by the project in Funafuti.Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has somewhat achieved its objectives. After the project completion, there has been no power failure, and the project has supplied stable and quality power to public/welfare facilities in Funafuti, including administrative offices, schools and hospitals. However, available supply capacity has not achieved the target due to the operational problem of existing generating units, although the capacity of generating units installed by the project is in line with the project target. The existing generators have not been in operation because their parts were removed and have not been replaced due to budget constraint. In addition, actual planned load factor of the three generating units installed by the project is 27 to 28 % as a result of low demand, while 79% was anticipated. As to the impact, the stable power supply by the project has vitalized retail business such as cold storage business since companies are able to use more refrigerating equipment. The project also has contributed to stabilized operation of public/welfare facilities, as the adverse effect by the power failure to the medical practices has been resolved. According to the implementing agency, there is no negative impact on natural environment since measures for air pollution and noises have been taken. There is no case of land acquisition and involuntary resettlement.

Therefore, effectiveness/impact of this project is fair.

	2003 Actual (BD)	2007 Planned (Year of completion)	2012 Planned	2007 Actual	2011 Actual	2012 Actual
Indicator 1 Available supply capacity (Reserve capacity)	820kW (0kW)	2,550kW (1,169kW)	2,460kW (612kW)	1,800 kW (950kW)	1,680kW (687kW)	1,650 kW (627 kw)
Indicator 2 Power failures caused by the aging and/or insufficient capacity of the distribution equipment	63times/year	0time/year	0time/year	0time/year	0time/year	0time/year
Indicator 3 (supplementary indicator) Annual operating hours of the facilities installed by the Project (hours) ①No.6 ②No.7 ③No.8	n.a.	8,000 hours is expected	n.a.	①5,188 ②5,093 ③5,195	①4,940 ②4,510 ③4,660	n.a.
Indicator 4 (supplementary indicator) Planned load factor of the facilities installed by the Project	n.a.	52.5% is expected	78.7% is expected	28.26%	27.15%	n.a.

(Source) TEC

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 100%, 97.1%). Therefore, efficiency of this project is high.

4 Sustainability

The facilities and equipment provided by the project are maintained by TEC, the implementing agency, and no problem in structural aspect is observed because a system is established and human resources required is secured. Currently, the government plans to nationalize TEC as a result of TEC's suspension of power supply to government offices due to nonpayment of electricity bills. However, few changes in operation and maintenance system are anticipated since when TEC was privatized, there were few changes in operation and maintenance system. The project has some problems in technical and financial aspects and current status of operation and maintenance. On the technical aspect, although TEC carries out regular training and tries to acquire technical skills through on-the-job training by engineers who implements regular check-ups, TEC needs more technical support in terms of alternate maintenance because TEC has not carried out proper alternate maintenance due to lack of initial on-the-job training. TEC faces financial problems such as high fuel costs, difficulty of setting adequate electricity prices, and high percentage of uncollected bills mainly from the government. Currently TEC has profit after tax thanks to Japan's Non-Project Grant Aid for fuel cost support, however, TEC might generate loss in the future because it is uncertain whether the Grant Aid continues. As to operation and maintenance status, although TEC carries out regular check-ups based on the annual operation plan, it faces various problems. Output

has been hampered to some extent due to the salt corrosion of radiator fin which was not anticipated at the time of the planning. TEC tried its best to maintain the radiator by scoring the rust off and painting. Operational status of existing three generating units is also a problem. Those generating units were not in operation because parts were removed and have not been replaced due to budget constraint.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. Sales prices should be set to cover the cost sufficiently. Although people might be against for raising the prices, TEC needs to obtain understanding from people by setting the basic rate low with the promotion of Demand Side Management and by carrying out awareness promotion activities.
2. The output of the generating units installed by the project may decrease in the near future due to the salt corrosion and due to the nature of a diesel generator. Although current reserve capacity is sufficient, TEC needs to take measures for continues stable supply by procuring spare parts systematically, recovering the function of the existing generating units (No.3, 4 and 5), and carrying out repair and maintenance of the generating units installed by the project well in advance.

Lessons learned for JICA

1. Basically, economy in an island nation is dependent on international economy because it imports most of the domestically consumed goods. Because of international economic downturn since 2007, already plunged Tuvalu Trust Fund further worsened and therefore government revenue fell. As a result, energy demand fell below the forecast as construction of government buildings – the government is the main electricity consumer in Tuvalu - was cancelled. Electricity demand of a small island nation like Tuvalu with only 12,000 population is very small and fragile to any small outside conditions. Ex-ante evaluation needs to take such aspect into consideration and more strict demand forecast with sensitivity analysis should be carried out.
2. Economic foundation of a small island nation in the Pacific like Tuvalu which has limited industries and resources is very weak. In that case, JICA and a recipient country need to agree making an arrangement for the benefits to be sustainable including operation and maintenance system.

Generating units

Radiator

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Cambodia office: March, 2013

Country Name	The Project for the Construction of Primary Schools in Phnom Penh, Phase II
Cambodia	

I. Project Outline

Project Cost	E/N Grant Limit: 510 million yen		Contract Amount: 509 million yen
E/N Date	August, 2005		
Completion Date	December, 2006		
Implementing Agency	Department of Education, Youth and Sports, Phnom Penh Municipality (PPDoE)		
Related Studies	Basic Design Study: January 2005 - July, 2005		
Contracted Agencies	Consultant(s)	Yachiyo Engineering Co., Ltd.	
	Contractor(s)	Kounoike Construction Co., Ltd.	
	Supplier(s)	-	
Related Projects	Japan's cooperation: Project for Construction of Primary Schools in Phnom Penh, Phase 1 (Grant Aid, 2004)		
Background	Cambodia had been particularly emphasizing impartiality of access to primary education, improvement in the quality of education, and internal efficiency through the formulation of the "Education Strategic Plan 2004-2008 (ESP 2004-08)" and the "Education Sector Support Program 2004 -2008 (ESSP 2004-08)" with the aim of achieving education for all (EFA). In the last 10 years, the development of Phnom Penh (PP) Capital City of Cambodia had been attracting migrants from all over the country. As a result, population in PP has rapidly increased from 925,000 in 1995 to 2,100,000 in 2010. Stemming from this phenomenon, the number of students enrolled in primary schools increased from early 2000s. Many of primary schools in PP were facing a severe classroom shortage. For tackling the classroom shortage for improving learning and teaching environment, the Government of Cambodia requested the Government of Japan a grant aid (Phase I 2004-2005) for the reconstruction and extension of primary school buildings in PP in 2004. Since the classroom shortage continued, the implementation of additional school building construction was requested for Phase 2 (2005-2006) and 6 schools were selected which was considered as urgent at the time of ex-ante evaluation.		
Project Objectives	Outcome To improve the educational environment at target schools (implementation of lessons through an appropriate shift system, securing appropriate lesson time and providing lessons with the appropriate number of pupils) by increasing the number of classrooms.		
	Outputs(s) Japanese Side ・ Constructing 113 classrooms and toilets and installing new equipment such as desks and chairs for pupils and teachers and white boards at 6 target primary schools: Phoum Russey, Chak Tomuk, Sophak Mongkul, Pochen Tong, Chamreun Rath and Chamreun Cheat ・ Technical assistance (soft component) for maintenance Cambodian Side ・ Removal of the existing dilapidated school buildings & ground leveling, sufficient ground leveling at construction lot, connection work to the switch board, piping work outside the lot and connecting work to sewerage pipes ・ Allocation of teachers ・ Human and financial resources for the appropriate operation and maintenance of the school facilities		

II. Result of the Evaluation

Summary of the Evaluation

With the rapid population growth in Phnom Penh (PP), the number of students enrolled in primary schools had increased from early 2000s. Many of primary schools in PP were facing a severe classroom shortage, which caused a situation that the classes were carried-out in three shift system or rotation schedule classes (mobile classes) with overcrowded students per class. Furthermore, school facilities including buildings have been becoming deteriorated, which was considered as emergency needs for both of schools and students.

This project has largely achieved its objectives. The number of classrooms of target schools has been increased; thereby the classes have become less crowded, and the mobile classes and three shift system have been abolished. Teachers and students are highly satisfied with the project that enables them to have the proper classroom, good environment and new facilities/equipment. At the same time, teachers and students have become more motivated in learning and teaching. However, the pupil-class ratio is becoming higher at some schools. As for sustainability, there was no problem observed in the project in terms of institutional and technical aspects, as well as current status of operation and maintenance; however, the project has some problems in financial aspects due to lack of financial resources at all schools. The 6 target school

secure human resources, have acquired maintenance skills through technical assistance, have multiple financial resources, and have operated and maintained facilities/equipment well.

For relevance, the project has been highly relevant with Cambodia's development policy, development needs, as well as Japan's ODA policy at the time of ex-ante and ex-post evaluation. For efficiency, both the project cost and project period were within the plan.

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

1 Relevance

This project has been highly relevant with Cambodia's development policy (Enhancing equitable access to education service and enhancing quality and efficiency of education service as set in Education Strategic Plan 2004-2008 and 2009-2013), development needs (improving access and physical school buildings in PP), as well as Japan's ODA policy "Country Assistant Policy 2002" at the time of ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of improvement of educational environment by eliminating 3 shift system and mobile classes and reducing the number of students per classroom and thereby reducing overcrowded students per class. In 2012 the average number of pupils per classrooms has achieved the target value significantly, partly because the number of students enrolled at some target schools has decreased because of housing relocation, which often occurs in the target areas where the mobility of labor is high; however, the schools would not have reached the target without the project. On the other hand, the number of students is increasing at 2 schools (Phoum Russey (Number of pupil-classroom: 97.5) and Pochentong (Number ofpupil-classroom:116.8), partly because people in the central city have moved to western and southern suburb where these two schools are located due to the increasing number of factory operation under foreign direct investment, and partly because the existing classrooms have been demolished or have been used for other purposes. The classes there are becoming overcrowded and the schools may face classroom shortage in the near future. This situation requires high attention and future proper planning of PPDoE.

Nevertheless, the expected positive effects and impacts have been observed at all target schools: Teachers and students are very satisfied with the safe and suitable education environment, and especially students have been motivated and thereby their scores have become higher and they have been absent less, according to the students and teachers. Also, local communities became able to use the classrooms constructed by the project for their activities (such as drug education campaign and charity ceremony), which thus improved significantly.

Therefore, effectiveness and impact of this project is high.

Quantitative effect

Indicator(unit)	baseline value (year of BD: 2005) (actual value)	target value (target year: 2007)	actual value (target year: 2008) SY(School Year 2007-2008)	actual value (at ex-post evaluation):2012 SY2011-12
Indicator 1: Number of pupils per classroom	126	80	68.8	67 at 6 schools (at Phoum Russey: 97.5; at Pochentong 116.8)
Indicator 2: Shift system	• A triple shift at 3 schools • A double shift at the other 3 schools	A double-shift for 6 targeted schools	Double-shift at 6 schools	Double-shift at 6 schools
Indicator 3: Mobile classes	All 6 targeted schools have mobile classes	No more mobile classes	Mobile classes remain at 1 school	No more mobile classes

(Source: six target schools)

3 Efficiency

The outputs of the project were produced as planned, and both of project cost and project period were as planned (ratio against the plan: 100%, 96%). Therefore, efficiency of this project is high.

4 Sustainability

The facilities/equipment provided by the project are maintained by the 6 target schools themselves in accordance with the decentralization policy of the government. PPDoE is responsible for overall education sector administration in PP, and being involved with the monitoring of facility maintenance as a result of the technical assistance (soft component) of the project. This project has no problem in institutional and technical aspects, and the current status of operation and maintenance of the implementing agency. However, the project still has some challenges in financial aspects because financial resources at all schools are not sufficient.

With regards to institutional aspect teachers carry out daily maintenance and repair work in small scale with technical and financial support from the local School Supporting Committee (SSC). On the technical aspect, the implementing agency and 6 target schools have acquired the knowledge on maintenance work including sludge disposal of toilets, with the training and guidelines provided through implementation of technical assistance from the project, though they need to contract out to

private companies for large scale repairing. In addition, the guidelines developed by the project have been distributed to and utilized at 230 schools in PP, and in 2010, PPDoE carried-out a larger training in maintenance to all schools in PP.

As to the financial aspect, all schools have multiple sources for maintenance and repair: Program-based Budget (PB: the budget allocated to each school), support from SSC, and Phnom Penh Municipality for large scale repair. However, the amount of PB and SSC are barely enough for their expenditure, although the measures have been taken, as recently, Ministry of Education have formulated guidance to strengthen SSC, and capacity development to school directors concerning management and planning, including budgeting.

On the current status, the facilities/equipment provided by the project are maintained well. Broken equipment such as switches, whiteboard, and lock holders of doors have been replaced/have been repaired. All schools understand the importance of sludge disposal and 3 schools have disposed sludge of the toilet, while the remaining 3 schools are going to dispose the sludge in the near future. As a consequence of technical assistance, PPDoE monitors school facilities/buildings including the target schools 2 times a year (1st time; check and give advice for work needed; 2nd check and assess school performance). Schools always take actions in response to PPDoE advice. Although not a problem which casts an influence on sustainability, the electricity of the school buildings is always turned off at Phumrussey School because of high expenses for electricity, even after the broken lightning equipment and lights have been renewed. Even though the class is conducted during the day, re-operation of the electricity is desirable.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. Phnom Penh Department of Education (an implementing agency) should continue the existing mechanisms of schools monitoring or inspection because their technical advice is curtail for keeping facilities in good condition, as well as equipment in function.
2. The implementing agency should review and analyze the electricity problem and its necessity in school buildings, so that proper instruction can be provided to target schools and findings also can be reflected in future similar project.
3. Ministry of Education should continue its efforts to strengthen schools' capacity on school budget planning, thus the annual budget can be secured for operation and maintenance of facilities/equipment.

Side view of school building

In classroom

Cleaning activity

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Ethiopia office: March, 2013

Country Name	The Project for the Water Supply in Amhara Regional State
Ethiopia	

I. Project Outline

Project Cost	E/N Grant Limit: 499 million yen		Contract Amount: 357 million yen
E/N Date	August, 2005		
Completion Date	October, 2008		
Implementing Agency	Amhara Regional State Water Resources Development Bureau (AWRDB)		
Related Studies	Basic Design Study: October 2004 – March 2005		
Contracted Agencies	Consultant(s)	Nippon Koei Co., Ltd.	
	Contractor(s)	―	
	Supplier(s)	TOA-TONE BORING CO., LTD.	
Related Projects (if any)	[Japan's Cooperation] • The Ethiopia Water Technology Center Project Phase 2 (2005-2008), Phase 3 (2009-2014) (Grant aid) [Other donors' cooperation] • Water Supply and Sanitation Project (2004-2009) (Loan, World Bank) • Water and Environmental Sanitation (2002-2006) (Grant aid, UNICEF) • Rural Water Supply and Environmental Program Phase I (1994-1998), Phase II (1998-2002), Phase III (2003-2006) (Grant aid, FINNIDA)		
Background	The Government of Ethiopia envisaged to increase in the coverage ratio of rural water supply from 23.1% (2001) to 70.9% (2016) in the whole country and from 23% (2001) to 62% (2016) in Amhara National Regional State, respectively (The Water Supply and Sanitation Development Program (WSSDP) (2002-2016)). Amhara State had a population of around 18.6 million, with 78% of the inhabitants living in the rural areas. Since the social infrastructure including the public health and water supply was underdeveloped, the infant mortality in the State was high as 144 per 1,000 live births and the incidence of water-borne diseases were widely observed.		
Project Objectives	Outcome To promote construction of water supply facilities by provision of equipment for construction of shallow and deep wells in 20 Woredas (districts) of Amhara National Regional State		
	Outputs(s) Japanese Side: a) Truck Mounted Rotary Drilling Rigs: 2 units b) Air Lift System for Development of Shallow Wells x 2 c) Supporting Trucks for Well Drilling (Crane Trucks x 2, Cargo Trucks x 2) d) Groundwater Survey Equipment (Electric Logger x 1, Geo-electric Equipment x 1, Portable Water Level Detector x 4, Portable Water Quality Meter x 1) e) Pumping Test Equipment (Mounted on the Crane Truck) x 1 f) uPVC Casing Pipes and Screens (For Shallow Well x 1, For Deep Well x 1) Ethiopian Side: a) Construction cost for 200 wells b) To maintain and use properly and effectively the equipment and casing pipes and screens procured by the Project c) To assign the necessary staff and secure the necessary budget for operation and maintenance of the equipment purchased by the Project		

II. Result of the Evaluation

Summary of the Evaluation

Since there were few available water sources in Amhara State, the local residents, particularly women and girls were imposed to heavy work load for water fetching. Also they used unprotected water source in the rainy season such as river water, spring water and reservoir, the water-borne diseases such as diarrhea, amebic dysentery, abdominal typhus, cholera were widely observed in the State.

This project has largely achieved its objectives of constructing new wells in the target area (211 wells against the target 200), the number of water served population in the target area (94,950 people against the target 94,000) and rural water coverage ratio in Amhara State (72% against the target 62%). Also the project has positive impacts on reduction in water fetching labor and incidence of water-borne diseases. As for sustainability, some problems have been observed in terms of technical aspect and current status of operation and maintenance due to (i) lack of manuals and operational guidelines for the equipment of the project and lack of skills for borehole rehabilitation, maintenance of advanced drilling machinery and hydraulic machinery and (ii) a difficulty in procurement of spare parts.

For relevance, the project has been highly relevant with Ethiopia's national development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Ethiopia's national development policy ("improvement in accessibility of safe drinking water" in the Sustainable Development and Poverty Reduction Program in 2002 and the National Five Years Strategic Plan 2010-15), development needs ("improvement in rural water coverage ratio in Amhara State"), as well as Japan's ODA Policy "the Japan's Country Assistance Strategy to Ethiopia" with priority area of water sector and social infrastructure" at the time of both ex-ante and ex-post evaluation.

Therefore, the relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of constructing new wells, an increase in number of served population, and improvement in rural water coverage ratio in Amhara State. The number of wells newly constructed in the project target area by using the equipment of the project was achieved its target of 200 wells by 2010. The number of water served population in the target area was also achieved its target of 94,000 by 2010. The rural water coverage ratio in Amhara State was improved from 23% in 2005 to 72% in 2010 and 76% in 2012, which achieved its target of 62% by 2010. The above improvements have enhanced the accessibility of safe and stable drinking water supply in the target area as well as entire Amhara State.

The project has positive impacts on reduction in water fetching labor and incidence of water-borne diseases. According to the interview results with 15 women in selected three woredas of Amhara State, the improvement in availability of water points at their nearby households and villages significantly reduced the work labor load on women and girls through reduction in time and distance for fetching water. Also according to the interview results with the health extension workers at the respective sample woredas' health centers, it was recognized that the frequency of visit by the householders to the health center to get medication for water-borne diseases such as diarrhea decreased after the construction of the water facility in their woredas.

It should be noted that above mentioned achievement of project objectives and positive impacts are attributed not only by this project but also by the active intervention by other donors in Amhara State. In fact, during the three years from 2009 to 2011, total 2,799 water points were constructed in Amhara State by foreign donors including 2,083 by the Government of Finland, 583 by UNICEF, 47 by World Bank, 86 by AfDB).

No negative environmental impact. Regarding the land acquisition and resettlement, no information was collected.

Therefore, the effectiveness of the project is high.

Quantitative Indicators

Indicator (unit)	baseline value (2005)	target value (2009)	actual value (2010/2011) [2)]	actual value in 2012 (at ex-post evaluation)
Indicator 1: No. of wells newly constructed in the project target area [1)] (no.)	0	200	211	- [3)]
Indicator 2: No. of water served population in the project target area (no. of people)	N.A.	94,000 (470 served population/well) [4)]	94,950 (450 served population/well) [4)]	-
Indicator 3: Rural water coverage ratio in Amhara State (%)	23%	62%	72%	76%

Source: AWRDB

Note 1: Project target area: 20 woredas (districts) in Amhara National Regional State.

Note 2: The Ethiopian fiscal year starts from July and ends in June.

Note 3: In 2012, 52 new wells were constructed in other parts of the region and out of the region, which were not included in the project area by using the equipment of the project. Moreover, it is planned that 25-30 wells will be constructed annually in Amhara State for the remaining three years until 2015 by using the equipment of the project.

Note 4: calculated by [Indicator 1 (No. of wells)] / [Indicator 2 (No. of water served population)]

Water Point

Well Drilling Rig

Well Drilling Rig

3 Efficiency

Although the project cost was within the plan (71%), the project period slightly exceeded the plan (105%) because of replacement of some defective equipment. Outputs were produced as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The equipment provided by the project is maintained by Amhara Water Works Construction Enterprise (AWWCE) which is a public corporation under Amhara State responsible for construction of wells by receiving order from AWRDB. While AWRDB is in charge of planning and implementation of water supply project, establishment of regulatory norms, standards and general guidelines for sustainable development and management of water supply, and supporting water committees for operation and maintenance of each water facility in Amhara State. Regarding the institutional aspect, no problems are observed since there is a clear division of roles between AWRDB and AWWCE, and the sufficient number of staff is allocated in both organizations. Regarding the technical aspect, some problems are observed in AWWCE because of lack of manuals and operational guidelines for the equipment of the project and lack of skills for borehole rehabilitation, maintenance of advanced drilling machinery and hydraulic machinery although they received training from UNICEF and JICA's technical cooperation project "Ethiopia Water Technology Center Project (EWTCP)". Regarding the financial aspect, no problems are observed since both AWRDB and AWWCE have been allocated sufficient budged in the last four years. While 211 wells constructed by using the equipment of the project are functional at present, AWWCE has some problems on the current status of operation and maintenance of the equipment of the project since there is a difficulty in procurement of spare parts that affects the condition and function of some equipment, particularly well drilling rigs.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is desirable if AWRDB allocates more budget (either from the governments or donor organizations) for recurrent budget to ensure the monitoring activities of the present wells conditions of the rural water supply systems. It is also anticipated that AWWCE will be more involved in the monitoring of the equipment for the development of water supply schemes. To ensure the sustainable use of the equipment, the availability of spare parts is crucial. AWWCE shall allocate special budget for the spare parts of the rigs and they shall know the import tax exemption procedures to facilitate the import of the spare parts.

Lessons learned for JICA

- It would have been more successful if JICA also provided the necessary spare parts at the beginning of the project. The Amhara region couldn't use the rig for more or less one year due to the lack of spare parts. For enhancement of the project objective, JICA's other project, especially; Ethiopian Water Technology Center Project (EWTEC) should be more utilized for the capacity development of the AWRDB as well as AWWCE. It is mentioned that there is major skill capacity gaps in the following areas;
  - Boreholes Rehabilitation skill. Borehole Camera and its Application
  - Advanced drilling Machinery maintenance
  - Maintenance of Hydraulic Machineries

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Malawi office:March, 2013

Country Name	The Project for the Groundwater Development in Lilongwe Westt
Malawi	

I. Project Outline

Project Cost	E/N Grant Limit: 964 million yen 1st term: 306 million yen 2nd term: 371 million yen 3rd term: 287 million yen	Contract Amount: 731 million yen 1st term: 259.8 million yen 2nd term: 257.5 million yen 3rd term: 213.8 million yen
E/N Date	1st term: August, 2005, 2nd term: July, 2006, 3rd term: July, 2007	
Completion Date	March, 2009	
Implementing Agency	Water Resources Department, The Ministry of Water Development (current name: Water Resources Department, The Ministry of Irrigation and Water Development)	
Related Studies	Basic Design Study: October, 2004 - June, 2005	
Contracted Agencies	Consultant(s)	Japan Engineering Consultants Co., Ltd. (all terms) (current name: Eight-Japan Engineering Consultants Inc.)
	Contractor(s)	The Consortium of Urban TONE and Sojitz Corporation (1st term) Urban TONE (2nd term), KOKEN BORING MACHINE CO., LTD. (3rd term)
	Supplier(s)	The Consortium of Urban TONE and Sojitz Corporation (1st term) Urban TONE (2nd term), KOKEN BORING MACHINE CO., LTD. (3rd term)
Related Projects	[Japan's Cooperation] -The Project for Development of Groundwater in Lilongwe-Dedza (1st and 2nd terms) (Grant Aid Project, 2001-2002) [Other Donors' Cooperation] -none	
.Background	In April 2002, under the Malawi Poverty Reduction Strategy (MPRS), the government decided to increase ratio of access to safe water from 65.6% (in 2001) to 84% (by 2005) as the target in the water supply and sanitation sector. As of 2004, the ratio of water supply in rural areas was estimated to be about 75%, and dissemination of water supply facilities in rural areas, where boreholes are the principal means of water supply, was particularly delayed and was causing regional differences in the ratio of water supply due to the limited boring equipment and technologies, especially in the areas that were difficult to access with hard hydrological and geographical conditions. The area of Lilongwe West, i.e. TA Kalolo and TA Khongoni, had been evaluated as the area of the worst water supply conditions and it was an urgent task to improve water supply facilities in the area.	
Project Objectives	Outcome To improve the ratio of safe water supply by i) constructing 296 deep boreholes in 234 villages in TA Kalolo and TA Khongoni in Lilongwe District, ii) establishing WPCs to operate, maintain and manage these boreholes and iii) conducting educational activities for residents.	
	Outputs Japanese side -Procurement of relevant equipment for borehole drilling (drilling rigs, high pressure air compressors, borehole development equipment, pumping test equipment, cargo trucks, pick-up type light vehicles, geo-electric survey equipment, etc.) - Procurement of relevant equipment for research and monitoring (three motorcycles, GPS, etc.) -Construction of 296 deep boreholes -Soft Component: establishment of system for educational activities for residents by local administrations, establishment of Water Point Committees (WPCs) by residents, training of area mechanics Malawian side -obtainment and preparation of grounds for construction base and deep boreholes - preparation of access roads from base to construction sites to transport construction equipment - construction of drain pit	

II. Result of the Evaluation

Summary of the Evaluation
Lilongwe West in Malawi (TA Kalolo, TA Khongoni) had been evaluated as the area of the worst water supply conditions and it was an urgent task to improve water supply facilities in the area. This project has largely achieved i) increase in the number of deep borehole facilities in TA Kalolo and TA Khongon, ii) improvement of the ratio of water supply in the area, and iii) establishment of WPCs. The number of users and the frequency of use of deep boreholes established by this project are quite high. According to the results of hearing with residents, consumption of water of good quality was improved by transferring from traditional hand-dug shallow (open) boreholes to deep boreholes, and residents' awareness in terms of hygiene has risen. In addition, it was recognized that positive impacts were generated, for instance, reduction in the ratio of suffering diseases caused by water, i.e. diarrhea, cholera, as well as reduction in water drawing labor. As for sustainability, some problems have been observed in terms of structural, technical

and financial aspects due to i) shortage of personnel/staff at the Ministry of Irrigation and Water Development, ii) insufficient skills and knowledge of part of WPC staff, iii) insufficient budget of the Ministry, and so forth. For relevance, this project has been highly relevant with Malawi's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Malawi's development policy "development of irrigations and water resources" as set in "Malawi Poverty Reduction Strategy Paper (2002)" and "The Malawi Growth and Development Strategy II (2011-2016)", development needs "improvement of water supply facilities in Lilongwe West where the ratio of water supply is the lowest in the country" as well as Japan's ODA policy "improvement of health level" and "development of economic infrastructures" at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of i) increase in the number of deep borehole facilities, ii) improvement of the ratio of water supply and iii) establishment of WPCs as planned. The number of water supply facilities with deep boreholes increased by 2.5 times from 202 (before the project: 2002) to 498 (after the project: 2009) with the establishment of new deep boreholes by the project. Accordingly, the ratio of water supply was significantly improved from 23% to 49%. In addition, WPCs for water supply facilities were established in all 296 villages where deep boreholes were constructed. The number of users and the frequency of use of deep boreholes established by this project are quite high, because many of these boreholes are the only and single water supply facility in target villages (refer to the number of users per deep borehole and the amount of water supply per person in the below table). Although it was reported that water quality was deteriorated in the rainy season in the villages where shallow (open) boreholes were used before the project, the situation was improved after the project. Water quality of deep boreholes is not regularly monitored; however, according to hearing with the implementing agency and residents (15 residents including members of WPCs), no problem has been reported with regard to water quality so far. The project conducted educational activities for residents as a soft component, and access to hygienic water has become easier by establishment of deep boreholes. As a consequence, residents in target areas can use water for cleaning, washing clothes/hands, etc. besides drinking purpose and their awareness in terms of hygiene has risen. The results of hearing with residents proved that the project generated positive impacts such as reduction of ratio of receiving diseases caused by water, i.e. diarrhea, cholera, as well as reduction of water drawing labor after the project. The project did not make any negative impact in terms of the natural environment, and acquisition of land was properly conducted according to internal law of Malawi and no resettlement was needed.

Therefore, effectiveness/impact of this project is high.

Quantitative effects

Indicator (unit)	baseline value (2005)	target value (2009)	actual value (target year: 2009)	actual value (2012)
Indicator 1 number of deep borehole facilities in target areas	202	498 (existing: 202, new: 296)	498	existing: N.A. new: 296
Indicator 2 ratio of water supply in target areas (deep boreholes) (%)	23	49	49	N.A.
Indicator 3 number of WPCs in target areas	—	296	296	296
Reference number of users per deep borehole	—	100～500	N.A	200～700 (result of sample survey at the stage of ex-post evaluation)
Reference amount of water supply per person (little/person/borehole)	—	15	N.A.	approximately 75 (result of sample survey at the stage of project completion study in 2011)

Source: Water Resources Department, Ministry of Irrigation and Water Development, ex-post evaluation conducted in 2012, etc.

Note 1: target areas: TA Kalolo in Lilongwe District, Central Region: 116 villages and TA Khongoni in Lilongwe District, Central Region: 118 villages

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 75%, 100%). Therefore, efficiency of this project is high.

4 Sustainability

Deep borehole facilities established by this project are independently maintained and managed by WPCs consisting of resident representatives, and Water Resources Department of Ministry of Irrigation and Water Development and its branch offices (water development offices of zones and districts) are responsible for i) monitoring of each committee's activities and operation of deep boreholes, ii) provision of technical advices for each committee and iii) dealing with serious damages that are difficult to be repaired by the committees. Deep borehole construction fund, which is under the Ministry of Irrigation and Water Development, is in charge of maintaining and managing major boring equipment procured by this project, except pickup trucks. So far all of 296 deep borehole facilities established by the project are in operation. Regarding structural aspect, although WPCs were established in all 296 villages where deep boreholes were newly constructed, shortage of personnel is serious, for instance, vacancy rate of the Ministry of Irrigation and Water Development is high at 48% and only four district staff are responsible for managing 400 deep boreholes in the district, which is attributed to unsmooth assignment of personnel and insufficient budget for personnel expenses following reorganization of the Ministry. As for technical aspect, members of the committees participated in technical training courses at the time of establishment of deep boreholes and have been coping with daily cleaning and exchanging consumables of these boreholes without major problems till now. However, transfer of skills and knowledge is not sufficient when members change, and some problems were observed in case of breakdowns and damages of boreholes in a certain village. Therefore, it is necessary to retrain the members. In addition, functions of eight area, mechanics trained by this project are not fully utilized (causes of this are referred in "Lessons learned for JICA" in "III Recommendations and Lessons Learned" below). The Ministry of Irrigation and Water Development has certain level of technical capacity; however, it has never had experiences of repairing/fixing boreholes since no major damages have been generated so far. With respect to financial aspect, while committees collect maintenance and management fee from residents and save it for future repair expenses, the Ministry of Irrigation and Water Development does not regularly monitor activities of each committee and operations of deep boreholes, due to insufficient budget. In addition, the Ministry does not prepare/save any budget necessary in case of serious borehole damages.

The project has some problems in structural, technical and financial aspects of the executing agency. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- Considering the current allocation of personnel and budget, the Ministry of Irrigation and Water Development and its regional and district branches, namely the implementing agencies of the project, do not have enough capacity to deal with serious damages of boreholes requiring large amount of cost. In the future, it is necessary to properly allocate personnel and budget. At that time, the role of District Council should be defined according to the decentralisation policy of Malawi government. (It is considered difficult to drastically improve the situation since the Ministry generally has insufficient budget. One of the reasons why the ministry does not obtain enough budget is that coordination with the Ministry of Finance and the Ministry of Economic Development Plan, which are in charge of budget allocation, is not smoothly conducted, and in reality, these ministries are not fully aware of the importance to allocate personnel and budget for the Ministry of Irrigation and Water Development. Thus, it is considered that budget allocation for the Ministry of Irrigation and Water Development could be enhanced to some extent by improving coordination among relevant ministries. Although relatively large amount of expenses is spent for meeting cost, travel expenses and daily allowance for high-level bureaucrats, it is considered possible to cut back part of such expenditures and to improve the current situation of shortage of personnel expenses through efficient budget spending.)
- As "the necessity of retraining accompanied by the changes of members of WPCs" is discussed in above "4 Sustainability" in "II. Result of the Evaluation", it is considered necessary to establish a system in which skills and knowledge are fully transferred to new members. In facilitating such process, branch offices of the Ministry of Irrigation and Water Development at the district level are supposed to play a particularly large role. It should be noted that JICA is currently implementing "the Project for Enhancement of Operation and Maintenance for Rural Water Supply" (technical cooperation) in Mchinji District, which is a pilot district. In cooperation with the district, JICA has been trying to strengthen functions of water management committee and preparing manuals concerning maintenance and management. It is desirable to utilize the outcome of the above-mentioned project.

Lessons learned for JICA

- At the stage of the ex-post evaluation, it is confirmed that all the deep boreholes are in operation and there is no major problem in daily maintenance and management. However, the institutional system of the Ministry of Irrigation and Water Development is considered weak in dealing with serious damages of boreholes that may happen in the future. It is considered that problems caused by such weakness of relevant agencies can often be brought out not only in Malawi but in other countries. To overcome the problems, it is expected that educational activities be carried out at the stage of formulating the project and that area mechanics be fully utilized (however, even in the project, utilization of area mechanics is insufficient because i) importance of functions of area mechanics is not fully understood by residents, ii) there are some cases in which residents do not understand why contract fee is necessary when area mechanics repair boreholes and iii) there are many cases in which area mechanics cannot repair boreholes even with their presence, since it is difficult to procure spare parts. Therefore, there is a room for improvement regarding above-mentioned issues.) Utilization of such local resources as well as private agencies is considered to be more and more important in the future. (Above-mentioned technical cooperation project being implemented in Mchinji District attempts to promote the utilization of area mechanics and outcome of the project is planned to be extended nationwide by the Ministry of Irrigation and Water Development.)

Borehole（Nkhwambala）

Borehole（Nabuzi）

Borehole（Dzuluwanda II）

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Malawi office:March, 2013

Country Name	The Project for the Reconstruction of Mainroad 5 Bridges between Balaka and Salima
Malawi	

I. Project Outline

Project Cost	E/N Grant Limit: 691 million yen		Contract Amount: 691 million yen
E/N Date	August, 2005		
Completion Date	March, 2007		
Implementing Agency	National Road Authority: NRA (current name: Roads Authority: RA)		
Related Studies	Basic Design Study: December, 2004 – June, 2005		
Contracted Agencies	Consultant(s)	Nippon Koei Co., Ltd	
	Contractor(s)	DAI NIPPON CONSTRUCTION	
	Supplier(s)	-	
Related Projects	[Japan's Cooperation] -none [Other Donors' Cooperation] - Reconstruction and construction of four bridges on Mainroad 5 (M5: Kalwe bridge, Dwambazi bridge, Liwaladzi bridge, Kasangadzi bridge) (Grant Aid Project, EU)		
.Background	In landlocked Malawi, road transport was the predominant mode of transportation of freight and passenger movements, including international physical distribution. The Government of Malawi established "Ten year Road Sector Investment Program" in 2002 to establish efficient road networks with high safety and reliability and aimed to render 80% of the trunk road networks in good condition. M5 is approximately 500 km-long main trunk road along Lake Malawi, connecting Balaka (main city in the south) with Muzuzu (main city in the north), and was recognized as a transportation corridor connecting Mozambique with Tanzania. However, M5, which was constructed as the second grade road, was narrow. Many of its bridges that were constructed more than 30 years ago have only one traffic line and seriously damaged and decrepit. In addition, since these bridges were designed without considering measures against floods, many of them were washed away or broken down because of scoured piers in case of floods. As a consequence, reliability as a trunk road was damaged and therefore, it was an urgent task to reconstruct existing bridges on M5.		
Project Objectives	Outcome To smooth and stabilize road traffic transportation by reconstructing four seriously damaged and decrepit bridges on M5 between core cities of Balaka and Salima (158km) in Southern Malawi.		
	Outputs(s) Japanese side -Reconstruction of four existing culverts and bridges: (1) Angoni Culvert (length of culvert: 10m, standard width : 9.7m), (2) Luwadzi Bridge (length: 50m, standard width : 9.7m), (3) Nankokwe Bridge (length: 42m, standard width : 9.7m), (4) Nanyangu Culvert (length of culvert: 15m, standard width : 9.7m) Malawian side -Re-networking of telephones and telephone wires		

II. Result of the Evaluation

Summary of the Evaluation

Bridges on M5, which is one of the main internal roads in Malawi, are seriously damaged and decrepit and often didn't function as a bridge in case of floods, which largely hindered smooth road transportation.

While this project has largely achieved i) increase in traffic volume, ii) reduction in traffic closures and iii) reduction in maintenance and management costs as planned, reduction in the number of traffic accidents was not confirmed due to lack of information. It was recognized that the frequency of public traffic services (small-sized and large-sized buses) on M5 increased after the project. In addition, positive impacts such as improved access to hospitals, schools, churches and markets as well as activation of local economy were observed. As for sustainability, some problems have been observed in terms of financial aspect due to insufficient budget for maintenance and management. For relevance, this project has been highly relevant with Malawi's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan and the number of target bridges was reduced from four to three.

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

1 Relevance

This project has been highly relevant with Malawi's development policy "rendering 80% of the trunk road networks in good condition" as set in "Ten year Transport Sector Investment Program" (2003-2012), and "enhancement of traffic infrastructure" as set in "The Malawi Growth and Development Strategy II (2011-2016)", development needs "restoration of seriously damaged and decrepit bridges on M5" as well as Japan's ODA policy "sustainable economic growth (improvement of economic infrastructures, promotion of small-scale businesses)" at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of i) increase in traffic volume, ii) reduction in traffic closures and iii) reduction in maintenance and management costs as planned. Comparison of traffic volume (number of vehicles /12hours) at targeted four bridges before the project (2005) with that after the project (2012) showed an increase of the volume by 49% at Angoni Culvert, 36% at Nanyangu Culvert, 26% at Nankokwe Bridge and 5% at Luwadzi Bridge. Traffic closures used to happen at these four bridges but the problem was dissolved after the project. Maintenance and management costs for the four bridges were drastically reduced from 10% of NRA annual budget before the project to 0.5% at present. On the other hand, Comparison of number of traffic accidents before the project (2005) with that after the project (2008-2011) clarified the increase in the number of i) traffic accidents from 5.25 to 29.5, ii) deaths from 1.25 persons/year to 19.5 persons, and iii) casualties from 6.75 persons/year to 8.5 persons. However, source of information and data on traffic accidents which were obtained at the stage of BD in 2005, cannot be specified. Since similar data collected at the ex-post evaluation may not have the same pre-conditions with those in 2005; it is tricky to simply compare the figures before and after the project. According to hearing with residents along M5, it was recognized that the frequency of public traffic services (small-sized and large-sized buses) on M5 increased after the project. In addition, positive impacts such as improved access to hospitals, schools, churches and markets as well as activation of local economy were observed. The project didn't make any negative impacts in terms of the natural environment and no land acquisition and resettlement of residents were needed.

Therefore, effectiveness/impact of this project is high.

Quantitative effects

Indicator (unit)	baseline value (2005)	target value (2007)	actual value (target year: 2007)	actual value (2012)
Indicator 1 Increase in traffic volume (note1) (number of vehicles /12hours)	Angoni Culvert: 299 Nanyangu Culvert: 289 Nankokwe Bridge: 278 Luwadzi Bridge: 459	Increase	Data N/A	Angoni Culvert: 446 Nanyangu Culvert: 392 Nankokwe Bridge: 349 Luwadzi Bridge: 484
Indicator 2 Reduction in the number of traffic accidents (note2)	Number of accident: 5.25 /year Number of deaths: 1.25 persons/year Number of casualties: 6.75 persons/year ※above figures are average of the last four years	decrease	Number of accident: 29.5/year Number of deaths: 19.5 persons/year Number of casualties: 8.5 persons/year ※above figures are average of four years (2008-2011)	
Indicator 3 Reduction in traffic closures (note3)	Three times (period of closure: about one month) ※above figure is the number of times of closures for the last three years	No traffic closures happen	Two times (two days each time) ※causes include silt accumulation and fallen trees	Not happened
Indicator 4 Reduction in maintenance and management costs	10% of NRA annual budget for maintenance and management was spent for target four bridges	Budget for maintenance and management is reduced	2% of NRA annual budget for maintenance	0.5% of NRA annual budget

Source: RA

Note 1: traffic volume except bicycles and motorcycles

Note 2: resource of information regarding actual value in 2005 is unknown. The figure is the number of accidents that happened between Salima and Balaka.

Note 3: The number of yearly traffic closures around target four bridges

Note 4: The number of beneficiaries of this project is 1.1 million people (about 11% of the entire population of Malawi) in Salima District, Dedza District and Ntcheu District along M5.

From 3 Efficiency

Although the project cost was within the plan (ratio against the plan: 100%), the project period slightly exceeded the plan (ratio against the plan: 116%), because the first bid did not reach an agreement and the second bid was conducted. Outputs have been changed but were appropriate. More concretely, as a result of unsuccessful first bid, a scope of cooperation was reviewed and reconstruction of only three bridges was conducted. Nanyangu Culvert was excluded from the new scope and was reconstructed by the Malawian Government's own finance. As mentioned, the scope of the project was reduced from four bridges to three bridges, however, exchange rate at the stage of the second bid rose compared to that in 2005 when BD study was conducted. Accordingly, the actual project cost was the same amount as the planned cost even without the cost of Nanyangu Culvert reconstruction. Therefore, efficiency of this project is fair.

4 Sustainability

While regular inspections and minor repairs of bridges reconstructed by the project are directly conducted by RA, major repairs are carried out by private companies. RA was institutionally strengthened by increasing its staff in 2012 and a sufficient number of technical staff is allocated. Therefore, the project has no problems in structural aspect. Technical staff of RA regularly attend training courses regarding construction management, contract/procurement management, road maintenance and management, technical equipment, etc. and conducted operations, maintenance and management according to road maintenance and management manuals, bridge manuals and guidelines prescribed by the Ministry of Transport and Public Works. Major repairs carried out by outsourced agencies are mainly contracted by major private international companies and such repairs are conducted with satisfactory level of technology. All the trunk roads in Malawi are monitored and managed by utilizing Highway Data Management System. Road sections are prioritized for repair and annual maintenance, and management plan, including estimation of maintenance and management costs, is established also by using the system. The project has no problem in technical aspect. Although priority of budget for maintenance and management is supposed to be put on major trunk roads as well as on restorations of damaged roads, in reality, due to insufficient budget, regular inspections are not properly conducted and only ad-hoc based inspections are curried out even for trunk roads. It cannot be said that roads are properly maintained and managed and therefore, the project has some problems in financial aspect. At present, there are no major problems at three bridges reconstructed by the project except clogs of 3-4 drainage pipes.

In this way, the project has some problems in financial aspect of the executing agency. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is desirable to secure sufficient budget for maintaining and managing bridges targeted by this project. In addition, it is desirable to frequently update information, based on regular inspections, of Highway Data Management System that justifies budget request.

Lessons learned for JICA

- Recognition of importance of the project was shared with the recipient government, which led to the reconstruction of Nanyangu Culvert by the recipient government's own budget. It can be said that this is attributed to the establishment of system in which both the Japanese and Malawian sides cooperate to deal with one specific problem. In the future, it is necessary to foster common recognition to generate positive effects by having adequate communication among consultants, contractors, JICA office and recipient government.

Nankokwe Bridge

Luwadzi Bridge

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Rwanda office: March, 2013

Country Name	The Project for the Rehabilitation of Public Transport
Rwanda	

I. Project Outline

Project Cost	E/N Grant Limit: 937 million yen (Phase I) 618 million yen, (Phase II) 319 million. yen		Contract Amount: 923 million yen (Phase I) 618 million yen, (Phase II) 305 million yen
E/N Date	(Phase I) August 2005, (Phase II) June 2006		
Completion Date	July 2007		
Implementing Agency	Office National des Transports en Commun (ONATRACOM), Public Transport Corporation, Ministry of Infrastructure		
Related Studies	Basic Design Study: January 2005 – July 2005		
Contracted Agencies	Consultant	Japan Engineering Consultants Co., Ltd.	
	Contractor	None	
	Supplier	ITOCHU Corporation	
Related Projects (if any)	Japan • Le Projet de Renforcement et d' Amelioration de Moyens de Transport en Commun (Procurement of 266 buses in total (Grant Aid, 1981, 1985, 1987, and 1992) • The Project for Rehabilitation of Public Transport System in the Republic of Rwanda (Grant Aid, 1997) • Technique d'entretien des Vehicles Poids Lourds a Moteur Diesel (Training 2002-2004) • Project for the improvement of Public Transportation Management System (Technical Cooperation, 2006-2007) • Technical Training for the Engineers of ONATRACOM (Training 2011) • 2 JOCVs dispatched (2010-2012)		
Background	In Rwanda, the bus transportation system, which was operated by ONATRACOM, a sole public transportation company, was the only public transportation means in Rwanda due to no railway network in the country. ONATRACOM provided the nationwide public transportation service connecting urban and rural areas in the country. However, the most buses were destroyed and lost at the civil conflicts in 1994. Although the restoration of the public transportation system in the country was the key issue for promotion of regional development as well as reconstruction of the country, the ONATRACOM could not have reestablished its bus operation system yet. Therefore, the Government of Rwanda requested the Government of Japan to support procurement of buses and workshop equipment.		
Project Objectives	Outcome To restore the bus service system to normal status before the civil conflict by procurement of buses and workshop equipment at ONATRACOM.		
	Outputs(s) Japanese Side • Large bus: 70 units, Medium bus: 23 units, Service truck: 1 unit, Spare parts: 1 unit, Workshop equipment: 1 set Rwandan Side • Recruitment of staff (driver, conductor, mechanic and others). • Training cost for maintenance staff at each local branch and bus manufacturers in neighboring countries (such as Kenya) in order to improve their maintenance skills.		

II. Result of the Evaluation

Summary of the Evaluation

In the short-term strategy of the Ministry of Infrastructure for 2005-2010, the restoration of the public transportation system was one of the priorities. In 1998, Japan granted 30 large size buses to support the restoration of bus system. However, ONATRACOM could operate only 60 buses which were not enough to reestablish the functional bus system in order to cover nationwide.

This project had achieved the objective of restoring the bus service system to normal status before the civil conflict just after the project completion; but at the time of ex-post evaluation, there was observed that a scaled down number of buses in operation, bus route network and passengers. As for sustainability, problems have been observed especially in terms of financial aspects, in status of operation and maintenance as well as in internal management problems. The bus record management system was not effectively utilized; and some basic Rwanda regulations of financial and assets management and public procurement procedures were not complied with, especially in case of emergency; and also there were some external challenges such as operating in upcountry unpaved roads and unprofitable route networks.

For relevance, the project has been highly relevant with Rwandan development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Rwandan development policies of the Economic Development and Poverty Reduction Strategy (EDPRS) and the Transport Sector Policy ("Improvement of transport links internally and internationally"), development needs ("Improvement of quality of transport services to reduce constraints of mobility of the population), as well as Japan's Country Assistance Strategy to Rwanda in 2005 for promoting economic development including improvement of economic infrastructure and industry development at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

Since the number of buses for ONATRACOM increased to 169 in 2007 from 60 in 2004, the number of service routes also increased from 73 to 263 for the same period. As a result, the number of passengers expanded from 3.4 million in 2004 to 5.8 million in 2007. According to the interview survey with the ONATRACOM staff of five branch offices in Kibungo, Butare, Kibuye, Gisenyi and Ruhengeri as well as with 78 local residents, the extended network of bus service operated by ONATRACOM improved flows of people and materials which had revitalized regional economies. Also it was recognized that the accessibility to markets and public facilities such as schools and hospitals were improved by the project because many regional cities and remote areas were connected only by the bus service of ONATRACOM.

However, after 2009[1], the number of buses in operation has been decreasing due to lack of spare parts which caused a lack of proper maintenance based upon the established manuals and procedures. This was mainly caused by the fact that a large number of spare parts ware purchased from international markets and their prices went increasing periodically and also its procurement process is relatively long. The Bus replacement plan was not followed because of financial constraints. As a result, only around 40 buses were in operation in mid-2012 and approximately other 36 buses were undergoing minor repairs for operation. Consequently, the number of service routes has decreased to 59; and the total distance of service routes in 2012 is only 7,500km which is below the service distance in 2004 (7,520km), though it had once increased to 15,502km in 2007. The number of passengers also dropped to approximately 2.3 million because (i) the number of buses in operation were decreased, (ii) the bus could not access to some service routes in rural areas due to deteriorated road and bridge conditions, and (iii) because of rapid growth of Rwandan economy, the number of private companies operating in the same areas serviced by ONATRACOM has doubled since 2007[2]. In addition, ONATRACOM considers that the prolonged rainy season due to the climate change might affect the number of passengers in the rural areas because deteriorated road surface would interrupt the bus service. And according to interview with the ONATRACOM, in addition to a number of factors such as financial problems, unprofitable route networks, and unpaved roads, the challenge of unexpected risks (such as inflation which caused the increase of cost of fuel and spare parts) and the lack of proper internal control system affected the implementation of its bus operation business. As a result, the positive effects of the project have been shrinking. On the other hand, the project didn't make any negative impacts in terms of the natural and social environment.

While this project had achieved its objectives at the time of the completion (2007), there was observed that a limited level of achievement at the time of ex-post evaluation (2012). Therefore, effectiveness/impact of this project is low.

Quantitative Effects

Indicator (unit)	baseline value (2004)	target value (2007)	actual value[3] (2007)	actual value (2012)
Indicator 1 No. of buses available for use at ONATRACOM (unit)	60	136[4]	169	40
Indicator 2 No. of service routes at ONATRACOM (No. of routes)	73	162	263	59
Indicator 3 Total distance of service routes at ONATRACOM (km)	7,520	14,850	15,502	7,500
Indicator 4 No. of passenger/year served by ONATRACOM (no. of passengers)	3,400,000	Increase	5,800,000	2,334,165

(Note) As for August 2012, ONATRACOM has total 169 buses, of which 89 buses need major repairs, 76 need minor repairs including 40 buses currently in operation, and one scraped bus.

3 Efficiency

Although the project cost was within the plan (98% against plan), the project period slightly exceeded the plan (106% against plan) because of delay in sea transportation. The outputs of both Japanese and Rwandan sides were produced mostly as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The organization responsible for operation and maintenance (O&M) of the procured buses is ONATRACOM. At the time of ex-post evaluation, around 40 buses out of 169 were in operation. This is particularly due to the financial aspect: the revenue from the bus service in 2011 was approximately 3.4 billion Rwanda Francs which is below the revenue in 2007. In particular, the annual subsidy provided by the government has stopped since 2008 although it was necessary for ONATRACOM in light of its public nature to provide transport services to the rural areas which was not profitable. As a result, ONATRACOM cannot cover proper O&M costs including cost of spare parts and necessary fuels. The organizational management had changed in 2011 to address the internal management problems. While the sufficient number of bus

[1] ONATRACOM has undergone a severe drop in revenue from 2009 mainly due to the decrease of number as explained above.

[2] According to data from Rwanda Utilities Regulatory Agency (RURA), the number of private companies operating in ONATRACOM networks has increased from 15 in 2004 to 32 in 2012.

[3] The 2007 data was provided by the ONATRACOM at the time of ex-post evaluation (This note is added in September 2014.).

[4] Revised from 153 to 136 (July 2014). It was planned that 17 buses be scrapped by 2007 and these 17 buses should not be included as the target value (Page 3-12 of the Basic Design Report).

drivers (92 drivers) is employed for the bus service operation, the number of workshop staff was 38 staff at the time of ex-post evaluation. ONATRACOM adjusted the number of staff members according to the government public service reforms plan, including those in charge of O&M. In terms of the technical level of workshop staff, 6 staff who received the technical training by JICA (2011)[5] worked for ONATRACOM and their technical capacity and skills to repair and maintain buses provided by this project meet the requirements. However, the update trainings for the workshop staff are not available and the O&M manuals developed under the former management have not been fully utilized.

The 2009 and 2010 reports of the Office of the Auditor General of State Finances pointed out a number of financial and procurement errors, physical assets management mistakes of ONATRACOM, and listed a number of recommendations. In response to the recommendations, the new management has prepared a bus operation plan and bus assignment plan to facilitate proper management of bus fleets for its service routes. However, unified monitoring system (including harmonized data recording/reporting system on number of passengers, fuel consumption, and all related bus operation data between branch offices and the head office) was not fully implemented. Series of JICA Technical cooperation supported ONATRACOM to establish and develop such management system; however, it is still needed to facilitate with effort the effective operation and maintenance system as assisted by JICA Technical Cooperation scheme.

This project has major problems especially in financial aspects and the current status of operation and maintenance of the implementing agency due to management methods and internal control system. Therefore, sustainability of this project is low.

III. Recommendations & Lessons Learned

(1) Recommendations for Implementing agency

- It is desirable that the operation and maintenance of the equipment as well as pre-established O&M procedures are implemented properly with continuous monitoring and proper management of buses in operation and spare parts.
- It is necessary to repair the buses that need minor repair as a first priority and increase the available number of buses in operation as much as possible. In addition, ONATRACOM needs to prepare comprehensive and feasible management plan especially in financial aspects. In order to implement such restoration plan, it is necessary for ONATRACOM to have a consultation with the government on what kind of support they can provide to ONATRACOM in particular, the financial assistance in light of its public nature to provide transport service to the rural areas which is not profitable but is necessary for the people living there by mobilizing the government lending and subsidiary schemes.
- It is necessary to establish staff training programs in order to strengthen its competitiveness as below:
  a) For staff of administration and finance departments: annual staff training for capacity building especially in public finance and management in collaboration with the Public Sector Capacity Building Secretariat, the Rwanda Institute of Administration and Management under the Ministry of Labor;
  b) For staff of technical departments: technical trainings supported by the Rwanda Workforce Development Authority. Also, establishment of the formal system to disseminate the technical skills and know-how from those who received the technical training by JICA to other staff through workshops and on-the-job trainings.
- It is useful to collaborate with the public transport companies in the neighboring counties of East African Community (Kenya, Uganda, Tanzania, Burundi) for learning and exchanging the successful management models of public transport service providers.

(2) Lessons learned for JICA

For a better implementation of the project of this kind, in the Basic Design Study it is important to consider not only its technical skills aspect but also the following aspects of the project need to be established such as:

- Capacity for administrative and financial department staff
- To ensure that implementing agency has capacity to prepare a proper business plan which helps to address and manage unexpected risks such as inflation, increase of cost or spare parts, etc.
- Proper supervision system inside the implementing agency as well as for supervising agency.

In addition, it is desirable to analyze more in planning stage how the road conditions affect the equipment (buses and spare parts) provided by the Project when they are used for transport service to connect rural and urban areas and to support the implementing agency to establish and implement proper maintenance according to the road network condition.

(A number of Buses in grounded in ONATRACOM main parking)

(After repair a bus is being tested in ONATRACOM workshop in Kigali)

[5] Technical Training for the Engineers of ONATRACOM (Feb-Mar.2011), which was organized in collaboration with Isuzu Motors Limited. This was a follow-up to the technical cooperation “the Project for the Improvement of the Public Transport Management System” (2006-2007).

Internal Ex-Post Evaluation for Grant Aid Project

conducted by El Salvador office: March, 2013

Country Name	Project for Rehabilitation of Infrastructure and Equipment of the Rosales National Hospital (El Proyecto de Rehabilitacin de la Infraestructura y Equipamiento del Hospital Nacional Rosales)
El Salvador	

I. Project Outline

Project Cost	E/N Grant Limit: 630 million yen		Contract Amount: 590 million yen
E/N Date	August, 2005		
Completion Date	February, 2007		
Implementing Agency	Rosales National Hospital (Supervising Agency: Ministry of Health)		
Related Studies	Basic Design Study: January-July, 2005		
Contracted Agencies	Consultant(s)	Azusa Sekkei Co., Ltd.	
	Contractor(s)	Fujita Corporation	
	Supplier(s)	Mitsubishi Corporation	
Related Projects (if any)	Japanese Cooperations: ・Proyecto del Mejoramiento de Equipo Médico-Quirúrgicos para 4 Hospitales Generales, I Centro de Salud y Emergencia Hospital Rosales (Grant Aid,1993) ・Proyecto de Mejoramiento de los Equipos de los Equipos de Invalidos (Grant Aid,1996) ・El Proyecto de contramedida para enfermedad infantil (Grant Aid,1999) ・Proyecto: "Remodelación y Equipamiento del Edificio de Especialidades del Hospital Nacional Rosales"(Counterpart Fund, 2010)		
Background	In El Salvador, Rosales National Hospital has been playing a leading role as the only tertiary hospital for both internal and surgical fields in the country. However, due to the two earthquakes that took place in 2001, total number of beds decreased from about 550 to about 400 and also the number of emergency operations decreased from 40 to 15. In addition, it became clear that old facilities/equipment and unplanned enlargement led to the ineffective medical activities at the hospital.		
Project Objectives	Outcome To improve medical services by the rehabilitation of operation building and provision of equipment at Rosales National Hospital in San Salvador.		
	Outputs(s) Japanese side ・ Operation building at Rosales National Hospital:1,747 ㎡ (RC2floors) and annex:45 ㎡, total: 1,792 ㎡ planned operating rooms : 5, emergency operating rooms : 3, ICU beds:6 (4 for emergency, 2 for ward) ・ Main equipment Operation related : defibrillator, movable x-ray photo equipment, shadow less lamp, anesthetic equipment, operation/surgery beds, patient monitor equipment, x-ray automatic developing equipment, electric scalpel, anesthetic gas analysis equipment, bio-spectrum analysis equipment, external pacemaker, peripheral nerve stimulation equipment, pulse oximeter, x-ray (fluoroscopy) arm photo equipment, operation/surgery equipment, etc. ICU related : defibrillator, ECG, patient monitor equipment, respirators, ICU beds, etc. Sterilization related : autoclave, etc. Others : generator (Annex building) El Salvador side ・ Removal of the existing facilities, preparation of the land for construction		

II. Result of the Evaluation

Summary of the Evaluation
In El Salvador, Rosales National Hospital has been playing a leading role as the only tertiary hospital in the country. However, due to the two earthquakes that took place in 2001, the entire hospital had a large damage including an operation building and could not respond to the needs of patients, in particular, those in stricken area. In addition, the hospital had a problem of ineffectiveness because of old buildings built more than 100 years ago and unplanned enlargement of them. This project has largely achieved its objectives of "establishment of referral system and improvement of medical services at Rosales National Hospital" since the functions of operation section were fully recovered even compared to before-earthquakes, while positive impact was recognized as the condition to accept referrals from all over the country has been prepared/enhanced. As for sustainability, there was no problem observed in the project in terms of structural/technical aspects. With regard to the financial aspect, the hospital continues to make an effort to steadily increase its budget every year despite the difficult financial situation. Some problems have been observed in terms of current status of operation and maintenance because five (5) artificial respirators are not currently used due to the lack of local agents that have appropriate skills to calibrate with them. For relevance, the project has been highly relevant with El Salvador's development policy, development needs as well as

Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency both the project cost and the project period were within the plan.
In the light of above, the project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with El Salvador's development policy "medical service improvement/effectiveness at the secondary and tertiary hospitals within the national medical system, specified in the health field of the Five Year Plan", development needs "medical service improvement and recovery from the earthquake damages at Rosales National Hospital" as well as Japan's ODA policy, at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of "medical service improvement at Rosales National Hospital" because the hospital overcame the negative impact caused by the earthquakes of 2001, and functions of operation section were fully recovered, as the increase in the number of planned operations shows. This project also contributed to the improvement of lines of flow at the hospital by the improvement of facilities and provision of equipment, as well as to enhanced effectiveness of medical activities. As for impact, according to the deputy director and managerial personnel, it was recognized that the condition to accept referrals from all part of the country has been enhanced by the rehabilitation of the hospital[1]. No negative impact has been observed since medical wastes and sewage have been properly disposed. Therefore, effectiveness/impact of this project is high.

Operation building ICU

Quantitative effects

	Actual value 2004 (BD)	Target value Target year 2007	Actual value target year 2007	Actual value Ex-post evaluation 2012
Indicator 1 : number of planned operations	263	increase	775	665 (※)
Indicator 2 : number of beds ICU	-	-	16	29
Indicator 3 : number of patients	-	-	19,650	20,719
Indicator 4 : number of outpatients	-	-	233,010	254,460
Indicator 5 : number of references from lower medical inst tutes	-	-	28,348	46,616
Indicator 6 : number of emergent operations	-	-	3,906	5,869

Source: Rosales National Hospital
※Indicators 2- 6 are set, based on BD, as supplementary ones, although they are not described in the preliminary survey summary.
※Results of Indicator 1 are only the numbers of "planned operation". The number of planned operations decreased because minor operations are now conducted at the other wards.

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against plan: 92.54%, 98% respectively). Therefore, efficiency of this project is high.

4 Sustainability

Operation room (Operation

[1] Although Rosales National Hospital is obliged to accept patients from all over the country as the tertiary hospital for both internal and surgical fields, it gave priority, as the secondary hospital, to the residents of the central ward in San Salvador and could not fully accept patients from other wards and regions, which hindered the original functions as the tertiary hospital. As a result of rehabilitation/construction of national hospitals by the national government and improvement of facilities at Rosales National Hospital by this project, it has become easier for the hospital to respond to nationwide referral needs.

The facilities/equipment provided by this project are maintained by Rosales National Hospital, the implementing agency. Regarding structural aspect, staff of all building) departments/sections increased, and general shortage of doctors has been overcome by using temporary staff. Concerning technical aspect, the facilities/equipment are properly maintained by the hospital's maintenance staff, while relevant OJT is concurrently conducted. Therefore, there are no problems concerning these two aspects. Also with regard to financial aspect, no particular problem is observed, since, despite its not-abundant financial resource, the Ministry of Health has steadily been increasing the budget for Rosales National Hospital, and built additional operating rooms. As for maintenance, most equipment is maintained by the hospital's staff although part of the concerned activities is done by outside suppliers. In addition, the hospital has made its own effort to repair equipment by using substitutes, which largely solves the problem "shortage of parts", pointed out at the time of post observation study. Although it can be said that sustainability is generally maintained by the effort of the Rosales National Hospital, the project has some problems in the current status of operation and maintenance due to five (5) unused respirators because of the lack of local agents that have appropriate skills to calibrate with them. However, no problem has been observed in structural, technical and financial aspects of the executing agency. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

It is recommended that measures to utilize currently unused respirators be considered by directly contacting the maker, besides local agents.

Lessons learned for JICA

It is necessary to confirm if there are agents, either in the recipient country or its neighboring countries, which are able to maintain equipment to be provided/introduced by the project. At the same time, in case of lack or closure of such agents, it is essential that the hospital directly contact the manufacturer after grasping the actual situation.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by India office: March, 2013

Country Name	The Project for the Development of Groundwater in the State of Uttar Pradesh
India	

I. Project Outline

Project Cost	E/N Grant Limit: 603 million yen		Contract Amount: 544 million yen
E/N Date	January, 2006		
Completion Date	March, 2007		
Implementing Agency	Uttar Pradesh Jal Nigam (Uttar Pradesh Water Resource Corporation)		
Related Studies	Basic Design Study: March – December, 2005 Detailed Design Study: February, 2006 – March, 2007		
Contracted Agencies	Consultant	Nihon Techno	
	Contractor	-	
	Supplier	Mitsubishi Corporation	
Related Projects (if any)	-		
Background	In the state of Uttar Pradesh, potable water supply depends on groundwater, but the supply condition was worsening in urban areas following population growth. The pollution from surface layer and over pumping of 40-350m-deep aquifers caused the deteriorating quality of water. Consequently, water from a half of shallow wells did not suffice the quality standard, and the poverty group that accounted for 30% of the urban population had to use water that was not suitable for drinking. In response to such situation, Uttar Pradesh Jal Nigam planned to develop 350-500m-deep aquifers. However, the implementation of the plan was difficult as Jal Nigam did not have drilling equipment for deep wells.		
Project Objectives	Outcome To have 50 deep wells constructed in Uttar Pradesh by 2012 by procurement of equipment for construction of deep wells with depths of 350-500m.		
	Outputs Japanese Side Procurement of equipment for construction of 350-500m-deep wells (drilling equipment and support equipment) India Side Storage for procured equipment, securement of two sites for excavation upon commissioning		

II. Result of the Evaluation

Summary of the Evaluation

The state of Uttar Pradesh, where potable water supply depended on groundwater, was suffering from deterioration of water supply conditions due to population growth. However, development of new water resources was difficult without necessary equipment for it. Therefore, this project aimed to realize water supply in good quality and adequate quantity through procurement of drilling- and related equipment that would enable development of deep aquifers, thereby contributing to the improvement of water supply conditions of the state.

This project has achieved its objective of water supply through construction of wells due to the faster progress of the construction by the state of Uttar Pradesh than expected. As for sustainability, there was no problem observed in terms of structural, technical and financial aspects of the implementing agency in operation and maintenance, though some problems have been observed in the current status of operation and management due to breakdown of some equipment and a risk of prolonged procurement of spare parts when repair of such equipment becomes necessary in the future.

For relevance, the project has been highly relevant with India's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency as well, both the project cost and project period were within the plan.

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

1 Relevance

This project has been highly relevant with India's development policy such as the Eleventh Five-Year Plan, development needs for deep wells in Uttar Pradesh, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Efficiency

Both project cost and project period were within the plan (ratio against plan: 90%, 100%). Therefore, efficiency of this project is high.

3 Effectiveness/Impact

This project has largely achieved its objective of water supply through construction of wells at a faster pace than the planned pace of around four wells per drilling machine per year using 2 machines built by the project. During the four years since the project was completed, a total 72 wells has been constructed, meaning the actual pace to be eight wells per drilling

machine per year. While the original plan was to construct 350-500m-deep wells in all locations, some of the constructed wells have fewer depths as it was found that they could supply the adequate amount of safe water. Also, the project equipment has been used for the construction of wells in other locations than originally-planned as the Indian side changed its plan after the project. According to Uttar Pradesh Jal Nigam, wells were constructed preferentially in Lucknow District where there are large population and demand for water, and the gradual expansion to other districts is being planned.

Although quantitative data to verify the current water supply situation in the state of Uttar Pradesh was not available, it is considered based on interviewing with Uttar Pradesh Jal Nigam that water supply to state's population has improved after efforts including the National Rural Water Supply Program: their use of unsanitary water from shallow wells and other sources decreased, and the supply of potable water has improved in terms of both quantity and quality. This project is considered to have contributed to such improvement.

Therefore, effectiveness/ impact of this project is high.

Quantitative Effects

Number of deep wells with depths of 350-400m in Uttar Pradesh	Actual value (2004: Basic Design Year)	Target Value (2012)	Actual value* (2011: Ex-post Evaluation Year)
Lucknow, Lucknow District	0	24	56
Kanpur, Kanpur District	0	17	0
Janpur, Janpur District	0	2	0
Kunda, Pratapgarh District	0	1	0
Raebarelli, Raebarelli District	0	2	5
Unnao, Unnao District	0	3	9
Lakhimpur, Lakhimpur District	0	0	2
Total	0	50	72

Source: Uttar Pradesh Jal Nigam

Note: * including the number of wells less deep than 350m

A well being drilled by project equipment

A well constructed by project equipment

A well constructed by project equipment

4 Sustainability

The project has some problems in operation and maintenance aspects due to breakdown of equipment and a risk of prolonged procurement of spare parts. However, no problem has been observed in structural, technical and financial aspects of the implementing agency.

In the technical aspect, technical staffs of Uttar Pradesh Jal Nigam are capable enough to act flexibly according to given circumstances in terms of decision on the timing for replacement of spare parts, identification of failure part of equipment, choice of parts for replacement, temporary use of similar parts until spare parts are procured, etc. In the financial aspect, Jal Nigam ensures budget for maintenance and spare parts. As for the current status of operation and maintenance, one of the two drilling machines procured by this project had not been operating as of March 2011 due to breakdown of the hydraulic pump. As the construction of wells has progressed at a faster pace than planned, the repair is not an urgent matter: Uttar Pradesh Jal Nigam is planning to repair it as soon as it becomes necessary in terms of work volume and funding priority. As such, the broken equipment would not affect the continuity of the project effectiveness in short-term, while there is a risk that the complex and time-consuming process of procurement of spare parts might affect timely response to future needs for construction of additional wells that requires repair of the broken equipment becomes necessary. Therefore, sustainability of the project is fair.

Using a drilling machine procured by the project

Using related equipment procured by the project

III. Recommendations & Lessons Learned

Recommendations for the implementing agency:

Uttar Pradesh Jal Nigam is appreciated for its maximum utilization of the project equipment through maintenance. For further enhancement of the effectiveness of the project, Jal Nagam is recommended to repair the broken hydraulic pump, and to optimize the spare parts procurement process.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Indonesia office:March, 2013

Country Name	The Project for Improving Higher Education Institutions through University-Industry-Community Links (Hi-Link) in Gadjah Mada University
Indonesia	

I. Project Outline

Project Cost	317 million Yen	
Project Period	April, 2006 – March, 2009	
Implementing Agency	Director General of Higher Education (DGHE), Gadjah Mada University (UGM), and Research and Community Service Center (LPPM: an internal institution of UGM)	
Cooperation Agency in Japan	Kyushu University and IC Net Limited	
Related Projects	–	
Background	Indonesian higher education institutions had issues of (1) insufficient capacity of faculty members in terms of (a) providing guidance to those who respond to the social needs and therefore contribute to economic and industrial growth and (b) insufficient research skills, and of (2) education and research activities that had not fully met the needs of society. In addition, activities of higher education institutions had not sufficiently contributed to the economic and social development as the intellectual properties, i.e. research results, had not been fed back to the society systematically. Gadjan Mada University (UGM) is an autonomous university and one of the priority universities of Japanese aid policy on Indonesian higher education. Its fundamental research capability is high as they have the large number of young faculty members who have a master's degree or doctorate, and UGM has a clear policy on enhancing University-Industry-Community (U-I-C) links, however, activities for U-I-C links had been hardly implemented systematically due to lack of an effective implementation mechanism to organize university activities that meet social needs. Given the background above, the government of Indonesia requested the government of Japan to help establish effective and comprehensive interaction among U-I-C and to enhance roles of the universities in Indonesian society.	
Inputs	Japanese side	Indonesian side
	1. Experts (Short term) : 11 (44.88MM) 2. Trainees Received: 13 (20.5MM) 3. Equipment: 11.2 million yen 4. Local Cost: 75.2 million yen	1. Staff allocated: 13 2. Land and facilities provided: a project office 3. Local Cost: 23 million yen
Project Objectives	Overall goal Roles of universities in meeting needs of industry and communities are improved.	
	Project Objective Research relevance is improved through U-I-C collaboration system in UGM.	
	Outputs Output 1: The capability of researchers to execute research related to U-I-C collaboration in the field of engineering in UGM is improved Output 2: Cooperative interaction among U-I-C is strengthened by research implementation teams in the field of engineering in UGM. Output 3: Organizational capacity of liaison window for U-I-C collaboration in UGM is strengthened. Output 4: Functions of liaison window for U-I-C collaboration in UGM are enhanced.	

II. Result of the Evaluation

Summary of the Evaluation

UGM had several internal organizations which acted as a focal point of U-I-C collaboration. This project aims to strengthen the function of Research and Community Service Center (LPPM) as UGM's core liaison organization of U-I-C collaboration by developing practical capacities of LPPM through enhancing staff capacity at LPPM, developing a research plan for U-I-C collaboration and others.

This project has mostly achieved the project purpose "Research relevance is improved through U-I-C collaboration system in UGM". The number of contracts for research collaboration LPPM has been awarded is more than 80, and the number has continuously increased since the project completion. At the time of ex-post evaluation, the number of patent filings is five, and the number of research results practically applied in industry and communities are more than 10, among which some have already become commercial products.

The project has somewhat achieved overall goal "Roles of universities in meeting needs of industry and communities are improved." 15 technologies which were developed by U-I-C collaboration were supported by businesses and there are five technologies newly traded in markets. However, impact of the project is somewhat limited since no initiatives for expanding a network with partner universities or other universities has been taken. As for sustainability, this project has no problem in policy background, institutional, technical and financial aspects of the implementing agency.

For relevance, the project has been highly relevant with Indonesia's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Indonesia's development policies "enhancement of research capacity of the universities and their increased contribution to society as set in the mid-term plan (2005-2009) and the long-term strategy of higher education (2003-2010)", development needs "enhancement of U-I-C collaboration", as well as Japan's ODA policy "capacity development for industry related human resources at higher education institutions" at the time of both ex-ante evaluation and project completion.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

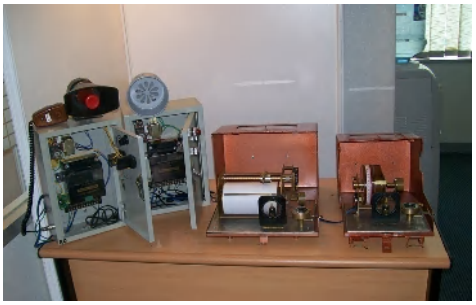
This project has mostly achieved the project purpose "Research relevance is improved through U-I-C collaboration system in UGM". After the project, internal organizations of UGM which previously carried out U-I-C activities individually have liaised with LPPM, and the function of LPPM as a focal point has been strengthened. LPPM is able to provide support for survey and research for U-I-C collaboration, manage intellectual properties, and carry out training for industry and communities. LPPM's Internal regulation on technology licenses also has been approved. In addition, UGM (the Faculty of Engineering) has taken initiatives to approach industry for promoting collaborations. By the time of project completion, the number of contracts for research collaboration LPPM has been awarded is more than 80, and the number has continuously increased since the project completion. At the time of ex-post evaluation, the number of patent filings is five, and the number of research results practically applied in industry and communities are more than 10, among which 10 cases have already become commercial products. Some researchers still engage in U-I-C researches individually (without liaising with LPPM), however, many U-I-C research proposals are constantly made through LPPM and the technologies made by those proposals are applicable to practical use.

The project has somewhat achieved overall goal "Roles of universities in meeting needs of industry and communities are improved." 15 technologies which were developed by U-I-C collaboration have been supported by businesses and there are five U-I-C technologies newly traded in markets. On the other hand, although it was anticipated that UGM's U-I-C model is applied to other universities and therefore the U-I-C collaboration in areas those universities are located is enhanced, impact on this respect is limited since no initiatives for expanding such network with partner universities or other universities has been taken. No information was obtained on the indicator 2 (rating of participating universities in accreditation) and indicator 4 (number of universities establishes liaison windows for U-I-C collaboration).

Therefore, effectiveness/impact of this project is fair.

Gama-Melon (developed and commercialized through research by U-I-C collaboration)

Plates for reconstructing fractured bones
(A commercialized product)



A landslide early alarming system(utilized at companies and communities)

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was within the plan (ratio against the plan: 100%), the project cost was slightly higher than the plan (ratio against the plan: 105%).

Therefore, efficiency of the project is fair.

4 Sustainability

This project is consistent with the Ministry of National Education's mid-term plan (2010-2016) "the enhancement of the research capacity of the universities and their increased contribution to society". While the structure of implementing agency has been partially changed from the implementation period, it is considered appropriate for continuity of project effectiveness. The Senior Vice Rector of UGM has become the head of LPPM, and furthermore, it is currently discussed that national universities become "State-Owned Higher Education Legal Entity*" and that a part of LPPM is placed under the direct rule of the Senior Vice Rector. Nonetheless, the implementing agency has sufficient number of staff, and considering the active utilization of LPPM's branch office in Jakarta and the allocation of budget within UGM as discussed below, UGM's direction for further enhancing U-I-C collaboration will be unchanged. The implementing agency has no technical problem. The faculty members and staff whose capacities are developed by the project continue working at UGM, and there is technical staff who maintain the equipment including a TV conference system used for meeting with the LPPM Jakarta branch and business partners. In addition, LPPM carries out training courses on U-I-C collaboration to researchers on its own. There is no financial problem since UGM's financial condition is good and UGM secures certain size of budget on research for U-I-C collaboration with subsidies from DGHE and UGM's own budget.

As stated above, this project has no problem in policy background, institutional, technical and financial aspects of the implementing agency. Therefore, sustainability of the project effect is high.

*In line with the government regulation 61 in 1999, the status of Government-Owned Legal Entity was given to selected universities including UGM, and therefore, autonomy was given to these universities to some extent. However, since commercialization of university was severely criticized (rise of tuition fee, decrease of access by the poor, and others) , Higher Education Law in 2012 stipulated that these universities become "State-Owned Higher Education Legal Entity" within

2 years and manage its finance based on regulations the government creates separately. The regulation is being drafted and it is expected that universities' discretion on financial management is limited.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:
If UGM become a "State-Owned Higher Education Legal Entity" based on the Higher Education Law, it might be difficult to obtain the financial source for U-I-C collaboration. Therefore, UGM needs to secure more internal financial source in the future.

Lessons learned for JICA:
Overall goal of this project "Roles of universities in meeting needs of industry and communities are improved." is too ambitious to achieve in three years after project completion, since the project supported UGM only during project implementation and did not actively approach other universities and Ministry of Education and Culture. When a similar project is planned in the future, JICA needs to set a more feasible overall goal by focusing the target university's contribution to local industry and communities. On the contrary, if JICA aims to apply the model nationwide, JICA needs to clarify, from the planning stage, how to disseminate the model to other universities and needs to reach an agreement with an implementing agency on what component should be included on this respect.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Thailand office: March, 2013

Country Name	Project on Technical Strengthening of National Institute of Metrology Phase II
Thailand	

I. Project Outline

Project Cost	297 million yen	
Project Period	October, 2004 - October, 2007 (extension period: October, 2007 – October, 2008)	
Implementing Agency	National Institute of Metrology (NIMT)	
Cooperation Agency in Japan	・ Measurement and Intellectual Infrastructure Division, Industrial Science Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry ・ National Metrology Institute of Japan (NMIJ) ・ Japan Quality Assurance Organization (JQA) ・ Japan Electric Meters Inspection Corporation (JEMIC) ・ National Institute of Technology and Evaluation (NITE) ・ Chemicals Evaluation and Research Institute, Japan (CERI)	
Related Projects (if any)	Japan's cooperation ・ National Metrology System Development Project (I) (II) (ODA Loan, 1999-2008) ・ The Project on Technical Strengthening of National Institute of Metrology Phase 1 (Technical Cooperation, 2002 –2004) ・ The Third Country Training Program on Strengthening of Measurement Standards Institutes of Asia Pacific Countries (Third Country Training, 2008-2013)	
Background	To improve quality of export goods and thus competitiveness of industry in Thailand, the National Metrology System Development Act was enacted in 1997, and the Thai government established NIMT in June 1998 to commence the development of the National Measurement Standards[1]. To support such efforts, Japan provided ODA Loans from 1999 for the construction of the new NIMT building and the procurement of the necessary equipment. Also, this Technical Cooperation project to strengthen the capability of NIMT was planned to maintain and supply National Measurement Standards using equipment produced by the ODA Loans. Originally, this project was planned for five years at the time of formulation. However, due to the delay in the construction of the new building and the procurement of machinery and equipment with the Japanese ODA loan, the project was divided into two phases. The Phase 1, technical transfer on the measurement standards that could be handled at the old building, started in 2002 and finished technical transfer in 13 quantities. Together with the phase 2 of the Project, which was commenced in October 2004, the project aimed to provide technical transfer in 40 quantities (increased to 42 quantities after the commencement of the project) of measurement standard during the 5 years with the equipment purchased by Japanese ODA loan.	
Inputs	Japanese Side	Thailand Side
	1. Experts: 5 for Long term, 45 for Short term 2. Trainees Received: 16 persons 3. Equipment: 2 million yen 4. Local Cost: 7 million baht	1. Staff allocated: 37 persons 2. Local Cost: 15 million yen 3. Building, facilities and space for the project (new building of NIMT with the Japanese ODA loan)
Project Objectives	Overall goal To strengthen the national measurement system in Thailand.	
	Project Objective(s) NIMT establishes and manages National Measurement Standards with internationally recognized level of accuracy.	
	Output(s) ・ The operation and administration of the project are enhanced ・ The equipment is operated and maintained properly ・ The technical capability of NIMT is upgraded ・ Accuracy of national measurement standards is improved ・ NIMT disseminates national measurement standard properly	

II. Result of the Evaluation

Summary of the Evaluation
The Japan's cooperation for establishing the National Measurement Standards in Thailand began with the ODA Loan for construction of new building and procurement of equipment of the National Institute of Metrology (NIMT) in 1999. Then, technical transfer to strengthen the NIMT's measurement capacity using equipment produced by the ODA Loans became necessary. This project has largely achieved the increase of the internationally-approved calibration and measurement capabilities

[1] Measurement standards: standards for units to measure quantities such as length, weight, time, electric current, and so on.

that NIMT as the Thailand's primary calibration institution can provide and the actual increase of calibration services/ certificates, for the project purpose of NIMT's establishing and managing National Measurement Standards and the overall goal of strengthening the national measurement system in Thailand. As for sustainability, problem has been observed in term of financial aspect due to the insufficient budget allocation from the government to cover expanding NIMT's works.

For relevance, the project has been highly relevant with Thailand's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period exceeded the plan.

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

1 Relevance

This project was highly relevant with Thailand's development policy (the importance of metrology as set in the 9th and 10th National Economic and Social Development Plans 2002-2006 and 2007-2011), development needs (strengthening of NIMT as Thailand's primary calibration institution for more competitiveness of Thai products), as well as Japan's ODA policy Japan's Country Assistance Program for Thailand (2000) at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

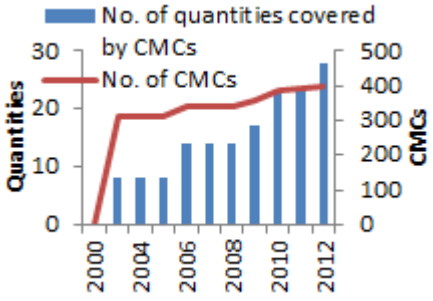
This project has largely achieved the project purpose of NIMT's establishing and managing National Measurement Standards as well as the overall goal of strengthening the national measurement system in Thailand.

For the project purpose, the project completed the technical transfer to NIMT staff on all of the planned measurement standards in a total of 42 quantities[2] in 8 fields (length, mass, time & frequency, electricity & magnetism, photometry, thermometry, chemical and acoustics & vibration), out of which 20 quantities were accredited for ISO/IEC17025[3] by the time of the project completion[4]. Accordingly, the number of calibration services/ certificates provided/ issued by NIMT as the Thailand's primary calibration institution increased.

For the overall goal, the increasing number of measurement capabilities (i.e. the number of ranges of calibration services that NIMT can provide to measure certain quantities) have been approved as the internationally-compatible Calibration and Measurement Capabilities (CMCs) and registered in "Appendix C of CIPM-MRA[5]," which is the international database of CMCs. By the time of the project completion (2008), the number of CMCs increased to 343 to cover 14 quantities. After the project completion it increased to more than 400 to cover 28 quantities. Also, the national measurement network has been developed with NIMT on its top, 83 calibration laboratories at secondary or lower levels.

Furthermore NIMT is expected to promote NIMT-traceable measurement standard and to become a hub-organization in metrology in the ASEAN countries. Now, NIMT is initiating the international training or seminar program or take international customer.

Such achievement was the combined effects of the ODA Loan projects that developed the facilities and equipment of NIMT and this technical cooperation project: the improvement of the capabilities would not have been possible without either of the facilities/equipment (hardware) and techniques (software). Therefore effectiveness/impact of this project is high.



(Source: CIPM-BIPM)

Number of NIMT's Calibration and Measurement Capabilities (CMCs) listed in Appendix C of CIPM-MRA

NIMT Building

Gas Weighing Room of NIMT

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project cost was within the plan (ratio against plan: 90%), the project period was longer than the plan (ratio against plan: 132%) because of the delays of building construction and procurement of equipment (outputs in the ODA Loan projects). Therefore, efficiency of this project is fair.

4 Sustainability

The facilities/equipment provided by the ODA Loan projects and this project are maintained by NIMT, the implementing

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[2] Technical transfer in 13 quantities had been conducted under Phase 1 project.

[3] ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories. In case of this project, accreditation was given by International Accreditation Japan (IA Japan) of National Institute of Technology and Evaluation (NITE), the Japan's national accreditation institution. In general, laboratory accreditation aims to assure the confidence and reliability of the data measured, tested, and calibrated by laboratories. In many countries, purchasers (users) require suppliers (manufacturers) to attach the test data to products and a lot of suppliers use the data tested by the third-party laboratories independent from relevant parties. In these cases, test reports issued by accredited testing laboratories are value-adding and useful for purchasers and suppliers to effective trade (source: NITE).

[4] As of 2012 the accreditation is given in more than 28 quantities.

[5] CIPM-MRA: global mutual recognition arrangement (MRA) of metrological standards with International Committee for Weights and Measures (CIPM) (Secretariat is at the International Bureau of Weights and Measures (BIPM) of CIPM). Calibration and measurement capability that was approved according to procedure required by the CIPM-MRA is listed in the Appendix C of the MRA and then called a CMC. Laboratory accreditation (mentioned above) is one of the prerequisites for approval of CMC.

agency. The project has some problem in financial aspects because the budget, though stably allocated by the government every year, is not enough to cover the expanding works of NIMT[6], and thus NIMT has to request for additional budget year by year. Although such additional requests have been approved so far, the increasing dependence on ad hoc budget which is not as guaranteed as the ordinary budget may affect the future financial management of NIMT.

However, no problem has been observed in policy background, structural and technical aspects of the implementing agency. NIMT well receives the policy support in an ongoing manner, and the organizational structure maintains what it was considered desirable at the time of ex-ante evaluation with sufficient number of qualified staff, among whom the number of doctorate degree holders is increasing. The facilities and equipment are operated and maintained well.

Therefore, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

International dissemination: NIMT has a good practice from international cooperation with JICA in the past, and it is expected that by utilizing this result of the projects, NIMT could promote its traceable measurement standard and become the hub-organization in the ASEAN region. NIMT is expected to continue international training course or seminar periodically without support from JICA, and also to increase the visibility of NIMT as a knowledge hub in metrology field in this region by utilizing the Project result, strengthen and improve metrology and industrial product standards that tie metrology institutes in the region.

Lessons learned for JICA

Seamless assistance with a combination of Yen Loan and Technical Cooperation is effective to facilitate full utilization of provided equipment by Yen Loan and respond to development needs. This Project was a good example of the combination of plural assistance schemes: Technical Cooperation was implemented with good timing when the Yen Loan project was completed, and the Technical Cooperation brought an impact on counterpart agency's capacity building and also an expansion of the result to this region.

[6] Income from calibration services is increasing, but the large portion of budget still comes from the government.

conducted by Thailand office:March, 2013

Country Name	Project for Improvement of Sewage Treatment Plants Management in Thailand
Thailand	

I. Project Outline

Project Cost	295 million yen	
Project Period	May 2004 – November 2007	
Implementing Agency	Wastewater Management Authority (WMA)	
Cooperation Agency in Japan	Ministry of Land, Infrastructure, Transport and Tourism, Japan Sewage Works Agency	
Related Projects (if any)	[Japan's cooperation] ・ Training Center For Sewage Works (TCSW) (Technical Cooperation, 1995-2000) [Other donors' cooperation] ・ Preparatory Operational Assistance to the Wastewater Management Authority (DANIDA, 2000-2001) ・ Capacity Development for Wastewater Management Authority (DANIDA, 2003-2006)	
Background	Thailand was facing various environmental problems as a result of rapid economic development and urbanization. Wastewater treatment was one of such issues. The Public Works Department, the Ministry of Interior and the Ministry of Science, Technology and Environment (MOSTE) developed wastewater treatment facilities since the 1990's. To respond to the shortage of technical personnel to properly operate and manage rapidly-increasing sewerage facilities, a JICA technical cooperation project trained approximately 1,000 technical personnel nationwide (1995-2000). However, many Sewage Treatment Plants (STPs) did not operate properly yet due to insufficient operation and maintenance (O&M) systems at individual STPs. Meanwhile, WMA was established in 1995 as a state enterprise affiliated to MOSTE to improve the efficiency of STPs by carrying out O&M commissioned by local governments. Under such circumstances, this project was implemented to establish proper O&M methods through WMA and thereby improve efficiency of STPs.	
Inputs	Japanese Side	Thailand Side
	1. Experts: 6 for Long term, 7 for Short term 2. Trainees Received: 5 persons 3. Equipment: 16 million yen 4. Local cost: basic operational budget, local consultant expenses	1. Staff allocated: 27 persons 2. Local cost: 684,390 baht for training (from WMA), utilities and administration (from TICA) 3. Project office
Project Objectives	Overall Goal Sewage Treatment Plants (STPs) are operated efficiently and effectively in Thailand.	
	Project Objective Efficient and effective operation method of STPs is established.	
	Outputs ・ Output 1: Function of focused STPs is recovered. ・ Output 2: Reference materials for improvement of sewage treatment plant management are developed. ・ Output 3: Skilled personnel are assigned to operate and maintain the focused STPs appropriately. ・ Output 4: Information system is established to disseminate reference materials and to collect operation and maintenance (O&M) data. *Focused STPs: Pilot STPs (Pathumthani and Kamphaeng Phet) that were selected among total 12 STPs operated by WMA for the purpose of establishing O&M methods.	

II. Result of the Evaluation

Summary of the Evaluation

In Thailand, while Bangkok and other large cities that were in relatively good financial condition commissioned the O&M of STPs to the private sector and maintained the plants quite well, many STPs in other local governments had problems with O&M due to lack of budget and human resources. Therefore, it was of urgent importance to improve the efficiency of existing STPs.

This project has partially achieved the project purpose of establishing an efficient and effective operation method for STPs, however not yet really met the overall goal that STPs in Thailand be operated efficiently and effectively, because many of them are still in inadequate O&M status. As for sustainability, some problems have been observed in terms of institutional and financial aspects due to WMA's difficulty of making a new fee-applied contract with municipalities which seem to be reluctant to collect wastewater treatment fee.

For relevance, the project has been highly consistent with Thailand's development policy and development needs, as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

At the time of both ex-ante evaluation and project completion, this project has been highly relevant with (1) Thailand's development policy placing great importance on water quality improvement and wastewater treatment as set out in the 9th and 10th National Economic and Social Development Plans (NESDP 2002-2006 and 2007-2011) and related sector development plans, (2) development need for O&M of STPs, as well as (3) Japan's ODA policy (MOFA's Country Assistance Program for Thailand (2000) and JICA's Country Program for Thailand); improvement of environmental quality is one of the main schemes for Japan's ODA. JICA also puts strong emphasis on environmental management to assist in developing measures against water pollution caused by insufficient sewage control. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has partially achieved the project purpose of establishing an efficient and effective operation method of STPs as shown in the completion of the reference documents (reference materials) and improvement of operation of STPs under WMA. Through the pilot activities (operation of focused STPs), WMA established operation methods for the oxidation ditch (OD) system and the stabilization pond (SP) systems, respectively, and disseminated them to related government agencies, municipalities and STPs through WMA's direct operation of STPs, and the training and distribution of reference materials that described the methods established. Consequently, WMA strengthened its capacity of operation of STPs, which is shown in the fact that the quality of effluent water of all STPs under WMA met the standard even after the major flood in 2011. However, the scale of the effect to STPs is smaller than expected as the number of STPs whose operation was commissioned to WMA decreased from 12 (at the time of the ex-ante evaluation) to 5 (at the time of the ex-post evaluation), due to the change of the type of contract between WMA and municipalities[1]. Also, the reference materials distributed to STPs could be lost or not actively utilized due to the inappropriate transfer following the personnel changes at STPs.

The overall goal was partially achieved. WMA has continued training on O&M of STPs[2]. And out of 68 operational STPs under municipalities, the quality of effluent water of only 3 STPs did not meet standard as of September 2010[3]. However, due to the limitation of WMA's influence on all STPs nationwide, not all STPs have been operated efficiently and effectively yet: in 2010, besides the above-mentioned 68 operational STPs, there were 18 STPs that were directly under municipalities but suspended due to operation problems. Also, after the 2011 flood, the number of STPs where effluent did not meet the standard increased to 28.

Therefore, effectiveness of this project is fair.

Aerated Grit Chamber at STP

Aeration Tank at STP

Clarifier Tank at STP

3 Efficiency

While inputs were appropriate for producing the outputs of the project, and the project period was as planned (ratio against the plan: 100%), project cost slightly exceeded the plan (ratio against the plan: 122%) because of an increased number of experts. Therefore, efficiency of this project is fair.

4 Sustainability

[1] The number of WMA-commissioned STPs increased to 22 by 2010, but most of the contracts had to be halted when the new type of fee-applied contracts (for 15 years) was introduced to encourage municipalities to collect wastewater treatment fees from residents and transfer the O&M method to municipalities. In this new type of fee-applied contract, municipalities receive not only WMA's technical and budgetary support for O&M but also assistance on capacity building of management based on the municipalities' initiative in collecting wastewater treatment fees. However, it was difficult for WMA to conclude the new fee-applied contracts because there was no measure to enforce the payment of wastewater treatment fees on residents and many municipalities were reluctant to collect fee.

[2] For example, WMA held two training sessions in Chiang Mai and Song Khla in 2011. About 70 people attended each training session.

[3] Comparable data about before the project is not available, but the ex-ante evaluation report says that the effluent quality was insufficient with a considerable number of STPs. The data of year 2011 is not shown. Due to the massive flooding crisis in year 2011 which was the unusual event, the data is highly different from previous years.

The project has some problems regarding the institutional and financial aspects of WMA. As to the institutional aspect, although the structure of the implementing agency has been sustained in a similar manner within the implementation period (even with the restructuring of MOSTE to the Ministry of Natural Resources and Environment (MONRE)), WMA faces difficulties in maintaining or increasing the number of STPs they operate, i.e., in making a new fee-applied O&M contract with municipalities since many of them seem still to be reluctant to collect wastewater treatment fees, which is a prerequisite for entering into a contract (see footnote 1). Also, the information system for reporting operational status of each STP to the WMA headquarters that the project developed is currently malfunctioning. As to the financial aspect, while WMA receives the budget from the Thai government necessary to implement its O&M work and trainings, the amount of the budget has decreased since WMA closed less contracts under the new fee-applied O&M contract. Less revenue and less contracts with municipalities affects the continuation of activities.

However, no problem has been observed in policy background (the current NESDP follows the same direction as the previous NESDP) and technical aspect (improved capabilities of staff) of WMA. Therefore, sustainability of this project effect is fair.

III. Recommendations

Recommendations for Implementing Agency

- WMA, as an implementing agency, should pay much more attention, and consider how to utilize and maintain the materials, equipment and knowledge which it obtained from the project for maximum usefulness of operation and management of its organization and STPs. Therefore, WMA is recommended to take the following action :
  - Keep monitoring the quality standard of water, as the data provides WMA with important information on the O&M situation at STPs.
  - Update the reference materials to come up with the current situation of STPs, and utilize the materials for the sake of the efficiency and effectiveness of O&M at STPs.
- MONRE is recommended to consider ways to promote the sewage treatment fee collection for financial sustainability.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Thailand office: March, 2013

Country Name	The HIV/AIDS Regional Coordination Center (RCC) Project
Thailand	

I. Project Outline

Project Cost	231 million yen	
Project Period	April, 2005 – March, 2008	
Implementing Agency	ASEAN Institute for Health Development (AIHD), Mahidol University	
Cooperation Agency in Japan	Japanese Foundation for AIDS Prevention	
Related Projects (if any)	Japan's cooperation: ・Policy/Strategy and Operation on HIV/AIDS Prevention and Control for Cambodia, Laos, Myanmar and Vietnam (Third Country Training, 2012-2014)	
Background	In Cambodia, Lao PDR, Myanmar and Vietnam (CLMV countries), the neighboring countries of Thailand, the efforts to tackle the problems related to HIV/AIDS were constrained by the insufficient institutional and human capacity. Also, large population migrated across borders, and the migrating population was projected to increase in the future. Therefore, it was urgently important to take regional-level actions to prevent infection spread. Based on the regional cooperation mechanism agreed upon at the JICA-ASEAN Regional Cooperation Meeting (JARCOM), several of Thailand's neighbors requested Thailand to provide technical assistance in the fields of HIV/AIDS. AIHD, established with assistance from Japan in 1982 as part of ASEAN Human Resources Project, developed training courses in primary health care, health management, etc., for participants from Thailand and other ASEAN countries including the CLMV countries, and got reputation. Also, AIHD positively implemented researches and training in HIV/AIDS control, and was expected to make use of its training experience and networks to contribute to human resource development in HIV/AIDS control by establishing the HIV/AIDS Regional Cooperation Center (RCC) with assistance from this project.	
Inputs	Japanese Side	Thailand Side
	1. Experts: 3 persons for Long term 2. Equipment: 9 million yen 3. Local cost: expenses for project employees, trainers' training and other activities	1. Staff allocated: 7 persons 2. Local cost: administrative and operational expenses (AIHD/TICA), expenses for multi-national trainers' training (cost shared by TICA and JICA) 3. Project office and training facilities (AIHD)
Project Objectives	Overall goal Human capacity for HIV/AIDS programs in Cambodia, the Lao PDR, Myanmar, and Vietnam is developed based upon each country's specific needs and situation with the proper utilization of resources from the HIV/AIDS Regional Cooperation Center (RCC) and the result is applied for HIV/AIDS programs.	
	Project Objective(s) The RCC functions and is recognized by concerned organizations as a coordination center to provide training, information, and the human resources needed to support human capacity building for HIV/AIDS programs in Cambodia, Lao PDR, Myanmar, and Vietnam.	
	Output(s) ・ Organization and management systems of RCC are established and strengthened. ・ Management system, curricula, and materials used in training programs are developed and improved in response to the specific country needs of Cambodia, Laos, Myanmar, and Vietnam. ・ Information concerning human resources, research, and relevant experiences on HIV/AIDS in Cambodia, Laos, Myanmar, Vietnam, and Thailand is collected, properly maintained, and disseminated to counterpart organizations, donor agencies, ASEAN Institute for Health Development (AIHD) alumni, and other stakeholders. ・ Human resources, information, and financial resources in Cambodia, Laos, Myanmar, Vietnam, and Thailand for HIV/AIDS programs are mobilized for more effective utilization through networking.	

II. Result of the Evaluation

Summary of the Evaluation
The CLMV countries encountered the HIV/AIDS epidemic at a later stage than Thailand. The governments of these countries identified the epidemic as a major threat to their socio-economic development and strengthened the countermeasures. In addition, with the increasing number of people migrating across the borders of the CLMV countries and Thailand, possible expansion of HIV transmission across the borders was considered to continue to be a major communicable disease control problem. However, efforts to tackle such problems were constrained by the insufficient institutional and human capacity to effectively implement HIV/AIDS programs. This project mostly achieved the project purpose of establishing the RCC as a regional coordination center to provide trainings and information on HIVAIDS in terms of the RCC's networking among Thailand and the CLMV countries in

HIV/AIDS-related capacity development, and the overall goal to a certain extent in terms of some ex-trainees' application of what they had learned at RCC to their HIV-AIDS-related activities in the respective countries. As for sustainability, the financial aspect of the implementing agency has faced some difficulties to continue the same scale of activities as those during the project period due to the dependence on project-based budget from outside resources.

For relevance, the project has been highly relevant with development policies and development needs of the CLMV countries and Thailand, as well as Japan's ODA policy. For efficiency, both the project cost and the project period were as planned.

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

1 Relevance

This project has been highly relevant with Thailand's and the CLMV countries' development policies to respond to HIV/AIDS issues as set in the respective national strategic plans on HIV/AIDS, development needs to control and prevent HIV/AIDS in the respective countries and across the border, as well as Thailand's development cooperation policy to neighboring countries "Thailand Development Cooperation Strategy 2007-2011" and Japan's ODA policy "Joint Cooperation to Third Countries" , which is one of the priority areas in ODA operation for Thailand, at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has mostly achieved the project purpose at the time of the project completion, and somewhat achieved the overall goal at the time of the ex-post evaluation. For the project purpose (establishing the RCC as the HIV/AIDS regional coordination center), the project established the RCC under AIHD, and the RCC obtained the contact channels with 66 concerned organizations by the time of project completion through the development of a database of HIV/AIDS experts/practitioners, trainers' trainings and dissemination of related information by means of newsletters and websites, all targeted to the CLMV countries and Thailand. A survey conducted at the end of the project period showed that those organizations' recognition of the RCC as an effective coordination center for HIV/AIDS almost reached the expected level. At the time of the ex-post evaluation, AIHD[1] continues its contact with approximately 64 concerned organizations for updating information, inviting lecturers and for providing research services. Also, AIHD continues training courses/seminars titled HIV/AIDS, including the JICA-assisted Third Country Training Program that is currently under preparation, and those containing HIV/AIDS-related topics for students, researchers and practitioners in Thailand and other countries including the CLMV countries. However, no data was available on the level of concerned organizations' current recognition of the RCC/AIHD.

Although there was little tracking data to verify the achievement of the overall goal (human capacity development on HIV/AIDS in the respective countries with use of the RCC resources), the result of a survey in 2010 and some opinions collected for this ex-post evaluation[2] (both for the ex-trainees) showed at least some achievement of the overall goal in that there were cases where ex-trainees provided training on HIV/AIDS to health workers and/or provided inputs to development of national health strategic plans based on what they had learned at RCC. The indirect impact within Thailand includes AIHD's contribution to national policy planning in HIV/AIDS such as the conduct of "'Evaluation of the National AIDS Response in Thailand" in November 2011, which will provide inputs to subsequent five-year AIDS plan (2012-2016).

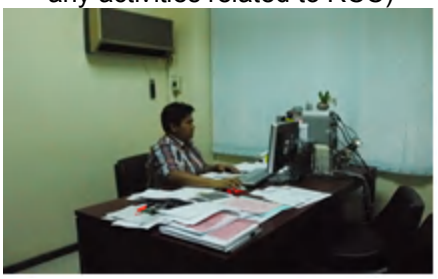
Therefore, effectiveness/impact of this project is fair.

Number of participants in RCC trainers' training (project activities)

	2005	2006	2007	2008	Total
Cambodia	0	39	15	19	73
Lao PDR	24	23	25	0	72
Myanmar	24	16	15	0	55
Vietnam	0	38	22	0	60
Total	48	116	77	19	260

Source: RCC

(A project staff for any activities related to RCC)



(AIHD)

3 Efficiency

The inputs were appropriate for producing the outputs of the project, and both the project cost and the project period were as planned. Therefore, efficiency of this project is high.

4 Sustainability

Regarding the organizational status of the RCC after the project completion, it was planned that the RCC would either (i) continue to be a distinct organization of AIHD (in the same way as during the project implementation period) or (ii) be merged to other activities of AIHD, and AIHD chose the latter option when its organization was restructured in 2009. Therefore, the HIV/AIDS-related networking and training are currently carried out directly by AIHD as the fulfillment of the function of the RCC.

The project has some problems in financial aspects of the implementing agency. While staying in surplus and being able to allocate certain portion of budget[3] to training and research including HIV/AIDS related training courses or modules,

[1] In 2009, AIHD restructured its organization, and the functions of the RCC were succeeded to several divisions.

[2] A constraint for this ex-post evaluation was unavailability of data to verify the achievement of the overall goal. Due to the time constraints, it was impossible for the overseas office (evaluator) to conduct a track survey to ex-trainees in the CLMV countries. Instead, the overseas office contacted a few ex-trainees by email and collected their opinions.

[3] The budget sources of AIHD are the subsidies from the government to Mahidol University (50%) and own earning income of AIHD (50%).

AIHD has faced difficulties to continue the same scale of the RCC activities (e.g., training, dissemination of information, monitoring including the follow-up visits to ex-trainees) as those during the project period because many project activities had been funded from outside resources (project-based budget from TICA and JICA) at that time.

However, no problem has been observed in policy, institutional and technical aspects of the implementing agency. In the policy background, this project is consistent with the national plans/strategies on HIV/AIDS in Thailand and the CLMV countries in an ongoing manner. In the institutional aspect, while the structure of AIHD has been partially changed from the implementation period due to the restructuring in 2009 and the functions of RCC were succeeded to several divisions, such changes have not seriously affected the continuity of project effectiveness as some activities have been continuing (see "2. Effectiveness/ Impact"). Director of AIHD also confirmed that AIHD would maintain the functions of RCC that had been established by this project. In the technical aspect, AIHD has no problem because the key staff who had been involved in the project remains in important positions of AIHD, and training in HIV/AIDS for neighboring countries has been continued.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1) AIHD is recommended to strengthen monitoring / follow-up of ex-trainees (i.e., track their activities to disseminate what they learned from RCC and survey the recognition of RCC) to measure effectiveness of AIHD trainings
2) AIHD is recommended to improve financial sustainability, by deploying its own resources or seeking for external support, to continue necessary HIV/AIDS-related trainings to CLMV countries besides the JICA's Third Country Training Program.

Lessons learned for JICA

1) In a project whose activities should be continued after the project completion, preparation of the clear exit and reliability strategy with institutional policy is essential (e.g. financial arrangement during the project implementation so that the implementing agency becomes able to spend from their regular budget).

2) Measuring effects of training projects often involves contact with ex-trainees, which is quite difficult especially in a regional cooperation project that invites trainees from abroad. To overcome this challenge, a post-project monitoring and evaluation mechanism should be seriously planned from the planning stage. Possible ways may include arranging the allocation of enough time and resources for ex-post evaluation on donor side (i.e., JICA or TICA), or setting a more realistic evaluation framework that does not require tracking of the ex-trainees but instead checks whether the implementing agency still effectively provides training at the time of evaluation.

Internal Ex-Post Evaluation for Technical Cooperation Project

Conducted by Laos Office: March, 2013

Country Name	The Project for Strengthening Medical Logistics In Lao P.D.R
Lao People's Democratic Republic	

Ⅰ Project Outline

Project Cost	313 million yen
Project Period	May 2005 - April 2008
Implementing Agency	Medical Product Supply Center, Ministry of Health
Cooperation Agency in Japan	NA
Related Projects	**Japanese Assistance:** Grass-roots Grant Aid Scheme：Construction of Medical Equipment Service Center(MES) (1998), Construction of warehouses at Luang Prabang, Oudomxai, Champasak Provinces (2006) Dispatch of Senior Volunteers in Team to work for MES (2002-2007) and Dispatch of a Senior Volunteer for Logistic Control of Storage, MPSC(2007) **Assistance by other foreign donors :** Luxemburg(LUX): Medical Equipment Management Project (covered 2 provinces from June 2004 to Dec. 2005) Phase 2 (covered 3 provinces from 2006 to 2009), Phase 3 (covers 5 provinces from 2010 to 2013) -UNFPA-the pilot project for MCH product supply (January 2012- November 2012) -GF(Global Funds)-support to MLC (Medical Logistic Center) to develop MLC Management System (December 2009-December 2012)
Background	In the Lao PDR, there were few technicians who can properly conduct the maintenance and repair of the medical equipment. Many of those equipment were foreign-made, however, there were few agents who can properly do repair them. Combined with the limited budget allocation to the operation and maintenance of such medical equipment, the absence of proper management system of medical equipment had interfered with the effective and efficient utilization and procurement of those equipment. Therefore, there was a pressing need to establish the system of both medical logistics and maintenance in order to contribute to the ultimate purpose of the health sector.

Inputs	Japanese Side	Lao PDR Side
	1. Experts:1 Long-term and 11 Short-term experts (9 from Japan and 2 from third country) 2. Trainees received: 8 persons 3. Third-Country Training in Thailand: 57 persons 4. Equipment: US$126k 5. Facilities constructed: US$399k 6. Local Cost: US$183k	1. Staff allocated: 40 persons 2. Land, facility and project office Provision of office space for Japanese experts at the MES and the Logistics Center of MPSC and the construction site of the Logistics Center

Project Objective	
	Overall goal: Medicines, medical products and equipment come to be managed and utilized efficiently and properly.
	Project Purpose: The mechanism is established at the central and provincial levels for managing and utilizing medicines, medical products and equipment efficiently and properly.
	Outputs: 1. The system is established for supporting central and provincial levels through MES(Medical Equipment Service Center) and Logistics Center. 2. The capacity of management, maintenance, and repair for technical staff is improved at MES, central and provincial hospitals. 3. The management capacity for central and provincial hospital managers is improved. 4. The capacity of storage, handling, and inventory control for staff in charge of inventory control of medicines and medical products is enhanced at the Logistics Center and warehouses in 4 target provinces. ※（4 target provinces : Luang Prabang, Oudomxai, Savannakhet, Champasak）

Ⅱ Result of the Evaluation

Summary of the Evaluation
In order to cope with the problems of medical logistics and maintenance, the Ministry of Health had made some efforts to strengthen the capacity of those technicians of medical equipment and to establish the Medical Equipment Service Center (MES) in 1998 as an affiliated organization to the Medical Product Supply Center (MPSC). MES had given the technical support to those technicians who are in charge of maintenance and repair of medical equipment. However, this did not serve as the drastic solution. It had become aware that it is necessary to establish the comprehensive mechanism of medical

equipment maintenance.

This project has somewhat achieved the project purpose and overall goal. For the project purpose, it was already achieved at the terminal evaluation. However, the effects have not been maintained after the completion of the project. According to the ex-post evaluation study, some indicators such as the number of repair cases have not maintained the achievement level. As for the overall goal, it was partially achieved. There was no dead stock observed at the Logistic Center and warehouses with some exceptions. As for the working ratio of medical equipment in central and provincial hospitals, the data is not currently available.

The project has some problems in technical and financial aspects of the implementing agency. Newly assigned staff have not had the sufficient knowledge and skills, and the implementing agency has some difficulties to independently finance the maintenance cost of medical equipment and tend to rely on the donor's assistance. However, no problem has been observed in policy, structural aspects of the implementing agency. In addition, introduction of sector-wide coordination mechanism to the health sector has served well to strengthen the institutional settings of medical logistics. For relevance, the project has been highly relevant with Lao PDR's development policy, development needs as well as JICA's ODA Policy. For efficiency, the project cost was significantly higher than the plan.

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

1 Relevance

This project has been highly relevant with Lao PDR's development policy (e.g. "improvement of hospitals at all levels and in remote areas by ensuring effective health administration and management" as set in Health Strategy up to 2020 and 7th 5-year Health Sector Development Plan), development needs (e.g. "improvement of medical equipment maintenance and the Inventory control of medical products and medicines", especially in terms of capacity development of technical staff), as well as JICA's ODA Policy in both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

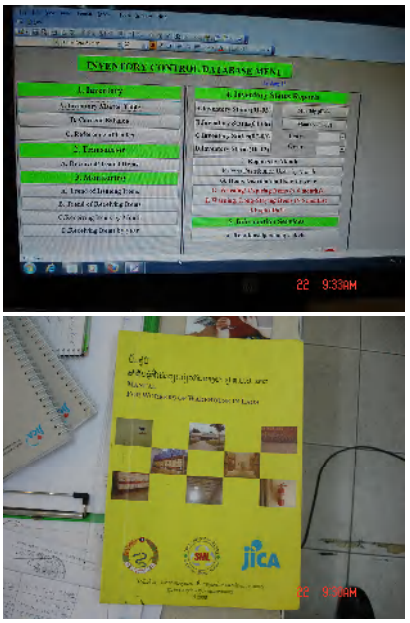
2 Effectiveness / Impact

This project has somewhat achieved the project purpose and overall goal.

For the project purpose, "establishment of mechanism to efficiently manage and utilize medicines, medical products and equipment at the central and provincial levels", it was already achieved at the terminal evaluation. Indicators to examine the efficiencies of inventory control system, such as the number of days of stock period and time spent for picking up medicine and medical products at Logistics Center or warehouses as well as those to examine the effective mechanism of equipment maintenance, such as the number of repair cases were all achieved. It was concluded at the terminal evaluation that the mechanism had gradually been established at both central and provincial levels and therefore, the daily maintenance procedure introduced by the project had steadily become parts of the routine works. However, the effects have not been maintained after the completion of the project. According to the ex-post evaluation study, indicators to examine the mechanism of equipment maintenance, such as the number of repair cases were not maintained. This is partly due to that technicians in some provinces have not yet had sufficient skills, and the data consolidation of medical logistics has not yet smoothly carried out in some provinces which resulted in the overlapped procurement of some equipment.

As for the overall goal, "Proper management and efficient utilization of medicines, medical products and equipment" was also partially achieved. There was no dead stock observed at the Logistic Center and warehouses with some exceptions. As for the working ratio of medical equipment in central and provincial hospitals, the data is not currently available.

Therefore, its effectiveness/impact of this project is fair.



Inventory Database and Guideline at Medical Logistic Center

3 Efficiency

While inputs were appropriate for producing outputs of the project and project period was within the plan (ratio against the plan: 100%), project cost was higher than the plan (ratio against the plan: 151%) as the construction cost of logistic center was increased probably due to the delay of construction schedule, some changes on its specification and other administrative procedures. Therefore, efficiency of the project is fair.

4 Sustainability

The project has some problems in technical and financial aspects of the implementing agency. Although trained staff can efficiently carry out the inventory control at warehouses, newly assigned staff have not had the sufficient knowledge and skills. This is partly due to that they have not been provided enough training because of little budget allocation from the government. As for the financial aspects, the implementing agency has some difficulties to independently finance the maintenance cost of medical equipment and tend to rely on the donor's assistance.

However, no problem has been observed in policy, structural aspects of the implementing agency. The structure of MPSC and MES has been sustained in a similar manner with the implementation period. The guideline of medical equipment management which describes the clear job assignment has served well to streamline the daily maintenance procedure in each position. Furthermore, the introduction of sector-wide coordination mechanism to the health sector, which has resulted in the establishment of Food and Drug Technical Working Group, has come to start serving to strengthen the institutional settings of medical logistics as it facilitates the collective action through collaboration of all those concerned including donors.

Therefore, sustainability of this project is fair.

Ⅲ Recommendations & Lessons Learned

Recommendations for the Implementing Agency：

1. In order to further improve the mechanism established by the project, it is strongly recommended that the MPSC should continue monitoring of working ratio of medical equipment in central and provincial hospitals as well as regularly checking the dead stock of Logistic Center and four warehouses. This serves as the effective way to observe the progress of proper management of medical equipment.

2. In order to maintain the technical sustainability, the MPSC should conduct training for technicians and inventory control staff on a regular basis. In addition, to cope with complicated and sensitive cases, the MPSC should train some experts with specific skills, so that they can handle such cases professionally.

3. In order to resolve the problems of consolidation procedure for database, it is necessary to continue the regularly update and reporting of ME database to the MPSC and MES. So that the inventory lists of hospital equipment becomes available for all those concerned and overlapped procurement of equipment can be avoided. In relation to the database, the MPSC should also consider setting up the information system which covers all provinces.

4. As pointed out at the terminal evaluation, it is strongly recommended that the MPSC should develop an effective scheme to finance the maintenance and operation cost for the medical equipment.

Lessons learned for JICA：

In order to secure the financial sustainability, it should be supported to strengthen the budgetary planning during the project period. Resources needed for continuing medical equipment maintenance and inventory control, such as training cost, transportation fee and cost of outreach activities, should be included into the annual plan.

Internal Ex-Post Evaluation for Technical Cooperation Project

Conducted by China Office: March, 2013

Country Name	The Sino-Japan Friendship Center for Environmental Protection Project Phase 3
China	

Ⅰ Project Outline

Project Cost	943 million yen
Project Period	April 1 2002 – March 31 2006
Implementing Agency	The Sino-Japan Friendship Center for Environmental Protection State Environmental Protection Administration (SEPA)
Cooperation Agency in Japan	Ministry of the Environment、Ministry of Economy, Trade and Industry, National Institute for Environmental Studies, Overseas Environmental Cooperation Center, Japan
Related Projects (if any)	Grant Aid Project: Construction of Sino-Japan Friendship Center for Environmental Protect (1990-1995) Technical Cooperation Project: The Sino-Japan Friendship Center for Environmental Protection Project Phase I (1992-1995) The Sino-Japan Friendship Center for Environmental Protection Project Phase II (1996-2001) The Sino-Japan Friendship Center for Environmental Protection Project Phase II Follow-up (2001-2002) Development Studies: Study on the Master Plan for Air Pollution Control in Guiyang Municipality
Background	With the drastic economic growth in China, the environmental contaminations, such as the air pollution, water contamination, noise pollution and waste contamination had been progressed creating a great concern for the Chinese Government. Under the 10th Five-Year Development Policy (2001-2005), the Government of China (GOC) had set the environmental protection, such as the improvement of air quality, proper disposal of waste, environmental conservation through rising of environmental awareness, as one of the priority issues. In order to achieve the objective, the State Environmental Protection Administration (SEPA) has developed the strategic action plan namely "the 10th Five-Year Development Action Plan"to cope with the difficult situations. With the support of Japanese Government, the Sino-Japan Friendship Center for Environmental Protection was constructed and the JICA's technical cooperation projects for the Center had been implemented in two phases to strengthen the technical capacities of environmental management. Consequently, the basic institutional capacity and policy framework of environmental protection have been established in China. However, there is a pressing need to further strengthen these capacities, since they have now been facing the emerging issues, such as the dioxin pollution, undermining environmental endocrine disrupters and large scale of serious environmental damages by acid rain, and yellow dust and sand storms. Therefore, GOC requested the Japanese government to implement the project phase 3.
Inputs	Japanese side: Japanese side Experts: 12 Long-term experts for 8 areas 81 Short-term experts for 4 area CP Trainings: 46 CPs Equipment Provision: 69 million yen Local cost: 126 million yen Chinese side: Chinese side 1. Allocation of CPs (Center Staff): 319 2. Provision of land and facilities 3. Local costs: Management cost, OM cost for facilities and utilities, Personnel costs, and Research Costs.
Project Objectives	Overall Goal Objectives of environmental protection declared in the 10th 5- year National Development Plan are achieved through the activities implemented by the Sino-Japan Friendship Center for Environmental Protection (the Center). Project Purpose Institutional capacity of the Center, as the leading organization of environmental protection in China is improved, contributing to resolve the emerging environmental problems in the various regions of China. Outputs **I. Cooperation toward the priority issues on the environmental protection in China** **1) Cooperation on Environmental Policy and Institutional Framework** Output 1: A recycling-oriented economic system is promoted in the Chinese society. Output 2: Institutional framework for supervisor of environmental protection in the business industries (Supervisor of Environmental Protection in Private Enterprises) is established. Output 3: Fundamental law on the environmental protection is formulated. Output 4: Detailed regulations and administrative instructions on environmental impact assessment are developed by SEPA with the collaboration of the Centers and other related organizations in the field of environment protection. Output 5: Information service on wetland is systematically provided. (This will eventually promote

	the formulation of ecological environmental protection in the mid-western region. Output 6: Environmental Model City Initiatives is promoted. **2) Cooperation on technology transfer** Output 1: Technology transfer of dioxin decomposition is enhanced. Output 2: Technology transfer of POPs decomposition is enhanced. Output 3: The analytical research on the sources of atmospheric particulate in the urban areas including Dust and Sand Storm (DSS) is progressed. Output 4: Research and development of recycling of solid waste is enhanced. **II. General Cooperation** Output 1: Follow-up activities toward the priority issues of Phase III (such as the strengthening of the institutional capacity to monitor the effects of acid rain and the promotion of the collaboration with the East Asian network to monitor the effects of acid rain.)

Ⅱ Result of the Evaluation

Summary of the Evaluation

In China, the basic institutional capacity and policy framework of environmental protection have been established with the support of Japanese technical cooperation. However, there is a pressing need to further strengthen these capacities, since they have now been facing the emerging issues, such as the dioxin pollution, undermining environmental endocrine disrupters and large scale of serious environmental damages by acid rain, and yellow dust and sand storms.

This project has achieved its purpose "Institutional capacity of the Center, as the leading organization of environmental protection in China is improved contributing to resolve the emerging environmental problems in the various regions of China." The project has greatly contributed as the leading organization through the research analysis on the recycling-oriented economic system as well as the system to monitor the environment by the Supervisor of Environmental Protection in Private Enterprises. Furthermore, it has contributed to develop the manuals on the technical transfer of the analysis of dioxin and POPs. As for the overall goal, the contribution of the project has been proven by the enactment of promoting recycling-oriented economic system and the improvement of air and water quality. As for sustainability, the center has continuously address issues from its own stand point and has been responding flexibly to the diversified and complicated issue in environmental area.

The project has no problem in structural, technical and financial aspects and current status of the implementing agency. Therefore, sustainability of this project is high. For relevance, the project has been highly relevant with the development policy of the Government of China, development needs, as well as Japan's ODA policy. For efficiency, both project cost and project period were mostly as planned.

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

1 Relevance

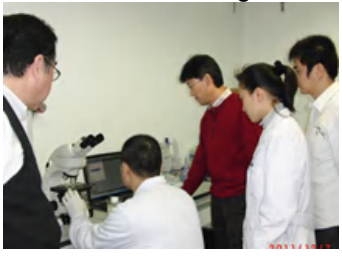
The project is highly relevant with the development policy of GOC, "e.g. Environmental protection, such as the prevention of industrial contamination, protection of urban environment, ecosystem, rural environment, marine environment, environmental management of atomic energy and radiation", development needs, "ex. to tackle with the emerging issues on the environment, as well as Japan's ODA policy, "e.g. to assist the water resources management and forest conservation to protect the ecosystem on a global scale", at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness・Impact

This project has achieved its purpose "Institutional capacity of the Center, as the leading organization of environmental protection in China is improved contributing to resolve the emerging environmental problems in the various regions of China." The project has greatly contributed to promoting the public participation to the legislative process of environmental impact assessment, establishment of the policy framework of recycling-oriented economic system, development of measures on the regional environmental protection mechanism, and utilization of the fruits of the project in designating the model areas in each administrative levels and natural reserves. As for the overall goal, the contribution of the project has been proven by the enactment of promoting recycling-oriented economic system and its inclusion in the 11th Five-Year Development Plan as a priority issue. Therefore, its effectiveness/impact is high. Furthermore, it has been observed the air quality as well as water quality have been improved and the community's awareness on the environment protection has been increased. It is presumed that this project has also contributed in these aspects. While, in order to effectively cope with the growing diversity and complexity of the environmental contamination, there is still a pressing needs to further improve the capacity of the environmental management.

Review Session on Environmental Supervision the private companies (at the Center)

Seminar on the environmental education, methods of interpretation (Yinchuan)



Technical assistance on the analysis of dioxin (at the Center)

3 Efficiency

Inputs were appropriate for producing outputs of the project, and the project period was almost as planned (ratio against plan: 100%). Therefore, efficiency of the project is high.

4 Sustainability

With some structural change, the center has been responsible to manage the most of the environment –related subjects such as the environmental monitoring, environmental impact assessment, environmental education and policy research under the Department of Environmental Protection. With approximately 600 staff working, the Center is the national level scientific research institute under the direct control of the State Environmental Protection Administration (SEPA) and serves as a window for the international cooperation. It also plays an important role, namely “platform of the Japan-China collaboration on environment, platform of international collaboration on environment and platform for the liberation of society and training” and its expected role is enlarging as environmental cooperation of private sector between Japan and China is growing.

As a technical aspect, the research and training has been properly continued and specific technologies such as the dioxin analysis has properly upgraded. For the financial aspect, the management cost is regularly allocated by the government. Additional budget allocation will be done for the substantial projects and trainings. The project has been responding flexibly to the needs such that it established the Sino-Asian environmental cooperation center to hold the China-Asian Environmental Forum to share the lessons and experiences of China with other Asian countries.

The project has no problem in structural, technical and financial aspects and current status of the implementing agency. Therefore, sustainability of this project is high.

Ⅲ Recommendations & Lessons Learned

Recommendations for Counterpart Agency:

It has been observed the air quality as well as water quality have been improved and the community’s awareness on the environment protection has been increased. While, in order to effectively cope with the growing diversity and complexity of the environmental contamination, there is still a pressing needs to further improve the capacity of the environmental management. It is recommended that the Center should continue its endeavor not only to play the leading role, but also to firmly establish the cooperation network with governmental organizations as well as the Japanese private enterprises and research institutes.

Internal Ex-Post Evaluation for Technical Cooperation Project

Conducted by China Office: March, 2013

Country Name	Hospital Infection Control Project in Guangzhou
People's Republic of China	

Ⅰ Project Outline

Project Cost	316 million yen
Project Period	December 2005 ～ December 2008
Implementing Agency	Responsible Agency: Guangzhou Municipal Science and Technology Bureau Implementing Agency: Guangzhou Institute of Respiratory Disease (GIRD), First Affiliated Hospital of Guangzhou Medical College (FAH-GMC), Guangzhou Center for Disease Control and Prevention(GZCDC)
Cooperation Agency in Japan	Kobe City Medical Center General Hospital, Fukuoka Children's Hospital & Medical Center for Infectious Diseases, Kobe Institute of Health, Fukuoka City Institute for Hygiene and the Environment, National Center for Global Health and Medicine, National Institute of Infectious Disease, Sendai Medical Center
Related Projects	**Japanese Assistance:** After the end of the project, Project for Improvement of Laboratory Hygiene Inspection and the Ability to Use Health Information in Guangzhou City (JICA Partnership Program, October 2009-March 2012) and Project for Promotion of Community based Hospital Infection Control Activities (JICA Partnership Program, July 2010-March 2013) have been implemented to support same implementing agencies. These projects have been contributing to facilitate the impact generated by the project. **Assistance by other foreign donors :** Not directly associated with the project, however, after the year of 2003, international agencies and bi-lateral foreign donors had contributed to Severe Acute Respiratory Syndrome (SARS) control in the form of funding assistance, technical cooperation as well as the collaborative studies. One of them is the technical assistance carried out for the period of 2004 to 2006, from the Government of France to improve the capacity of diagnosis and medical treatment of SARS, infection control in the hospital and strengthening of nursing training management. Medical institutions of Guangzhou district were also involved in this project.
Background	The SARS break in Guangzhou, November 2002 has lead the Chinese Government, particularly Ministry of Science and Technology, to dedicate themselves to the prophylactic and clinical studies of SARS. It was identified by the studies that the inappropriate surveillance operation in the initial stage and the failure of preventing the secondary infection within the hospitals were the major contributing factors of the spread of SARS infection. As a result, it was strongly recommended that the nosocomial infection control team should be established and the countermeasures for standardized preventive control should be taken. However, each individual medical institute and hospital independently had not taken such measure. Therefore, it was urgently needed to strengthen the nosocomial infection control within the hospitals and to improve the surveillance system. FAH-GMC and GIRD are general hospitals of communicable disease control designated by the Guangzhou Health and Medical Bureau, and they have had ample experiences of communicable disease control both in researches and clinical achievement. However, both hospitals have not had collaborative working experiences with GZCDC, the central figure of surveillance system for Guangzhou City, and they did not have sufficient experience of practical nosocomial infection control, either.
Inputs	**Japanese Side** 1. Expert: 2 Long-term experts, 44 Short-term experts 2. CP trainings: 51 CPs trained at the cooperation agencies in Japan and in the JICA group training courses 3. Equipment: 6,666,290 yuan (103 million yen) 4. Local Cost: 1,792,157 yuan (28 million yen) (ex. Seminars) **Chinese Side** 1. CPs assigned: 25 personnel 2 CPs from Guangzhou Municipal Science and Technology Bureau, 8 CPs from FAH-GMC, 5 CPs from GIRD and 10 CPs from GZCDC 2. Provision of facilities: Project Office for experts (both at the FAH-GMC and GIRD) 3. Local costs provided for about 18 million yen for organizing seminars, payrolls for CPs allocation 4. Land, facility and project office
Project Objectives	Overall goal: Infection control measures including prevention of serious infectious diseases in Guangzhou are strengthened.

	Project Purpose: 1) The First Affiliated Hospital of Guangzhou Medical College (FAH-GMC) & Guangzhou Institute of Respiratory Disease (GIRD), as model facilities, disseminate their experiences regarding hospital infection management (including prevention of serious infectious diseases) to major medical institutions in Guangzhou. 2) The Guangzhou Center for Disease Control and Prevention (GZCDC) plays a sufficient role in providing technical instruction regarding hospital infection control (including prevention of serious infectious diseases.)
	Outputs: 1. The hospital infection management system of FAH-GMC & GIRD as a general hospital is functional. 2. FAH-GMC & GIRD medical staff's capacity to respond to an onset of serious infectious diseases is improved. 3. FAH-GMC & GIRD laboratory staff's examination techniques are improved. 4. Manuals and education tools regarding hospital infection management are prepared. 5. Other medical institutions are able to access information regarding knowledge and experiences on hospital infection management. 6. GZCDC's capacity to detect major pathogens is improved. 7. GZCDC's capacity to surveillance and instruction on hospital infection control to relevant medical institutions is improved. 8. The partnership regarding hospital infection control (including prevention of serious infectious diseases) between FAH-GMC & GIRD and GZCDC is strengthened.

Ⅱ Result of the Evaluation

Summary of the Evaluation

Due to the ineffective surveillance operation in the initial stage associated with the failure of preventing the secondary infection within the hospitals, the SARS break in Guangzhou has resulted in the immense damage with which more than 5,000 people were infected throughout the country. Under these circumstances, the project aimed to improve the capacity of infection control in Guangzhou. To be more precise, it aimed to share know-how of the nosocomial infection control at the FAH-GMC & GIRD that have sufficient know-how and have played as the focal points in the field of infectious diseases therapy, and to improve the surveillance system, especially to detect the causal agent as well as the capacity of infection control in the GZCDC.

The project purposes are 1) FAH-GMC & GIRD, as model facilities, disseminate their experiences regarding hospital infection management to major medical institutions in Guangzhou, and 2) GZCDC plays a sufficient role in providing technical instruction regarding hospital infection control. FAH-GMC & GIRD, as model facilities, have now been able to perform the quality infection management and disseminate their experiences to more than 40 other medical institutions through the trainings and seminars, and multiple effects have been observed. While, GZCDC, which is responsible to supervise the nosocomial infection control for those hospitals, has periodically conducted the related researches and studies and published 45 research papers. It can be said that the GZCDC has been playing a leading role to technically guide medical institutions in the nosocomial infection control.

As for the achievement of overall goal "infection control measures including prevention of serious infectious diseases in Guangzhou are strengthened", it cannot be examined by the given statistical data because of its unavailability; however, it was confirmed that the infection prevention has been successfully managed at the onset of such incidents, by taking the prompt and adequate infection control measures both at the GZCDC and FAH-GMC & GIRD. Furthermore, some positive impacts have been observed. According to the research periodically conducted by FAH-GMC, the ratio of nosocomial infection patients out of all in-patients being hospitalized more than 48 hours and the ratio of nosocomial infection incidents out of all infection incidents of those in-patients have shown the decreasing trends.

As for the sustainability, there was no problem observed in the project in terms of related policy, institutional, technical and financial aspects of implementing agencies. For relevance, the project has been highly relevant with China's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost substantially exceeded the plan due to the modification of project plan.

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

1 Relevance

This project has been highly consistent with China's development policy, such as the strengthening of prevention of major diseases specified under the11th Five-Year Plan for Health(2006-2010), and development needs to strengthen measures against nosocomial infection in Guangzhou, as well as Japan's ODA policy, at the time of planning and project completion. Therefore, relevance of this project is high.

2 Effectiveness / Impact

As for the one of the Project Purposes, “FAH-GMC & GIRD, as model facilities, disseminate their experiences regarding hospital infection management to major medical institutions in Guangzhou”, FAH-GMC & GIRD, as model facilities, have been able to continuously perform the quality infection management. They have disseminated their knowledge and skills, through the training courses and seminars on the standardized infection control, antimicrobial technique and infection with a drug-resistant organism, etc. The number of those received the trainings has reached to 40 medical institutions and 884 medical professionals. The number of hospitals which has participated in the training session of severe infection control has also reached to 31.

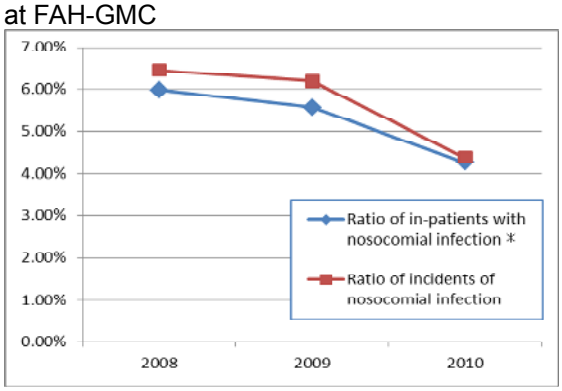
While, as for the other purpose, “GZCDC plays a sufficient role in providing technical instruction regarding hospital infection control”, it was confirmed that the GZCDC has effectively managed the infection control by periodically conducting the researches and surveys on the nosocomial infections, such as the surveillance on the disinfection effects, influenza prevention, and prevention of intestinal and respiratory infection, etc. On top of these, the GZCDC has actively deployed various efforts to conduct the researches and to share the information through the publication of papers in the field of infection control. The number of research papers prepared by the laboratory technicians has reached to 45 after the end of the project. While the quality and quantity of the surveillance on the disinfection effects conducted by the hospitals on the city level has been greatly improved, the further efforts should be made to improve the surveillance implementation system of those local CDCs.

As for the achievement of overall goal, it was not possible to examine by the given statistical data “the number of death caused by the nosocomial infection”, because such data that covers solely for Guangzhou was not available. Therefore, it was examined through setting the proxy indicators. According to the Trends of legal communicable diseases (2008-2011) in Guangzhou, the number of incidents of major serious infectious diseases, which the project focused on such as influenza and pulmonary tuberculosis, has been showing the decreasing trend and being under the control. It was also confirmed that the infection prevention has been successfully managed at the onset of such incidents, by taking the prompt and adequate infection control measures both at the GZCDC and FAH-GMC.

Since 2008, the FAH-GMC has annually conducted the studies on the nosocomial infection according to its draft diagnostic guideline, developed by the Chinese Ministry of Health. The studies revealed that the ratio of patients with nosocomial infection out of total in-patients being hospitalized more than 48 hours (namely, ratio of in-patients with nosocomial infection) decreased from 5.98% (2008) to 4.27% (2010) and the ratio of nosocomial infection incidents out of total infection incidents (namely, the ratio of incidents of nosocomial infection) decreased from 6.44% (2008) to 4.38% (2010). Aside from this, the FAH-GMC has been growing to become a model case in hospital infection control in the aspect of both software and hardware. It has set up the ward floor with the negative pressure ventilator that has not been available in other hospitals throughout the country. Such ward floor has made it possible to switch over its usage in the event of emergency from the usual condition. Consequently, the FAH-GMC has often received the visitors and delegation members from all over the nation and share their knowledge, skill and experiences. As for the impacts on the policy level, it was identified that the GZCDC reviewed and studied the collected specimens and that was reflected on the revised guideline of “draft technical guideline of surveillance on disinfection in quantity and quality” published by the Guangzhou district.

Therefore, it is confirmed that the infection control in Guangzhou has been effectively strengthened and the effectiveness /impact of the project is high.

Ratio of infected patients and infected incidents at FAH-GMC



Source：FAH-GMC

Educational poster to promote hygienic behavior on hands and fingers at FAH-GMC

Safety cabinet installed to the infection control laboratory at FAH-GMC

＊ratio of in-patients with nosocomial infection＝the number in-patient with nosocomial infection / the number of in-patients being hospitalized more than 48 hours

ratio of incidents of nosocomial infection＝the number of incidents with nosocomial infection / the number of in-patients being hospitalized more than 48hours

Difference between the number of in-patients with nosocomial infection and the number of incidents of nosocomial infection are explained that the former is based on the number of in-patients, and the latter on the number of incidents. In case that an in-patient has suffered from the respiratory infection as well as the urinary organs’ infection, the number in-patient with nosocomial infection is counted as one and the number of incidents as two.

3 Efficiency

Although the project period was within the plan (ratio against the plan: 100%), the project cost significantly exceeded the plan (ratio against the plan: 355%). This is due to that in order to secure the necessary inputs to produce the outputs, the project were reviewed one year and four months after the initiation of the project. Therefore, efficiency of the project is fair.

4 Sustainability

The project is consistent with the12th Five-Year Plan for Health (2011-2015) which continues focusing on the importance of infection control, as well as the national health plan for the year 2012, which put the priority to the capacity development of prevention control and emergency response for the serious diseases and sporadic public health issues. As for the institutional aspect, working environment can be said to be improved as FAH-GMC & GIRD and GZCDC have established the nosocomial infection unit, as well as person in charge of the project and participants of the training program by the project have got promoted. As for the technical aspects, there is no problem observed. Indicators, such as nosocomial infection rate, rate of omission reports, and detection rate and number of inspection cases have been improved, and the achievement of surveillance have also improved or well-maintained even after the end of project. Educational materials developed during the project period, such as “practical guideline of nosocomial infection control“ have been continuously used throughout the seminars and trainings in which more than 2,000 participated, even some minor revision is expected. As for the financial aspects, there is a sufficient fund to strengthen the activities. GZCDC has been allocated the sufficient amount of budget to carry out the annual training programs and FAH-GMC & GIRD has acquired the increasing amount of budget to carry out the research activities and involved in the researches and studies with the support of external sources.

Educational materials on the prescription of antibiotics for the clinician published by pharmaceutical department of FAH-GMC

As for the sustainability, there was no problem observed, in policy, institutional, technical and financial aspects of implementing agencies. Therefore, the sustainability of the project effect is high.

Ⅲ Recommendations & Lessons Learned

Recommendations for the Implementing Agency：

1. It is necessary to improve the capacity of local CDCs

With the technical assistance by the project, the capacity of GZCDC to conduct surveillance and the capacity of those medical institutes directly assisted by GZCDC have been improved in terms of the nosocomial infection control.

In order to further promote the ripple effects of the project, it is indispensable to systematically strengthen the capacity of local CDCs under the control of the GZCDC. Currently, the frequent transfer of personnel is one of the concerns for the surveillance operation of local CDCs. Another concern is related to the poor quality of surveillance result. Several cases have been identified in the surveillance conducted by the local CDCs that the collected specimens have not reached to the acceptable level stipulated by the standard items, such as the medical products of sterilization, disinfectant, current and maniphalanx of health professionals, etc. To improve quality of the surveillance operation is urgently needed. By utilizing the knowledge and skills acquired through the project, the GZCDC should provide those local CDCs with the trainings and instructions in order to expand the surveillance coverage as well as to upgrade its quality.

2. It is necessary to disseminate the acquired knowledge and skills of FAH-GMC to other medical institutions

Adequate measures against nosocomial infection is practically implemented in FAH-GMC, which is the only hospital having set up the ward floor with the negative pressure ventilator which makes it possible to cope with the emergencies. It has demonstrated as the model hospital of hospital infection control which has equipped with the hardware as well as software. One of the strong features is the trans departmental teamwork mechanism among wards, departments and different job categories. Under this mechanism, the ICT team, which was established by the project, takes the leading role and the nosocomial infection control department supervises the activities related to the infection control with keeping up the motivation of health professionals. These days, a number of guiding principles in terms of nosocomial infection control have been released by the Chinese Ministry of Health. It is necessary, therefore, to disseminate the good practices and advanced approaches by the FAH-GMC to other medical institutions and other administrative branch of government. Eventually, this will lead to the further improvement of standards and revision of indicators in the policy level.

Lessons learned for JICA：

After the end of the project, the grass-roots level technical cooperation project was started based in the same implementing agencies and based on the human network constructed through the project. This grass-roots project has greatly contributed to further improve the daily communication and exchange information regarding hospital infection, to expand the effects by the project, to maintain the sound relationship between the JICA office and implementing agencies and thus to facilitate the collaboration with other related projects as well. Impacts generated by the project and the sustainability can be further promoted by continuing some assistance with other JICA schemes, such as the grass-roots technical cooperation, and maintaining the cooperative relationship with implementing agencies.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Mongolia office:March, 2013

Country Name	Development of Human Capacity for Weather Forecasting and Data Analysis
Mongolia	

I. Project Outline

Project Cost	502 million yen	
Project Period	February, 2005 – October, 2008 Extension Phase: April, 2008 – October, 2008 (7 months)	
Implementing Agency	Ministry of Nature, Environment and Tourism, National Agency for Meteorology and Environment Monitoring (NAMEM)	
Cooperation Agency in Japan	Japan Meteorological Agency, Japan Weather Association	
Related Projects (if any)	Japanese Cooperation: ・The Project for Upgrading of Meteorological Observation and Forecasting System (Grant Aid, 1998)[1] ・The Project for Improvement of Meteorological Information Network (Grant Aid, 2003)[2] ・Dispatch of Expert（NAMEM Master Plan）	
Background	In Mongolia, agriculture and livestock farming are key industries which accounted for about 20% of GDP and 42% of working population of the country at the time of planning of the project. In this situation, country-wide drought and dzud (cold/snow conditions which cause damage to agriculture and livestock farming sector) have brought about serious damages to the society and economy of Mongolia. It is also pointed out that climate change due to global warming, and long-term changes of natural surroundings and terrestrial ecosystems with climate change such as desertification would exert negative impact on people's life of Mongolia by affecting agriculture, livestock farming, water resources, etc. NAMEM has been promoting systematic implementation of variety of activities based on the master plan developed with assistance of a JICA expert. Furthermore, the meteorological services in Mongolia have been well developed in terms of facilities and equipment due to the two Grant Aid assistances of the Government of Japan. As for technical aspects, however, the total technical level of NAMEM in terms of weather information has yet to be enhanced by introducing advanced technologies in the field of numerical weather prediction and weather forecasting using computer models. This situation has been impeding the development of the meteorological sector. With the background above, the Mongolian government requested technical assistance from the Japanese government.	
Inputs	Japanese Side	Mongolian Side
	1. Experts: 14 persons 2. Trainees Received: 11 persons 3. Equipment 218 million yen 4. Local Cost 23 million yen	1. Staff Allocated: 7 persons 2. Building and Facilities: project office and seminar room in NAMEM including electricity and water expenses 3. Local Cost 235.1 million tugrig
Project Objectives	Overall goal Weather information is utilized for natural disaster management and climate change impact assessment in Mongolia.	
	Project Purpose More reliable, useful and timely weather information including dust storms and yellow sand (DSS) data is provided through developing the capacity of the weather service staff and related environmental experts.	
	Output ・Operational numerical weather prediction using a regional model around Mongolia is implemented. ・Climate change projection due to global warming using a climate model is implemented. ・Short/middle/long-term weather forecasts based on NWP outputs are issued. ・Drought/dzud early warning system (DDEWS) is established. ・Knowledge and understandings about weather and climate information in central/local governments, related organizations/agencies and end-users including nomads and general public in Mongolia are deepened. ・Weather observation and forecasting systems especially weather radar and computer network are stably operated. ・Information on monitoring DSS is issued.	

[1] Meteorological prediction system such as radar system and automatic weather observation system was improved around Ulaanbaatar.

[2] Automated surface observing system, high-speed telecommunication system (satellite communication system), GTS message exchange system, data analysis and processing system, etc. were improved for NAMEM headquarters and 21 observatories nationwide.

II. Result of the Evaluation

Summary of the Evaluation

For Mongolia that is dependent on agriculture and livestock farming, natural disasters such as drought and dzud have been one of the factors to cause serious damages to the society and economy. It was urgent, therefore, to introduce and utilize advanced technologies including numerical weather prediction and meteorological analysis in order to provide more accurate weather service.

This project has achieved smooth provision of i) weather forecasts, ii) climate change predictions, iii) DDS monitoring data for the public, including nomads who utilize meteorological information, and iv) environmental information (e.g. bag pasture condition maps) for the project purpose of "providing reliable and useful weather information". It also has largely achieved establishment of relevant national programme for overall goal of "utilization of meteorological information for disaster management and climate change impact assessment". As for sustainability, there was no problem observed in the project due to continuous importance of the meteorological sector, stable conditions of the implementing agency, transferred technologies (skills and knowledge) that CPs have acquired and utilized, and securing of sufficient budget. For relevance, the project has been highly relevant with Mongolia's development policy, development needs, as well as Japan's ODA policy. For efficiency, although the project cost was significantly higher than the plan and the project period was slightly higher than the plan, it can be justified by Output7[3] that was added in March 2005.

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

1 Relevance

This project has been highly relevant with Mongolia's development policy "provision of reliable and useful weather information" as set in "Development Programme of NAMEM on Meteorological and Environment Sector by 2015", development needs "mitigation of recently increasing natural disasters (e.g. drought, flood, damage by snow)", as well as Japan's ODA policy "JICA Country Assistance Programme", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of "provision of reliable and useful weather information" as well as overall goal of "preparation and utilization of meteorological information for disaster management and climate change impact assessment". After the project, information on meteorological issues, climate change, drought and dzud prepared/revised by NAMEM has been widely and timely open and shared by Mongolian citizens and also the number of access to NAMEM's website has been increasing. Regarding overall goal, National Programme for Climate Change and other policies/programmes related to disaster prevention have been developed based on weather and climate information provided by NAMEM. Therefore, effectiveness/impact of this project is high.

Achievements of Project Purpose and Overall Goal

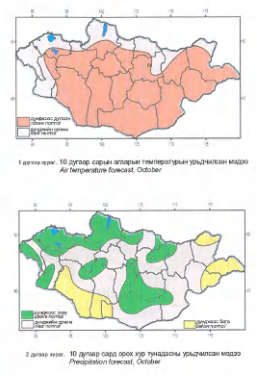
Outcome	Indicators (plan)	Achievement
Overall Goal (utilization of meteorological information for disaster management and climate change impact assessment)	Work plan of natural disaster management and climate change impact assessment of Mongolia are established and implemented.	(at the time of ex-post evaluation) ● Evaluation report on climate change was created in 2009. ● "National Programme for Climate Change" was approved by the national assembly in January 2011. ● Plans based on the above programme were presented at the cabinet meeting in November 2011,and steadily implemented. ● "National Policy for Disaster Prevention" and "National Programme for Capacity Enhancement of Natural Disaster Prevention" were discussed and approved at the national assembly in May 2011.
Project Purpose (Provision of reliable and useful weather information)	Weather forecasts using regional numerical weather prediction and new weather analysis methods are provided twice a day for short-term/once a day for middle-term/once a month for long-term	(at the time of project completion) Short-term and mid-term weather predictions were provided as planned. Long-term predictions were provided twice a year(1).
	Information on climate change projection over Mongolia is published once before the end of the project period.	The projection was published at the end of October, 2008.
	Information on drought/dzud is provided annually (at the end of August).	Bag-scale pasture condition maps were provided through bulletin published by agricultural meteorology section, newspapers and so forth. (August every year since 2007)

3 Regarding the technical cooperation project "Establishment of Yellow Sand Monitoring Network" that was requested by the Government of Mongolia, it was decided to be implemented as part of this project since the implementation agency for both projects is NAMEM.

		Information on vegetation index distribution and biomass distribution, which were developed based on satellite pictures, were provided through website.
	DSS monitoring data is provided for 300 days in a year.	The number of days in which monitoring was not conducted between January and July 2008 was 9 days. Data acquisition rate: 95%
	Satisfaction level of users (public administrators, nomads, etc.) on the available weather forecast information is improved.	It was confirmed that satisfaction level of participants (public administrators, nomads, etc.) of workshops was improved.

Source: Project Completion Report, Interview with CPs
(Note1) Long-term predictions are provided once a month and seasonal predictions are provided twice a year at the time of ex-post evaluation.

Seasonal Prediction Booklet (2011)



Receiving Facility of DDS Monitoring Data

DDS Monitoring Equipment

3 Efficiency

The inputs were appropriate for producing the outputs of the project, and although the project cost was significantly higher than the plan (ratio against the plan: 181%) and the project period was slightly higher than the plan (ratio against the plan: 118%), those ratios are justified by the activities added after the project commencement (200 million, out of additional 225 million yen, was spent for DDS monitoring equipment for Output7. Taking the input of concerned experts into consideration, the increased amount was entirely used for Output7.) Therefore, efficiency of this project is high.

4 Sustainability

This project is consistent with “Comprehensive National Strategy Development (2008-2021) based on the Millennium Development Goal” in an ongoing manner as described “strengthening of adaptability towards climate change” as a prioritized issue. The implementing agency, NAMEM, has newly established numerical prediction and climate change research section and employed additional experts. It also has secured budget enough to purchase new equipment and to plan and conduct training courses. Most of CPs who received technology transfer still remain at NAMEM and play a leading role, thus it can be seen that the effectiveness of the project has been steadily continuing and developing. This project has no problem in policy background, structural, technical, and financial aspects of the implementing agency; therefore, sustainability of this project is high.

Supercomputer purchased by NAMEM

III. Recommendations & Lessons Learned

Recommendations for Implementing agency
NAMEM has been steadily managing and renewing its machinery/equipment and developing human resources. It is desirable that NAMEM continues to secure sufficient budget and to make an effort to enhance the positive effects generated by the project.

Lessons learned for JICA
This project was a technical cooperation by using facilities and equipment provided by Grant Aid Assistance, which resulted in enhanced effect of the entire project by Japan. Technology, which is immediately introduced in the routine works of an implementing agency, contributes to the remaining of personnel and technological sustainability after the project completion.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Bangladesh office: March, 2013

Country Name	Project for Sustainable Mitigation of Arsenic Contamination under the Integrated Local Government System
Bangladesh	

I. Project Outline

Project Cost	398 million yen	
Project Period	December, 2005 – December, 2008	
Implementing Agency	Local Government Division (LGD) of the Ministry of Local Government, Rural Development & Co-operatives (MLGRD&C)	
Cooperation Agency in Japan	Asia Arsenic Network (AAN)	
Related Projects	Japan's cooperation: ・ The study on the ground water development of deep aquifers for safe drinking water supply to arsenic affected areas in western Bangladesh (Development Study, 1999-2002) ・ Integrated Approach for Mitigation of the Arsenic Contamination of Drinking Water in Bangladesh (JICA Partnership Project with AAN, 2002-2004) ・ Dispatch of individual experts in arsenic mitigation to Local Government Division (2000-2002, 2004-2007, 2008) and Department of Public Health Engineering (2004-2006) Other donors' cooperation: ・ Japan Debt Cancellation Fund : The Project for rural water supply in south western part of Bangladesh (implemented by the Bangladesh government) ・ World Bank: Bangladesh Arsenic Mitigation Water Supply Project (1998-2005); Bangladesh Water Supply Program Project (2004-2009) ・ UNICEF: installation of alternative water sources in 3 districts including Jessore district (2002-); Sanitation, Hygiene Education and Water Supply in Bangladesh Project (SHEWA-B) (2007-2011)	
Background	Arsenic contamination of groundwater was a serious challenge to securing safe drinking water, especially in the rural areas of Bangladesh. About 20.2 million people in 270 out of 485 Upazilas were exposed to drinking arsenic contaminated water above 50 ppb. Asia Arsenic Network (AAN) carried out a project to mitigate arsenic contamination problem in Sharsha Upazila in Jessore District under a partnership program with JICA. Based on that experience, it was recognized that more peoples' awareness and coordinated support by local level public services were needed. Taking consideration of the severe condition of arsenic contamination and the high number of arsenicosis patients, Sharsha and Chowgacha Upazila were selected as target area, while UNICEF supported arsenic mitigation in two other Upazila in the district.	
Inputs	Japanese Side	Bangladesh Side
	1. Experts: 12 persons 2. Trainees Received: 2 persons 3. Equipment: 16 million yen 4. Local Cost: 136 million yen	1. Staff allocated: 58 persons 2. Local Cost: 150,000 taka 3. Project offices
Project Objectives	Overall goal (1) Health damages due to arsenic-contaminated drinking water are to be prevented/ improved in the Project Target Area. (2) Local Government Institutions (LGIs) capacity in implementing arsenic mitigation is strengthened in Jessore district. *Target area: Chowgacha Upazila and Sharsha Upazila of Jessore district.	
	Project Objective(s) Sustainable arsenic mitigation is carried out with villagers' initiatives supported by the government and LGIs.	
	Output(s) ・ Capacity of villagers in conducting arsenic mitigation measurement is improved. ・ Arsenic mitigation activities are coordinated by Arsenic Mitigation Committees. ・ Technical support related to installations, maintenance and operation of various alternative water devices are carried out by Department of Public Health Engineering (DPHE). ・ Health conditions of arsenicosis patients are managed by doctors and health workers. ・ Lessons learnt of the project are shared among stakeholders for contributing to accumulation of knowledge on effective arsenic mitigation.	

II. Result of the Evaluation

Summary of the Evaluation
In the target area of Sharsha and Chawgacha Upazilas of Jessore District, 22% tube wells (12,818 out of 56,645) were contaminated by arsenic and there were 587 arsenicosis patients around the time of the ex-ante evaluation of this project. Jessore district is a difficult area to supply safe water due to the low annual rainfall and often arsenic-contaminated deep tube wells.

The project has achieved access to safe water devices (SWDs) (safe deep tube wells, pond sand filters, improved dug wells and arsenic iron removal plants) and improved health care services for arsenicosis patients (through the application of the project-established system of discovering, confirming and following-up of arsenicosis patients) for the project purpose of carrying out sustainable arsenic mitigation with villagers' initiatives supported by the government and LGIs in Sharsha and Chawgacha Upazilas, and as a result slower increase of arsenicosis patients, as well as incorporation of the project activities in the concerned organizations' current arsenic mitigation programs, for the overall goals. As for sustainability, some problems have been observed in terms of implementing agency's financial aspects due to dependence on external assistance for large repairs of SWDs to some extent and lack of concrete information on funding for other arsenic mitigation activities.

For relevance, the project has been highly relevant with Bangladesh's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Bangladesh's development policy reflected in the National Policy for Arsenic Mitigation 2004 that promoted community's initiative supported by LGIs, technical departments and government, development needs for arsenic mitigation in Sharsha and Chowgacha Upazilas, as well as Japanese ODA Policy such as Country Assistance Program 2003 and JICA Country Assistance Program 2002, in which arsenic mitigation and providing safe drinking water was one of the priority areas. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has achieved the project purpose (sustainable arsenic mitigation in the target Upazilas) as well as the overall goal (preventing health damages due to arsenic in the target Upazilas and strengthening arsenic mitigation capacity of LGIs in Jessore District) through three components, water supply (installation of 151 safe water devices (SWDs)), health care, and coordination among government institutions and communities.

For the project purpose, the number of villagers who gained access to safe water reached 30,850 persons or 85% of the target by the time of the project completion. At the time of the ex-post evaluation, 128 out of 151 project-installed SWDs are still used and maintained by User Committees[1]. In addition, DPHE installed 840 more SWDs in the two target upazilas after the project completion.

A village women taking water from Arsenic Iron Removal Plant (AIRP) Fulshara Village, Chowgacha Upazila

In the health care component, the project established the referral system that includes discovering, confirming and following-up of arsenicosis patients. By the end of the project, 1,165 persons were registered as arsenicosis patients, and 64% of them visited Upazila Health Complexes (UHCs; medical institutions) more than three times and had been caring for their own health by recording their health condition in the health card. At the time of the ex-post evaluation, all of the identified arsenicosis patients (1,648 persons) received health cards, and UHCs continues awareness and patient searching activities besides the treatment.

Interviewing with medical officers at Sharsha Upazila Health Complex (UHC)

As for the coordination, mitigation planning and monitoring by Arsenic Mitigation Committees (AMCs) at each local government level (district – upazila – union) continued until the end of the follow-up and dissemination period[2] after the project completion (up to 2010), and were then taken over to Development Coordination Committees (DCCs).

For the overall goal, the increase in new arsenicosis patients has become slower as a result of the improved quality of water. According to UHCs of the target upazilas, the number of arsenic patients is not increasing in many unions people are now drinking arsenic free water from the safe water options including the SWDs instated by the projects.

Through such achievement, this project has established a model of collaboration among local community, LGIs and the central government agencies and the technical departments such as DPHE and Directorate General of Health Services (DGHS) for an effective and sustainable arsenic mitigation. The know-how from the project was widely disseminated through handbooks (nearly 800 copies have been distributed to the policy makers, NGOs and concerned personnel). Some of the project activities have been incorporated in on-going arsenic mitigation programs[3].

Therefore, effectiveness/impact of this project is high.

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[1] Out of the 151 SWDs developed by this project, 23 SWDs were abandoned because the water level went down or the arsenic contamination was too high to remove, and 21 SWDs are used only during the rainy season due to water shortage during dry season, which is common in Bangladesh. In some cases, emergency well were installed so people did not go back to the abandoned options.

[2] In the follow-up project, inactive SWDs were activated, arsenic test training given to Union Parishad (UP) staff and arsenic patient management training was given to UHC staff of the remaining 6 non-target Upazillas in Jessore district, 23 SWDs were newly installed in those 6 Upazillas with LGSP (Local Government Support Project) fund.

[3] For example, DPHE introduced the idea of feasibility survey to select suitable SWD and established a unit named Feasibility Study in its Head Quarter; the referral system developed by this project is utilized by DGHS; the Union-led arsenic test program (part of the referral system) was picked as a union's good practice and disseminated through Horizontal Learning Program supported by WSP-World Bank.

3 Efficiency

Although the inputs were appropriate for producing the outputs of the project, and the project period was as planned, the project cost slightly exceeded the plan (ratio against the plan: 102%) because of increasing the number of experts and trainees received. Therefore, efficiency of this project is fair.

4 Sustainability

The project has some problems in financial aspects of the implementing agency. Regarding water supply facilities, although there is no dedicated fund for maintenance of the SWDs, small maintenance cost is covered by User Committees[4] and big repairs are covered by DPHE depending on availability of external assistance. No recent information was available on the funding situation for other arsenic mitigation activities assisted by the project, including health care and coordination.

However, no problem has been observed in policy background and structural and technical aspects of the implementing agency. In the policy background, continuing policy support is given for local initiatives in arsenic mitigation. In the structural aspects, clear roles of each stakeholder, such as central government and different levels of local governments (in water supply, health care and coordination), as well as User Committees (in water supply), are defined. DCCs at respective level took over the functions of AMCs and fulfill their roles in planning and coordinating arsenic mitigation activities In the technical aspect, although many of the trained central and local government officers were transferred, the know-how is shared by means of the above-mentioned handbooks. Also, the field level staff shows their skills that are required (i.e., UC members and DPHE mechanics with skills of operation and maintenance of SWDs; health workers of UHC with skills in awareness and searching programs), and technical support from DPHE and AAN are available.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

The project has successfully developed a model of arsenic mitigation. The Government of Bangladesh may consider to replicate it in other arsenic contaminated areas. What made the project successful includes: The project conducted door to door awareness building campaign, ensured participation of the community in site selection, cost-sharing for installation of SWDs, and received strong support from both the LGIs and the central government administration.

Lessons learned for JICA

Awareness building and community participation is the key to any sustainable arsenic mitigation project/program as it was shown in the success of the installation and operation and maintenance of SWDs as well as use of the health care services. In this project, awareness building campaign was conducted through door to door visit, specially through courtyard meeting where female members of households could attend; besides, flipchart, rally, drama were organized to make people aware about arsenic contamination.

[4] Most User Committees collect money from users when required (e.g. repair), while some Committees collect money monthly and deposit it at bank for maintenance.

Country Name	Project for Strengthening Long Distance Education
Papua New Guinea	

I. Project Outline

Project Cost	538 million yen
Project Period	(Original) August, 2005 – March, 2008; (Extension) April, 2008 – November, 2008
Implementing Agency	Curriculum Development Division (CDD), Department of Education National Education Media Center (NEMC) Department of Education of East Sepik Province Department of Education of Autonomous Region of Bougainville
Cooperation Agency in Japan	IC NET Limited
Related Projects (if any)	Japan's cooperation ・ The Project for Development of the Facilities for Education Media Programmes (Grant Aid, 1999) ・ Distance Education by Live Broadcasting Project (Development Partnership, 2002-2004) ・ School Television Show Improvement Project (Follow-up Cooperation, 2009-2011) ・ Project for Enhancing Access and Capacity of EQUITV program (EQUITV Phase 2) (Technical Cooperation, 2012-2015) ・ Project for Facilitating and Improving Distance Education in Primary School of Western Highland Province, Milne Bay Province, New Ireland Province and Autonomous Region of Bougainville (Grant Assistance for Grassroots Human Security, 2005) ・ Long-term expert in production of TV programs (2001-2005); individual expert "Distance Education Advisor" (2008-2010); JOCV in audio visual education (2001-present)
Background	The Independent State of Papua New Guinea is mostly covered by the remote areas such as mountainous or isolated islands areas that are hard to access, and had a low level of basic education that were shown by such indicators as enrolment rate of 68% (2003) and adult literacy rate of 56.2% (2000). To improve the situation, the Department of Education had begun working on educational reforms in 1994, and implemented measures including the extension of primary education from 6 years to 8 years and the improvement of curriculum. The urgent need for improvement of teachers' capabilities increased with these measures, but teacher training had problems such as the limited capacity of training institutions and the difficult access of teachers in the remote areas to training. Therefore, the Department of Education aimed to strengthen the use of distance education primarily for controlling the quality of school teaching by the central government, and at the same time aiming for enhancing and strengthening knowledge and capacity of teachers who are involved in it. Japan constructed the National Education Media Center (NEMC) as Grant Aid assistance in 1999, and then implemented a pilot project of distant education as a Development Partnership Program to televise model lessons of the model school in the capital to 40 primary schools in 4 provinces. The government of Papua New Guinea highly appreciated the outcomes of this pilot project, namely, the improvement of students' attitudes and teachers' knowledge and teaching methods at the broadcast receiving school, and therefore requested to the Japanese government for assistance in the continuation of broadcasting of TV lessons using NEMC and in-service teacher training.
Inputs	Japanese Side: 1. Experts: 13 persons 2. Trainees Received: 5 persons 3. Equipment: 51 million yen 4. Local Cost: 142 million yen Papua New Guinea Side: 1. Staff allocated: 22 persons 2. Facilities and equipment of NEMC including project office, rooms for experts, rooms for model teachers and all others that are necessary for project implementation; studio at the model school for shooting of model lessons 3. Local Cost: 68 million yen
Project Objectives	Overall goal Quality of classroom teaching is improved in the primary schools of the project provinces through distance education utilizing TV program. Note: project (target) provinces: East Sepik Province, Autonomous Region of Bougainville and East New Britain Province. The beneficiary schools included (i) 67 "project schools" and (ii) many "awareness schools". (i) Project schools: 67 schools in Sepik and Bougainville that received the TV lesson receiving equipment and necessary training and monitoring from this project. (ii) Awareness schools: schools for which the project did not procure the receiving equipment but conducted awareness raising activities so that the schools or communities would purchase and install TV equipment on their own expenses. Project Objective(s)

	Quality of classroom teaching is improved in the project schools through the appropriate use/application/ introduction and regular delivery of distance education utilizing TV program.
	Output(s) ・ TV lessons of high quality for students are regularly broadcasted. ・ Teaching methods of teachers in charge of the TV lesson class in the project schools is improved ・ Environment for regularly receiving the TV lessons and teacher-training programs is enhanced ・ Feasibility of expanding distance education utilizing TV Program is examined

II. Result of the Evaluation

Summary of the Evaluation

In Papua New Guinea, the efforts to improve basic education by strengthening in-service teacher training were facing challenges due to insufficient capacity of training institutions, heavy burden of tuition and travel expenses on teachers in remote areas, and difficulties in adjusting their schedule for the training. Meanwhile, the need for in-service training became more urgent with the introduction of the new curriculum in 2005.

For the project purpose of improving quality of classroom teaching at the project schools through continuous use of TV lessons, it was observed that (i) the teachers' lesson practice was improved to a certain extent at the project schools, and (ii) students' academic abilities at the project schools was improved compared to those at non-project schools. Regarding the overall goal, 268 schools in the project provinces and 220 schools in other provinces introduced TV lessons by 2010, and many of them were reported to have improved the quality of classroom teaching. However, the level of achievement of the overall goal has remained partial: there observed challenges for continuous use of TV lessons due to breakdown of equipment and other factors; and not all schools in the project provinces have introduced TV lessons yet. As for sustainability, a path towards the institutionalization of the use of TV lessons is shown in the National Education Media Policy (NEMP), which came into effect after the completion of this project and expressly contains a policy to disseminate TV lessons nationwide. However, some problems have been observed in terms of the financial aspect, the technical aspect for repair of equipment, and the structural aspect for dissemination/expansion of TV lessons. The technical level for production of TV lesson programs has nevertheless been kept at a certain level through this project and the follow-up cooperation.

For relevance, the project has been highly relevant with Papua New Guinea's development policy, development needs as well as Japan's ODA policy. For efficiency, both the project cost and the project period exceeded the plan.

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

1 Relevance

This project has been highly relevant with Papua New Guniea's development policy ("Improving quality of primary education" and "Utilization of distance education" as set in the Medium-Term Development Plan and the National Plan for Education (both for 2005-2014)), development needs (continuing TV lessons and improving teaching methods using TV lessons), as well as Japan's ODA policy (improvement of quality of and access to math and science education at primary school as set in the Country Assistance Policy for Papua New Guinea), at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

It was observed that as a result of the implementation of this project, (i) the teachers' lesson practice was improved to a certain extent at the project schools and (ii) students' academic abilities at the project schools were improved compared to those at non-project schools (according to the achievement test scores in mathematics). By the time of the ex-post evaluation, however, some project schools stopped using TV lessons due to breakdown of equipment or other reasons (see "4 Sustainability), and there were opinions that some schools could not fully utilize TV lessons because they missed the broadcast or the broadcasting hours did not match the lesson schedule.

For the overall goal of improving the quality of classroom teaching in the project provinces through distance education utilizing TV program, 268 schools in the 3 project provinces and 220 schools in other provinces introduced TV lessons by 2010 (this project procured the equipment for 67 of them, and all the others installed the equipment on their own expenses), accounting for approx. 15% of the total 3,332 schools that had introduced the new curriculum. Accordingly, the number of teachers and students who used/received TV lessons in the 3 project provinces reached 1,605 teachers and 60,083 students, respectively (annual total in 2010; 6^{th}-8^{th} grades[1]). Regarding the improvement of classroom teaching, the ex-post evaluation team collected many opinions from the schools it visited that the quality of lessons has improved[2]. However, TV lessons have not been applied in all primary schools in the project provinces yet due to factors such as the delays in the provincial budget arrangement.

Therefore, its effectiveness/impact of this project is fair.

3 Efficiency

While the inputs were appropriate for producing the outputs of the project, both the project cost and the project period exceeded the plan (ratio against the plan: 140%, 119%) due to the increased work volume and tasks of the subject-specific experts to cope with the problems of insufficient knowledge of the counterpart personnel on the Papua New Guinea side. Therefore, efficiency of the project is fair.

[1] The 6^{th}-8^{th} grades in Papua New Guinea are equivalent to the 6^{th} grade of primary school and 1^{st} and 2^{nd} grades of middle school in Japan. This project produced TV lesson programs for the 7^{th} and 8^{th} grades, but at present the ones for the 6^{th} grades are produced and broadcasted as well.

[2] For example, many interviewees said that by watching model lessons on TV with students, teachers learned how model teachers taught and then applied it to their classroom teaching. Also, some schools said that the schools became popular for better quality of teaching than other schools due to the use of TV lessons, and that the students had deeper understanding of the lesson content and thus showed progress in the national exam scores.

4 Sustainability

A path towards the institutionalization of the use of TV lessons is shown in the National Education Media Policy (NEMP), which came into effect after the completion of this project and expressly contains a policy to disseminate TV lessons nationwide. To realize the policy, however, issues remain in the structural, financial and technical aspects.

First, the structure of the implementing agency remains the same since the project implementation period. However, at the central level, due to insufficient number of model teachers and related personnel, it is difficult for the production team to spare enough time for developing and updating model lessons. At the local level, monitoring is not fully conducted in some provinces due to a shortage of school inspectors.

Second, in the technical aspect, NEMC received technical transfer from the Japanese side and has continuously produced and delivered TV lesson programs since the project implementation period to present. The shortcomings that were observed at the time of project completion, namely, lack of subject-specific knowledge among model teachers (who appear on TV lesson programs) and the production staff, have been largely overcome through the follow-up cooperation. Currently, they are capable of studying and upgrading model lessons without external assistance, and therefore no problem is seen in the technical level for production of TV lessons. However, some problems are observed in schools' technical level for maintenance of TV and related equipment: while provincial maintenance committees can handle minor repair such as replacement of connectors and cables, major breakdown should be repaired by electric equipment stores. Some schools stopped using TV lessons because they could not afford the repair cost to pay such specialized stores.

Third, in the financial aspect, provincial governments provide each school with the school subsidy that is proportional to the number of students. This subsidy can be used for introduction and use of TV lessons, but the amount is not sufficient due to the budget shortfall at both central and local levels. Therefore, schools have made efforts to compensate for the lack of budget by collecting donations and school fees from the community and parents, which have been successful in ensuring certain budget. However, some schools visited by the ex-post evaluation team mentioned that after the start of the free education policy (elimination of tuition fees) in 2012, (i) it took time to respond to the change of the procedures to receive the subsidy and thus the receipt was delayed, and (ii) in some areas, parents became rather reluctant to share any cost related to schools. The tendency on these matters should be closely watched for a while.

Therefore, sustainability of the effects of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

Since the nationwide dissemination of TV lessons is already an explicit education policy in NEMP, it is important to make efforts to secure budget and personnel to realize the policy. With the start of the free education policy in 2012 it is expected that the financial burden of parents and communities will be lessened and therefore collection of donations will become easier. Therefore, it is important to further strengthen awareness raising activities for schools so that the parents and the communities would gain understanding of the usefulness of TV lessons.

There reported many cases where schools could not make full use of TV lessons because they missed the broadcast or the broadcasting hours did not match the lesson schedule; therefore many teachers demanded for DVDs of TV lessons. DVDs could enable teachers to prepare for classes, which could further improve the quality of the program. It is recommended to seek for means by which teachers could get DVDs at a more affordable cost.

A TV lesson

Internal Ex-Post Evaluation for Technical Cooperation Project

Conducted by Southeast Asia and Pacific Department: March, 2013

Country Name	Improvement on Solid Waste Management in the Republic of Palau
Republic of Palau	

Ⅰ Project Outline

Project Cost	292 million yen
Project Period	October 2005 - September 2008
Implementing Agency	Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce（BPW-MPIIC） Public Works Department-SWM Office, Koror State Government（PWD-SWM, KSG）
Cooperation Agency in Japan	Ministry of Environment
Related Projects	**Japanese Assistance:** 【Grant Assistance for Grassroots Projects】The Project for Koror State Government Compost Facility and Recycling Center (2007)、The Project for Koror State Government- Waste Segregation Station Phase 2 (2009)、The Project for Acquisition of Waste Management Vehicles for Koror State (2010) 【Senior Volunteer】Technical assistance of the waste management for the PDW-SWM（2004-2006）、Technical assistance of waste management for the BPW-MPIIC(2010-2012） 【Technical Cooperation Project】Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (J-PRISM)（2011-2015）: Capacity development for human resources and institutional settings in the field of waste management for 11 countries in the pacific region including the Republic of Palau
Background	The Republic of Palau, gained independence from the United State of America in October 1994, is consisted of more than 200 islands, big and small. Out of total population of approximately 20,000 people, 70% live in Koror Island (the State of Koror). These days, imports of daily commodities from developed countries such as the U.S. as well as some Asian countries have been drastically increased and thus the volume of solid wastes, generated through the consumption of those commodities, have been swelled and their waste compositions have been widely varied. Waste problems had been recognized as one of the serious concerns, but rarely any measures had been taken so far. Most of the wastes were disposed at the landfill site which had caused the environmentally and hygienically negative impacts on the surrounding areas, because most of landfills including the one in the state of Koror were open dumping system. Especially, the M-dock landfill, managed by the central government, located next to the residential areas of old capital city, had been swapped with complaints from neighboring residents and commercial facilities nearby due to the inappropriate waste management. Negative impacts had been also identified on the tourism, the one of the most attractive industries through which nation can earn its financial resources. Moreover, there had been another concern that the landfill capacity would become constraint in the near future. But it was very much a situation that the M-dock landfill should be used for the time being as there was no realistic ideas to construct the new landfill elsewhere. Under these circumstances, the government of the Republic of Palau requested Japan for the technical cooperation to improve the solid waste management focusing on the landfill management of M-Dock and to develop the National Solid Waste Management Plan.
Inputs	Japanese Side: 1. Experts: Short-term experts 48.93MM 2. Third-Country Training : 6 persons 3. Equipment: 9.0 million yen 4. Local Cost: 118.0 million yen Lao PDR Side: 1. Staff allocated: 9 persons 2. Local Cost: US$257,429 3. Land, facility: M-Dock landfill、Workshop, Meeting Offices for Japanese experts, etc.
Project Objective	Overall goal: Successful experiences of Koror State are maintained and disseminated to other states in the Republic of Palau. Project Purpose: Capacity of solid waste management of the national government and Koror State is enhanced. Outputs: 1. A national solid waste management plan to reduce the volume of waste disposal is developed. 2. Existing waste disposal practices are improved to reduce environmental and health risks in Koror State. 3. Personnel of the concerned agencies for Solid Waste Management in Palau are trained.

Ⅱ Result of the Evaluation

Summary of the Evaluation
In the Republic of Palau, the Bureau of Environmental Protection, and the Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce（BPW-MPIIC）are responsible for the waste management of the country. In practical levels, related departments in the field of waste management are in charge of the operation in each state. In case of the state of Koror, the Public Works Department-SWM Office, Koror State Government（PWD-SWM, KSG）is responsible for the

waste collection, while the Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce（BPW-MPIIC）is responsible for the landfill management.

For the project purpose, “capacity of solid waste management of the national government and Koror State is enhanced”, it was achieved at the project completion. However, the effects have not been maintained after the completion of the project.

According to the capacity assessment conducted at the ex-post evaluation, in terms of the society and institutional level, the revisions of relevant regulations which is imperative to implement the national solid waste management plan has not yet completed. As for the overall goal “Maintaining the successful experiences in the Koror State and dissemination to other states”, the National Solid Waste Management Plan was officially approved, and successful experiences have been further progressed in the Koror State. However, only few activities have been practiced so far in terms of the dissemination and expansion of those experiences to other states. In this sense, the overall goal has been partially achieved.

As for the sustainability, the implementing agency has no problems in policy and technical aspects. However, in terms of structural aspects, there are some problems, such that the concerned departments are partly understaffed, the construction of the new landfill has been suspended and the landfill management of M-dock has become partly inappropriate for its prolonged use. As for the financial aspects, as the collection of dumping fees has not been practiced yet, it is somewhat difficult to secure the necessary budget for its maintenance. If the revenue earned through the recycling program of KSG will be used for the ordinary budget from the next year, it is expected that financial aspects of the sustainability will be improved.

For relevance, the project has been highly relevant with Palau’s development policy, development needs and Japan’s ODA policy at the time of ex-ante evaluation and at the project completion. For efficiency, the project cost exceeded the plan.

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

1 Relevance

This project has been highly relevant with Palau’s development policy “to protect and improve the natural environment including the management of native environment and prevention of pollution” as set in the National Development Plan 2020, development needs that it is imperative to improve the waste management in order to promote the tourism industry and to protect the national living environment”, as well as Japan’s ODA policy toward Pacific Island countries endorsed at the Pacific Islands Leaders Meeting and the JICA’s country assistance policy to improve the solid waste management at the time of both ex-ante and project completion.

Therefore, relevance of this project is high.

2 Effectiveness / Impact

This project has for some extent achieved the project purpose and overall goal. For the project purpose, “capacity of solid waste management of the national government and Koror State is enhanced”, it was achieved at the project completion. According to the capacity assessment conducted at the project completion, what had been targeted in all three levels (i.e. individual, organizational and society and institution) were attained at their achievement level of 70%. Although there are some problems, such that the flies are circling around the nearby hotels and the bad odors somewhat remains, the condition of M-dock landfill has been improved in comparison with what was before the project. However, the effects of the project have not been properly maintained after the project completion. According to the ex-post evaluation study, the following problems have been identified in the capacity of society and institutional level. The revisions of relevant regulations which is imperative to implement the national solid waste management plan has not yet completed by the government. This is due to that it has taken a lot of time in the decision making process reflecting some ineffectiveness of organizational management. Furthermore, it was identified that the landfill manuals for the maintenance of M-dock landfill has not been timely revised and the maintenance operation has not been properly carried out.

As for the overall goal “maintaining the successful experiences in the Koror State and dissemination to other states”, the followings have been identified. Although the National Solid Waste Management Plan was officially approved, the affiliated regulations under the Plan have not yet been updated yet. Successful experiences have been further progressed in the Koror State, however, only few activities have been practiced so far in terms of the dissemination and expansion to other states. In this sense, the overall goal has been partially achieved. Therefore, its effectiveness/impact of this project is fair.

M-Dock Landfill before the cover soil

M-Dock Landfill in the cover soil operation

3 Efficiency

While inputs were appropriate for producing outputs of the project and project period was within the plan (ratio against the plan: 100%), project cost was higher than the plan (ratio against the plan: 154%). It is due to the volume increase of experts' assistance and third-country trainings for counterparts, but such increase of inputs were relevant to achieve outputs. Therefore, efficiency of the project is fair.

4 Sustainability

The Solid Waste Management Strategy has been considered as one of the key policies in the Republic of Palau under the National Development Plan and the National Solid Waste Management Plan. In this sense, this project is considered as a great importance in the Republic of Palau. The structure of implementing agency has been sustained in a similar manner with the implementation period, but there are some problems, such that the related departments are partly understaffed, the landfill management of M-dock has been partly inappropriate for its prolonged use[1], and the revision of manuals for M-dock landfill has not been done yet. The plan to construct the new landfill has been suspended due to the opposition of communities, and it has remained uncertain how the plan is to be progressed. Staff trained under the project have now been continuously working in both BPQ-MPIIC and PWD-SWM, KSG, and they can carry out the daily operation and maintenance of M-dock landfill, waste collection as well as the public education and enhancement of the community.

3R promotion posters developed by the project has been effectively utilized at schools.

As for the financial aspects, the budget allocation for the daily routine work has been properly secured, but the collection of dumping fees has not been practiced yet. Systematic and deliberate maintenance and management has not been practiced; thus staff should apply the budget for equipment maintenance in every time whenever any repair is needed and equipment may often remain unrepaired at the end of fiscal year. If the revenue earned through the recycling program of KSG will be used for the ordinary budget from the next year, it is expected that the financial aspects of the sustainability will be improved.

Therefore, sustainability of this project is fair.

Ⅲ Recommendations & Lessons Learned

Recommendations for the Implementing Agency：

It is recommended that the implementing agency should generate the financial resources for the construction of new landfill. At the same time, they should prepare the feasible management plan considering with its actual condition of finance.

Lessons learned for JICA：

In order to maintain the project effects, it is recommended that the discussion in practical term should be started during the project implementation period or at the time of terminal evaluation through ex-post evaluation, on how those activities can be continued, who can take a lead and how the financial resources can be obtained, etc. after project completion.

[1] In practical term, the cover soil operation had been temporarily suspended due to the breakdown of bulldozer and budget shortages, the pump at the leachate controlling facility had remained unrepaired. Attempts were made to carry out the renovation work, such as the extension of gas collection pipe, though.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Costa Rica office/ El Salvador office: March, 2013

Country Name	Project on Sustainable Fisheries Management for the Gulf of Nicoya
Costa Rica	

I. Project Outline

Project Cost	481 million yen	
Project Period	October, 2002 – September, 2007	
Implementing Agency	- National University (UNA: Universidad Nacional) - Costa Rican Fisheries and Aquaculture Institute (INCOPESCA: Instítuto Costarricense de Pesca y Acuicultura)	
Cooperation Agency in Japan	- Fishery Agency (Ministry of Agriculture, Forestry and Fisheries) - Ministry of Culture, Sports, Science and Technology	
Related Projects (if any)	Cooperation by Japan - None Cooperation by other donors - Aquafarming Development Phase I-III (Netherland, 1989-94, 1994-99 and 2001-03)	
Background	In Costa Rica, a development plan for the fishery sector was elaborated by the Ministry of Agriculture and Livestock under the National Human Development Plan (PNDH: Plan Nacional de Desarrollo Humano , 1998-2002) which aimed at poverty reduction, environment conservation and its appropriated utilization for sustainable development balanced with environment. The main actor of the Costa Rican fisheries sector was inshore and offshore fisheries by small and micro fishermen. The Gulf of Nicoya, located in the central area of the Pacific Coast, had been used to be the main fishing place of the country. However, there was a concern about depletion of fisheries resources in the Gulf of Nicoya since the catches had decreased due to the overexploitation and the deterioration of water quality. Therefore, the government of Costa Rica requested the government of Japan technical cooperation to transfer fishery production technology balanced with environment and effective utilization of water area for sustainable use of marine species in the Gulf of Nicoya.	
Inputs	Japanese Side	Costa Rican Side
	1. Experts 5 experts of 4 areas for long-term, 13 experts of 12 areas for short-term 2. Trainees Received: 17 trainees 3. Equipment: 49 million yen 4. Local Cost: 25 million yen	1. Counterpart: 32 persons 2. Land and facilities: Office for Japanese experts, laboratory, meeting room and class room 3. Local Cost: 0.636 million dollars by UNA, 0.747 million dollars by INCOPESCA
Project Objectives	Overall goal Sustainable management and utilization of fisheries resources are performed in and around the Gulf of Nicoya.	
	Project Purpose National University (UNA) and Costa Rican Fisheries and Aquaculture Institute (INCOPESCA) are able to recommend scientific basis for sustainable fisheries management.	
	Outputs ・Data required of resource management is collected. ・Databases are introduced to accumulate data and to increase convenience of access to necessary data. ・Utilizing databases, technologies of data processing for stock assessment are introduced. ・Institutional framework for recommending fishery-management policies is established. ・The condition and problems of quality control of marine products distribution from fishing boats to fish stores are clarified. ・C/Ps acquire the techniques of freshness tests and freshness maintenance. ・The improvement of monitoring system of toxic shellfish is advanced. ・C/Ps acquire the knowledge and technique for dissemination of quality control to stake-holders.	

II. Result of the Evaluation

Summary of the Evaluation
The catch at the Gulf of Nicoya significantly decreased to around 25% of the total catch in Costa Rica at the beginning of the project despite that it was used to be 60% of the total catch in 1960's. This was because of the increase in the number of fishermen who had switched from farmers due to the sluggish agriculture, the increased overexploitation by the growing pressure on the fisheries as well as the deterioration of water quality. Therefore, there was a concern about depletion of the fisheries resources in the Gulf of Nicoya. In addition, it was worried that the reduced catch of marine

products could lead decline in living standards of small and micro fishermen who were the majority of population in the surrounding area of the Gulf of Nicoya.

The Project has achieved elaboration of the proposal for sustainable fisheries resource management, strategy and plan for improvement of quality control of marine products, and recommendation for improvement of the monitoring system of toxic shellfish for the project purpose. While the recommendation for the monitoring of toxic shellfish for the small and micro fishermen and the Red Tide Committee has been implemented, UNA and INCOPESCA have been continuously implementing activities of monitoring and guidance on quality control of marine products for the fishermen. In terms of the overall goal, policies of resource management for some major fish species was elaborated though these policies have not been implemented yet and policies have not been elaborated for other fish species. On the other hand, it is expected that policies formulation and institutional building will be achieved since the government of Costa Rica initiated some actions such as the establishment of the Fisheries Resources and Marine Division in the Ministry of Environment and Energy which is responsible for resource conservation and management. As for sustainability, the activities initiated by the Project have been continued since the counterpart organizations have been keeping their organizational structure and staff even at the time of ex-post evaluation. On the other hand, necessity to improve the organizational issues of INCOPESCA has been pointed out. Therefore, some problems have been observed in terms of implementing agencies' structural aspect due to the malfunctioning INCOPESCA-UNA Committee of Stock Assessment which had aimed at collaboration between the two organizations for management of statistics, quality and resources.

For relevance, the Project has been highly relevant with Costa Rica's development policy, development needs as well as Japan's ODA policy. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Costa Rica's development policies of "promotion of sustainable fisheries and aquaculture" and "improvement of socio-economic conditions of fishermen" stated in the National Development Plan (1998-2002 and 2006-2010), development needs of "improvement of catch by recovery of fisheries resource", as well as the three priority areas in the Japan's ODA policy for Costa Rica, at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project achieved the project purpose of the proposal for sustainable fisheries resource management, the strategy and plan for improvement of quality control of marine products, the recommendation for monitoring system of toxic shellfish as well as development of database form for statistics and biological information by the time of project completion. In addition, the activities related to quality control of marine products and monitoring of toxic shellfish, such as continuation of the surveys and guidance for the fishermen, have been implemented after the project completion. On the other hand, in terms of the overall goal, the strategy and plan for resource management based on the policies for white shrimp and snapper elaborated by the Project were recommended. However, difficulty to balance conflicting interests of stakeholders such as fisheries operators impeded to execute sustainable fisheries resource management in the Gulf of Nicoya. Also, no policy on other fish species was formulated. The changes in catch at the Gulf of Nicoya could not be verified due to the limitation of statistics which are available only up to 2009.

Along with the efforts on the resource management, the Project addressed dissemination of quality and freshness control technologies for marine products landed at the Gulf of Nicoya in order to achieve sustainable use of fisheries resource. In addition to the implementation of monitoring of toxic shellfish, the Center of Marine Species (EBM: Estación de Biología Marina) of UNA has been continuously implementing activities, including projects and workshops for small and micro fishermen and fishery operators after the project completion. Also, UNA and INCOMESCA have been implementing technical support activities to promote aquaculture of clam and oyster in order to create new income source for small and micro fishermen and to stabilize their households.

Materials to explain quality and freshness control of marine products

Therefore, its effectiveness/impact of this project is fair.

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievements
Overall Goal Implementation of sustainable management and utilization of fisheries resources in and around the Gulf of Nicoya	Fisheries management policies of main species are formulated each year according to the appropriate stock assessment.	(At the time of ex-post evaluation in 2012) - The fisheries management policies on white shrimp and snapper (Lutjanus guttatus) were formulated. - Although no other policy was formulated for other fish species, surveys on fisheries resources were conducted.

Project Purpose Recommendations of scientific basis for sustainable fisheries management by UNA and INCOPESCA	The strategy and plan are recommended for sustainable resource management.	(At the time of project completion in 2007) - The proposal for sustainable resource management based on scientific data (Presentación de Conclusiones y Recomendaciones 2007) was elaborated and recommended to the Chief of INCOPESCA and the Council.
	The strategy and plan are recommended for improvement of quality control of marine products.	- The following plan and recommendation were elaborated by UNA and INCOPESCA and recommended to small and micro fishermen, fishery operators and the Red Tide Committee: ➢ The strategy and plan for improvement of quality control of marine products ➢ The recommendation for improvement of monitoring system of toxic shellfish

Source: Terminal Evaluation Report and interviews with the counterpart organizations.

3 Efficiency

The inputs were appropriate for producing the outputs of the project, and both the project cost and the project period were within the plan (ratio against the plan: 85%, 100%). Therefore, efficiency of this project is high.

4 Sustainability

In the National Development Plan (2010–2014), "improvement of socioeconomic conditions of fishermen" and "promotion of sustainable fisheries and aquaculture" are still prioritized. The knowledge and technologies introduced by the Project has been continuously disseminating for the post project period. The database for fisheries resource management established by the Project has been utilized though some data have not been updated. In addition, the equipment provided by the Project have been adequately maintained. In the financial aspect, it can be judged that UNA-EBM and INCOPESCA have been allocating necessary budgets for continuation, implementation and dissemination of the surveys for fisheries resource management and the activities for quality control of marine products due to the increase in the budget of UNA-EBM and no significant reduction in the budget of INCOPESCA.

Although activities such as monitoring has been continued, the remaining issues are the unimplemented proposal for sustainable fisheries resource management which has been recommended to the management board of INCOPESCA and no formulation of fisheries resource management policy for the major fish species. The necessity to review responsibilities and roles of INCOPESCA has been pointed out since one of the board members is from marine product processing firm and there have been difficulties to coordinate interests among stakeholders in order to make recommendations on fisheries resource management including catch limitations. On the other hand, in November 2012, the Water Resource and Marine Division, which is responsible for fresh water and marine resource conservation and management, was established at the Ministry of Environment and Energy and started their activities. It is planned that the Division will strengthen regulations on poaching and overexploitation. Therefore, it is expected to formulate policies and institutional building for regulations on coastal fisheries and marine resource conservation and management in Costa Rica and to promote sustainable fisheries resource management under the cooperation among the key stakeholders including INCOPESCA and universities.

In terms of the structural aspect, UNA enhanced its organizational arrangement because all the staff of EBM who were involved in the Project as counterpart, except the one who has been retired, have been continuing their work at EBM, and UNA increased the number of staff for EBM. There has been no major change in distribution of personnel of INCOPESCA; however, it needs to promote technical transfer from senior staff to junior staff for alternation of generation in future. In addition, the INCOPESCA-UNA Committee of Stock Assessment has not been functioning after the project completion though the Project established the committee and realized conclusion of the cooperation agreement between the two organizations in order to establish collaboration on statistics, quality control and resource management.

Therefore, due to some problems in policy and structural aspects of the implementing agencies, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is expected to establish collaboration at organizational level between UNA which is responsible for quality and freshness control and INCOPESCA which is responsible for resource management and fisheries statistics. Also, it is necessary to elaborate policies for sustainable fisheries resource management at national level through promotion of collaboration with relevant ministries and organization such as the Ministry of Environment and Energy. In addition, it is desirable to diversify income sources of fishermen, and providing adequate and continuous technical guidance for fishermen on quality and freshness control, resource management and introduction of aquaculture of new types of shellfish by both UNA and INCOPESCA.

Lessons learned for JICA

- Technical cooperation project aiming at policy implementation as overall goal requires to incorporate activities to establish organizational structure which can enable to make involvement of not only counterpart organizations but also other organizations concerning with relevant development issues from the planning of the project and the project implementation period in order to execute recommendations elaborated by the project and in order to ensure project effects and their sustainability.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by El Salvador office:March, 2013

Country Name	The project on Integrated Solid Waste Management for Municipalities in El Salvador
The Republic of El Salvador	

I. Project Outline

Project Cost	563 million yen	
Project Period	November, 2005 – March, 2009	
Implementing Agency	Ministry of Environment and Natural Resources (MARN), Ministry of Public Health and Social Assistance (MSPAS), Salvadorian Institute of Municipal Development (ISDEM)	
Cooperation Agency in Japan	Yachiyo Engineering Co., Ltd.	
Related Projects (if any)	・Waste Management Plan in San Salvador Metropolitan Area (Development Study, 1999-2000) ・Follow-up cooperation for The Project for Integrated Solid Waste Management for Municipalities (follow-up, February 2010) ・Environmental education (a total of nine JOCVs, implemented in the pilot project sites) ・Follow-up for trainees who have participated in the Training course “Waste Management Technologies and 3Rs for Central and South American Countries”(2011)	
Background	The waste amount was rapidly increasing in the Republic of El Salvador due mainly to concentration of population in urban areas, increased consumption and changes in economic structure. Inadequate solid waste management created problems associated with solid wastes and exerts adverse impacts not only on public health but also on the region’s ecology through contamination of solid and groundwater. In order to organize the system as well as to realize concrete policies for solid waste management, ”Environment Basic Law” and “Solid Wastes Policy” were established in 1998 and 2001 respectively and “National Strategic Program for Solid Wastes” was prepared by MARN. In addition, it was regulated by the President’s ordinance that inappropriate dumping sites be removed and that appropriate management be started by September 2007. However, many municipalities/local governments, which are the implementing agencies of the project, did not have enough capacity to take necessary measures and as a consequence, they were not able to solve the problems such as improper collection service of solid wastes and insanitary disposal sites. To improve this status, the government of El Salvador requested the government of Japan for a technical project that aims to solve the problems caused by insufficient capacity of above mentioned municipalities/local governments as well as to establish Integrated Solid Waste Management system within pilot municipalities as a model of proper waste disposal. In the process, it was expected that experiences gained by relevant personnel and agencies would be widely shared among local governments in El Salvador and the Central American countries.	
Inputs	Japanese Side	El Salvadorian Side
	1. Experts: 29 persons 2. Trainees Received: 9 persons 3. Equipments: 36 million yen 4. Local Cost: 116 million yen	1. Counterpart Personnel: 21 persons (MARN: 8, MSPAS: 3, ISDEM: 10) 2. Facilities including project office (e.g. facilities equipment at ISDEM) 3. Local Cost: salary for C/Ps training cost
Project Objectives	Overall goal Municipalities implement appropriate Integrated Solid Waste Management to improve environmental sanitary conditions in the Republic of El Salvador.	
	Project Objective The central government, MARN, MSPAS and ISDEM strengthens its capacity to apply ISWM to municipalities in the Republic of El Salvador, and decides to implement the strategic promotion plan of ISWM within its authority.	
	Outputs ・The central government in cooperation with ASINORLU (Inter-municipal Association of Northern Area of La Union Department) develops sustainable models in the nine municipalities of ASINORLU for ISWM. ・The central government develops ISWM guidelines, which are feasible and adapted to the present conditions of municipalities in the Republic of El Salvador. ・The counterpart personnel in the central government acquire the knowledge and experiences on ISWM. ・The counterpart personnel in the central government acquire the capacities to conduct the trainings and to raise awareness on ISWM of municipal administrations, other actors of municipalities, governmental organizations and NGOs in the Republic of El Salvador. ・The central government develops a draft strategic promotion plan of ISWM for approval to municipalities in the Republic of El Salvador.	

II. Result of the Evaluation

Summary of the Evaluation

In El Salvador, it was an urgent task to solve problems such as improper collection service of solid wastes and insanitary disposal sites. Therefore, it was essential to strengthen the following central governmental institutes, which are responsible for waste management; i) MARN that is currently in charge of waste administration, ii) MSPAS that took the same responsibility before 1998 and currently plays a leading role in guiding waste management and iii) ISDEM that support the enhancement of municipalities'/ local governments' management capacity.
The project has achieved i) establishment of ISWM model through the pilot project by ASINORLU, ii) preparation of guidelines, which were based on trainings, for local government, and iii) formulation and approval of "Strategic Promotion Plan of ISWM (draft)" by the central government for the project objective of "the central government, MARN, MSPAS and ISDEM strengthens its capacity to apply ISWM to municipalities in the Republic of El Salvador, and decides to implement the Strategic Promotion Plan of ISWM within its authority".
The project has also achieved construction of final dumping sites with ISWM by three local government associations (23 municipalities) for overall goal, which is promoted by MARN based on "National Plan for Solid Wastes Management Improvement"
As for sustainability, problem has been observed in terms of implementation agency's institutional aspect due to change in policy priorities at ISDEM. In 2010, the waste unit was established at MARN and has been promoting the introduction of ISWM in local governments nationwide according to national program, on the other hand, policy priorities changed at ISDEM and dissemination of knowledge and experiences by trained personnel through this project is limited.
For relevance, the project has been relevant with El Salvador's development policy, development needs, as well as Japan's ODA policy.
For efficiency, the project period was within the plan; however, the project cost significantly exceeded the plan.
In the light of above, this project is evaluated to be satisfactory.

1 Relevance

This project has been highly relevant with El Salvador's "National Plan 2004-2009", development needs "environmental protection" including waste management specified in "National Environment Strategy" established by MARN, "closure of open-dumping sites" and "utilization of dumping sites with sanitary landfills approved by MARN" stated in "Legislative Decree 237" established in September 2007, as well as Japan's ODA policy "JICA Country Assistance Programme", which includes "environmental hygienic improvement programme" in the prioritized assistance area "environmental protection for sustainable development" at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project objective of "capacity strengthening of relevant organizations to apply ISWM to local governments" and "decision of implementation of "the Strategic Promotion Plan of ISWM" as well as overall goal of "improvement of environmental sanitary conditions by implementing ISWM". Regarding the project objective, guidelines and training programs were developed for local governments to apply ISWM through the pilot project by ASINORLU (e.g. collection and transportation of wastes, construction and management of dumping sites, raising public awareness, etc.). In addition, Strategic Promotion Plan of ISWM, which proposes financial and technological policies and strengthening of the cooperation of central governments with local governments' associations, was established. The plan (draft) was approved by the ministers of MARN and MSPAS as well as by the director of ISDEM. Regarding overall goal, MARN established "Plans for Solid Waste Management Improvement" in May 2010 based on the above mentioned "Strategic Promotion Plan of ISWM (draft)". It plans i) construction of six final disposal sites with sanitary landfills, ii) extension of three existing disposal sites, and iii) construction of 42 compost production factories. Currently, three final disposal sites with sanitary landfills are under construction (Department of Santa Ana: association of 13 municipalities, Department of Ahuachapán: association of six municipalities, Department of Chalatenango: association of four municipalities). In the process of the construction, decision makers of relevant municipalities (mayors and municipal assemblies) and international organizations, such as IDB and KfW, are involved.
Besides these disposal sites, 11 compost production factories were constructed nationwide in 2011 and they are managed by associations consisting of multi- local governments. In addition, after the project completion, MARN has conducted trainings for local governments by utilizing follow-up activities for returned trainees and ASINORLU has carried out site tours for other municipalities and other countries. Thus, it can be said that the project continues to draw attention, which implies the high applicability of the project outcome to other similar projects. For instance, minister of Ministry of Environment of Honduras conducted a survey at the project site and the minister requested the government of Japan for triangular technical cooperation project including technology transfer by El Salvadorians capacitated by the project. It is observed that the positive effects of the project are extended to other Central American countries and further impacts are expected to be appeared.
With regard to environmental impacts, drainage from the final disposal sites repaired and managed by the pilot project is regularly tested and so far, no problem has been observed. Also, there is no complaint from local residents concerning collection and transportation of wastes. Therefore, effectiveness/impact of this project is high.


Dumping site managed by ASINORLU


Provided equipment in operation


Site visit (disposal pond of oozed water)

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was within the plan (ratio against the plan: 95%), the project cost was significantly higher than the plan (ratio against the plan: 160%) because of increase in the costs of dumping site construction and provided equipment. Therefore, efficiency of this project is fair.

4 Sustainability

The project has some problems in institutional aspect of the implementing agencies due to change in policy priorities at ISDEM. Although technical assistance regarding ISWM is provided whenever it is required, the dissemination of knowledge and experiences by trained personnel through this project is limited since more time has been spent on other prioritized areas.. On the other hand, MARN established the waste unit and its institution has been strengthened.

No problem has been observed in policy background, technical and financial aspects of the implementing agencies. Regarding policy aspect, “Five-year Development Plan 2010-2014” specifies and prioritizes ISWM. As for financial aspect, budget is secured and stable though it is not abundant. ASINORLU manages final disposal sites by collecting user fee and its financial balance has been in black for the last three years. In terms of technical aspect, there has been almost no personnel attrition at the central governmental organizations. Final disposal sites of ASINORLU are continued to be managed by using transferred technologies and skills acquired by follow-up, although current staff have some difficulties in dealing with new tasks (e.g. countermeasures to generation of methane gas caused by clogging up around venting gas pipes). Therefore sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

MARN established the waste unit and has strengthened the nationwide ISWM promotion system, while ISDEM lowered its priority for waste management at the time of the terminal evaluation and knowledge and experiences of C/Ps are not sufficiently utilized. In order to sufficiently utilize such knowledge and experiences, it is recommended to have discussions among relevant agencies so that MARN’s waste unit and counterpart agencies of this project further cooperate, for instance, by always involving ISDEM personnel into training courses conducted by MARN as a trainer and by continuing technical and financial support to ASINORLU as a model case.

Lessons learned for JICA

Follow-up, cooperation with JOCVs and follow-up activities for returned trainees contributed to the promotion of ISWM in the entire nation. It is a useful example of efficient dissemination by combining different schemes and can be applied to other similar projects.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Argentine office: March, 2013

Country Name	Regional Geologic Mapping with Advanced Satellite Sensors
Argentina	

I. Project Outline

Project Cost	584 million yen	
Project Period	March, 2001 – February, 2005	
Implementing Agency	- Argentine Geological Mining Service (SEGEMAR: Servicio Geologico Mineiro Argentina) - Institute of Geology and Mineral Resource (IGRM: Instituto Geologico y Recurso Mineral)	
Cooperation Agency in Japan	- Mineral and Natural Resource Division, Natural Resources and Fuel Department, the Agency for Natural Resources and Energy, the Ministry of Economy, Trade and Industry.	
Related Projects (if any)	Cooperation by Japan - Training on Remote Sensing using ASTER Data (Third Country Training, 2006-2011) Cooperation by other donor - None	
Background	Argentina has vast land with geological environment of prospects of mineral resources. However, the outputs of mineral resources of the country had been limited in contrast with the potentials due to less progress of exploration and development. Since one of the constraints was underdevelopment of basic geological information which are necessary for exploration and development of mineral resources, the necessity of efficient geological information development was pointed out. On the other hand, the geological surveys conducted by SEGEMAR under the Mining Agency could not make sufficient achievement due to the lack of human resource and equipment. Under those circumstances, the government of Argentina requested the government of Japan technical cooperation aiming at establishment streamlining process of geological mapping by introduction of technologies for advanced satellite data processing and analysis.	
Inputs	Japanese Side	Argentine Side
	1. Experts 5 experts of 4 areas for Long term, 24 experts of 7 areas for Short term 2. Trainees Received: 9 trainees 3. Equipments 130 million yen 4. Local Cost -	1. Counterpart: 52 persons 2. Land and facilities: Office spaces for the Project 3. Equipment: the existing equipment owned by IGRM 4. Local Cost: 0.32 million pesos
Project Objectives	Overall goal Geological maps and thematic maps for mineral exploration using advanced satellite data are prepared by IGRM.	
	Project Objectives IGRM is able to utilize advanced satellite data such as ASTER* and/or PALSAR** in order to make geological maps and thematic maps for mineral exploration. *ASTER: Advanced Spaceborne Thermal Emission and Reflection Radiometer. The sensor for mineral exploration jointly developed by the National Aeronautic and Space Administration (NASA) of USA and the Ministry of Economy, Trade and Industry (METI) of Japan. **PALSAR: Phased Array type L-band Aperture Rader. The microwave sensor using more advanced observation technologies such as multi polarized mode for resource exploration, environmental monitoring on earth and monitoring of natural disasters.	
	Outputs ・System for utilizing satellite data is established. ・Equipment and advanced satellite data are managed and maintained properly. ・IGRM geologists have enough technology to utilize advanced satellite data such as ASTER and/or PALSAR on geological and thematic mapping for mineral exploration. ・Usefulness of the remote sensing data is understood by the persons concerned and users through seminars and workshops.	

II. Result of the Evaluation

Summary of the Evaluation
The government of Argentina has been implementing “the National Program for Geological and Thematic Mapping” since 1993. In 1994, the Department of Remote Sensing and Geological Information System was established in order to utilize satellite image analysis (remote sensing) for efficient mapping works. However, it was needed to introduce advanced satellite data processing and analysis technology and necessary equipment and software since the lack of human resource and equipment were constraints.

The Project has achieved development of geological and thematic maps for mineral exploration using the ASTER data and improvement of efficiency and accuracy of mapping for the project purpose of utilization of advanced satellite data for geological and thematic mapping by IGRM. Also, it has achieved development of geological and thematic maps for mineral exploration and thematic maps for environment prevention and disaster management for 16 provinces for the overall goal. Furthermore, there are spillover effects, such as technical transfer to third country researchers through the third county training courses. As for sustainability, there was no problem observed in the project due to the sustaining importance and needs of geological and thematic mapping in the national policy, the maintained personnel and their technical capacity and the ensured budget for the mapping after the completion of the Project.

For relevance, the Project has been highly relevant with Argentina's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost exceeded the plan.

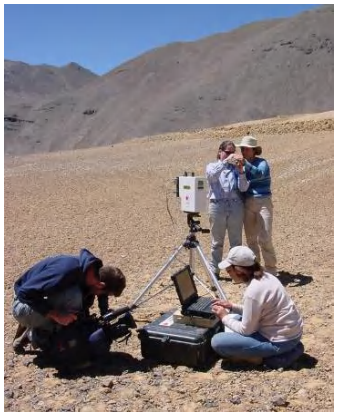
In the light of above, this project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with Argentina's development policy of "promotion of mining and improvement of investment environment for the mining sector" by the amendment of the Mining Law and the establishment of the Federal Council of Mining (Consejo Federal de Minería), development needs of "geological and thematic mapping for mineral exploration and thematic mapping for disaster control", as well as Japan's ODA policy for Argentina to address "improvement of social gaps", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of utilization of advanced satellite data for geological and thematic mapping for mineral exploration. At the time of the terminal evaluation in 2004, data of ASTER utilized for development of maps. In terms of geological map, 5 sheets were completed and 3 were in process against the target of 8 sheets. In terms of metallogenic maps, 1 sheet was completed and 1 was in process against the target of 2 sheets. The utilization of ASTER and PALSAR data improved quality of geological information as well as efficiency of geological mapping. Also, the overall goal has been achieved. The regions covered by geological maps have been expanded with development of various geological maps, topographic maps, image maps, and mosaic maps for 16 provinces, including Misiones and Buenos Aires. Also, the geological hazard maps were prepared for the provinces, including Entre Rios, Buenos Aires, Rio Negro, Neuquén and Chubu. In addition, more detailed rock distribution maps were developed.



Geological survey using the equipment provided by the Project

More than 10 provinces with prospects of mineral resources have needs for geological and thematic mapping using the ASTER data. The ASTER data have been utilized for activities such as ASTER image processing, field works, GPS measurement, and radiative measurement. In addition, the technical transfer to researchers from other South American countries has been promoted by the third country trainings supported by JICA. Also, the project for researchers of Cuba and Ecuador has been implemented under the international cooperation program organized by the Ministry of Foreign Affairs of Argentina. Besides that, more than 30 seminars were held for presenting research products by the researchers of SEGEMAR/IGRM. There is no negative impact on natural environment and no resettlement and land acquisition.

Therefore, its effectiveness/impact of this project is high.

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Geological and thematic mapping for mineral exploration by IGRM	The area covered by the geological maps and thematic maps is expanded.	(At the time of ex-post evaluation in 2012) - Geological and thematic maps developed: ➢ Geological map of 1:250,000: 11 sheets for 6 provinces including Misiones ➢ Geological map of 1:100,000: 20 sheets of 8 provinces, including San Juan ➢ Topographic map of 1:100,000: 15 sheets ➢ ASTER map of 1:50,000: 2 sheets ➢ ASTER image map of 100,000: 16 sheets ➢ ASTER image map of 250,000: 2 sheets ➢ ASTER mosaic map of 50,000: 1 sheet
	The types of the thematic map increase.	- Geological hazard map of 1:100,000: Entre Rios, Buenos Aires, Rio Negro, Neuquén and Chubu.
Project Purpose Utilization of advanced satellite data for geological and thematic mapping for mineral exploration	8 sheets of 1:100,000 geological maps and 2 sheets of metallogenic maps are made using ASTER and/or PALSAR data	(At the time of project completion in 2004) - Geological map: 5 sheets completed, 3 sheets in process - Metallogenic map: 1 sheet completed, 1 sheet in process

	Quality of geological maps and thematic maps are improved by using ASTER and/or PALSAR data.	- Accuracy of geological maps was improved. Since the ASTER data is more accurate the LANDSAT data, geological information which has been unknown can be obtained through detailed geological mapping.
	Efficiency of geological mapping and thematic mapping are increased y using ASTER and/or PALSAR data.	- Utilization of DEM is effective to establish a streamlined process of geological mapping as well as selection of sample collection sites.

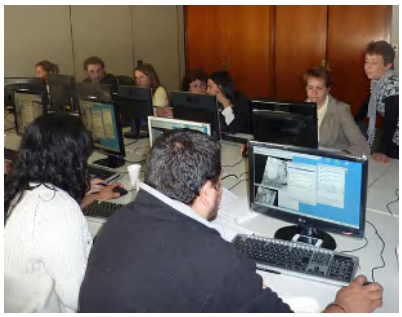
Source: Terminal Evaluation Report and interviews with the counterpart agencies.

3 Efficiency

While the inputs were appropriate for producing the outputs of the Project, and the project period within the plan (ratio against the plan: 100%), the project cost was higher than the plan (ratio against the plan: 142%) because the cost purchasing ASTER images, which were necessary for geological mapping, increased to obtain more number of ASTER images than the plan in order to cover more target regions than the plan. Therefore, efficiency of this project is fair.

4 Sustainability

In Argentina, the needs for geological and thematic mapping using the ASTER data due to the prioritized policy to promote mining for economic development as well as environmental conservation and disaster control. SEGEMAR/IGRM is operated by 17 staff working for the sections, including the Remote Sensing Center and the Digital Mapping and GIS Center. Except for a decrease in the number of personnel by 1 person from the project period, the assignment of personnel has been mostly maintained and is expected to have two more additional staff. The most of researchers, who were trained by the Project, were considered as competent to handle their works by themselves even during the project period. In addition, since they have been engaged in technical transfer to the researchers in other South American countries through the training programs, including the third country training project , it can be judged that they keeps high ability and skills. Although the budget data for geological and thematic mapping by SEGEMAR/IGRM were not obtained, it can be considered that there is no financial problem due to the continuous activities financed by their own financial source after the completion of the Project. Therefore, due to no problem in policy background, structural, technical and financial aspects of the implementing agencies, sustainability of the project effect is high.



Third Country Training

III. Recommendations & Lessons Learned

Lessons learned for JICA

- Since the counterpart agency of the Project is highly competent in Central and South America, they implemented the project of “Training on Remote Sensing using ASTER data” for the 5 year period from 2006 to 2011 and proactively engaged transferred technology in that area. Besides the third country training program by JICA, they also have been engaged in technical transfer to Cuba and Ecuador through the framework of international cooperation by the Ministry of Foreign Affairs of Argentina. Therefore, technical transfer to counterpart organization with high level of capability can be effective for technical transfer to the third countries and further spillover effects.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Argentine office: March, 2013

Country Name	The Natural Environment Conservation Project in the Iguazu Area
Argentina	

I. Project Outline

Project Cost	273 million yen	
Project Period	April, 2004 – March, 2007	
Implementing Agency	- Ministry of Ecology, Renewable Natural Resources and Tourism (MERNRyT: Ministerio de Ecología Recursos Naturales Renovables y Turismo) - National Parks Agency (APN: Administración de Parques Nacionales) - Municipal Government of Andresito (Municipalidad de Comandante Andresito)	
Cooperation Agency in Japan	- Ministry of Environment, Japan Wildlife Research Center	
Related Projects (if any)	<u>Cooperation by Japan</u> - Project of Conservation in the Green Corridor at Iguazu Region (Technical Cooperation, March 2008 – March 2011) - Training course for Central and South American Region: Planning and Management of Eco-tourism in Tropical and Subtropical Area (Training in Japan, 2011) <u>Cooperation by other donors</u> - Proyecto Araucaria XXI Bosque Atlántico (The Spanish Agency for International Development Cooperation (Biodiversity Foundation), November 2006 – December 2012), including financial aid by the Embassy of New Zealand	
Background	Argentina is a country with rich biodiversity and has been making proactive efforts to conserve the biodiversity. The environmental policies of the country are based on the General Environmental Policy. The principles announced in November, 2011 addressed compatible conservation of biodiversity and natural resources and improvement of quality of life for the present and future generations by rational and sustainable use of biodiversity and natural resources. In Argentina, many activities for conservation of biodiversity and natural resources have been implemented in not only “the national conservation areas” which are managed by APN, the central government agency, but also “the provincial conservation areas” which are managed by the provincial governments. The Iguazu National Park, the target area of this Project, constitutes a part of Parana forest where a variety of animals and plants live. Also, the surrounding areas of the national park have valuable natural environment as “buffer zones”. However, the natural environment in the areas of the national park and the buffer zones had been rapidly deteriorated due to the migrations and illegal economic activities within the national park and the overuse of land including expansion of farm lands in the buffer zones, where APN cannot cover. Therefore, the provincial government of Misiones elaborated “the Green Corridor Plan” which connects national parks, provincial parks and other state conservation areas by natural environment. Under this situation, the government of Argentina requested the government of Japan cooperation to prepare and implement a conservation area management plan which enables improved quality of life and conservation of natural resource and biodiversity by cooperation and collaboration among the central government, the state government and the local people.	
Inputs	Japanese Side	Argentine Side
	1. Experts: 29 short term experts 2. Trainees Received: 8 trainees 3. Equipment: 13.4 million yen 4. Local Cost: 54.5 million yen	1. Counterpart: 51 persons 2. Land and facilities: Project office in Andresito and a land for Jacuí Office of the Iguazu National Park
Project Objectives	Overall goal To improve the management and the utilization of Iguazu National Park and the public sanctuary, and to strengthen the conservation of the natural environment in the Green Corridor.	
	Project Purpose To develop officers’ capacity for management of the natural environment of the National Park Agency (APN) and state government (MERNRyT) and Andresito city in the project area*. *The project area: the public sanctuary in the north of the Green Corridor and its buffer zones.	
	Outputs ・To share and utilize information and data on the natural environment among the relevant organizations in proper forms for utilization for natural environment management. ・To upgrade the capability of the C/Ps in promoting the dissemination and educational activities on natural environment protection targeting local citizens in the project area and tourists. ・To accumulate the knowledge and experience of sustainable natural resource utilization through the implementation of a pilot program and transfer them to local community.	

II. Result of the Evaluation

Summary of the Evaluation

The target area of the project, the Iguazu National Park and its surrounding areas, is covered by Parana forest, one of the most valuable ecosystems in the world. The area is designated as a world natural heritage and one of the major tourist sites in Argentina. However, since expansion of farm lands, inappropriate use of natural resources and insufficient management system for the conservation areas have been decreasing the rich biodiversity in the areas, the improvement of management system for the Iguazu National Park and the state conservation areas and, in particular, enhancement of natural environment conservation management system in the Green Corridor were critical and urgent issues.

The project has achieved the purpose to improve natural environment management capacity of officers working for APN, MERENRyT and Andresito City in the target area. As for the overall goal, the project enhanced natural environment conservation in the target area by joint efforts of the three counterpart organization to manage the national park and the state conservation areas, and by the introduction of "the Green Corridor" concept. As for sustainability, some problems have been observed in terms of implementing agencies' structural and technical aspects though no problem was observed in political and financial aspects.

For relevance, the project has been highly relevant with Argentina's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Argentina's development policy "the General Environmental Policy" which addresses compatibility of conservation of biodiversity and natural resources with improvement of quality of life for the future and the current generations by the rational and sustainable use of natural resources, development needs of "control and manage of illegal coursing and logging", as well as Japan's ODA policy for Argentina, at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project achieved the project purpose of "improvement of capacity for natural environment conservation of staff of APN, MERNRyT and Andresito City. It was judged, based on 6 indicator items*, that staff of each C/P organization have attained the sufficient level to implement the natural environment management by themselves without support. The overall goal of "enhancement of natural environment conservation in the Green Corridor by improved management and utilization of the Iguazu National Park and the state conservation areas" has been achieved due to the continuation of eco-tourism activities based on the Ecolodge developed as a pilot activity of the project, sustainable production activities in the buffer zones, and implementation of environment education and dissemination activities by the joint efforts of APN, MERNRyT and Andresito City.

Besides that, the regional development and promotion office of APN was established as a result of the project. The regional office of APN has been promoting community based activities, including Caure-i, a cooperative aiming at cultivation, processing and sales of organic cassava and Canure-I Creativo, a women's group to implement trainings on handicraft production and sales as well as awareness campaign on gender. The environment education targeting the local people and schools was implemented by the collaboration with the Spanish Agency for International Development Cooperation just before the end of the project. Such collaboration contributed to continuation and promotion of the activities initiated by the project. In addition, APN has been implementing various activities for capacity development for natural environment conservation of related organizations not only in Argentina but also outside of the country by dissemination of the method and the strategy for natural environment conservation, including participation of the coordinator of the APN regional office as a member of advisory committee of the Iguazu National Park of Brazil (Parque Nacional Iguazú do Brasil). Furthermore, a project to connect the Iguazu National Park and Brazil by the Green Corridor is planned by the joint coordination of APN, MERNRyT and Andresito City.

Therefore, the effectiveness/impact of this project is high.

Achievement of the project Purpose and the Overall Goal

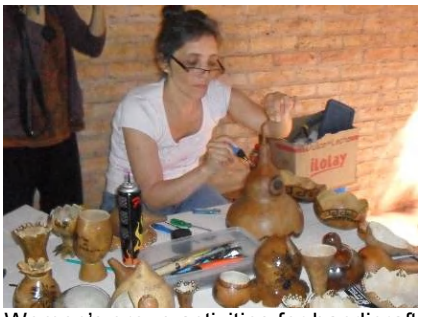
Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Enhancement of natural environment conservation in the Green Corridor by improved management and utilization of the Iguazu National Park and the state conservation areas	Coverage and connectivity of the forest surface are maintained in the project area five years after the termination of the project.	(At the time of ex-post evaluation in 2012) - The coverage of forest in the project area has been maintained. - It is planned that a project connecting the Iguazu National Park and Brazil by the Green Corridor will start in 2012 under the collaboration of APN, MERNRyT and Andresito city.
	The number of eco-tourism activities, which utilize natural resource in sustainable ways and put little impact on its environment, are increased five years after the termination of the project.	- The eco-tourism activities based on the Ecolodge has been continuing. Three more companies which were established after the project completion, have been trying to attract tourists. - The regional development project in the Iguazu National Park has been promoting practices of sustainable development activities, such as sustainable cultivation of

		cassava in the buffer zones and production of handicrafts made from calabash.
	Survey for collecting information and its updating are undertaken about natural environment in the target area.	- Implementation of the natural environment survey in the Uruguay State Park (2009)
	Activities such as awareness-raising, environment education, and eco-tourism are carried out based on the results of the survey for conserving natural environment.	- Implementation of environment education and dissemination activities in Andresito City based on the survey results as above under the collaboration of APN, MERNRyT and Andresito City.
Project Purpose Improvement of capacity for natural environment management of officers of APN, MERNRyT and Andresito City in the target area.	At least 2 C/Ps have become capable of carrying out the tasks related to each of 6 items necessary for natural environment management*	(At the time of project completion in 2007) - All the C/P members attained the level to implement necessary activities of the 6 items without support.
	Capacity of the management of the natural environment of APN personnel.	- Attained the level to implement necessary activities of the 6 items.
	Capacity of the management of the natural environment of the MERNRyT personnel	- Attained the level to implement necessary activities of the 6 items.
	Capacity of the management of the natural environment of the Andresito city officers.	- Attained the level to implement necessary activities of the 6 items.

Source: Terminal Evaluation Report and interviews with the counterpart organizations.
Note 1: *6 items are as follows: 1) Capacity to gather, organize and present information and data; 2) Capacity for measuring the coordination with the involved institutions; 3) Capacity for developing and improving dissemination and environmental education programs; 4) Capacity for developing and improving dissemination and environmental education materials; 5) Capacity to execute the dissemination and environmental education programs; 6) Capacity for the sustainable use of natural resources.

Environment Education Activities


Ecolodge


Women's group activities for handicraft making

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was as planned (ratio against the plan: 100%), the project cost was slightly higher than the plan (ratio against the plan: 109%) due to the increase of trainees received in Japan and the increase in the local cost. Therefore, efficiency of this project is fair.

4 Sustainability

The activities initiated by the project have been recognized to be important since the legislative regulations on land use in the project area have been strengthened by the enactment of the "National Law of Minimum Standards for the Environmental Protection of Native Forests". There has been no significant change in each counterpart organization. However, staff allocation has not been sufficient though APN assigned 2 personnel for the regional development and promotion office, and MERNRyT newly established the Land Use and Planning Division. In terms of environment education, the sufficient number of staff has not been assigned despite the joint collaboration among APN, MERNRyT and Andresito City. While MERNRyT is responsible for management of the Ecolodge and assigns the chief of the lodge and park rangers, the pilot activities of eco-tourism based on the Ecolodge have been implemented by the joint coordination committee, which is organized on ad hoc basis by the three counterpart organizations to develop an annual activity plan, the chief engineer, the chief of Ecolodge, and Selva Adentro Limitada (cooperative). The pilot activities have been improved through quarterly issue of E-letter and trainings for the cooperative members. Although each counterpart organization has been making efforts to improve their skills in order to continue their activities, the unified system for dissemination of necessary skills and knowledge has not been established. All the counterpart organizations have been ensuring necessary

budgets for continuation of the activities despite that the concrete amount of their budgets are not verified.

Therefore, due to some problems in, structural, and technical aspects of the counterpart agencies, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- Among the three organizations acting in the project area, MERNRyT needs to assign more park rangers in the project area in order to manage and control of the buffer zones located in the northern area of the Green Corridor, which is targeted by the overall goal of the project. In addition, it is recommended that MERNRyT shall reconsider their budget allocation because of the insufficient equipment for the daily conservation activities, such as GPS, binocular telescope, and radio. In addition, it is necessary to surely implement the planned project to connect between the Iguazu National Park and Brazil.

Lessons learned for JICA:

- Before starting the project, the central, state and municipal government had different activities at each administrative level due to no common understanding on conservation of natural environment and biodiversity. Through the project, the three administrative organizations, APN controlling national parks, MERNRyT controlling the state conservation areas and municipal government managing the lands except the national and the state conservation areas, recognized the necessity to jointly implement activities for the conservation areas. Such common recognition facilitated communication among the administrative organization at different level and smoothly implemented human resource development at each organization. As a result, the collaboration among the central, state and municipal governments was realized. The collaboration enhanced capacity of each organization, improved the decision making system and enabled implementation of joint activities. In the case that the project requires collaboration of various organizations, it is expected that the opportunities to share information among the relevant organizations during the project, such as the joint coordination committee or other meetings led by JICA can create foundation of continuous collaboration even after the project completion. The key points of the project are maintenance of common direction among the three counterpart organizations through continuous implementation of the joint activities as planned and collaboration with the Spanish Agency for International Development Cooperation just before the completion of the project.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Bolivia office: March, 2013

Country Name	Strengthening Regional Health Network of Santa Cruz Department of the Republic of Bolivia
Bolivia	

I. Project Outline

Project Cost	647 million yen	
Project Period	November, 2001 – October, 2006	
Implementing Agency	Ministry of Health and Sports, Prefectural Health Office in Santa Cruz (SEDES), Municipality of Santa Cruz, Municipality of Warnes, Municipality of Okinawa, Municipality of Saavedra, Municipality of Minero, Municipality of Fernandez Alonzo, Municipality of San Pedro	
Cooperation Agency in Japan	International Medical Center of Japan (IMCJ)	
Related Projects (if any)	・ Santa Cruz General Hospital Project (Technical Cooperation, 1987-1992) ・ Project on system for Medical Service provision in Santa Cruz (Technical Cooperation, 1994-1999) ・ Project for improvement of health service delivery at community level (FORSA Phase 2) (Technical Cooperation, 2007-2012) ・ Santa Cruz General Hospital (Grant Aid, 1983-1985)	
Background	In Santa Cruz, where the rapid population growth was an issue, the restructuring of the health care system under decentralization was regarded as a means of enhancing people's access to health services. Santa Cruz prefecture had achievements of Santa Cruz General Hospital Project (now the Hospital is called Japanese Hospital) and a few other health sector projects with assistance from Japan. This project was planned to build upon such achievements and experience to strengthen the regional health care system centering on primary health care.	
Inputs	Japanese Side	Bolivia Side
	1. Experts: 9 for Long term, 19 for Short term 2. Trainees Received: 27 persons trained in Japan 3. Equipment: 140 million yen 4. Local Cost: 51 million yen	1. CP assigned: 11 persons 2. Project Office 3. Local cost: 120 million yen (US$1 million)
Project Objectives	Overall goal Health status of the inhabitants in Santa Cruz is improved.	
	Project Objective Health system is strengthened so that population in the pilot area can count on the provision of adequate health service.	
	Output(s) ・ Output1: Local residents utilize the preventive, curative and educational services at the primary health care facilities (Health Center (HC) or Centro de Salud (CS)) ・ Output2: Supporting mechanism of Health Network in health services functions adequately. ・ Output3: Management capacity at each decision making level is sufficiently improved.	

II. Result of the Evaluation

Summary of the Evaluation
In Santa Cruz, which had recent sharp rise in population, majority of migrated population to this area was in poverty and suffered from difficult access to primary health care services including adequate maternal and child health care services. This project has partially achieved the improvement in the use of health care services, shown as the increasing number of consultations for outpatients and prenatal checkups, percentage of hospital delivery in pilot sites, in the four pilot areas (Health Networks)[1] for the project purpose of strengthening health system in the pilot areas. As for sustainability, some problems have been observed in terms of institutional, technical and financial aspects due to frequent staff turnover and insufficient budget allocation to continuously practice the strengthened health care system. For relevance, the project has been relevant with Bolivia's development policy, development needs, as well as Japan's ODA policy. For efficiency, the judgment on the project cost was not possible due to unavailability of the data on the planned amount. In the light of above, this project is evaluated to be partially satisfactory.

1 Relevance
This project has been highly relevant with Bolivia's development policy (improving access to primary health care services as set in Five Year Action Plan for National Development (1997-2002) and development plans Sanchez (2002-) and Morales (2006-) administrations), development needs (strengthening medical and health care system to provide adequate health services for increasing population in Santa Cruz), as well as Japan's ODA policy "Country Assistance Plan for Bolivia", at the

[1] Santa Cruz Prefecture has 15 Health Networks. The coverage of the pilot Networks varies from 8-16 Health Centers (HCs)/ Network and 40 thousand – 253 thousand population/ Network (at the time of ex-ante evaluation in 2001).

time of ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has somewhat achieved the project purpose (improvement of health care system) and overall goal (improvement of health status) through development of the FORSA model, a participatory health care model consisting of planning, implementing and monitoring of health care activities participated by people (mainly targeted to mothers and under-five children) and health service providers, and application of the model in various activities such as formation of committees and hygiene and nutrition improvement in the four Health Networks designated as the pilot sites. Also, the systems of medical equipment maintenance and emergency medical services were strengthened through capacity development of Municipal Institute for Medical Equipment in Santa Cruz (IME) and Integrated System for Medical Service Emergency (SISME), respectively.

For the purpose of the project, most of the indicators, including the number of consultations for outpatients and percentage of hospital delivery, have achieved at certain level of improvement in the four Health Networks. Some indicators show decline from the time of project completion to the time of ex-post evaluation in some Networks, possibly because it was difficult to keep the achievement level due to insufficient human and financial resources (see "4 Sustainability").

Overall goal could not be judged due to difficulty in obtaining reliable data as of ex-post evaluation. However, it is expected that the better primary health care services that people of Santa Cruz now receive will lead to their better health status. Besides, ripple benefits were observed in that FORSA model is used in more than half of health networks in the prefecture of Santa Cruz. Therefore, effectiveness/impact of this project is fair.

Achievement of Project Purpose indicators (excerpt)

Project Purpose: Health system is strengthened so that population in the pilot area can count on the provision of adequate health service.		
Indicators (target value)	Actual at project completion (2006)	Actual at ex-post evaluation (2011)
1. Total number of consultations for outpatients in pilot site increases by 10% compared with actual value in 2003. (under 5 years old)	Network North: +16% Network South: +39% Network Bishop Santistevan: +26% Network Warnes: +59%	Network North: +3% Network South: +20% Network Bishop Santistevan: +12% Network Warnes: +134%
2. Percentage of hospital delivery in pilot site increases by 10% compared with actual value in 2003.	Network North: +5% Network South: +5% Network Bisshop Santistevan: +37% Network Warnes: +24%	Network North: +5% Network South: +25% Network Bishop Santistevan: +68% Network Warnes: +76%
3. Number of Health Center (HC) where each sub-system functions reaches 80% of all targeted 16 HCs.	Service Quality Committee: 16 HCs (100%) FORSA model: 12HCs (75%) Medical equipment maintenance: 16HCs (100%) Referral and Counter Referral: 16 HCs (100%) Health administration and management system: 16HCs (100%)	Service Quality Committee: 11 HCs (69%) FORSA model: 10 HCs (63%) Medical equipment maintenance: 12 HCs (75%) Referral and Counter Referral: 14 HCs (88%) Health administration and management system: 11HCs (69%)

Source: Health Information System in SEDES Santa Cruz.

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was as planned, it was impossible to judge on the project cost due to unavailability of the data on the planned amount. Therefore, efficiency of this project is fair.

4 Sustainability

The project has some problems at the time of ex-post evaluation in institutional, technical and financial aspects of the implementing agencies due to insufficient continuity of some activities after the completion of the project (see Indicator 3 above) because of insufficient institutionalization of committee activities in some municipalities in rural areas, frequent turnover of staff who received technical transfer from this project, and insufficient allocation of specific budget to committee activities by most of municipalities as the committees allocate most of the available budget to training. However, SEDES has taken initiatives to further promote institutional set-ups for FORSA-applying health promotion and capacity development in collaboration with FORSA Phase 2. Also, no problem has been observed in policy background as the FORSA model is consistent with the SAFCI (Salud Familiar Comunitaria Intercultural=Family Health in intercultural community) policy 2008, which requires more participation of communities for health management. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1) To institutionalize formed committees by the Government Health Office in Santa Cruz (SEDES), and implement continuous capacity development based on the plans agreed by the committees.
2) To further promote FORSA model of health promotion that is being implemented in more than half of health networks in the prefecture of Santa Cruz
3) To systematize the experiences of the project in order to raise the institutionalization and wider application of FORSA model under the Ministry of Health and Sports. To formalize its use as a tool of SAFCI could be one way for the systematization.

Good practice: establishment of a municipal focal point for technology transfer on maintenance of Medical Equipment to rural area.
As a result of the technical transfer by this project, IME (Municipal Institute for Medical Equipment of Santa Cruz) became able to provide equipment maintenance services to health facilities in municipality of Santa Cruz. Also, it transfers knowledge by provision of training for technicians and operators in other rural municipalities. As this type of organization that can comprehensively address rural health institutions' technical needs on medical equipment maintenance is unique nationwide, the Ministry of Health and Sports is developing similar institutes in other departments from this experience (three municipalities).

Training on emergency care for children (Japanese Hospital)

Activities on health care in rural community

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Brazil office: March, 2013

Country Name	The Healthy Municipality Project in the Northeast Brazil
Brazil	

I. Project Outline

Project Cost	397 million yen	
Project Period	December, 2003 – November, 2008	
Implementing Agency	- Center of Public Health and Social Development, Federal University of Pernambuco (NUSP/UFPE: Núcleo de Saúde Pública e Desenvoliviment Social, Universidade Federal de Pernambuco) - Pernambuco State Agency of Planning and Research, Secretariat of Planning and Management of the State of Pernambuco (ACF/SEPLAN: Agência Estadual de Planejamento e Pesquisas de Pernambuco, Secretaria de Planejamento e Gestão do Estado de Pernambuco)	
Cooperation Agency in Japan	- International Medical Center of Japan (Other Cooperation Agencies) - Juntendo University - Shirai City (Chiba Prefecture, Japan)	
Related Projects (if any)	<u>Cooperation by Japan</u> - Public Health Development Project for Northeast Brazil (Technical Cooperation Project, 1995-2000) - Promotion of Health, Local Development and Healthy Municipalities (Third Country Training, 2009-2013) <u>Cooperation by other donor</u> - <u>Support for Public Policies for Sustainable Development (United Nations Development Program)</u>	
Background	The State of Pernambuco, which is located in the northeastern part of Brazil, was one of the poorest states in the country. The health status of population in Pernambuco had been adversely affecting by low income level, low education level, bad sanitary conditions, malnutrition and so on. The poor health conditions have been contributing to vicious cycle of poverty because unhealthiness had brought about less motivation to have education and labor productivity. The government of Brazil requested the government of Japan a technical cooperation project based on the experiences and knowhow acquired through the Public Health Development Project of Northeast Brazil supported by JICA as well as mutual relationships among local government organizations in order to establish necessary system for improvement of the human development index of Pernambuco.	
Inputs	Japanese Side	Brazilian Side
	1. Experts 7 experts of 6 areas for Long term, 26 experts of 12 areas for Short term 2. Trainees Received: 30 trainees 3. Equipments 41.8 million yen 4. Local Cost 56.8million yen	1. Counterpart: 30 persons 2. Land and facilities: Office spaces for Japanese experts 3. Local Cost: 4.9 million reais
Project Objectives	Overall goal The quality of life of the people in the municipalities where “Health Municipality” activities[1] were conducted are improved in the State of Pernambuco.	
	Project Objectives “Healthy Municipality” system by partnership between the local people and local government is established through democratic organization of people and inter-sector cooperation in the State of Pernambuco.	
	Outputs ・The capacity of UFPE and the State of Pernambuco to support “Healthy Municipalities” in joint effort is improved. ・The capacity of local people and local government in the pilot municipalities[2] to work together for implementation of “Healthy Municipalities” is improved. ・The concept and methodology of “Healthy Municipalities” is spread to regions other than the pilot municipalities.	

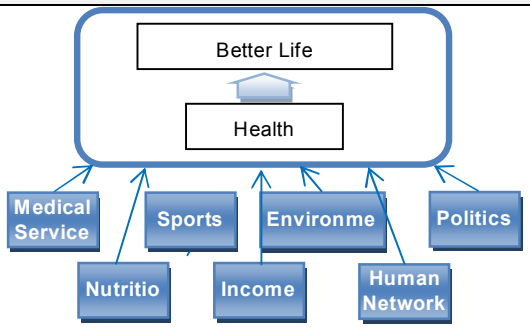
[1] The participatory and collaborative approach under the partnership between local government and people to address various factors affecting health conditions in order to build local society where the people live healthy and peacefully.

[2] The pilot municipalities: Barra de Guaviraba, Bonito, Camocim de São Felix, Sairé, and São Joaquim do Monte.

II. Result of the Evaluation

Summary of the Evaluation

While reduction of social gaps had been one of priority issues in Brazil, it was also the most priority issue for the State of Pernambuco in the northeast region of Brazil, where was the poorest region in the country. In Pernambuco, infectious diseases had been widely spread due to the underdevelopment of sanitations, luck of public awareness for sanitation, and malnutrition caused by economic poverty. Therefore, the health and social development indicators of Pernambuco were lower than the national average of the country.



Factors affecting health

The Project has achieved preparations and approvals of plan for "Healthy Municipality" and implementations of public projects in the pilot municipalities under the partnership between the local people and governments for the project purpose of establishment of "Healthy Municipality" system and continuous "Healthy Municipality" activities in not only the pilot municipalities but also other 23 municipalities under the "Healthy Municipality Network" for the overall goal of improving quality of life of the local people in the municipality implementing "Healthy Municipality" activities. As for sustainability, there was no problem observed in the project due to the importance of "Healthy Municipality" activities in the state policy, the maintaining implementation arrangements and technical capacity and the ensured budget for the activities.

For relevance, the Project has been highly relevant with Brazil's development policy, development needs as well as Japan's ODA policy. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Brazil's development policy, the Multi-year Plan (PPA: Plano Prurianual) targeting "poverty eradication, quality improvement of human life, opportunity creation for socially exclusives and support for organization and mobilization of society", development needs of "improvement of health and quality of life by participatory approach" referred by the state development plan of Pernambuco, as well as Japan's ODA policy for Brazil to address "improvement of social gaps", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of establishment of "Healthy Municipality" system[3] under the partnership between the local people and government in Pernambuco. Also, the overall goal has been achieved since the number of municipalities participating the "Healthy Municipality Network" in Pernambuco and implementing related activities increased from 7 at the time of project completion to 23 in 2012. According to the interviews with staff of the implementing agencies and the local government of the pilot municipalities for the Project, various community-based activities based on the "Healthy Municipality" approach have been implementing after the project. Those activities have been heightening public awareness about not only health and quality of life but also awareness about environmental conservation such as separation of disposals. In addition, the activities associated by women's groups for production and sales of handicrafts have been contributing to enhancement of income generation by women. Furthermore, the impact of the Project has been widely spreading. Dissemination of the health promotion method developed by the Project is under consideration since the results of the methods have been recognized by the federal government of Brazil while it has been already disseminated to outside of Brazil through the third country training program supported by JICA. Therefore, its effectiveness/impact of this project is high.

Manual for "Healthy Municipality" developed by NUSP and the state government of Pernambuco

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Improvement of quality of life of local people in municipalities where the "Healthy Municipality" activities have been implementing in Pernambuco	The number of municipalities implementing "Healthy Municipality" activities is increased in Pernambuco.	(At the time of ex-post evaluation in 2012) - The number of municipalities participating in the "Healthy Municipality" network increased from 7 in 2007 to 23 in 2012. - The examples of community-based activities for "Healthy Municipality": ecology walking, environmental education, cleanup activities, handicrafts production and sales, anti-domestic violence activities, and so on.

[3] The system at the state level is composed of the following three components: a) establishment of "Healthy Municipality" system at municipal level (refer to Note 4); b) institutional arrangement of UFPE and the state government of Pernambuco for supporting the "Healthy Municipality" activities in municipalities; c) establishment of the "Healthy Municipality" network for dissemination of activities in the state. The promoters (supervisor/facilitator/collaborator) play a role to promote activities in municipalities.

Project Purpose Establishment of "Healthy Municipality" system in Pernambuco	At least one public project is planned and implemented in each pilot municipality as a result of "Healthy Municipality" activities[4].	(At the time of project completion in 2007) - It was confirmed that all the pilot municipalities had public projects related to the "Healthy Municipality". - The three pilot municipalities of Bonito, Sairé and São Joaquim do Monte approved a plan for "Healthy Municipality".
	At least one "Healthy Municipality" activity is started in each municipality participating in the networking meetings besides the pilot municipalities.	- 7 municipalities besides the pilot municipalities participated in the "Healthy Municipality" network.
	The projects aiming at "Healthy Municipality" funded by the state government of Pernambuco, are implemented in the municipalities implementing "Healthy Municipality" activities.	- The municipality of Bonito prepared a comprehensive development plan (Plano Diretor) which was required for municipalities with population of over 20,000. Sairé, which was excluded for the requirement, also prepared the plan. - It was confirmed that the projects funded by the state government have been implemented in the pilot municipalities.

Source: Terminal Evaluation Report and interviews with the implementing agencies.

3 Efficiency

The inputs were appropriate for producing the outputs of the Project and both the project cost and the project period were within the plan (ratio against the plan: 73% and 100%, respectively). Therefore, efficiency of this project is high.

4 Sustainability

In Pernambuco, the "Healthy Municipality" activities have been continuously important since improvement of quality of life of the people has been one of priorities in the Multi-year Plan of the state of Pernambuco. At the same time, the implementing arrangements to support municipalities promoting "Healthy Municipality" activities, including collaboration and division of roles between the two key implementing agencies, NUSP and SEPLAN, have been maintaining in the same manner as during the project period. In particular, the system to sustain and extend the project effects has been ensured by "Healthy Municipality" promoters, who have been playing important role in promotion of "Healthy Municipality" activities. While it was planned to train 500 promoters at the time of terminal evaluation, 600 promoters had been trained by the time of ex-post evaluation. In fact, the number of municipalities implementing "Healthy Municipality" activities has been increasing since the project completion. Those municipalities proactively promote their plans and allocate budget and personnel for the activities by their initiatives. In terms of technical aspect, the staffs of NUSP and SEPLAN who are in charge of "Healthy Municipality" have sufficient expertise and experiences. Although the promoters have different years of experience in "Healthy Municipality" activities, they have trainings implemented by the state of Pernambuco for the activities. Although the budgets of NUSP and SEPLAN for "Healthy Municipality" activities have been decreasing in comparison with the budgets during the project period, their budgets have been mainly allocated to trainings and coordination of activities since the main responsibility of activities of "Healthy Municipality" was transferred from NUSP and SEPLAN to the municipalities. It is expected that the budget for trainings of the promoters will be allocated in 2012 despite of no training in 2012 due to the shortage of budget. In terms of EAPPPS, so-called as "Bambu-Space", some municipalities, which participated in the "Healthy Municipality" network after the project completion, newly established the spaces and utilized them actively whereas some of 5 Bamboo Spaces established by the Project have not been fully utilized. Therefore, due to no problem in policy background, structural, technical and financial aspects of the implementing agencies, sustainability of the project effect is high.

The staffs of NUSP and SEPLAN

The staffs of NUSP and municipality of Joaquim do Monte

Supervisor	Arranging overall activities of "Healthy Municipality" in municipality, in particular, coordinating with public policies
Facilitator	Being selected among the representatives of the local people. Facilitating workshops for the local people and promoting the activities.
Collaborator	Participating the workshops in municipality, promoting the activities as well as inviting the local peoples willing to participate in the activities.

Role of Promoter in Municipality

[4] The "Healthy Municipality" activities are composed of the following three components: a) joint activities of the local government and people for planning, implementation and evaluation based in the "Space for Coordination and Promotion of Health Public Policy" (EAPPPS: Espaço de Articulação e Promoção de Política Pública Saudáveis, so-called as "Bamboo Space (Espaço Bambu)").

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is necessary for NUSP and SEPLAN to organize and develop materials and manuals which have been complied in NUSP and SEPLAN in order to carry on the knowledge and activities in future even after retirements and reshuffles of the staffs of NUSP and SEPLAN though there is no problem in staff allocation in the two agencies.
- Since some Bamboo Spaces have not been fully utilized, each municipality implementing "Healthy Municipality" activities needs to review the role of Bamboo Space and redefine it as the open space for the local people. Also it is essential for the staffs of municipalities in charge of "Healthy Municipality" activities to encourage the local people utilize the space.
- Trainings for the "Healthy Municipality" promoters should be conducted on demand basis such as trainings for cultivating new promoters and retraining for the existing promoters but not necessarily be held annually.

Lessons learned for JICA

- The efforts of NUSP and SEPLAN to disseminate "Healthy Municipality" greatly contributed to the increase in the number of municipalities implementing "Healthy Municipality" activities for the last several years". The materials and manuals featuring the good practices implemented by the municipalities, which had been developed by NUSP and SEPLAN and disseminated to the promoters and the municipalities, have been positively affecting maintenance of their motivation and improvement of their skills. For the dissemination of "Healthy Municipality" activities, the state government has been making inputs of technical knowledge to the municipalities which are interested in "Healthy Municipality" and participate in the "Healthy Municipality" network, in addition to the promotion activities for them through the workshops. These activities enabled the sustainable promotion and dissemination of "Healthy Municipality" activities. Also, visualizing results of activities have been attracting attentions of municipalities not participating in the network and contributing to the expansion of the network. In addition, since the specializing teams established within NUSP and SEPLAN for "Healthy Municipality" enabled continuous activities as a team, the team members of NUSP and SEPLAN, who had been leading the project activities, were able to stably continue their responsibilities. It is highly possible to disseminate nationwide the promotion of participation by municipalities in development through visualization of effects by activities as a good practice since the Ministry of Health of the federal government of Brazil has been conducting an impact survey to review the effects of "Healthy Municipality" activities in Pernambuco.
- The effects of the Project have been also disseminated to other countries besides Brazil through the JICA's third country training scheme. The third country training program provided opportunities not only for the trainees from other countries but also the municipalities in Pernambuco receiving the trainees due to the discussion sessions during the training program. Some municipalities learned from the good practices of development in the countries where the trainees came from. Also, internal positive impacts, such as enhancement of collaboration between municipalities and the state government of Pernambuco through the arrangements for the training program, have been observed.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Brazil office: March, 2013

Country Name	The project for Forest Conservation and Environmental Education in the Eastern Amazon
Brazil	

I. Project Outline

Project Cost	291 million yen	
Project Period	January, 2004 – January, 2007	
Implementing Agency	- Secretariat of Science, Technology and Environment of the State of Pará (SECTAM: Secretaria de Estado Pará Ciência Tecnologia Meio Ambiente) - Emilio Goeldi Museum (MPEG: Museu Paraense Emílio Goeldi) - Brazilian Agricultural Resarch Corporation Eastern Amazon (EMBRAPA Amazônia Oriental : Empresa Brasileira de Pesquisa Agropecuária)	
Cooperation Agency in Japan	- Gunma Prefecture	
Related Projects (if any)	Cooperation by Japan - Establishment of an Organization for Protection of Rain Forests in the Amazon Region (Grassroots Technical Cooperation Project (Proposal Type), 2007-2010)	
Background	Although Brazil has one third of tropical rainforests in the world, more serious deforestation in the country made the federal government to elaborate the "Integrated National Policy for the Legal Amazon" in 1995. According to the policy, the Legal Amazon areas have been designated as administrative areas to protect natural environment. The Legal Amazon covers the areas of approximately 5.2 million km^2 from northern to central regions of Brazil encompassing 9 states. The State of Pará, which has the second largest forest areas of approximately 1.25 million km^2, is one of the important states composed of Legal Amazon Areas. However, the rapid and serious deforestation has provoked the necessity of technical extension of forest conservation and public awareness on forest conservation, in particular, targeting general citizens. Therefore, Gunma Prefecture of Japan, proposed technical cooperation collaborating with JICA in order to appeal the importance of tropical forest conservation through activities at "Amazon-Gunma Forest", including technical extensions to preserve and make use of forests, by both Japanese and Brazilian researchers and technicians as well as public relations to the people in Gunma. At the same time, SECTAM requested JICA to provide technical cooperation in order to promote environmental education, afforestation technology and agroforestry at "Amazon Gunma Forest", a rare tropical forest with large size located near metropolitan area of Belem.	
Inputs	Japanese Side	Brazilian Side
	1. Experts 3 experts of 3areas for long term, 9 experts of 3 areas for short term 2. Trainees Received: 4 trainees 3. Equipment: 38.7 million yen 4. Local Cost: 69 million yen	1. Counterpart: 20 persons 2. Land and facilities: Project office 3. Local Cost: 0.04 million reais
Project Objectives	Overall goal Sustainability of forest and natural environmental conservation is ensured in the State of Pará.	
	Project Purpose Activities of forest and natural environmental conservation are promoted in the State of Pará.	
	Outputs ・Activities of environmental education are promoted in the State of Pará. ・Extension works of afforestation and agroforestry techniques in the State of Pará are promoted. ・Distribution of information and public relations regarding Amazon forests in the State of Pará are strengthened.	

II. Result of the Evaluation

Summary of the Evaluation
In the State of Pará, the extension of forest conservation technologies and the increase in public awareness about the importance of forest conservation have been keen issues because of serious forest degradation caused by cultivation for plantation, ranches, and illegal harvesting timbers and so on. "Amazon Gunma Forest", which is located in Municipality of Santa Barbara and is about 50km north of Belém, the capital of Pará, is Amazon tropical rain primary forest covering 540ha aiming at appealing necessity of global activities to protect forests. It was acquired by the fund raised by activities in both countries of Japan and Brazil in 1996. In 1997, the visitor center was established in the Forest. Based on the Forest, the research activities by Japanese and Brazilian researchers have been conducted for protection of Amazon tropical rain forests.

The Project has achieved promotion of environmental education and utilization of afforestation and agroforestry technologies for the project purpose of "promotion of activities of forest and natural environment conservation and not achieved extension of the project effects and sustainable forest and natural environment conservation but not to the entire state of Pará having a vast land for the overall goal. As for sustainability, some problems have been observed in terms of technical and financial aspects due to issues to share the knowledge and technologies obtained through the Project among the relevant organizations and to ensure sufficient budget to implement large scale extension activities to cover the whole State of Pará despite of the importance of tropical rain forest conservation in the Legal Amazon regions endorsed by the federal and state policies..

For relevance, the Project has been highly relevant with Brazil's and Pará state's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Brazil's and the State of Pará's development policies of "the National Comprehensive Policy on the Legal Amazon (1995)" and "The Position of Amazon in Development of Brazil (2002)" targeting "conservation of biodiversity and promotion of sustainable production system" and "the National Program of Environmental Education (ProNEA: Programa Nacional de Educação de Ambiental) " and "The Environmental Education Plan (of the State of Pará): Guideline and Policy)" addressing "promotion of environmental education", development needs of "extension of forest conservation technologies" and "improvement of public awareness of forest conservation", as well as Japan's ODA policy for Brazil to address "environment", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project achieved compilation of the knowledge and technologies such as environmental education and environment conservation technologies including agroforestry in the counterpart organizations of SECTAM, MPEG and EMBRAPA Amazônia Oriental for the project purpose at the time of terminal evaluation. The overall goal was partially achieved but not sufficient to extend the environment education and agroforestry technologies introduced by the Project to the entire State of Pará during the 5 year period from the project completion to the ex-post evaluation despite of the continuous efforts such as the ecotourism promotion program by SECTAM and the environmental education activities by MPEG.

Environmental Education Seminar (2009)

On the other hand, some positive impacts of the Project have been observed. EMBRAPA Amazônia Oriental has been disseminating agroforestry cultivation methods to participants from not only Brazil but also outside of the country through the third country training program which started from 2006 and will continue to 2015 under the cooperation with JICA and the collaboration with CAMTA, the Japanese Brazilian Agriculture Association, practicing agroforestry agriculture methods. Although the training programs have not been based on "Amazon Gunma Forest", the continuous efforts by the counterpart organization after the project has partly contributed to the current achievement of the overall goal. In addition, the glass roots technical cooperation by JICA, which has been implemented after the Project, established an association by young people in the local areas surrounding "Amazon Gunma Forest" and trained ecotourism guides. The Project can be appreciated that the project activities have made SECTAM recognize the importance of tropical forests and encouraged them to enforce their environmental education activities at the state natural conservation areas. However, the positive impacts have been limitedly realized because of the insufficient coverage of activities to protect vast areas of Amazon as well as issues on the continuity of the activities and the knowledge sharing caused by institutional reforms and personal transfers in SECTAM after the project completion. On the other hand, the good location of Amazon Gunma Forest has been enabling to promotion of environmental education and researches on conservation of Amazon tropical rain forests through providing opportunities not only visitors including students and tourists for environmental education but also research institutions, including EMBRAPA Amazônia Oriental, for their research activities. Despite of no data available on the visitors of Amazon Gunma Forest, according to the documents of annual general meeting of the Association of People from Gunma in Northern Brazil (Kita-Brazil Gunma Kenjinkai), the number of major visitors for the Forest has been decreasing from 430 people in 2010 to 299 in 2011. Also, the website developed by the Project has already closed. Expansion of visitors and awareness are needed to strength the positive impacts of the Project.

Therefore, its effectiveness/impact of this project is fair.

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Sustainability of forest and natural environment conservation is ensured in the State of Pará	The technologies and skills transferred by the Project, including environmental education and agroforestry system are extended to the State of Pará.	(At the time of ex-post evaluation in 2012) - Introduction of "Nature Game" developed by the Project into the environmental education activities by MPEG in Pará with 80 participants annually, - The business plan of ecotourism promotion by SECTAM targeting natural area including Amazon Gunma Forest based on "the Green

		Tourism" conducted by the Project, - Dissemination of research outputs related to an agroforestry farming method by EMBRAPA Amazôniza Oriental, - Continuous activities utilizing the knowledge and skills obtained through the Project but uncompleted extension to the entire Pará.
Project Purpose Forest and natural environment conservation activities are promoted in the State of Pará	Accumulated technology and information in SECTAM, MPEG, AMBRAPA Eastern Amazon on the conservation of forest and natural environment in the State of Pará	(At the time of project completion in 2007) [Knowledge and technologies introduced by the Project] - Environmental Education: Nature Game (experience-based environmental education), Green Tourism, basic planning method for exhibition, museum workshops, and so on, - Afforestation and Agroforestry: forest management technologies, soil and plant rapid analysis, agriculture technology extension system, agroforestry technologies (crop cultivation using green manure, seed utilization, companion planting of fruit trees and timbers, and so on). [Utilization of the knowledge and technologies] - SECTAM: introduction of various programs using Nature Game (the program trainers are the teachers trained by the Project) - EMBRAPA: publishing the research outputs related agroforestry.

Source: Terminal Evaluation Report and interviews with MPEG, local leaders, manager of Amazon Gunma Forest, documents for annual general meeting of Association of People from Gunma in Northern Brazil.

3 Efficiency

While the inputs were appropriate for producing the outputs of the Project and the project period was as planned (ratio against the plan: 100%), the project cost was higher than the plan (ratio against the plan: 133%). Therefore, efficiency of this project is fair.

4 Sustainability

The importance of the Project has been endorsed by the policies of the federal government of Brazil due to the importance of conservation of the Legal Amazon areas. Also, the State of Pará has been prioritizing the promotion of environmental education. In 2005, the Inter-institutional Commission of Environmental Education of the State of Pará (CIEA: Comissão Interinstitucional de Educação Ambiental) was established in accordance with ProNEA. In terms of institutional aspect, there has been no significant change in organizational arrangement for promotion of environment protection despite of the organizational reform of SECTAM after the project completion. SECTAM was separated into the Secretariat of Environment (SEMA: Secretaria de Meio Ambiente) and the other one for science and technology. The activities related to the Project are now managed by SEMA. There has no change in EMBRAPA Amazônia Oriental, MPEG and the Association of Gunma People in Northern Brazil. Despite of some personnel transfer within the organizations, most of key counterpart personnel remain in their organizations and have been using the knowledge and technologies obtained through the Project. However, the insufficient sharing of knowledge and technologies at the time of personnel transfers have been interfering compilation of knowledge and technologies at organizational level. Namely, there have been issues on the sharing and dissemination of the knowledge and technologies obtained through the Project from the organizational and the technical aspect of sustainability. The budget for environmental education programs of the State of Pará has been allocated from a part of the environmental compensations, which are collected by the state government from the entity engaged in the activities adversely affecting environment. The budget for research activities of EMBRAPA Amazônia Oriental has been allocated from their general budget. Also, MPEG allocates the budget for their activities for environmental education from their general budget, too. The operation costs of Amazon Gunma Forest have been covered by the revenues, including the entrance fees, sales of agricultural products cultivated in the agroforestry farm and seeds collected from the trees in the Forest, subsidies and donations. The total revenue of the Forest in 2011 amounted 0.1236 million reais while the expenditure was 0.104 million reais. Although the budgets of the counterpart organizations have been sufficient to continue their activities at small scale, they have not been sufficient to extend their activities to cover the entire state of Pará with vast area in order to achieve the overall goal.

Therefore, due to some problems in, structural, technical and financial aspects of the counterpart agencies, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is necessary to reconsider the extension of activities and to establish the extension system in order to spill over the project effects in the State of Pará which area is large, more than three times larger than Japan. Also, budgeting and fund raising for activities are very essential. In addition to the general budget of each counterpart organization, they need to make efforts to get special budgets, such as the environment compensations utilized by SECTAM. Also, it is recommended that the counterpart organizations should devote sharing the knowledge and skills gained through the Project among their organizations at first and then to make efforts to disseminate and share those knowledge and technologies to wide range of organizations, including government organizations, universities and research institutions, civil organizations, and business entities and so on since it is difficult for the counterpart organizations to disseminate the project effects by themselves in the entire area of Pará.

Lessons learned for JICA:

- The grassroots technical cooperation at Amazon Gunma Forest as well as the third country training program under the cooperation with EMBRAPA Amazônia Oriental positively affected dissemination and sustainability of the project effects. The approach to implement multiple projects connecting with specific issues at different timings can be effective to ensure sustain and extend the project effects.
- Deforestation of tropical forests is a key issue for not only Pará but also other states in Brazil and other countries having tropical forest in their areas. However, it is impossible to accomplish conservation of tropical forests by efforts of limited organizations because of the complicated causes for the deforestations by various factors and actors. The cooperation among many stakeholders is essential to address the issue. Also, each organization needs to proactively share their knowledge and technologies with others. Therefore, it is necessary to establish and enhance inter-organizational network associated with broad range of organizations including counterpart organization, other government organizations, universities, research institutions, civil organizations and business entities, for sharing their knowledge, technologies and knowhow and to challenge establishment of system to scale up the activities and their effects after project completion during the project period.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Chili office / Peru office: March, 2013

Country Name	Project for Strengthening of the National Food Safety Program
Chile	

I. Project Outline

Project Cost	291 million yen	
Project Period	December, 2005 –December, 2008	
Implementing Agency	- Ministry of Health (Ministerio de Salud) - Institute of Public Health (ISP: Instituto de Salud Publica)	
Cooperation Agency in Japan	- Ministry of Health, Labour and Welfare - Yokohama Quarantine Station	
Related Projects (if any)	Cooperation by Japan - Dispatch of Senior Volunteer (Food Control Inspection, October 2011 – October 2013) - Training in Japan (Food Health Administration Course, 2008)	
Background	In Chile, in order to detect and act in timely manner against the problems which can be a risk for food related consumers' health, a reform was needed in the National Food Safety Program. Besides, the food industry has experienced an expansion in terms of quantitative growth, diversification of products and introduction of new technologies, but the health system for food safety control has not been developed with a same speed. The Government of Chile has been proactively improving regulations, including obligation of introducing in the food industry Hazard Analysis and Critical Control Point (HACCP) and the modification of maximum residue levels (MRLs) of pesticides. However, regarding the inspection system about health control in the analysis process of chemical substances and of processed from foods, there are still problems related with technical and analytical capacities. Because of this situation, the objective of the Project was set to strengthen and update institutional and technical capacities of Health Sector required to secure a food safety in order to protect consumers' health and improve food monitoring systems. With this background, the Government of Chile requested the Government of Japan a technical cooperation project aiming at strengthening of capacity of Ministry of Health regarding administration for food safety of Chile.	
Inputs	Japanese Side	Chilean Side
	1. Experts 2 experts of 2 areas for Long term, 14 experts of 7 areas for Short term 2. Trainees Received: 10 trainees 3. Equipment: 109 million yen 4. Local Cost: 14 million yen	1. Counterpart: 28 persons 2. Land and facilities: Project office 3. Local Cost: 712 million Chilean pesos
Project Objectives	Overall goal Safety of food in Chilean markets is improved and security level of Chilean consumer is increased.	
	Project Purpose Chilean National Food Safety Program[1] is strengthened through the introduction HACCP[2] and food residues monitoring	
	Outputs ・Capability of food safety management of MINSAL is strengthened. ・The level of inspection and supervision of food safety inspector is improved. ・Capability of food analysis at laboratory network of MINSAL is strengthened. ・Capability of formulation and implementation of sampling plan is strengthened.	

II. Result of the Evaluation

Summary of the Evaluation
In Chile, it was necessary to enhance function of the Ministry of Health in order to strengthen the food safety system. In January, 2005, while the health reform of the Ministry, aiming at reinforcement of public health, was implemented, together with the reform process the National Food Hygiene Control Program was analyzed and later was named as the National Food Safety Program. For the ensured food safety, it was indispensable to introduce regulation modifications according to the development of the industry, such as the obligation of HACCP implementation. Therefore, it was necessary to improve

[1] The target provincial examination stations for the Project were Temuco, Valparaiso, Talca, and Puerto Montt. In terms of HACCP surveillance, while the Ministry of Health formulates a supervision and support plan of HACCP surveillance, the HACCP surveillance teams of the provincial offices implement the surveillance. In terms of food examination, ISP is responsible at the central level whereas the examination stations of the provincial offices implement at regional level.

[2] HACCP is abbreviation of Hazard Analysis and Critical Control Point.

capacities of inspectors introducing the competences of process audits.

The Project has achieved more than the targets on the number of food samples collected for food residue monitoring and the number of pathogenic organisms and also inspection items, for the project purpose of "enhancement of implementation of the National Food Safety Program by introduction of HACCP and food residues monitoring. The number of factories and facilities of first category which introduced HACCP reached 1,374 of the all categories of facilities, including the first category. In addition, the overall goal has been partially achieved. Among the four indicators for the overall goal, while the increases in the number of cases of food sampling and the number of analyses as well as the improvement of consumers' awareness of food safety were verified by alternative indicators, the precise number of cases of food poisoning incidence and the number of cases of nonconformity foods could not be verified due to the lack of systematized data, though the downward trends in the number of cases of food poisoning incidence has been observed, therefore only partial results can be recognized. As for sustainability, some problems have been observed in terms of structural and budget aspects. There is a bill under consideration that the Ministry of Agriculture and Food can be established and the tasks of food inspection for the food producers can be transferred from the Ministry of Health to the Ministry of Agriculture. Some of the regional offices have not allocated sufficient budget for the laboratories to maintain their analytical equipment. In addition, although the cooperation with subsidies controlled by other ministries, such as the Ministry of Economy, has been essential for small and medium size enterprises (SMEs) to introduce HACCP, it has been still under discussion.

For relevance, the Project has been highly relevant with Chile's development policy, development needs as well as Japan's ODA policy. For efficiency, the project period and the project cost were mostly as planned.

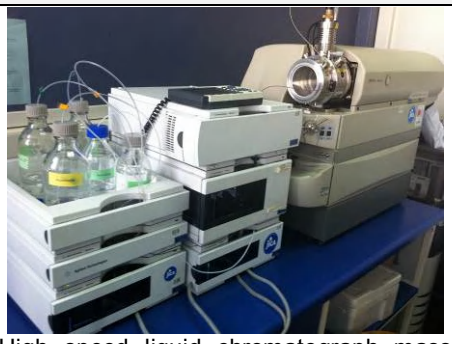
In the light of above, this project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with Chile's development policies of "Public Health 10 year Plan (2000-2010 Health Indicator)" and "2011-2020 National Health Strategy" aiming at "health protection of Chilean consumers through food safety", development needs of Chile which includes "improvement of inspection system by obligation of HACCP introduction and the food production standards (GMP) based on the food hygiene regulations", as well as Japan's ODA policy for Chile to address "environment conservation and health improvement", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project mostly achieved "Strengthening of the National Food Safety Program" for the project purpose. Although the introduction of HACCP was delayed for a part of food producers due to the earthquakes and the deterioration of the Chilean economy affected by the earthquakes, the number of facilities introducing HACCP reached 1,374 of all categories of facilities, including the first category. In addition, the number of food samples and analyses significantly exceeded the target values of the indicator. For the overall goal, the targets of the number of food monitoring and analyses have been achieved. The number of cases of food poisoning incidence decreased from 2009 to 2010, and increased in 2012. It is because that the more accurate number of cases of food poisoning incidence can be known by more thorough reporting, since the promotion of reporting in case of food poisoning incidence with investigation of causes is one of the food safety target indicator set by the National Health Strategy 2011-2020. Although the inspections have been continuously executed, it was difficult to verify whether the number of nonconformity of food has been decreased due to the lack of systemized data at the time of ex-post evaluation. Also, the increase in the volume of information for the consumers through mass media could not be verified due to the lack of quantitative monitoring data. However, improvement of the consumers' awareness of food safety can be confirmed by the increase in the number of claims on food safety from the consumers to the Ministry of Health through its website.



High speed liquid chromatograph mass analysis equipment installed in ISP

In addition, the Project contributed to improvement of ISP's advantage in the national laboratory network under the Ministry of Health since the analytical system appropriate for localities, including the four target laboratories, have been improved by the enhanced capacity of ISP by the Project. According to some food producers with HACCP, the introduction of HACCP led some indirect effects, such as more commitment of food producers to food safety through the improvement of production control process, the reduction of claims from the consumers as well as the expansion of export destinations by the improved reliability.

Therefore, its effectiveness/impact of this project is high.

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Improvement of food safety in the Chilean market and the health protection of the consumers.	There will be a tendency of reduction in percentage of nonconformity foods in Chilean market during the period from 2008 to 2015.	(At the time of ex-post evaluation in 2012) - The Ministry of Health does not compile the data of the number of nonconformity though the regional offices collect them by their inspection. (It is planned to compile the statistics after 2013.) - The number of inspections:

		- 106,562 cases in 2009 - 127,870 cases in 2010 - 94,423 cases in 2011, *Due to the change in the data collection methodology in 2011, it is difficult to compare the data by time series.
	There will be a tendency of reduction in the number of food poisoning incidence during the period from 2008 to 2015.	- The number of food poisoning incidence: - 910 cases in 2009 - 741 cases in 2010 - 654 cases until 34th week in 2012
	The number of monitoring sample and analysis will be increased from 2008 to 2015.	- The number of samples: ➢ By ISP: ➢ 4,866 samples in 2008 ➢ 6,764 samples in 2011 (only for microbe, additives、residual animal drugs, residual pesticides, shellfish toxin / mycotoxin) ➢ Valparaiso: 225 samples in 2008 ➢ 279 samples in 2011 (only for additives, heavy metals) ➢ Taruka: 906 samples in 2008 ➢ 1,575 samples in 2011 (only for residual pesticide) ➢ Temco: 906 samples in 2008 ➢ 170 samples in 2011 (only for residual animal drugs) ➢ Puerto Montt: ➢ 516 samples in 2008 ➢ 442 samples in 2011 (only for shellfish toxin【only amnesic】)
	The information related to food safety to consumers through mass media will be increased from 2008 to 2015.	- No monitoring by the Ministry of Health on volume of information - The number of claims on food safety from consumers to the website of the Ministry of Health: 206 cases in 2008, 3,281 cases in 2011. It is because of the increases in awareness of the consumers by increasing information provided to the consumers.
Project Purpose Enhancement of the National Food Safety Program by introduction of HACCP and food residues monitoring.	All the facilities of enterprises in the primary category based on the technical criteria of food safety regulations introduce HACCP by December 2008.	(At the time of project completion in 2008) [Knowledge and technologies introduced by the Project] - 90% of the target facilities introduced as of September 2008 - 1,374 facilities of the total target facilities
	Number of food sample for monitoring residues and pathogenic organisms reaches at least 500, and the number of analysis reaches at least 2500 by December 2008.	(At the time of project completion in 2008) - The number of food samples: 741 - The number of analysis: 3,150 (Reference: monitoring plan in 2012) - The number of food samples: 3,921 - The number of analysis: 9,791

Source: Terminal Evaluation Report and interviews with counterparts.

3 Efficiency

The inputs were appropriate for producing the outputs of the Project, and both the project cost and the project period as planned (ratio against the plan: 100%, 100%). Therefore, efficiency of this project is high.

4 Sustainability

The Project has been continuously important for Chile based on the National Food Safety Policy. The organizational structure to implement the Program has been maintained. While the Ministry of Health, the implementing agency reduced the number of staff from 8 staff in 2008 to 5 staff in 2012 due to the separation of the zoonotic infection and vector from the Food and Nutrition Division and retirement, the regional offices increased the number of staff for the HACCP audit team from 66 to 87 and the regional office inspection stations maintained the number of inspectors of 188. In Valparaiso, three laboratories are going to be integrated in one laboratory in 2014 and the Viña del Mar laboratory has been disseminating inspection skills using the analytical equipment provided by the Project. On the other hand, there is uncertainty about how to sustain the organizational structure, including the Ministry of Health, Agriculture and Livestock Service (SAG) from the Ministry of Agriculture and Fishery Service (SERNAPESCA) from the Ministry of Economy in order to unify inspection tasks (or modernize the institutional structure), since there is a possibility to establish the Ministry of Agriculture and Food in order to unify food safety inspection operations through a transfer of the inspections for food producers from the Ministry of Health to the Ministry of Agriculture and actually its bill is under consideration. The regional offices of Ministry of Health have been working with other relevant public institutions in order to utilize the existing support system which can be adequate for local industries. In terms of technical aspects, no problem has been observed. Most of the surveyors of the HACCP surveillance team are veterinaries and received more than 1 course of HACCP training. Also many analysts of ISP and the provincial offices have academic backgrounds of pharmaceutical chemistry, chemical biology, and environmental studies and so on, and participated in technical trainings by the Ministry of Health and ISP. The budget for food safety considerably increased from 39.5 million pesos in 2009, to 309 million pesos in 2011 and 308 pesos in 2012 in total of the Ministry of Health, since the National Food Monitoring Plan was budgeted in 2011. However, the maintenance cost for the analytical equipment of the provincial office laboratories have not been sufficiently allocated by some provincial offices.

Practical training on inspections for inspectors in Temco

Therefore, due to some problems in, structural, technical and financial aspects of the counterpart agencies, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- In terms of promotion to introduce HACCP into SMEs, the Ministry of Health has been considering utilization of the existing systems managed by other ministries, including the Ministry of Economy. However, according to the implementation of the national food monitoring, it should be jointly discussed to make necessary institutional coordination as a common issue among the Food Safety Agency (ACHIPIA) and the other agencies.
- In Valparaiso, the three laboratories are going to be integrated in one laboratory in 2014 according to the decision considering sustainability of operation. During the process of integration, the Viña del Mar laboratory will continuously utilize the equipment provided by the Project and disseminate skills transferred by the Project. However, systematization of their knowledge at ISP and the Viña del Mar is essential to be optimally and smoothly transferred to new human resource.
- There are opinions of companies to welcome the HACCP surveillance as a good opportunity to improve in terms of practical comments by the surveyors. It is desirable to compile case studies of points to be improved and to share them among the surveyors and the companies. It is also effective to deliver the outputs compiling case studies by the counterpart staff of the Ministry of Health and a senior volunteer dispatched by JICA.

Lessons learned for JICA

- Some indicators to verify achievement of the overall goal were not measurable at the time of ex-post evaluation due to the lack of necessary data. On the other hand, in Chile the government sets forth indicators in the national policies, sector policies or technical and administrative targets of improvement. In these cases, the existing indicators can be applicable for the Project Design Matrix and more accessible to data to verify achievements of the overall goal.
- In terms of the indicator 1 for the project purpose, some food producers delayed their introduction of HACCP even after making it obligatory to all facilities, because they needed to change their production lines or to reduce their production volumes due to the conditions of Chile affected by the earthquakes. Thus, it is necessary to carefully consider important assumptions since Chile has many damages by natural disasters including earthquakes. In addition, since the introduction of HACCP requires establish some support system for food producers, including financial supports, which cannot be covered by the Ministry of Health, the indicators should reflect such situation. Furthermore, in Chile, there is ACHIPIA which is responsible for coordination among the relevant organizations while the food safety administrations are divided in the three ministries. Also, the private sector needed to thoroughly practice the Good Manufacturing Practice (GMP) while the consumers had limited awareness of food safety. Therefore, the project design which can address broader stakeholders concerning food safety, through utilization of the Project or trainings in Japan, can be more effective despite that the Project assumed that " the stakeholders (governmental agencies, private sector, food consumers, etc.) perform their own role properly" as an important assumption.
- The Project addressed the enhancement of analytical capacity through the training courses in Japan including not only new analytical methods but also accuracy management method in order to improve reliability of analyses. Therefore, the Project contributed to the improvement of advantage of ISP for the ISO17025 certification, supports for the provincial

offices in the certificate process through the national laboratory network of the Ministry of Health, and the laboratory network promoted by ACHIPIA. The support for not only technology but also quality can improve reputation of the counterpart organization and increase sustainability of project effects.

- Since Chile has a long territory, there are different characteristic in industry by region. The Project considered necessity to establish a food safety surveillance system reflecting variety of industrial characteristics, and supported analytical capacity building at regional level. Therefore, the Chilean side established a management model of the national laboratory network of the Ministry of Health based on the system established by the Project after the project completion. It is important to allocate inputs at regional level in order to reinforce regional characteristics and advantages.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Palestine office: March, 2013

Country Name	Project for Improving Reproductive Health with a Special Focus on Maternal and Child Health
Palestine	

I. Project Outline

Project Cost	205 million yen	
Project Period	August, 2005 – July, 2008	
Implementing Agency	Primary Health Care (PHC) Department of Ministry of Health (MOH), Palestinian National Authority	
Cooperation Agency in Japan	Health and Development Service (HANDS)	
Related Projects (if any)	Japan's cooperation: -The project for Improving the Control of Infectious Diseases and the Nutritional Status of Palestinian Children (through UNICEF) (Grant Aid, 2005) -Emergency Health Programme in the Gaza Strip and West Bank (through UNRWA) (Grant Aid, 2006) -Emergency Health Programme Mother and Child Care (through UNFPA) (Grant Aid, 2007) -Improving Reproductive Health with a Special Focus on Maternal and Child Health (Phase 2) (Technical Cooperation, 2008-2012)	
Background	The Palestinian territories of the West Bank and the Gaza Strip have been occupied by the Israeli government. Around the time of planning of this project, the exchange of violence in the second Intifada and the curfew following the military incursions had continued. Women's action had been restricted with the control of people's movement and access by the separation wall and many checkpoints within the West Bank. Together with poverty caused by the poor economic activities, this had seriously affected maternal health. The Ministry of Health (MOH) of the Palestinian National Authority aimed to upgrade health services with priority to primary health care (PHC) and public health care services, which became a major issue of its medium-term goals announced in 2006, and set up MCH/PHC Centers as bases of maternal and child health (MCH) and reproductive health (RH) services. Against such background, the National Authority requested the Japanese government for the implementation of this project.	
Inputs	Japanese Side	Palestinian Side
	1. Experts: 2 for Long term, 8 for Short term 2. Trainees Received in Japan: 31 persons 3. Third-Country Training: 28 persons 4. Equipment: 28 million yen 5. Local Cost: 43 million yen	1. Staff allocated: 18 persons 2. Office at Central Laboratory of MOH; one driver
Project Objectives	Overall goal The situation of children's health as well as women's reproductive health is improved in the West Bank and the Gaza Strip.	
	Project Objective(s) 1. Maternal and child health (MCH) and reproductive health (RH) services are upgraded in the West Bank and the Gaza Strip. 2. More women and children use upgraded MCH/RH services in the pilot area (Jericho governorate and part of Ramallah governorate).	
	Output(s) ・ Output 1: Management and technical capacity of MOH health providers for MCH/RH services at MCH centers are improved in Pilot area. ・ Output 2: The MCH handbook guideline is provided to all health providers in the West Bank and the Gaza Strip ・ Output 3: MCH Handbooks are produced and used in the pilot area (Jericho and part of Ramallah) and later at national level. ・ Output 4: Both MOH staffs and Community recognize the importance of awareness raising and community-participation in MCH/RH issues ・ Output 5: Outcomes and Lessen learned are shared among concerned ministries, local governments, communities and donors at the national level through seminars and media.	

II. Result of the Evaluation

Summary of the Evaluation

In the Palestinian territories, poverty and health conditions of women and children were deteriorating due to such factors as the recent conflicts and movement restriction. The MCH services faced challenges including: (i) different service contents by institution due to lack of standardization of ante/post-natal, delivery, newborn and infant care; (ii) lack of standardized antenatal examination items and ways of record-keeping among different institutions despite the circumstances where majority of women visit more than one institutions according to stage of pregnancy; (iii) low attendance rate for ante/post-natal and infant examinations due to low level of awareness of- and interest in maternal risks and infant growth among women and other people as well as the existence of the separation wall and curfew.

This project developed the MCH handbook and deployed the services based on the handbook. For the project purposes of upgrading MCH/RH services and enhancing service usage, it achieved (i) the improvement of the utilization of- and

satisfaction with the services by users in the pilot area by the time of the project completion, and (ii) expansion of the services to the entire territories after the project completion, through the actions of MOH and the support from the Phase 2 of this project. The MCH handbook is used and the services based on it are provided at most of the health care institutions under MOH, UNRWA and partner NGOs in the West Bank and Gaza. The overall goal has been mostly achieved as well, for the trend of the indicators shows the improvement of mothers' and children's health conditions (except some indicators that showed the downward trend due to the special circumstances in Gaza). As for sustainability, some problems have been observed in terms of the implementing agency's financial aspect due to the challenge in ensuring budget for the future as the chronic budget shortage of the National Authority is anticipated.

For relevance, the project has been highly relevant with Palestine's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Palestine's development policy (social sector development as set in the Medium-Term Development Plan (2005-2007 and 2008-2011) and enhancement of PHC services as set in the medium-term goals of MOH), development needs (upgrading of MCH/RH services), as well as Japan's ODA policy (humanitarian assistance as one of the assistance priorities for Palestine in 2005), at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has achieved the project purposes of (i) upgrading MCH/RH services in the entire Palestinian territories (the West Bank and Gaza) and (ii) use of the upgraded MCH/RH services by more women and infants in the pilot area (Jericho and part of Ramallah). The project had developed and distributed the MCH handbook, and supported the start of the services based on the handbook as well as the awareness-raising activities (promotion of health consultation). As a result, the second purpose (better services in the pilot area) was achieved by the time of the project completion through the improvement of the utilization of- and satisfaction with the services by users in the pilot area.

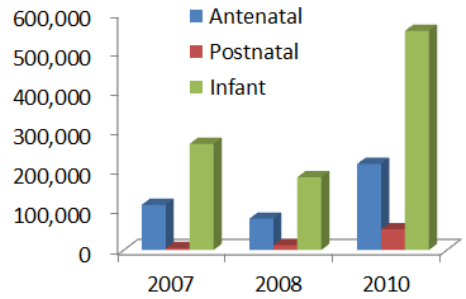
As for the first purpose of expanding the services to the entire territories, although developing the MCH handbook and the MCH handbook guidelines had been completed by the end of the project period, the use of them had not been firmly initiated in the non-pilot area until the Phase 2 of this project supported the operation of the handbook[1]. In Gaza, while the political instability[2] led to the withholding of the training on the MCH handbook guidelines for health service personnel, the handbook was distributed through UNICEF, UNRWA and other organizations. Consequently, the handbook has been used and the services based on it have been provided at almost all primary-level health care institutions (health centers, etc.) under MOH, UNRWA as well as partner NGOs in the West Bank and Gaza. According to a survey in 2010, the rates of mothers who (i) retained the MCH handbook and (ii) brought the handbook to health care institutions were high at (i) 72% and (ii) 98%, showing the progress of territory-wide standardization of MCH services. Another survey in the West Bank for the terminal evaluation of the Phase 2 of this project (2012) also revealed the wide use of the handbook as children's growth records by health care institutions as well as mothers, with the high rates of recording in and satisfaction with the handbook. Meanwhile, the introduction of the handbook to secondary level health care institutions has been done at hospitals under MOH but not yet to other secondary institutions such as private and NGO hospitals.

For the overall goal of improving children's health and women's reproductive health, since the project completion maternal mortality rate and under-five mortality rate have shown downward trends in the entire territories, and prevalence of women and under-five children with anemia has decreased in the West Bank. Although anemia rate has increased in Gaza presumably due to the special circumstances of the area (such as the socio-economic decline following the conflict and blockade), the overall situation is considered to be improving. Underweight children under five has increased but remains within the allowable range. From these trends it is deemed that the overall goal has been achieved.

Therefore, effectiveness/impact of this project is high.

[1] The Phase 2 of this project aimed to consolidate the use of the MCH handbook introduced by the Phase 1 (this project) as well as to promote self-financing for the production and delivery of the handbook, thereby expanding the MCH/RH services that had been upgraded in the pilot area in terms of both quality and area coverage.

[2] Since the birth of the Hamas administration in 2006, there have been temporary suspensions of donor assistance. Access of Gaza by those working on assistance activities has been restricted due to tightening of the blockade and the destruction in the whole Gaza Strip with the military incursion by Israel. The control of movement and access within the West Bank has been largely reduced, and the curfew is rarely enforced nowadays. However, the construction of the separation wall is going on, and there are increasing cases where the gateways of the villages that oppose to the separation wall are sealed off. Also, the construction of the settlement has continued/progressed except during a certain period in 2010, resulting in frequent closures of roads following violence by the settlers.



Source: Ministry of Health

Number of antenatal, postnatal and infant checkups (at Ministry of Health clinics in the West Bank and Gaza)

A mother and her child who were attending an infant checkup. She brought the MCH handbook and said, "I always carry this handbook when I visit health institutions."

A nurse and a midwife explaining the effectiveness of the MCH handbook, saying, "the handbook is easy to use. It tells when to provide immunization, and is useful for health education, too."

3 Efficiency

While the inputs were mostly appropriate for producing the outputs of the project and the project period was within the plan (ratio against the plan: 100%), the project cost was higher than the plan (ratio against the plan: 128%) because the dispatch of long-term experts became necessary in addition to the originally-planed short-term experts. Therefore, efficiency of the project is fair.

4 Sustainability

This project has been consistently important in terms of the policy background from the project implementation period until present time. The structure of the implementing agency has been strengthened by the establishment of the National Coordination Committee for the MCH Handbook[3], the key organization to the institutional aspect of the project sustainability, during the Phase 2 of this project. While participation from Gaza to the said Committee and technical training is still difficult, that is considered as no problem in a way that it has not affected the dissemination and consolidation of the use of the MCH handbook there. In the technical aspect, the techniques that were transferred through the trainers' training and in-service training under this project have been utilized after the project completion, and extended to the training in the entire West Bank through Phase 2. In the financial aspect, the government has faced the chronic fiscal difficulties since the implementation period of this project, and thus it will be difficult for MOH to secure its own budget source. Nevertheless, it is likely that the government will continue to receive financial support from external sources such as foreign donors.

Therefore, since the project has some problems in the financial aspect of the implementing agency, sustainability of the effects of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

The upgrading of MCH/RH services with the MCH handbook as a standard tool has been smoothly expanded and consolidated at the primary level health care institutions (e.g., health centers). In order to further promote the standardization of the use of the handbook in the existing services, it is highly effective and important for MOH to take initiative to complete the dissemination of the handbook at the secondary level. The scope of the dissemination should not be limited to ensuring proper entry of information (such as infant growth data) in the handbook at MOH hospitals where the handbook has already been introduced, but it should also include the introduction/ dissemination of the handbook to private and NGO hospitals. In addition, it is important that MOH keep seeking for its own budget sources as well as utilizing donor assistance to ensure necessary budget for distribution of the MCH handbook and to maintain and strengthen the MCH handbook system

Lessons learned for JICA

When implementing a project in divided areas like Palestine, which was equivalent to a conflict-affected country at the time of the project implementation, institution building across the area (or country) by introducing a standardized tool (MCH handbook and guidelines in case of this project) is highly effective. In addition, this project showed that the standardized tool could play a role of a media for collaboration among UN organizations and NGOs, each of which has different targets and programs, by enabling them to utilize their own advantages (areas of specialty) to bring synergy effects.

Also, project planning and implementation that are responsive to the needs of the partner country could enhance the motivation and ownership of the stakeholders, and result in an effective implementation of the project. In case of this project, participation of the stakeholders in the existing health care system, namely, MOH, UN organizations and NGOs, from the very first stage of the design of the MCH handbook led to high motivation and ownership of not only the implementing agency but also of the cooperation agencies, which brought the project outcomes.

[3] The National Coordination Committee for the MCH Handbook was set up in 2009 as a forum where the stakeholders such as MOH, UN and NGOs discuss strategies and activities related to the MCH handbook and conduct monitoring. In 2010, the chairperson of the Committee approved the MCH Handbook Manual, which defined the ways of utilization and stock control of the handbook as well as the reporting system.

Internal Ex-Post Evaluation for Technical Cooperation Project

Conducted by Jordan Office: March, 2013

Country Name	Capacity Development of Learning Resources Centers (LRCs) for Science Education utilizing ICT
Jordan	

Ⅰ Project Outline

Project Cost	218 million yen
Project Period	March 2006 – February 2009
Implementing Agency	Directorate of Training, Qualification and Supervision(DTQS) Directorate of Curricula and Textbooks(DCT)
Cooperation Agency in Japan	NA
Related Projects	**Assistance by other foreign donors :** USAID : Support to the implementation of 5 year plan on ErfKE by the Government of Jordan. (Support on the curriculum development of newly introduced secondary education course and capacity development of teachers through training of teachers, Support to schools though LRC as a resource centre as well as information exchange centre, Support to the information services with portal website and environmental settings for information sharing.) Microsoft : Provision of training for teachers on curriculum development for multimedia teaching materials through helpdesks at QRC, Provision of trainings program for college students Intel Program : Implementation of essential training courses for teachers on new educational theory, and teaching methods using new technologies Note : ErfKE: Education Reform for Knowledge Economy QRC: Queen Rania Al Abudullar Educational Technology Center LRC: Learning Resource Center
Background	In Jordan, the government had vigorously pushed forward on the human resources development to achieve “knowledge economy”, and implemented educational reform focusing on the quality improvement in education through organizational reform, infrastructure development of educational institutions, the development of learning contents in accordance with the societal change and the encouragement of child education. However, there were several concerns. Since the proportion of young adults in an entire population was very high, the number of teachers was very much in short supply. And in many cases, teachers had taught by traditional didactic manner in the classroom. Since 1980’s, the government of Jordan had introduced the teaching methods using Information and Communication Technology (ICT) to conduct effective education. However, it tended to focusing on the teaching of software of Information Technologies (IT), not on the effective teaching methods using the ICT. At the LRCs, established in each district as a field level center of training for teachers with technical supports, as well as at the QRC, its national level center, effective training of teachers using ICT had not been carried out. In order to further improve the capacity of QRC and LRCs, the government of Jordan requested the government of Japan to provide the technical cooperation project.
Inputs	Japanese Side: 1. Experts:10 Short-term experts (47.3MM) 2. Trainees received: 12 persons 3. Equipment: NA 4. Local Cost: NA Jordan Side: 1. Staff allocated: 23 persons 2. Land, facility and project office Provision of office space for Japanese experts at the QRC
Project Objective	Overall goal: Teachers for basic education in the target areas implement effective science education utilizing Information and Communication Technology (ICT). Project Purpose: QRC and Pilot LRCs/Field Directorates (FDs) (Amman, Karak, Irbid, Salt) are capable of functioning as the centers to develop the capacities of teachers that implement effective science education utilizing ICT. (Grade 7-10) Outputs: 1. Institutional framework of QRC to develop the capacity of trainers and teachers who can conduct effective science education is established. 2. Teachers’ training courses to implement effective science education are developed and maintained at QRC. 3. Capacities of core trainers* who conduct teachers’ training courses for effective science education are developed at QRC. *”Core trainers” are 14 trainers (4 QRC staff and 10 teachers) that receive technical transfer directly from Japanese experts at QRC. 4. Teachers and staff of pilot LRCs/FDs develop the capacity to conduct teachers’ training courses for an effective science education for teachers and staff of trial schools.

Ⅱ Result of the Evaluation

Summary of the Evaluation

In 1980's, the government of Jordan introduced the basic education methods using ICT in accordance with the needs of school teachers. However, teachers tended to focusing on the teaching of IT software itself, not on the effective teaching methods itself. Therefore, the government of Jordan developed the effective teaching methods of science education utilizing the ICT through this project. It was expected that 14 core trainers trained by this project train other teachers using this effective teaching method in the cascade manner.

The LRCs, had been established under the FDs of each district since 1980's, and QRC, established under the Ministry of Education in 2001 as the national center of LRCs were expected to serve as the training and supporting institutions for capacity development of school teachers. However, sufficient number of staff has not been allocated, and they have not been properly managed. Especially, the QRC which is responsible to supervise all LRCs as well as to promote the educational technology using ICT has not had enough management capability, nor had been given the discretion of training programs including budget allocation. As a result, the effective teaching methods of science education utilizing the ICT have not been systematically progressed.

This project has somewhat achieved the project purpose. By developing and consolidating the training materials, as well as conducting the trainings for teachers, the capacity of teachers who can teach science education using ICT were strengthened. However, since the institutional framework and organizational settings of QRC and LRCs are not established, it is hard to say that QRC and LRCs/FDs have been capable of functioning as the centers to develop the capacities of teachers that implement effective science education utilizing ICT as it is stipulated in the project purpose.

As for the overall goal, it was identified that principals whose teachers were trained by the project and those DTQS had shown the high satisfaction of the performance of those trained teachers. It was also presumed that students in the trial schools in the pilot areas of this project had got more interested in the science as their academic score had been improved.

As for the sustainability, the ICT division of the Ministry of Education has become under the control of the QRC and it can be said that the QRC has been recognized as an educational institution specializing the ICT application. Facilities of LRCs have been well utilized for the training programs in FDs to promote the teaching methods using ICT to other non-targeted areas. While, there are several issues to be resolved in terms of institutional framework and organizational settings for QRC and LRCs. As for the technical aspect, teachers trained by the project have continued working to independently carry out the training program for trainers. There are some problems in information infrastructure such as internet accessibility has not been well equipped in the targeted schools. Since the science teaching method utilizing ICT has obtained a good reputation, a budget for diffusion of the method is expected to be secured. However, considering the deteriorating financial condition of the government, the drastic cut down of the educational budget is assumed. Overall, the project has some problems in structural, technical and financial aspects of the implementing agency.

This project has been highly relevant with Jordan's educational development policy, development needs on the science education using ICT as well as Japan's ODA Policy both at the onset of project and project completion. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Jordan's educational development policy (e.g. "to foster qualified human resources who can contribute to the knowledge economy which focused on the technical capacities") as set in the Education Reform for Knowledge Economy (ErfKE-1), development needs (e.g. "science education using ICT" , as well as Japan's ODA Policy to provide the qualified education and narrowing regional disparities" both at the onset of the project and project completion.

Therefore, relevance of this project is high.

2 Effectiveness / Impact

This project has somewhat achieved the project purpose. By developing and consolidating the training materials, as well as conducting the trainings for teachers, the capacity of teachers who can teach science education using ICT were strengthened. Self-evaluation by teachers of trainer level themselves has also reaffirmed the positive change. However, in terms of management capacity of QRC and LRCs, only limited progresses have been identified. Originally, it was expected that both the QRC at the central level and LRCs/FDs in the field level have harmoniously worked together to promote the teaching method using ICT in cascade manner. However, training programs have not been conducted in collaboration among both institutions. LRCs have only provided the physical settings, such as the training facilities and equipment. Therefore, it is hard to say that QRC and LRCs/FDs in the pilot area have been capable of functioning as the centers to develop the capacities of teachers that implement effective science education utilizing ICT as it is stipulated in the project purpose.

As for the overall goal, it was identified that principals whose teachers were trained by the project and those DTQS had shown the high satisfaction of the performance of those trained teachers. It was also presumed that students in the trial schools in the pilot areas of this project had got more interested in the science as their academic score had been improved. Furthermore, according to the interviews with DTQS and DCT, it was identified that teaching methods using ICT by this project had been used in non-targeted schools, and in other subjects than science education. And such teaching methods have also been spreading into the neighboring countries through the JICA third-country training program conducted by Jordan “Capacity Development for Science Education Utilizing ICT in Palestine” in 2012.

Therefore, its effectiveness/impact of this project is fair.

Class scene of science education of non-targeted schools

Class scene using the teaching methods of science education utilizing ICT

Training materials, developed by the project, on teaching methods of science education using ICT

3 Efficiency

While inputs were appropriate for producing outputs of the project and project period was within the plan (ratio against the plan: 100%), project cost slightly exceeded the plan (ratio against the plan: 110%) as personal computers were additionally provided in order to make the trainings of the teaching methods more effective.

Therefore, efficiency of the project is fair.

4 Sustainability

As for the policy aspect, the project has conformed to the government policy of ErfKE-2 (Education Reform for Knowledge Economy) and has played an important role in the educational sector.

As for the structural aspect, the ICT division of the Ministry of Education has become under the control of the QRC and it can be said that the QRC has been recognized as an educational institution specializing the ICT application. Not full-time, but three personnel are assigned to work on the implementation of training programs and promotion of science education using ICT. They have also played an important role to carry out the third-party training program under JICA training scheme. It is very likely that these personnel continue to work on the promotion of method of science education using ICT. FDs of targeted area have also actively promoted the method to other non-targeted areas based in the LRCs of each FD to carry out the training program. While, there are several issues to be resolved in terms of institutional framework and organizational settings for QRC and LRCs. For example, it is not clear what the role of LRC is in the promotion of science education using ICT in relation to the QRC, and training program has not served as the criteria of promotion.

As for the technical aspect, many of teachers and staff trained by the project have continued working to independently carry out the training program for trainers even after the project completion. Although the portal website was constructed by the project, there have been some problems at the non-targeted schools where information infrastructure such as the PCs settings and internet accessibility has not been well equipped. Such problems have also been identified in some of targeted schools where trainer level teachers are working.

Although the effective teaching method has obtained a good reputation and trainers trainings have been continuously conducted, there are some concerns in the financial aspects. Considering the deteriorating financial condition of the government, the drastic cut down of the educational budget is assumed since approval by the Ministry of Education is necessary to acquire a budget.

Overall, the project has some problems in structural, technical and financial aspects of the implementing agency.

Therefore, sustainability of this project effect is fair.

Ⅲ Recommendations & Lessons Learned

Recommendations for the Implementing Agency：

1) In order to promote the teaching method of science education using ICT, it is essential that the QRC should collaborate with LRCs/FDs and continue the training program in cascade manner. However, the QRC has limited management capacity to conduct the training program in collaboration with LRCs/FDs. It is recommended, therefore, that the QRC should practically work together with each LRC/FD in the process of planning, budgeting and managing of training programs and spread the teaching method.
2) Currently, the FD is responsible for the selection of training participants for the training program conducted by QRC. While, the LRC provides the facility for the training program, but its role has not been clearly identified.
   In targeted FDs, there are trainers who can independently carry out training to promote the teaching method to other non-targeted areas in cascade manner and it is considered that human resources are secured. It is recommended, therefore, the QRC should consider the effective utilization of LRCs, such as useful resource centers with sufficient teaching materials and equipment.

Lessons learned for JICA：

1) It has proven to be effective to implement the teaching method using ICT, especially those schools in the remote areas and in deprived areas. It should be noted, however, the implementation of such teaching method should come along with the sufficient infrastructure of information technology. Therefore, it should be obligatory for any schools to have IT infrastructure well equipped before introducing this method.
2) Management capability of the core organizations is indispensable to establish the institutional settings for human resources development as well as to implement the relevant training programs in collaboration of affiliated institutions.
   In this case, the project was not successful to establish the institutional framework as the centers to develop the capacities of teachers that implement effective science education utilizing ICT. This is partly due to the insufficient management capacity of QRC as the core organization. The project should have had the relevant inputs not only to strengthen the technical capacity of those concerned human resources but also the management capacity of core organization.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Turkey office: March, 2013

Country Name	The Project for Energy Efficiency Improvement of Power Plant in Turkey
Turkey	

I. Project Outline

Project Cost	263 million yen	
Project Period	December 2006 - November 2008	
Implementing Agency	Electric Generation Company (EUAS)	
Cooperation Agency in Japan	Chugoku Electric Power Co., Inc.	
Related Projects	-	
Background	Turkey turned to be an electricity importing country in 1997 as a result of high electricity demand accompanying high economic growth. Further, the electricity demand was projected to grow at 7.7% per annum from 2005 to 2020 and therefore the import of electricity was projected to increase. In order to respond to the growing demand for electricity and to curb further dependency on energy import, the government of Turkey had promoted energy efficiency improvement since late 1970s and Electric Generation Company (EUAS) had played a major role in improving energy efficiency. Rehabilitation of existing thermal plants was considered to be an effective means to improve energy efficiency, and there was an urgent need for EUAS to rehabilitate thermal power stations that had been operating for between 20-25 years. However, EUAS did not have the ability to appropriately plan, implement and control rehabilitation, nor did it possess adequate rehabilitation technology or know-how. Accordingly, the Turkish government requested the Japanese government for a project to improve energy efficiency improvement capability (generating facility rehabilitation planning and outline design ability and operation and maintenance ability) of EUAS through the implementation of transfer of technology at a model thermal power plant.	
Inputs	Japanese Side	Turkish Side
	1. Experts 13 experts for 10 areas. 2. Trainees Received 18 persons 3. Local Cost 18 million yen	1. Staff allocated 22 persons 2. Land provided An office for experts, training facilities provided at Orhaneli, equipment for use in workshops, accommodations for participants
Project Objectives	Overall goal The energy efficiency of model power plant (Orhaneli) is improved.	
	Project Objective The capacity for energy efficiency improvement at model power plant (Orhaneli) is improved.	
	Outputs ・Output1: The skills of C/Ps for equipment diagnosis are developed. ・Output2: The skills of C/Ps for environmental measure are developed. ・Output3-1: The skills of C/Ps for planning of rehabilitation are developed. ・Output3-2: The skills of C/Ps for designing of rehabilitation are developed. ・Output4: The skills of C/Ps for operation and maintenance of power facility are developed. ・Output5: The training system of EUAS for energy efficiency improvement is enhanced.	

II. Result of the Evaluation

Summary of the Evaluation

Rehabilitation of existing aged thermal power plants (TPPs) was inevitable for Turkey, and energy efficiency improvement at TPPs was one of the strategies of energy efficiency strategy document. Therefore, capacity building of EUAS's TPPs was needed for energy efficiency improvement because they did not have sufficient ability of rehabilitation planning, outline design, and operation and maintenance. Orhaneli Thermal Power Plant (Orhaneli TPP) was selected as a model power plant for the project activities.

This project has partially achieved the project objective. Compared to the past works of similar type TPP in EUAS, a rehabilitation plan (excitation system replacement) of equivalent or better cost performance has been formulated at Orhaneli TPP. However, the project has not achieved the project objective in terms of adoption of documents by EUAS, because EUAS has not completed Turkish translation of reports/guidelines/booklets, etc. and has not distributed them to all other EUAS TPPs. Nevertheless, the project has largely achieved overall goal since the total unplanned outage hour per year has been decreased and capacity utilization has improved at Orhaneli TPP as a result of the implementation of the preventive maintenance and the rehabilitation based on the rehabilitation plan developed by the project.

As for sustainability, some problems have been observed in terms of institutional/operational aspect and technical aspect because of insufficient number of engineers at Orhaneli TPP as well as EUAS, and lack of training programs due to less communication among relevant departments and top officials (decision makers) for further dissemination and application of the technology and knowledge acquired by the project. For relevance, the project has been relevant with Turkey's development policy, development needs, as well as Japan's ODA policy. For efficiency, the project cost significantly

exceeded the plan.

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

1 Relevance

This project has been highly relevant with Turkey's development policy in terms of energy efficiency and efficient use of existing coal-fired thermal power plants, development needs for energy efficiency issues at EUAS TPPs as well as Japan's ODA policy at the time of both ex-ante evaluation and project completion.

Therefore, its relevance is high.

2 Effectiveness/Impact

The project has somewhat achieved the project objective. The project has achieved project objective in terms of development of a rehabilitation plan (indicator 1): compared to the past works of similar type TPP in EUAS, a rehabilitation plan (excitation system replacement) of equivalent or better cost performance has been formulated at Orhaneli TPP. However, the project has not achieved the project objective in terms of adoption of documents by EUAS (indicator 2). EUAS has not completed Turkish translation of the reports, plans, specifications, manuals etc. and has not distributed them to all other EUAS TPPs, thereby has not been able to apply the rehabilitation technology and knowledge to other TTPs, although most of English documents including operations and maintenance manual of the boiler and excitation system, rehabilitation design document and rehabilitation plan/design manual are adopted and actually used at Orhaneli TPP.

Nevertheless, the project has largely achieved the overall goal: capacity utilization and unplanned outage hours have improved at Orhaneli TPP. Before 2007, the total unplanned outage hour per year was around 1,000 hours with 57% capacity utilization. With the implementation of preventive maintenance and regular data measurement which were introduced by the project, and rehabilitation of boiler and exciter based on the rehabilitation plan developed by the project, the total unplanned outage hour per year was decreased to 336 hours with 70.69% capacity utilization in 2011[1].

No negative impact was observed in terms of natural environment and land acquisition. The current values of So_2 and Dust at Orhaneli TPPs are under standard values. NOx exceeds the current Turkey's upper limit, however, once DENOX facility is installed, which should be obligatorily installed by 2019, the value would satisfy the standard.

Therefore, its effectiveness/impact is fair.

New exciter system procured

Digital monitor of new exciter system

3 Efficiency

Although the project period was within the plan, some inputs were not appropriate for producing outputs expected by Turkish side because translation of documents into Turkish has been delayed. And the project cost significantly exceeded the plan (more than 160% of planned budget) because of the additional requests by Turkish side for enlargement of the project framework with new contents including the addition of five new subjects (Facility Diagnosis Improvement Support, Rehabilitation Plan, Boiler Efficiency Maintenance/Improvement, Facility Maintenance Ability Improvement, Excitation System Operation/Maintenance/Management Ability Improvement, Support for Training System for Improving Capability of Energy Efficiency Optimization), implementation of 5-day technology transfer (six times) at Orhaneli TPP together with the preparation of lecture notes, 4-week training in Japan for totally 16counter-parts in 2007 and 2008, and 5-day observation visit to Japan for two top level officials in 2007. Addition of new subjects on the Project resulted in sharp increase in Japanese experts MM dispatched to Turkey.

Therefore, efficiency of this project is fair.

4 Sustainability

The project has some problems in institutional and technical aspects of the implementing agency. As to institutional aspect, the importance of the role and responsibility of EUAS in the areas of power generation, and energy efficiency improvement has not changed because the application of the energy efficiency law are expected in the near future, and because privatization has no impact, since there is no concrete plan for the privatization of EUAS TTPs. On the other hand, there is a problem that the number of engineers at Orhaneli as well as EUAS as a whole has decreased: some has retired and some transferred to private sector, and those positions have not been filled up. Therefore, sustaining maintenance and rehabilitation practices with the decreasing number of engineers might become difficult at the Orhaneli level. Besides, top level officials have been replaced very often in recent years and therefore, acquianting top level officials with the project could not be succeded neither by Thermal Power Plants Department nor by Training Department. Without initatives of top level officials, the capacity development of TPPs at EUAS with the project outputs and application of the project outputs to other EUAS TPPs might face problems in the future.

Regarding the technical aspect, there is currently no problem on the operation of Orhaneli TTP, since the technology and knowledge was established through technical transfer seminars and the training program in Japan or disseminated by individual counterparts through regular inspections, and by formulating rehabilitation plans, training programs and other activities. However, since four out of eight counterparts left the Orhaneli TPP, and since regular wrap-up training and

[1] Capacity utilization and unplanned outage hours were set as indicators for overall goal of "energy efficiency improvement" instead of more direct indicators such as gross thermal efficiency (comparison of power output and fuel input) because it is impossible to measure and compare the plant efficiency in terms rated output since output of Orhaneli TPP does not reach rated output due to the insufficient heating value of fuel, and because there is no device for accurately measuring the amount of input fuel.

technology transfer seminars for engineers who have 3-5 years of experience could not be organized neither by the Training Department nor by Thermal Power Plants Department due to lack of well coordination and communication between them, there might be a problem in the future for further dessemination and application of technology and knowledge within Orhaneli and to other TTPs. No problem has been observed in policy background, since energy efficiency improvement is consistant with the government's policies, and with net profit of TL2.5 billion (1.38 bUS$) in 2010, and TL1 billion (555.56 mUS$) in 2009 there is no financial problems of the implementing agency either.

Therefore, sustainability of this project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. Even though department head and/or above level officials assigned/promoted to another department/organization, new assigned officials should be informed well with the contents and benefits of the project by the responsible department. Strong ownership of both top level officials and responsible departments is the key for successful sustainability in terms of dissemination and application of the technology and knowledge acquired by the project.
2. Outputs of Orhaneli TPP should be disseminated and shared with other power plants in regular manner through wrap-up trainings and technology transfer seminars. In order to organize smooth implementation of said-trainings, strong coordination between Thermal Power Plants Department and Training Departments is a must.

Lessons learned for JICA

When implementing similar kind of project, coordination between relevant departments should be well-established at the time of the project and should be kept after the completion of the project.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Kyrgyz Republic office: March, 2013

Country Name	The Project for the Improvement of the Equipment for Road Maintenance in Naryn
Kyrgyz	

I. Project Outline

Project Cost	E/N Grant Limit: 572 million yen		Contract Amount: 539 million yen
E/N Date	August, 2006		
Completion Date	September, 2007		
Implementing Agency	The Ministry of Transport and Communications (MOTC)		
Related Studies	Basic Design Study: September, 2005 – May, 2006		
Contracted Agencies	Consultant(s)	Katahira & Engineers International	
	Contractor(s)	-	
	Supplier(s)	ITOCHU Corporation	
Related Projects	[Japan's Cooperation] −Technical Cooperation: Project for the Capacity Building of Road Maintenance in the Kyrgyz Republic (2008-2011) −Grant Aid: Project for Reconstruction of Bridges in Chui oblast (2009-2010), Project for Improvement of Equipment for Road Maintenance in Issyk-Kul and Chui Oblasts (2010-2011) [Other Donors' Cooperation] −Central Asia Regional Economic Cooperation (CAREC) Transport Corridor I, Rehabilitation of Bishkek–Torugart Road Project (539km)[1] financed by ADB, Exim Bank of China, and Arab Coordination Group (ACG)[2]		
Background	Kyrgyz is situated in the north-east of Central Asia. In Kyrgyz, road transport is the predominant mode of transportation, accounting for more than 90% of freight and passenger movements, and is the important economic infrastructure. However, road surfaces were extremely damaged since proper road maintenance/management has not been conducted after Kyrgyz's independence in 1991 because of lack in budget and machines/equipment. In addition, breakdown and decrepitude of machines/equipment caused difficulties in recovering from snow-slide/mud-slide. These situations have hindered transportation of necessary goods as well as people and have become a bottleneck of economic growth of the country.		
Project Objectives	Outcome To properly maintain trunk road between Bishkek and Torugart in Naryn Region (362km section of BNT Road) by procuring the equipment for road maintenance.		
	Outputs(s) Japanese side −Procurement of equipment: ①62 units of road maintenance equipment such as aggregate plant, trucks with crane, and excavators, ②spare parts of equipment, ③a truck designed to repair equipment −Soft Component: technical guidance regarding management and maintenance of machinery/equipment and roads Kyrgyz side −Acquisition of the land for installation of the asphalt plant and aggregate plant and removal of existing structures and preparation of the ground −Primary work for electric power feeding, water supply and drainage		

II. Result of the Evaluation

Summary of the Evaluation

In Kyrgyz, road transport is the predominant mode of transportation. However, due to the extremely damaged road surfaces and breakdown and decrepitude of machines/equipment, transportation of necessary goods as well as damages by heavy snow has become a bottleneck of economic growth of the country. For improving the situation, procuring the equipment for road maintenance was considered essential at the time of ex-ante evaluation.

This project has largely achieved the proper maintenance of trunk road between Bishkek and Torugart (BNT Road, which is an international road with the length of 539km) by procuring the equipment for road maintenance, while it should be noted that the originally-planned 362km-long road sections were/ will be rehabilitated by donors and that some equipment has been utilized for the road totaling to 1,992km under BNT UAD[3] in response to rising demand). As a result, trunk roads have been improved, and the traffic volume of BNT road have increased. In addition, the knowledge and skills of relevant staff for management and maintenance of machinery/equipment have been improved by technical training offered in the project. As for sustainability, there was no problem observed due to increasing budget for road maintenance, ensuring proper financial resources for the operation and the maintenance of the provided equipment, the desirable implementation structure, and

[1] The full rehabilitation work are planned to be finished in 2015.

[2] ACG includes following Funds: Islamic Development Bank, Saudi Development Fund, Kuwait Development Fund, OPEC International Development Fund, Abu-Dabi Development Fund.

[3] Russian-language acronym for a road management department. BNT UAD is responsible for maintenance of total 1,922km length of roads including the 539km-long BNT Road and 1,453km length of national/ local roads.

proper operation and maintenance of the provided equipment.

For relevance, this project has been highly relevant with Kyrgyz's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Kyrgyz's development policy "narrowing the gap between the capital and rural areas" as set in National Poverty Reduction Strategy approved in 2003, and as set in "Country Development Strategy (CDS) 2012-2014" and "Road Sector Development Strategy (RSDS) 2007-2010", development needs (repair/rehabilitation of heavily deteriorated BNT road which serves for international trades and improvement of road maintenance equipment) as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact [4]

This project has largely achieved its objectives of proper maintenance of roads under the jurisdiction of Bishkek-Naryn-Torugart (BNT) UAD of MOTC with use of the procured equipment by Road Maintenance Units (DEPs) and Asphalt Plants (AP) of BNT UAD, although the achievement also owes to other donors' cooperation. The equipment that was procured specifically for asphalt repaving has not been used for the repaving on the target sections (45km in length), as the rehabilitation/repaving of BNT road including the target section has progressed with assistance from donors (Indicator 1). Accordingly, the equipment for repaving was designated to address the demand for rehabilitation/repaving of any roads under BNT UAD, including 1,453km-long national/local roads: such demand for maintenance of national/local roads[5] has become evident following the progress of rehabilitation of international roads by donors.

The procured maintenance equipment other than those for repaving (i.e., pothole patching, repair of damages caused by disasters, and snow removal) was used for 539km-long BNT road (including the 362km section as well as the 45km target section that was rehabilitated by other donors) and the above-mentioned national/ local roads.

Most of the major equipment is frequently used to maintain both the BNT Road and other roads before and/or after the other donors' rehabilitation. For instance, concrete cutters and compressors for pothole patching respectively by DEPs 41 and 955 (km147-km367 section of BNT Road are covered) are utilized from May to October; snow removing trucks, used by DEPs 41 and 957 (km265-km539 section of BNT Road are covered) are utilized during winter; the wheel loader, used for the removal and transportation of crushed stones by DEP41 and AP, for 20-21 days/month and 10-12 days/month respectively. In addition, besides the rehabilitation by donors, 6km-long section of BNT Road as well as total 19.6km-long sections of other roads were repaved with the provided equipment.

As for effects of the project, compared to before the project, the road conditions were improved and thus contributed to the improvement of traffic. The results of interviews with the road users in and around BNT Road imply that after the project, there might have been less cases of road blockage by snow. Furthermore, travel time has been shortened and safety of the roads has been much enhanced. Also, traffic flow grew significantly and, traffic volume increased by more than 2.5 times (2005-2011, Indicator 2). The conditions of the road surface is currently kept very good (Indicator 3). Even though some effects can be attributed to the rehabilitation works by other donors, such effects and regular maintenance of the rehabilitated roads cannot be continued without the provided equipment.

Regarding the technical aspect, the trainers for instructing how to use asphalt plant were cultivated through the training in the project. In addition, a technical cooperation project by JICA from 2008 to 2011 helped DEP staff to use the provided equipment properly. On the other hands, the project didn't make any negative impacts in terms of the natural environment.

Therefore, effectiveness/impact of this project is high.

Quantitative effects

Indicator (Unit)	baseline value (2005)	target value 2011)	actual value (2011) (target year)
Indicator 1: Repaving of asphalt paved roads using the equipment developed under this project	-	Kuvaky pass 26km Dolon pass 19km	The originally-planned 45km road sections were/ will be rehabilitated by donors.
Indicator 2: Average vehicles per day of BNT 217km, 348km, 354km, 500km	1,265 (2008)	-	3,209 The locations mentioned in the left column have been rehabilitated by donors.
Indicator 3: Average IRI of BNT roads[a] (for reference)	-	-	2.4 mm/m [b]

Sources: Questionnaire survey and Interview survey with MOTC, BNT UAD, DEP 955, DEP 41, DEP 957 and AP

Site survey of roads under the jurisdiction of BNT UAD and the offices of DEP 955, DEP 41, DEP 957 and AP

Notes: [a] International Roughness Index, which shows smooth road surface conditions.[6] The figures are not available before 2012. The figure is as of 2012. [b] The average of IRI both lines of BNT Road (0-539km).

[4] The indicators for evaluating quantitative effects of this project weren't clearly described in the ex-ante evaluation report. Therefore the survey mission set up the draft indicators and tried to collect the quantitative data including the data (baseline value) at the time of ex-ante evaluation. However the mission could not get enough data because MOTC hasn't collected and arranged data from 2005 to this year. For the reason, the survey mission set up new indicators (indicators1-3) based on the data which the survey mission could get.

[5] The road network in Naryn consists of international roads, national roads and local roads.

[6] Road surface condition is considered to be good when IRI is low. Repair works are needed in Japanese expressway is more than 3.5mm/m.

Repairing potholes of BNT road (June 5, 2012)

After the repair of BNT road (June 8, 2012)

Aggregate Plant in AP

Snow Removing Machine

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 94%, 87%). Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project are maintained by MOTC, BNT UAD and the six DEPs and AP (asphalt plant) under BNT UAD, and when the provided equipment are broken, BNT UAD and the DEPs repair them. Rehabilitations and repairs of road pavement have been implemented under direct management of MOTC, Regional Road Agencies (PLUAD)/UAD and DEPs. There is no problem in the technical aspect because BNT UAD and DEPs have properly repaired the provided machines. It was pointed out during the interviews with DEPs that some training provided by this project was not sufficient (therefore repair of equipment sometimes took time)[7] and that the project did not prepare manuals written in Russian, but they have not affected O&M of the equipment seriously. Actually-spent budget of BNT UAD increased from 34 million som in 2005 to 152 million som in 2011 despite the limited resources for road maintenance, and financial resources for the operation and maintenance of the provided equipment are secured. BNT UAD and DEPs implement repairs properly, although it is difficult to purchase parts made in Japan in Kyrgyz and MOTC uses parts made in China. Although some machines are not located where the Project prescribed but located in BNT UAD in Bishkek and distributed on rotational basis to DEPs, they also have been properly maintained so far.

In this way, while a few concerns were observed, this project has no problem in structural, technical and financial aspects, and the current status of operation and maintenance of the implementing agency. Therefore, sustainability of the project effect is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- MOTC should collect and analyze data for road maintenance for evaluating works implemented by MOTC and explaining to the government and the public the importance of road maintenance (e.g. detailed data of closures caused by snow, time to remove snow, etc.).

Lessons learned for JICA

- It is effective to implement a technical cooperation project at the same time as project for improvement of road maintenance equipment. The engineers learned how to improve asphalt with the Stabilizer provided by this project.
- The outputs of the project were produced as planned. However MOTC, BNT UAD and DEPs reported that the O&M of the procured equipment would have been easier if the project had specified measures to ensure O&M more clearly. Therefore, a future project to procure equipment could include specific O&M items such as the followings in the list of the outputs:
  - Implementation of the training about how to repair equipment
  - Hand out manuals in local languages
- Indicators should be set up and be collected the data of the ex-ante evaluation in BD. In addition, BD mission should instruct implementing agency to collect the data needed for indicators after ex-ante evaluation.

[7] Although an equipment record/log for O&M was prepared with the support of the project, the contents of the training in the project were mainly about how to use equipment and not about how to repair them in the case of the breakdown. For that reason, the DEPs ask BNT UAD in Bishkek to send skillful master for repair or send equipment to Bishkek for repair.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Uzbekistan Office: March, 2013

Country Name	The Project for the Improvement of Mushviq Substation in Baku
Azerbaijan	

I. Project Outline

Project Cost	E/N Grant Limit: 880 million yen		Contract Amount: 850 million yen
E/N Date	May, 2006		
Completion Date	January, 2008		
Implementing Agency	Azerenergy Joint Stock Company		
Related Studies	Basic Design Study: August 2005 – March 2006		
Contracted Agencies	Consultant	Nippon Koei Co., Ltd.	
	Contractor	-	
	Supplier	ITOCHU Corporation	
Related Projects (if any)	Japan's cooperation: ・ Severnaya Gas Combined Cycle Power Plant Project I and II (1998 and1999, ODA Loan) ・ Shimal Gas Combined-Cycle Power Plant Construction Project (Second Unit) (2005, ODA Loan)		
Background	Since most power facilities of Azerenergy, an implementing agency, were constructed during the era of the former Soviet Union and are therefore aged and deteriorating, there is an urgent need for improvement to provide a reliable power transmission system by construction and renewal of power facilities as set in 5-year National Development Program. In particular, stable and high quality power supply to Baku City, which is the capital of Azerbaijan with the population of 2 million and its political and economic center, is the most important task of the country's power sector. However, the facilities of Mushviq Substation, one of the most important substations within the power supply network of central Baku, were aged. Given the recent favorable economic conditions of Azerbaijan which accompanied a construction boom in Baku, electric power demand in Baku was increasing rapidly and was anticipated to exceed the rated capacity of these transformers within a few years. In the worst case, a shutdown of Mushviq Substation could therefore result in massive blackouts in the center of Baku. Under these circumstances, the Government of Azerbaijan requested grant aid from the Government of Japan for improvement of the main transformers in Mushviq Substation, including the increase of transformer capacity, in December, 2003.		
Project Objectives	Outcome To ensure the stable power supply in Baku by procuring and installing main transformers and other equipment in Mushviq Substation.		
	Outputs Japanese Side: ・ Procurement and installation of 250 MVA main transformers (2 units) at the Mushviq Substation ・ Procurement and installation of 10 kV cubicles, Control and protection panels, Nitrogen-type fire prevention system, and others Azerbaijani Side: ・ Securing land for installing the procured equipment ・ Demolition and restoration of main gate (The existing main gate of Mushviq Substation is narrow and it could be an obstacle for carrying in the new main transformer.) ・ Execution of power outage during installation work and load shedding, if necessary.		

II. Result of the Evaluation

Summary of the Evaluation

Since most power generation, transmission and distribution facilities in Azerbaijan were constructed during the era of the former Soviet Union and were therefore aged and deteriorating, there was an urgent need for improvement to provide a reliable power transmission system. The main power transformers in Mushviq Substation, one of the most important substations within the power supply network of central Baku, were installed in 1986 during the era of the former Soviet Union. As 20 years had elapsed since their installation, the transformers exhibited problems. Given the favorable economic conditions of Azerbaijan which accompanied a construction boom in Baku, electric power demand in Baku was increasing rapidly and was anticipated to exceed the rated capacity of these transformers within a few years. In the worst case, a shutdown of Mushviq Substation could therefore result in massive blackouts in the center of Baku.

This project has largely achieved its objectives of supplying stable power in Baku: the power supply capacity has increased while the number and hours of outage have decreased. As for sustainability, although the number of staff at the implementing agency is minimum, they carry out regular training and maintain the equipment properly by using guidelines. They also seem to secure the sufficient maintenance expenses, however, the latest financial information was not obtained.

For relevance, the project has been highly relevant with Azerbaijan's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Azerbaijan's development policy "construction and renewal of power facilities for the stable power supply as set in the State Program for Development of Fuel and Energy Sector in Azerbaijan (2005)", development needs "response to the growing energy demand in Baku" as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of supplying stable power in Baku by increasing the transformer capacity. With the increase of the transformer capacity, the planned outage is no longer needed even if one unit of the main transformers fails. In terms of anticipated quantitative effect, the number and hours of outage have decreased. Availability factor has decreased after the project completion because the consumers who used the power without paying the fee before the project have saved the use of electricity after the metered rate was introduced. Since installment of the meters to all consumers has been completed, the availability factor is expected to increase.

As to impact, stable power supply have supported not only the continuing construction boom in Baku, but stabilization of the social activities including living of inhabitants and internally displaced persons of Nagorno-Karabakh since the power is supplied stably even at midwinder . According to the implementing agency, no negative impact was observed in terms of natural environment and land acquisition.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

	2006 Actual (BD)	2008 Planned (After completion)	2008 Actual (After completion)	2011 Actual (Ex-post Evaluation)
Indicator 1 Increase of transformer capacity	400MVA	500MVA	500MVA	500MVA
Indicator 2 (supplementary indicator) Availability factor	50.1%	---	38%	36%
Indicator 3 (supplementary indicator) Planned/unplanned outage hours (per year)	77.07	---	58.22	46.52
Indicator 4 (supplementary indicator) Outage times (per year)	14	---	13	11
Indicator 5 (supplementary indicator) Electricity supply (GWh)	1,214.5	---	1,229.6	1,448.4

(Source: Azerenergy)

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 97%, 96%).

Therefore, efficiency of this project is high

4 Sustainability

The equipment provided by the project is maintained by Azerenergy, the implementing agency. In terms of institutional aspect, although the number of staff has decreased compared to the figure which was considered desirable at the time of the ex-ante evaluation due to the streamlining of the maintenance activities, there are enough number of staff for a 24-hour monitoring and therefore for sustaining the project effect. There is no problem in the technical aspect since training on the proper use and maintenance of the equipment procured by the project is carried out monthly. Although detailed information was not obtained the implementing agency seems to have no financial problem since Azerenergy keeps generating profit for years and secures the maintenance expenses. With respect to the current status of operation and maintenance, Azeregergy operates and maintains the equipment based on internal guidelines, and the equipment operates well without any breakdown so far. Although the implementing agency keeps the operating data in log sheets, it would be desirable to create a database to record all incidences of operation and maintenance, failures and accidents so that the maintenance staff are able to detect failures and prevent accident promptly.

As stated above, there is no problem in the institutional and technical aspect as well as the current status of operation and maintenance, however, since the latest financial details were not obtained, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for implementing agency:

The equipment has been maintained properly so far, however, the implementing agency should create an online database to record all incidences of operation and maintenance, failures and accidents so that the equipment status is centrally controlled and the maintenance staff are able to detect failures and prevent accident promptly.

（Main transformers）

（Control panels for main transforms in the control building）

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ghana office: March, 2013

Country Name	Participatory Forest Resource Management Project in the Transitional Zone
Ghana	

I. Project Outline

Project Cost	474 million yen	
Project Period	March, 2004 – March, 2009	
Implementing Agency	Forestry Commission - Forest Services Division (FSD), Ministry of Lands, Forestry and Mines	
Cooperation Agency in Japan	-	
Related Projects (if any)	Japan's cooperation ・ The Study on the Reserve Forest Management in Transitional Zone in Ghana (Development Study, 1997-1999) ・ Dispatch of individual expert (2001-2003) ・ Follow-up cooperation for this project (2011)	
Background	In Ghana, pace of reduction of forest cover reached the annual average of 1.7% (120,000 ha) during 1990 to 2000. In the Transitional Zone lying between the High Forest Zone and the Savannah Zone, degradation of forest resources was serious due to over-logging and wildfire; thus restoration and conservation of forest resources was an urgent issue. Sunyani Forest District in Brong Ahafo Region, the target area of this project, was located in the Transitional Zone and rich in forest resources with the seven forest reserves. In addition to serving as a resource, forests there played important roles for local people in ways that they brought good rainfall and protected agricultural crops from the Hamatan (seasonal wind with sand blown from the Sahara desert). Under this circumstance, Japan implemented a development study and dispatched an individual expert in Forest Reserve Management in Sunyani Forest District. Based on the achievement of such cooperation, the government of Ghana requested Japan for the implementation of this project to carry out sustainable forest management in a participatory manner.	
Inputs	Japanese Side	Ghanaian Side
	1. Experts: 3 for Long term, 4 for Short term and 6 on outsourcing basis from the private sector[1] 2. Trainees Received: 5 persons 3. Equipment: 38 million yen 4. Local Cost: 75 million yen	1. Staff Allocated: 22 persons 2. Land and Facilities: FSD Brong Ahafo Office, FSD Head office (Accra) 3. Local Cost: 12 million yen
Project Objectives	Overall goal Improved participatory approaches for sustainable forest reserve management are adopted in Sunyani Forest District	
	Project Objective Participatory approaches for sustainable management of the forest reserves in the Transitional Zone are improved through pilot activities in Sunyani Forest District	
	Outputs 1) FSD personnel are trained in necessary skills and knowledge for planning and implementing participatory Forest Reserve Management Plan (FRMP). 2) Manual of Procedure (MoP) is modified to reflect the draft Strategic Plan (SP). 3) Partnership between FSD and target communities for Forest Reserve Management is established. 4) FRMPs are developed with active participation of local population. 5) Forest reserve management activities are implemented in collaboration with local population. 6) Recommendations on the basis of lessons learned from project are submitted to the government of Ghana.	

II. Result of the Evaluation

Summary of the Evaluation
In Ghana, community participation had been consistently important in a series of policies related to forest restoration and conservation. However, the challenge lied on establishing a practical method to operationalize the concept of forest conservation on the ground. For the project purpose of developing and upgrading the participatory approach in sustainable forest conservation, this project developed the draft FRMP for the two forest reserves (direct target sites of this project) and implemented the community activities, the central component of the FRMP, with high satisfaction of the participant communities. However, there observed some challenges at the time of the ex-post evaluation: the draft FRMP has not been officially approved yet, and the FSD of the Forest Committee is in a position to continue the process for approval. Also, the community activities became stagnant after the project completion. As for the overall goal, although FRMP was approved for one of the seven

[1] At the beginning, this project had been directly managed by JICA. In May 2006, after the mid-term evaluation, the project management was outsourced to the private sector in order to avoid risks associated with yearly selection of personnel (experts to dispatch) and thus to further enhance consistency and efficiency.

forest reserves in Sunyani Forest District after project completion, the FSD District Office continues consultations with the FSD Region Office and the head office of the Forest Committee toward development of FRMPs. As for sustainability, some problems have been observed in terms of the implementing agency's structural, technical and financial aspects due to (i) difficulties in allocating personnel and securing transportation means to fully practice participatory forest management based on the achievement of this project, (ii)only some evidences to show the utilization of the models of Green Belt (GB) Activities[2] and Income Generation Activities (IGA) at the time of ex-post evaluation, and (iii) continuous effort is needed to secure the budget allocation for some actions to establish FRMP.

For relevance, the project has been highly relevant with Ghana's development policy, development needs as well as Japan's ODA policy. For efficiency, while the project cost significantly exceeded the plan, the project period was within the plan.

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

1 Relevance

This project has been highly relevant with Ghana's development policy "Forestation through conservation of forest land" as set in the Ghana Poverty Reduction Strategy (GPRS, 2003) and the GPRS II (2006-2008), development needs (participatory forest conservation in Sunyani Forest District, Brong Ahafo Region) as well as Japan's ODA policy "Revitalization of rural area" as set in the Country Assistance Program for Ghana, at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project set an indicator "FRMPs are developed" to measure the achievement of the overall goal and the project purpose. However, the project document and other reports did not clarify the criteria on how to determine if a plan was "developed". To carry out evaluation, the ex-post evaluation team set a criterion by which a FRMP is regarded as "developed" once a workshop to validate the draft FRMP is held, and at the workshop, the draft FRMP is presented as the final draft for approval. This criterion is based on a recommendation noted in the terminal evaluation report that the project should complete the validation workshop by the end of the project period.

This project developed the "PAFORM Model", a participatory approach for sustainable management of forest conservation. More specifically, the draft FRMPs incorporating community activities such as GB and IGA were developed for Tain I Forest Reserve and Nzemere Forest Reserve, respectively, through pilot activities (i.e., participatory forest management activities). As a result, the two indicators for the project purpose, namely, satisfaction of the participant communities and the development of the FRMPs, were achieved by the project completion time. Regarding the status of forest management activities at the time of the ex-post evaluation, a good practice of GB (harvesting citrus fruits as part of sustainable forest management) was observed. Difficulties were however seen in documenting complex issues of land ownership (e.g., securing the land use right and managing agricultural products from the concerned land), and now the Legal Department of Forestry Commission is still studying the draft memorandum of understanding to advance the process of agreeing between the Forestry Commission and affected Forest Fringe Communities. Also, there observed stagnation of some community activities due to lack of initial investment and markets for IGAs.

For the overall goal, only one FRMP has been adopted for another Forest Reserve in Sunyani Forest District (the above-mentioned draft FRMPs for the two project pilot reserves have not been officially approved by FSD yet due to the change in political administrations and personnel transfer). While the characteristic activities of the PARORM Model such as GB and IGAs are not seen in this approved FRMP, stakeholders have been involved in the planning process (i.e., through a participatory approach). Also, FSD continues its efforts to increase the number of FRMPs. In addition, according to the implementing agency, there are neither negative impacts of the forest reserve management activities on the ecosystem nor involuntary resettlement due to this project. Therefore, effectiveness/impact of this project is fair.

In 2011, JICA implemented the follow-up cooperation of this project, under which FSD and the communities agreed on measures to solve the above-mentioned issues (see "4 Sustainability").

3 Efficiency

Although the amount of time allocated for preparation and implementation of the exit strategy was not long enough, the project period was within the plan. The project cost was significantly higher than the plan (ratio against the plan: 156%) because of the change of the project management system from direct management by JICA to a consignment basis. Therefore, efficiency of the project is fair.

4 Sustainability

This project continues to be in an important position in Ghana as the development of FRMPs is ongoing with other donors' assistance such as the Natural Resources and Environmental Governance (NREG) program.

The structure of the implementing agency has been sustained in a similar manner to the one during the implementation period. The FSD Sunyani Forest District Office took over the job of Community Facilitators that had been the central entity of the project implementation. Although the implementation structure for GB and IGAs is facing challenges such as lack of personnel and transportation means, FSD continues monitoring of GB and IGA by utilizing opportunities of site visits such as patrolling to fulfill various duties of forest conservation. In practicing IGAs, the coordination between FSD and the Ministry of Food and Agriculture is not sufficient.

In the technical aspect, the field officers of FSD are trained on forest conservation duties through on the job training. It is deemed, and FSD acknowledges, that FSD officers have basic skills of developing FRMPs as they actually developed one after the project completion. However, it will require more time to consolidate the skills for introducing GB and IGAs fully under FRMPs. Note that the communities that continue GB have shared and practiced the contents of sustainable forest

[2] Green Belt (GB) Activities include planting and growing fruit trees by communities with support from FSD, aiming to consolidate the cooperative relationship between FSD and the communities.

management.

In the financial aspect, a progress is expected as the fiscal 2012 budget was approved for implementation of GB in both Tain I and Nzemere Forest Reserves (i.e., cost of purchasing seedlings and fuel for field visits by officers). However, still continuous effort is needed to secure the budget allocation for development and approval of FRMPs though being behind the schedule the Forestry Commission initiated efforts to finance the final phase of the Forest Management Plans with funds released from NREG allocations for 2013. FSD Bong Ahafo Region Office and Sunyani Forest District Office continue their work toward the mainstreaming of PAFORM (e.g., stating in FSD's operation manuals) and promotion of GB and IGAs implementation based on the five-year plan agreed upon at the re-orientation workshop in 2011 (held as part of the follow-up cooperation).

From the above, the project has some problems in the structural, technical and financial aspects of the implementing agency. Therefore, sustainability of the effects of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- Although some activities are stagnant, the FSD Region and District Offices should ensure implementation of the five-year plan that was agreed by the stakeholders at the re-orientation workshop in 2011.
- Measures should be taken to put the FRMPs of Tain I and Nzemere into practice.
- For revitalizing currently stagnant IGA, concrete plans of coordination between FSD and the Ministry of Food and Agriculture should be discussed again.

Lessons learned for JICA

- In case where the core project activities are carried out by outside personnel hired by the project, such as the Community Facilitators of this project, the exit strategy should thoroughly consider the capacity and work environment of those who are to take over the job (officers of the FSD Sunyani District Office in case of this project).
- In a project with indicators that expect development of plans or consensus documents, each action plan to reach the target (e.g., memorandum of understanding on land use for GB and FRMP) should clearly identify the process of planning, piloting, approval and adoption/implementation. Also, the clear target (i.e., criteria, stage of work or conditions to be met/reached) should be defined for each indicator at the mid-term review or terminal evaluation.
- When supporting the development of such consensus documents or plans, it is desirable that the project have smooth communication with those who are responsible for approving the documents/plans during the project implementation period.

Nzemere Forest Reserve

Citrus for harvest in 2012 (outcomes of the continuing GB Activities)

A forest ranger of FSD monitoring the citrus trees in GB and patrolling the Forest Reserve

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ghana office: March, 2013

Country Name	Project to Support the Operationalisation of the In-Service Training Policy
Ghana	

I. Project Outline

Project Cost	425 million yen	
Project Period	December, 2005 – November, 2008	
Implementing Agency	Ministry of Education, Science and Sports (MOES) (currently Ministry of Education (MOE)), Ghana Education Service (GES), Teacher Education Division (TED)	
Cooperation Agency in Japan	Ministry of Education, Culture, Sports, Science and Technology, Hiroshima University	
Related Projects (if any)	[Japan's cooperation] ・ Project of Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education (STM) (Technical Cooperation, 2000–2005) ・ Follow-up for Project to Support the Operationalisation of the In-Service Training (INSET) Policy (2009) ・ Project for Strengthening the Capacity of the In-Service Training (INSET) Management (INSET2) (Technical Cooperation, 2009-2013)	
Background	The Government of Ghana set education as the important agenda for national development. As a result of the efforts thus far, the total enrollment ratio in primary education in the country exceeded 80%, reaching the highest level in West Africa. However, there was still a notable gap between public and private schools in terms of students' academic capabilities. The biggest cause for the low attainment level of children was the poor quality of teachers. Although supports for In-Service Training (INSET) were provided by many donors, there were overlapping contents as well as confusions at the frontline, caused by a variety of approaches. Therefore, this project conducted the establishment of the implementation system of INSET in 10 pilot districts, aiming for the establishment of the INSET model in science and mathematics in primary schools and the improvement of INSET policies.	
Inputs	Japanese Side	Ghanaian Side
	1. Experts 13 persons 2. Trainees Received 6 persons 3. Equipments 13 million yen 4. Local Cost 103 million yen	1. Staff allocated 13 persons 2. Local cost 235,183 cedi 3. Project office, central training center and district training centers
Project Objectives	Overall goal Medium-Term Goals: 2011 ・ Capacity of Ghana Education Services (GES) INSET Unit, District Teacher Support Teams (DTSTs), Head Teachers (HTs), Circuit Supervisors (CSs) and Curriculum Leaders (CLs) in supporting School-Based INSET (SBI) is improved in the pilot districts. ・ The INSET model is conducted nationwide. Long-Term Goal: 2013 ・ The teaching capacity of primary school teachers is improved through continuous INSET.	
	Project Objective A structured and replicable INSET model of science and mathematics for primary school teachers is in operation in 10 pilot districts.	
	Outputs ・ The INSET implementation structure is established in 10 pilot districts. ・ Needs-based INSET modules and guidelines for the use of a source book (collection of modules) are developed. ・ Capacity of the key actors (National INSET Units [NIUs], DIUs,DTSTs, HTs, CSs, CLs and teachers) to support the delivery of INSET is developed. ・ Monitoring and evaluation system for the district INSET model are developed and implemented. ・ Participation in and support for INSET are encouraged, and the INSET Policy is improved so that the institutionalization of INSET is smoothly implemented by the government of Ghana.	

II. Result of the Evaluation

Summary of the Evaluation

To improve primary school teachers' teaching skill for science/math and enhance students' abilities in Ghana, INSET program was supported by many donors. However, a systematic INSET arrangement did not exist at the time of the ex-ante evaluation of this project. Therefore, there was an urgency to promote the harmonization of systems through the institutionalization of INSET (model building) by the Ghana Education Service (GES).

This project has achieved the development of the structured and replicable INSET model and conduct of school-based INSET (SBI) or cluster-based INSET (CBI) in the 10 pilot districts by the time of project completion, but then the achievement

level slightly declined in terms of frequency of SBI/CBI after the project completion. For the overall goals, the medium-term goal 1 (improvement of related organizations in the pilot districts) was achieved as the capacity of related organizations in the pilot districts was improved through workshops and trainings. The medium-term goal 2 (application of the INSET model nationwide) and the long-term goal (improvement of teachers' capabilities) have not yet been fully achieved mainly due to the increase in number of districts and financial devolution due to ongoing progress of decentralization, shortage of and delays in governmental budget support for districts and frequent personnel changes of INSET related personnel. As for sustainability, these problems have been observed as well in terms of technical and financial aspects due to frequent personnel changes and shortage of governmental budget support for districts and schools.

For relevance, the project has been highly consistent with Ghana's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost slightly exceeded the plan.

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

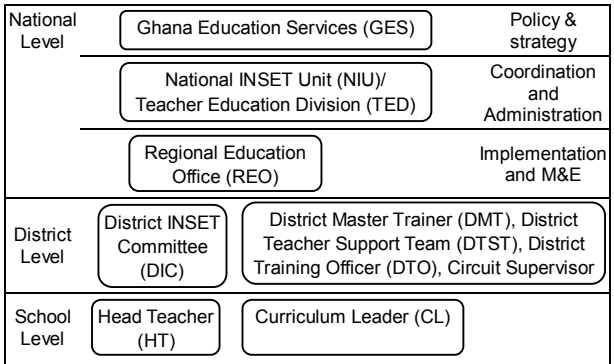
1 Relevance

This project has been highly relevant with Ghana's development policy goal to improve the "quality of education" as set in Education Strategic Plan (2003-2015), development needs "improved training system to increase teachers' teaching skills and students' achievements" as well as Japan's ODA policy for Ghana (assistance in the education sector as set in Basic Education for Growth Initiative (BEGIN) 2002 and JICA's country program), at the time of both ex-ante evaluation and project completion. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has somewhat achieved the project purpose and overall goal by the time of project completion. For the project purpose, the development of structured and replicable INSET model was successfully achieved through the development of the INSET sourcebooks and guidelines as well as orientations and the conduct of INSET (SBI/CBI)[1] in the 10 pilot districts. However, the percentage of schools that regularly conduct INSET in the pilot districts slightly decreased from 84.9% in 2007/8 to 75.3% in 2012.

As for the overall goals, based on the interviews and sampling surveys conducted for this ex-post evaluation and under INSET2, the medium-term goal (1) of improving capacity of GES INSET Unit, DTSTs, HTs, CSs and CLs has been mostly achieved partly thanks to the continuing trainings under INSET2; however, the medium-term goal (2) of disseminating the INSET model nationwide has not fully achieved yet as 57.7% of schools in 170 districts (10 pilot and 160 non-pilot) which completed CL training 1 by the end of 2011 and has conducted more than 2 SBI/CBI sessions from January 2012 to August 2012. Regarding the long-term goal of improving teachers' capabilities, there is a possibility to achieve this goal as the results of the measurement of teaching skills under INSET2 surveys showed that teachers who had participated in SBI/CBI scored significantly higher than teachers who had *not* participated in SBI/CBI. However dissemination of INSET should be enhanced.



INSET implementation structure (source: Final Report (slightly modified))

The gradual decline in the achievement of the project purpose and the insufficient achievement of the medium-term overall goal (2) are mainly due to: rapid progress of financial devolution due to decentralization, shortage of governmental budget support for districts, slow delivery of Capitation Grant[2] to schools, low prioritization of INSET among Directors of some districts, frequent personnel changes of District Training Officers (DTOs), DTSTs, HTs and CLs, weak legal enforcement for the teachers to participate in SBI/CBI, lack of communication with schools in rural areas, and the increased number of districts[33]. To cope with these obstacles, NIU members under INSET2 are developing a new method of monitoring to understand the situation of each district better, and providing consultation for DIC, and sensitizing District Director of Education (DDE) to enhance dissemination of INSET.

Nevertheless, as a ripple effect some SBI/CBI model has been implemented in a few secondary schools out of their own initiatives and also it has been implemented in literary at the several primary schools.

Therefore, effectiveness/impact of this project is fair.

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was as planned, the project cost slightly exceeded the plan because of additional inputs such as equipment and administrative cost (ratio against the plan: 114%). Therefore, efficiency of the project is fair.

4 Sustainability

The project has some problems in technical and financial aspects of the implementing agency. In the technical aspect,

[1] School-Based INSET (SBI) is a type of INSET which is organized at the school level by the teachers in a particular school. SBI is organized to solve some special needs or deficiencies identified by the teachers themselves or by lead teachers. Cluster-Based INSET (CBI) is the type of INSET which is organised when a number of schools come together to form a cluster to share ideas on good practices.

[2] Capitation Grant is provided by the government to all public basic schools in Ghana. It was introduced in 2005/6, together with the abolishment of school levies, to encourage poor families to attend schools. Each school can decide the use of the grant, and it can be used for SBI/CBI.

although the continuing trainings (with support from INSET2) has improved the capabilities of the key actors and the INSET sourcebooks have been effectively revised by them, the frequent personnel changes of HTs, CLs, DTST, DTOs have adversely affected the accumulation of the knowledge and maintaining the level of INSET-implementation capacity. In the financial aspect, while budget for education is continuously supported by external assistance and districts have some budget for INSET (SBI/CBI and monitoring), the budget release is generally slow and/or insufficient, and some districts do not give budgetary priority to INSET[3].

However, no problem has been observed in policy and structural aspects of the implementing agency. In the policy background, INSET is still supported by recent education policies. To institutionalize the INSET program, TED facilitated the development of Pre-Tertiary Teacher Professional Development and Management (PTPDM) policy with the involvement of major stakeholders and it was endorsed by the Ghana Education Service. As for the structural aspect, the structure of implementing agency has been partially changed from the implementation period due to decentralization and it is considered appropriate for continuity of project effectiveness. And NIU is actively improving the INSET monitoring system.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

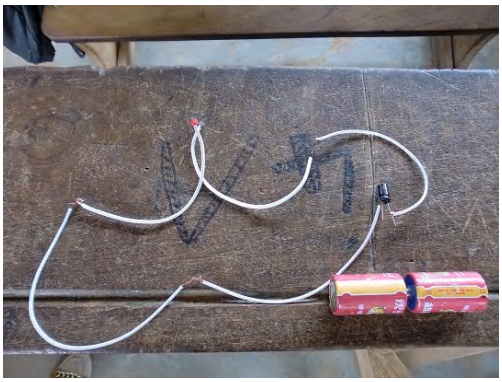
Recommendations for Implementing agency

- TED's continuous effort for launching and enforcing the PTPDM is crucial.
- TED's continuous sensitization towards District Education Directors and the MoE/GES policy level personnel to prioritize INSET activities is essential.

Lessons learned for JICA

- Although INSET (SBI/CBI) model is flexible in terms of human and financial resources compared to cascade model, it is still necessary to carefully consider the stakeholders' personnel changes, implementing agencies' budget constraints and financial devolution and respond to the change of the situation proactively.

Trained teacher teaching science class



Materials for science experiment during SBI

[3] When the project started in 2006, the number of the district was 138; however, after the completion of project, the number was increased to 170 in 2009.

[4] In accordance with decentralization, the flow of finance changed and NIU does not have a direct control of allocation of INSET budget for districts.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ghana office: March, 2013

Country Name	The Tourism Development Project Through Strengthening Public-Private Partnership
Ghana	

I. Project Outline

Project Cost	253 million yen	
Project Period	February, 2006 – February, 2009	
Implementing Agency	Ministry of Tourism and Diasporan Relations (MOTDR) at the time, currently Ministry of Tourism (MoT)	
Cooperation Agency in Japan	PADECO	
Related Projects (if any)	・Japanese Counterpart Fund for the construction of the Accra Visitors Center (AVC), which was founded as a deliverable from PPP Forum established by this project.	
Background	In recent years, Ghana has made large strides in the area of economic development. Tourism is recognized as an important non-traditional export sector that can play a vital role in achieving economic growth and poverty reduction by generating foreign exchange and creating job opportunities. Therefore, Ministry of Tourism and Diasporan Relations (at that time. Currently Ministry of tourism or MoT) requested JICA to support its effort on the establishment of successful public-private partnership (PPP) for tourism promotion in the scheme of Technical Cooperation Project.	
Inputs	Japanese Side	Ghana Side
	1. Experts: 6 persons for Short term 2. Trainees Received in Japan: 8 persons 3. Equipment: 3 million yen 4. Local Cost: 35 million yen 5. Others: study tour to South Africa	1. Staff allocated: 7 persons 2. Equipment: 1 personal computer 3. Office room with telephone, internet, furniture, etc.
Project Objectives	Overall goal Tourism industries along with hospitality services are well developed to attract more tourist arrivals and increase receipts.	
	Project Objective(s) Successful Public-Private Partnership (PPP) is established.	
	Output(s) ・ Output1: Functioning PPP Forum is in place. ・ Output2: Capacity of the Forum is well-developed. ・ Output3: Activity plans and strategies for the future PPP Forum are formulated. ・ Output4: Capacities for monitoring and evaluation are enhanced.	

II. Result of the Evaluation

Summary of the Evaluation

In Ghana, tourism was the third largest source of foreign currency earning and recognized as an important non-traditional export sector at the time of Ex-Ante Evaluation. However, the sector lacked tourism resources, public relations/promotion and investment. The private sector was still weak with insufficient government support. There was an urgent need to develop a mechanism of PPP to promote sustainable tourism development.

This project has largely achieved for the project purpose of establishing successful PPP by realizing a total number of 18 PPP forums (as the platform of PPP) as of now. And the overall goal of development of tourism industries along with hospitality services to attract more tourist arrivals and increase receipts was largely achieved since the number of tourist and amount of receipts have been gradually increasing and 60% of tourists surveyed were satisfied with the beauty of attraction sites in 2011, and the project has indirectly contributed to such development through PPP Forum and many deliverables from the Forum. As for sustainability, problems have been observed in terms of institutional, technical and financial aspects due to the frequent changes in political heads (Ministers) and Chief directors, inadequate qualified persons/human resources (public and private sectors) to drive the PPP Forum activities, and the inadequacy of government budget to the implementing agency. For relevance, the project has been highly relevant with Ghana's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost exceeded the plan.

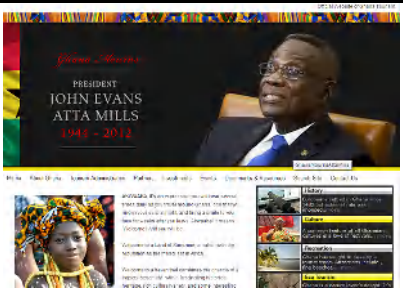
In the light of the above, this project is evaluated to be partially satisfactory.

1 Relevance

This project has been highly relevant with Ghana's development policy "seeking to develop tourism sector" as set in Growth and Poverty Reduction Strategy (GPRS II) 2007 (draft as of 2005), National Tourism Development Policy (draft as of 2007) and Ghana Shared Growth and Development Agenda (GSGDA) 2010-2013, development needs (high demand of PPP both in public sector and private sector), as well as Japan's ODA policy "Japan's Country Assistance Program", at the time of both ex-ante evaluation and project completion. Therefore, its relevance is high.

2 Effectiveness/Impact

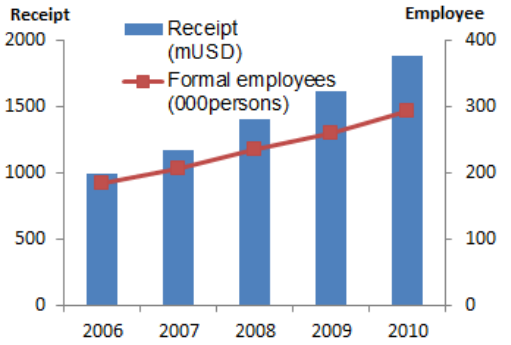
This project has largely achieved the project purpose of establishing successful PPP as well as overall goal of development of tourism industries along with hospitality services to attract more tourist arrivals and increase receipts. For the project purpose, the project established PPP Forum with the Secretariat within the MOT, and 10 PPP forums were held during the project period and 8 more were held after the project completion by August 2012, each participated by 50-100 members from public and private sectors. Pilot activities of the project generated a number of initiatives that are still on-going/ developing (see Table below). Although frequency of forums is decreasing after the project (see 4. Sustainability for the reasons), PPP Forum is still very much appreciated by both public and private stakeholders interviewed for the ex-post evaluation, because the Forum still is the main mechanism for cooperation between both stakeholders for the development of tourism sector.



National Tourism website

The overall goal was achieved for its target indicators: the number of tourist and amount of receipts were gradually increasing and 60% of tourists surveyed were satisfied with the beauty of attraction sites in 2011. Also, the number of licensed car rent companies, hotels and employees are steadily growing. Such development is contributed by the PPP Forum and its deliverables indirectly but certainly[1]. Therefore, its effectiveness/impact is high.

Tourism indicators of Ghana



Source: Interviews with MoT and GHATOF.

Table: On-going initiatives as a result of pilot activities of this project (excerpts)

Pilot activities of PPP Forum	Current situation
Strengthening of the organizational structure of Ghana Tourism Federation (GHATOF)	The organization is still week, but a few strides have been made at strengthening it.
Preparation for establishing the Ghana Tourism Authority (GTA)	Established by Tourism Act, 2011 (Act 817)
Preparation for establishing the Ghana Tourism Fund (GTF)	In process (bill should pass the parliament)
Establishment of Accra Visitor Centre (AVC)	Under construction
Improvement of the national tourism web site (http://www.touringghana.com/)	Viewed and utilized by many visitors, although the accurate number of access is not available.

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the period of the project was within the plan (ratio against the plan: 100%), the project cost was higher than the plan (ratio against the plan: 127%) because of unexpected needs of addition identified after launch of the project. Therefore, efficiency of this project is fair.

4 Sustainability

This project has major problems in institutional, technical and financial aspects of the implementing agency due to the frequent changes in political heads (Ministers) and Chief directors, still inadequate qualified persons/human resources (public and private sectors) to drive the PPP Forum activities, which resulted in the recent decline of the frequency of the forums (4 times in 2009, 2 times in 2010, once in 2011 and once in 2012). According to the private sector (GHATOF), their roles were to cooperate with the public sector to enable the PPP work, but officials in the public sector who were supposed to convene PPP Forum meetings could not do so[2]. Also, the inadequacy of government budget to the implementing agency has affected the stagnating PPP Forum. No major problem was however observed with the policy background as this project is consistent with the Tourism Sector Medium Term Development Plan (2010-2013) of Ghana in an ongoing manner. The sustainability of the project is therefore low.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

The MoT is expected to:

- review the PPP Forum organizational structure to suit the current situation.
- review the frequency of PPP Forum meetings and activities, in close collaboration with GHATOF, in order to share

[1] The direct contributing factor to tourism sector is Ghana's strides in over two decades of political stability and peaceful environment. The factors inhibiting the thriving of the tourism industry is the following: still weak private sector (GHATOF), weak tourism and trade associations under GHATOF, lack of tourism training institutions, budgetary constraints and lack of political commitments from the public sector. PPP Forum has indirectly contributed to growth of the tourism sector in a way it has enabled public and private sectors to discuss and find solutions to problems or constraints for the sector.

[2] The PPP Secretariat does not exist anymore because MoT has place the PPP in the ministry's mainstream activities. The responsibility to coordinate PPP is currently in the PPME (Policy Planning, Monitoring and Evaluation) Division of MoT, and holding of the forums depends on the decisions of Ministers and chief directors.

relevant information, develop strategies and find solutions to emerging problems in the tourism industry. They are expected to ensure the complete revitalization of the PPP concept.

- re-strengthen the private sector through continuously strengthening GHATOF and the trade associations under it.

Lessons learned for JICA

- After the completion of the project, implementation of PPP Forum has become rather stagnant, but the private sector's role in maintaining PPP Forum was limited compared to the government. Therefore, in a project that aims to establish a mechanism involving various stakeholders, all parties actively involved in the project should be given the mandate or be involved in project initiation and planning activities right from the onset of project implementation.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Kenya office: March, 2013

Country Name	Project for Improvement of Emvironmental Management Capacity in Nakuru Municipality and the Surrounding Areas
Kenya	

I. Project Outline

Project Cost	368 million yen	
Project Period	February, 2005 – February, 2009 (Extension period: February, 2009 – July, 2009)	
Implementing Agency	Municipal Council of Nakuru (MCN) (Ministry of Local Government)	
Cooperation Agency in Japan	Ministry of Environment	
Related Projects (if any)	Japan's cooperation: ・The Greater Nakuru Water Supply Project (1986, ODA Loan) ・The Nakuru Sewage Works Rehabilitation and Expansion Project (1994, Grant Aid)	
Background	Nakuru Municipality or Nakuru town was the fourth largest city in Kenya with an estimated population of more than 400,000. The town had been experiencing rapid population growth and increasing a number of factories including battery, tanning, garment, food processing and pyrethrum in operation. The concentration of population and industries resulted in chronic water shortage and pollution from sewage and industrial wastewater. As a result, the deterioration of the water-related environment had become one of the major concerns in the town. Lake Nakuru, which is famous worldwide for its flamingo, is located at the bottom of a basin, and therefore, the lake received considerable amounts of water flowing from the river and by underground seepage, and all pollutants including sewage and industrial wastewater were likely to accumulate there, posing a serious threat to the ecosystem of the watershed. In response to those issues, the Municipal Council of Nakuru (MCN) had created the Department of Environment in November 2011 to manage the environment including control of major pollutants, however, the capacity of MCN was still weak and improvement in its ability of environmental administration and management was an urgent issue. Many institutions including NGOs and other donor agencies had been working on forest preservation, land use of the watershed region, waste management and protection of wildlife in the watershed region. However, their respective interventions were ad hoc basis and they had not worked jointly. As a result, it was difficult to accumulate study results or achievements of activities. In order to improve this situation, MCN was expected to take initiatives for the environmental management in Nakuru town and Nakuru watershed region. In these circumstances, the Government of Kenya requested the Government of Japan for a technical cooperation to improve the environmental management capacity of MCN in water-related aspects.	
Inputs	Japanese Side	Kenyan Side
	1. Experts: 13 (3 for Long term, 10 for Short term) 2. Trainees Received: 5 (Counterpart training in Japan) 3. Equipment: 29 million yen 4. Local Cost: 22 million yen	1. Staff allocated :33 2. Land and facilities provided: An office for experts, project-related facilities
Project Objectives	Overall goal To improve environmental management in the Lake Nakuru Watershed Region	
	Project Objective To improve the water-related environmental management capacity of the Nakuru Municipal Council	
	Outputs 1. Credible quality with effective coverage in monitoring is attained. 2. Effective environmental management tools and mechanism for enforcement are developed and utilized. 3. Cooperation is established among lead organizations and stakeholders for the study and actions in the watershed for its better management. 4. Public and private participation in local environment management is enhanced.	

II. Result of the Evaluation

Summary of the Evaluation
In Nakuru Municipality or Nakuru town, the concentration of population and industries resulted in chronic water shortage and pollution from sewage and industrial wastewater. As a result, the deterioration of the water-related environment had become one of the major concerns in the town. Lake Nakuru is located at the bottom of a basin, and therefore, the lake received considerable amounts of water flowing from the river and by underground seepage, and all pollutants including sewage and industrial wastewater were likely to accumulate there, posing a serious threat to the ecosystem of the watershed. In response to those issues, MCN had created the Department of Environment in November 2001 to manage the environment including control of major pollutants. However, the capacity of MCN was still weak and improvement in its ability of environmental administration and management was an urgent issue. This project has largely achieved the project purpose of improving water-related environmental management capacity

of the MCN. Water quality monitoring programs and environmental management tools including the Factory Inspection Manual and the Guideline for Industrial Effluent Treatment were developed by the project and have been used appropriately for environmental management in Lake Nakuru catchment. The project also has mostly achieved overall goal. MCN, Nakuru Water and Sanitation Services, Co. Ltd (NAWASCO; a company responsible for operation and facility maintenance of water supply and sewage in Nakuru Municipality) and Kenya Wildlife Services (KWS; an organization responsible for the management of Lake Nakuru National Park) have expanded respective activities on the environmental management. In addition, those three organizations together with NGOs have been continuing cooperation for environmental management after the completion of the project. However, sewage system improvement and proper management of a rainwater reservoir as measures for pollution management have not been taken by MCN, although the project proposed and it was expected that MCN take such measures after the project completion.

As for sustainability, there was no problem observed in terms of related policies and technical aspect, however, some problems were observed in institutional and financial aspects. Institutionally, there is a concern whether Pollution Control Section (PCS) at MCN are able to carry out its tasks at the current technical level since most of the staff of PCS are seconded from the Ministry of Health and they might return to the Ministry any time. Financially, although minutes of understanding (MOU) signed by MCN, NAWASCO and KWS stipulates the financial responsibility of three organizations for water quality monitoring activities, sufficient budget is not secured.

For relevance, the project has been highly relevant with Kenya's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante evaluation and project completion. For efficiency, both of the project cost and the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Kenya's development policy; water resource, environmental management and conversation of sustainable and healthy environment, which were set as the priority areas in Kenya Poverty Reduction Strategy Paper and Kenya Vision 2030, development needs "Environmental management in the Lake Nakuru watershed region", as well as Japan's ODA policy "Country assistance program for Republic of Kenya", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of improving water-related environmental management capacity of the MCN. The project has developed credible water quality monitoring programs for data collection and analysis, effective environmental management tools such as the Factory Inspection Manual and the Guideline for Industrial Effluent Treatment, and therefore MCN's inspection and guidance capacity has improved. Furthermore, cooperation among lead organizations and stakeholders for environmental management of Lake Nakuru catchment has been established through development of the GIS database, and stakeholders' meetings/seminars and discussion on measures for environmental management. As a result, data collection and analysis capacity of Water Quality Testing Laboratory (WQTL; a laboratory which was established by a grant aid assistance project from Japan and currently belongs to NAWASCO) which monitors the water quality has improved, and the analyzed data and environmental management tools have been appropriately utilized by MCN, NAWASCO and KWS for their environmental management in the Lake Nakuru catchment and thereby their environmental management capacity have improved. For instance, MCN which is responsible for pollution control utilizes the tools for their factory inspection and for enforcement of regulations on polluters, NAWASCO has been using the data to maintain acceptable water quality for drinking as well as to assess the effectiveness of the sewerage treatment process, and KWS is accumulating the data to maintain the standards for acceptable habitat for wildlife.

The project also has mostly achieved overall goal. MCN, NAWASCO and KWS have expanded respective activities on the environmental management. In addition, a cooperation mechanism by those three organizations for environmental management was established by concluding MOU by three organizations for their cooperation on the water quality monitoring activities. After the completion of the project, those three organizations together with NGOs have been continuing cooperation for environmental management. However, while sewage system improvement and proper management of a rainwater reservoir as measures for pollution management were expected to be taken by MCN after the project completion, MCN only carries out monitoring activities due to the shortage of personnel and budget.

The project has mostly achieved the targets of outputs, project purpose, and overall goal; therefore, effectiveness/impact of this project is high.

Samples being analyzed at WQTL

A poster for awareness raising on environment which was developed by the project

Lake Nakuru Education Center (Activities for public awareness raising on environment are carried out there.)

3 Efficiency

While the inputs were appropriate for producing the outputs of the project, both of the project cost and project period slightly exceeded the plan (ratio against the plan: 111% and 112% respectively), because MM of short-term experts and a budget for equipment were increased, and the experts were not able to work for five months due to the aftermath of the presidency election. Therefore, efficiency of the project is fair.

4 Sustainability

This project is consistent with the Kenya's environmental policies, since Environmental Management By-laws was enacted which stipulates MCN's roles on environmental management. There is no problem in the technical aspect. Three out of total six staff at WQTL participated in the technical training and therefore they have high skills of water data analysis. The remaining three staff who were assigned after the project completion are scheduled to take part in the training. PCS also carries out training for the newly hired staff with the manual and guideline developed by the project.

With respect to the institutional aspect, although the structure of implementing agency and other related organizations have been sustained in a similar manner with the project implementation period, some problems were observed since most of staff of PCS are seconded from the Ministry of Health and there is a concern whether PCS is able to continue the tasks at current technical level since they might return to the Ministry anytime.

On the financial aspect, although information on WQTL's revenue from the commissioned service for the water data analysis was not obtained, WQTL seems to operate sustainably since the budget includes expenses for purchase of reagent, consumable goods such as lab coats, and equipment including beakers. On the other hand, there are some problems on financial aspect: Although the MOU signed by MCN, NAWASSCO and KWS stipulates the financial responsibility of three organizations for water quality monitoring activities, sufficient budget is not secured. The budget for maintenance of equipment procured is not secured either. The expenses for the environmental education were incurred by Japan during the project implementation; however, after the termination of the project, the budget has not been secured.

Therefore, sustainability of this project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. The problem of staff allocation at PCS has not been solved as the most of the staff are seconded from the Ministry of Health. MCN should allocate permanent staff to PCS.
2. The regular meeting among the MCN, NAWASSCO and KWS has been offering a good avenue for the mutual understanding and to address problems in a collective manner. Therefore, this should be continued.
3. Each of MCN, NAWASCO, and KWS should continuously secure and allocate sufficient budget for the water quality monitoring activities, operation and maintenance budget for the WQTL equipment procured by the project, and others.
4. At the regular tripartite meeting, MCN, NAWASCO, and KWS should discuss concrete and effective collaborative activities and measures for environmental management in Lake Nakuru catchment.

Lessons learned for JICA

The expenses for the environmental education were incurred by Japan during the project implementation. At the time of project formulation, JICA and a recipient country should discuss the detailed cost breakdown and clarify items incurred by JICA and the recipient country respectively. Based on the agreement, JICA should make the recipient country fully aware of the need for the budget allocation in the future in order to continue the sustainable activities after the project completion.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Kenya office: March, 2013

Country Name	Project for Improvement of Health Services with a focus on Safe Motherhood in the Kisii and Kericho Districts
Kenya	

I. Project Outline

Project Cost	333 million yen	
Project Period	March, 2005 – March, 2008	
Implementing Agency	Department of Preventive and Promotive Health Service, Ministry of Health (MOH) District Health Management Team (DHMT) of Kisii District, Nyanza Province and Kericho District, Rift Valley Province	
Cooperation Agency in Japan	Health and Development Service (HANDS)	
Related Projects (if any)	[Japan's Cooperation] ・ Study on Strengthening District Health System in the Western Part of Kenya (Development Study) ・ The Project for Improvement of Health Centers in the Western Part of Kenya (1/2)(2/2) (Grant Aid) ・ Project on Promotion of Maternal and Neonatal Care Focusing on Breastfeeding in Kericho District (Baby-friendly Project) (Grassroots Technical Cooperation, August 2009 – Jan 2012)	
Background	Despite the government efforts, health conditions remained poor in Kenya due to poor social investments, particularly in the western part of the country. In 1997-1998, the Japanese Government commissioned JICA to conduct a development study and formulated a master plan for strengthening the district health system in the western part of Kenya, namely the Kisii, Nyamira and Gucha Districts in Nyanza Province and the Kericho and Bomet Districts in Rift Valley Province. In accordance with this master plan, health centers (HCs) in these districts were rehabilitated by the end of 2001. The Government of Kenya (GOK) then requested the Japanese Government to implement a technical cooperation project to support these rehabilitated HCs for the improvement of their management systems and services. As a result of the discussions between the GOK and JICA, it was decided that the project target areas would be Kisii and Kericho Districts.	
Inputs	Japanese Side	Kenya Side
	1. Experts: 17 persons 2. Equipments: 28 million yen 3. Local Cost: 78 million yen 4. Others: counterpart training in Kenya	1. Staff allocated: 28 persons 2. Land, facilities and training rooms 3. Local Cost: personnel cost for the Kenyan side, fuel cost and operation and maintenance cost
Project Objectives	Overall goal Health condition, particularly the maternal health, is improved in the target areas.	
	Project Objective(s) Maternal care, provided at health centers (HCs) and communities, is improved in the target areas.	
	Output(s) ・ Output 1: Maternal care services at HCs are upgraded. ・ Output 2: Management support in HCs is improved. ・ Output 3: District Health Management Team (DHMT)'s system for their supportive supervision for HCs is strengthened. ・ Output 4: Maternal care at the community level is improved. ・ Output 5: A referral system is arranged and functioning between communities, HCs and District Hospitals.	

II. Result of the Evaluation

Summary of the Evaluation
In the period around year 2004, the Western part of Kenya faced challenges of high prevalence of infectious diseases including malaria and HIV/AIDS, low social capital compared to a large population, and the deterioration of health facilities. The Project has achieved the purpose of improving maternal care provided at health centers (HCs) and communities in the target areas, as well as overall goal of improving health condition, particularly maternal health in the target areas: with improved knowledge and skills accumulated from the Project, Antenatal Care (ANC) services are widely available showing increased utilization by clients at the target HCs. As for sustainability, there is some problem that has been observed in terms of technical aspect(s) due to limited updated knowledge and skills building on maternal and newborn health for lower levels as primary service delivery points. For relevance, the project has been highly relevant with Kenya's development policy, development needs as well as Japan's ODA policy. For efficiency, the project period slightly exceeded the plan. In the light of above, this project is evaluated to be satisfactory.

1 Relevance

This project has been highly relevant with Kenya's development policy "meeting the fundamental concerns of equity, access, affordability and quality in the provision of basic health services"as set in Economic Recovery Strategy, 2003 – 2007 and National Reproductive Health Policy, 2005", development needs "improvement of maternal health in Kisii and Kericho Districts", as well as Japan's ODA policy "JICA - Country Assistance Program, 2000", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of improving maternal care provided at HCs and communities in the target areas, as well as overall goal of improving health condition, particularly the maternal health in the target areas: through the facility improvements, equipment supply and maternal care skills building realized through the project, ANC services have become widely available with increased utilization, and normal delivery service by skilled attendants is available 24 hours a day at all of the 14 target HCs. Measures to strengthen referrals such as financing for better communication and availability of fuel for transportation for cases with maternal complications, have also been put in place and optimized with increased community participation. Therefore, effectiveness / impact of this project are high.

Performance of Overall Goal Indicators

	2009	2011
Case fatality due to maternal complications at referral hospitals	Kisii 25 Kericho 12	Kisii 26 Kericho 11
Infant mortality rate (IMR) (per 1000 live births (LB))	Kisii N.A. Kericho 27/1000 LB	Kisii N.A. Kericho 23/1000 LB

Sources: DHMTs and District Hospitals
Note: MMR was not readily available at district level: MMR is usually available as a national level indicator (488/100,000 from Kenya Demographic and Health Survey (KDHS) – 2008/9).

Performance of Project Purpose Indicators (excerpts)

	2005	2007	2011(*1)
No. of deliveries at target HCs (monthly average per HC)	Kisii 12 Kericho 2	Kisii 19 Kericho 14	Kisii 27 Kericho 26
No. of ANC at target HCs (monthly average per HC)	Kisii 93 Kericho 34	Kisii 101 Kericho 43	Kisii 140 Kericho 47
4th ANC attendance rate by district	N.A.	(2009) Kisii 27% Kericho 27%	(2011) Kisii 32% Kericho 47%

Sources: DHMTs and sampled HCs
average of the 7 HCs (3 in Kericho and 4 in Kisii) that were sampled from the 14 target HCs and visited by the ex-post evaluation team.

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project cost was within the plan (ratio against the plan: 92.5%), the project period was slightly longer than the plan (ratio against the plan: 102%) because of additional time required for completion of project closure activities following the post-election violence in Kenya (January – March 2008). Also, Therefore, efficiency of the project is fair.

4 Sustainability

The project has some problems in technical aspects of the implementing agency due to limited updated knowledge and skills building on maternal and newborn health for lower levels (i.e., districts, dispensaries and communities as primary service delivery points). While standardized training packages have been developed at the central level, training is still reaching only the national and provincial teams, and a limited number of training is available for staff at lower levels because financing for such training largely relies on Partner's support. Also, on-the-job skills transfer (induction and orientation for new staff) on 5S1K[1], a HC management tools introduced by this project, coaching and mentoring at the HCs, is not practiced after the project completion because the exit strategy for this project did not pay full attention to facilitation skills building among local staff, and there was little or no documentation of good practices from the Project for wider dissemination.

However, no problem has been observed in policy background, structural and financial aspects of the implementing agency: local-level maternal health activities receive policy support in an ongoing manner; even after the split of MOH into two ministries in 2008, DHMTs still take responsibilities for the project activities under Ministry of Public Health & Sanitation (MOPHS); financial resources are mobilized from different streams including the mainstream budget from MOPHS, provision of Health Sector Services Fund (HSSF) from GOK to HCs that started in 2012 and supplements funds collected from cost sharing as Facility Improvement Fund (FIF), as well as the increasing support from a number of development and implementing partners.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- Continuous training and skills building (through coaching and mentoring) for staff at the primary health care level is a prerequisite to improve service delivery. The Division of Reproductive Health (DRH) which is mandated to handle the project heavily relies on Partners' support for training for lower level staff. The division should thus increase its own resources available at national level as necessary for training, such that Partners only supplement the budget and not filling the gap.
- The HCs reported that HSSF has strengthened their base for operational costs. MOPHS is therefore recommended to maintain the HSSF disbursement and accounting system and possibly increase the budget allocation and scope of items that can be financed through the fund. The DHMTs reported that due to limitations within their own resources

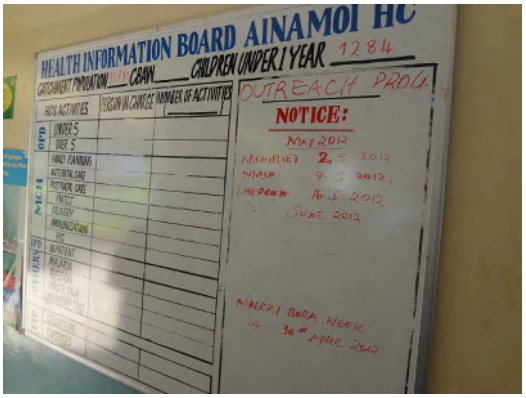
[1] 5S1K: *Seiri, Seiton, Seiso, Seiketsu, Shitsuke,* and *Kiritsu*.

available for support supervision Partners are often willing to support this exercise. MOPHS and the DHMTs are therefore recommended to optimize use of available resources to conduct regular support supervision.

Lessons learned for JICA

- Technical cooperation projects such as SAMOKIKE should pay attention to technology transfer not only from the Japanese Experts to their Counterparts, but also by and among counterparts and their local colleagues and stakeholders. Therefore, the Projects should include facilitation skills building component as part of the exit strategy to secure technical sustainability. More often, without facilitation skills, trained personnel tend to keep knowledge to themselves.
- In designing projects that have components of technological inputs in instrumentation (such as ICT equipment), attention should be paid to the trends in technology advancement to avoid the inputs being rendered obsolete before performing the intended functions within the Project. SAMOKIKE introduced Simu ya Jamii as a way to enhance communication between HCs and referral hospitals, as well as promote income generation (as a community pay phone). With rapid expansion of mobile telephony in Kenya, the intervention was quickly rendered redundant.

Multi-purpose Vehicle at Kericho



HIS Board updated at Ainamoi HC

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Kenya office: March, 2013

国名	Intensified Social Forestry Project in Semi-arid Areas of Kenya
Kenya	

I. Project Outline

Project Cost	453 million yen	
Project Period	March, 2004 – March, 2009	
Implementing Agency	Kenya Forest Service (KFS) (former Forest Department, Ministry of Environment and Natural Resources) (Supportive Agency: Kenya Forestry Research Institute (KEFRI))	
Cooperation Agency in Japan	Forestry Agency	
Related Projects (if any)	Japan's cooperation ・ Social Forestry Training Project (SFTP) (1985-1987, technical cooperation) ・ Construction Project of the Nursery Training Centre for Social Forestry (1986, grant aid) ・ Social Forestry Training Project (SFTP) Phase II (1992-1997, technical cooperation) ・ Project for Expansion of Nursery Training Centre for Social Forestry (1993, grant aid) ・ The Social Forestry Extension Model Development Project for Semi-arid Areas of Kenya (SOFEM) (1997-2002, technical cooperation) ・ Project on Development of Drought Tolerant Trees for Adaptation to Climate Change in Drylands of Kenya (2012-2017, technical cooperation) ・ Japan Overseas Cooperation Volunteers (JOCV): (1)Forestry: 1 (1986-1988), (2)Forestry(Kitui, Kwale and Nyandarua): 3 (planned to dispatch in June, 2013), (3)Forestry and Afforestation: 1 (planned to dispatch in September, 2013) Other donors' cooperation ・ Green Zones Development Support Project (African Development Bank) (2006-2010) ・ Support to Community Based Farm Forestry Enterprises in Semi-Arid Areas of Kenya (SCBFFE) Project (World Bank-Japan Social Development Fund)(2010-2013) (The project which succeeds ISFP) ・ Natural Resource Management Project (World Bank) (2010-2011) ・ Technical Assistance to the Kenya Forestry Service (USAID)	
Background	The arid and semi-arid lands (ASALs) covered about 80% of the total land surface of Kenya while the forest cover was estimated at less than 3%. Meanwhile, firewood and charcoal was accounts for more than 70% of the energy requirements for Kenya, and therefore securing and developing sustainable forest resources was indispensable. With Kenya Forestry Research Institute (KEFRI) as an implementing agency, Japan had extended technical cooperation for the forestry sector for 17 years in the area of technology development on tree nursery establishment and tree planting and to provide training in social forestry in ASALs (Kitui District), which was characterized with high incidences of poverty. (Social forestry means that local farmers plants trees for captive use and income generation). As a result, basic tree nursery and tree planting technology in ASALs was developed and core farmers were developed as the base for the extension of the model developed under the technical cooperation projects. In order to extend the area covered under social forestry in the target area, establishment of an extension system that the core farmers reach out to the surrounding farmers was necessary. In addition, capacity of the Forest department in personnel and institutional aspects for extension service delivery needed to be strengthened. In this context, the Government of Kenya requested the Government of Japan a technical cooperation project for the sector aimed at extension of social forestry and strengthening administrative capacity for forestry extension.	
Inputs	Japanese Side	Kenyan Side
	1. Experts: 8 (5 for Long term, 3 for Short term) 2. Trainees Received: 10 (Counterpart training in Japan) 3. Equipment: 76 million yen 4. Local Cost: 168 million yen	1. Staff allocated: 46 2. Land and facilities provided 3. Local Cost: 39 million yen
Project Objectives	Overall goal Living standards of the people in semi-arid areas are improved while enhancing sustainable environmental conservation.	
	Project Objective Individual farmers, farmer groups and other stakeholders intensify social forestry practices in semi-arid areas.	
	Outputs 1. Institutional and technical capacities for social forestry extension in Forest Department are strengthened. 2. Social forestry extension activities among individual farmers and farmer groups are promoted.	

	3. Farmers and other stakeholders obtain enough practical knowledge and techniques. 4. Information on social forestry extension and related issues is shared among the stakeholders.

II. Result of the Evaluation

Summary of the Evaluation

The arid and semi-arid lands (ASALs) covered about 80% of the total land surface of Kenya while the forest cover was estimated at less than 3%. Meanwhile, firewood and charcoal accounted for 70% of the energy needs of Kenya and indispensable for the people's life. In addition, in recent years, demand for the firewood and charcoal had increased because of the population growth. As a result, forest resources had decreased, soil productivity declined, and natural environment had thus degraded. With the achievement of the social forestry development for which Japan has extended support for 17 years, this project was implemented with Kenya Forest Service (KFS) as an implementing agency, aiming to intensify social forestry activities in ASALs.

This project has largely achieved the project purpose "Individual farmers, farmer groups and other stakeholders intensify social forestry practices in semi-arid areas". Social forestry activities which utilized Farmer Field School (FFS)[1] approach was implemented in three target districts (Kitui, Mbeere, and Tharaka), and as a result, the seedlings production and the number of trees planted have increased. The FFS graduates continuously use and apply the techniques they acquired through FFS in their farmlands. In terms of overall goal, there are many cases that the beneficiaries' incomes have increased as a result of the continuous implementation of social forestry. In addition, there is an impact on institutional aspect of mainstreaming of FFS approach in Kenya, as KFS decided to use FFS as a major extension approach and FFS approach is used at projects supported by other donors. For sustainability, some problems have been observed in terms of institutional and financial aspects because the implementing agency have limited number of personnel for further extension, and its financial resources for the extension services remains uncertain.

For relevance, the project has been highly relevant with Kenya's development policies, development needs as well as Japan's ODA policy at the time of both ex-ante evaluation and project completion. For efficiency, the project cost slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Kenya's development policies "development of arid and semi-arid area and development and promotion of agroforestry" as set in Economic Recovery Strategy 2003-2007, Medium Term Plan 2008-2012, and Vision 2030, development needs "extension of social forestry by utilizing FFS approach", as well as Japan's ODA policy "formulation and conservation of forest as set in the area of environmental protection in "Country Program Paper"" at the time of both ex-ante evaluation and project completion.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose, "Individual farmers, farmer groups and other stakeholders intensify social forestry practices in semi-arid areas". Institutional and technical capacities for social forestry extension of the implementing agency have been strengthened, and social forestry extension activities, i.e. FFS have been implemented for 330 farmer groups (more than 5,000 farmers) in three target districts (Kitui, Mbeere and Tharaka) were reached. The project has developed farmer facilitators in addition to the extension officers of KFS who run the FFS. Among 330 FFS, 220 were run by the farmer facilitators.

As a result, at the time of project completion, most of the FFS graduates practiced social forestry activities, and production of seedling has increased in Mbeere and Tharaka, and the number of trees planted has increased in Kitui and Mbeere. According to interviews with beneficiaries in Kitui and Mbeere, they continue utilizing techniques acquired through FFS such as seedlings production and fruit tree planting (mango, grevillea, and others), poultry raising, vegetable cultivation (maize), utilization of compost, and woodlots (eucalyptus and others). Also, the number of farmers who practices social forestry has increased as the production of seedlings and the number of trees planted have increased in the surrounding areas of FFS graduates. In interviews, those FFS graduates said that they shared those techniques with the surrounding farmers. However, there are cases that farmers abandon the techniques acquired through FFS. According to interviews conducted in Tharaka, many farmers gave up continuing fruit tree planting and seedling production after failures due to drought[2].

As to overall goal of "living standards of the people in semi-arid areas are improved while enhancing sustainable environmental conservation", although no data was obtained to show increase of farmer's income, most of the FFS graduates who responded to interviews said that their incomes have increased by seedling production, fruit tree planting, poultry raising, goat farming, apiculture, grafting tree services and others. Currently World Bank-Japan Social

[1] The FFS approach was developed by FAO in 1990s as an agriculture extension approach. FFS is a field based school which runs in a cropping season (several months to one year). More than 10 farmers study together at a specific filed once a week. This project applied FFS to the ASALs and aimed that trees (fruit trees, timbers, fire woods, and feed crops) which match the land and climate of ASALs are planted around the people's houses and farmlands. This project is the first case of applying FFS to forestry in ASALs, and the project modifies the existing techniques and contents of agriculture FFS to agroforestry. The project has developed a comprehensive FFS package for project implementation which includes (1) designing of a school field, (2) setting of items for comparative observation, (3) setting annual schedule for agriculture products and trees in accordance with their growing characteristics, (4) selection of farms and farmer groups, (5) technical guidance and monitoring for extension officers, (6) fund management and others.

[2] Currently, a technical cooperation project "Project on Development of Drought Tolerant Trees for Adaptation to Climate Change in Drylands of Kenya" is implemented with KEFRI as an implementing agency in accordance with KFS's needs of development and extension of new drought-tolerant seeds.

Development Fund (World Bank-JSDF) is funding "Support to Community Based Farm Forestry Enterprises in Semi-Arid Areas of Kenya (SCBFFE) Project" in Kitui, Mbeere,and Tharaka as a follow up project, and SCBFFE promotes networking of groups of FFS graduates, developing a microfinance system, and supports small-scale businesses using agricultural and forestry products. SCBFFE has formed additional 50 FFS groups (1,200 beneficiaries) so far, and SCBFFE's contribution to the production and income increase is expected, as the first disbursement is scheduled to be implemented in October, 2012. In addition, other donors including FAO and World Bank (Natural Resource Management Project) have implemented FFS in areas other than the target area of this project (There are 5,566 graduates from 287 FFS implemented from 2009 to 2012). Therefore, social forestry has contributed to improvement of household income and living standards, although not in the entire ASALs.

In terms of social impact, the project has empowered FFS participant farmers and farmer groups. There is a case that a farmer group formed by a farmer facilitator carries out awareness raising activities to promote drought mitigation for agricultural production. In addition, FFS graduates said they are able to speak in front of many people with confidence and they are able to manage funds for their activities, thanks to the experience of FFS activities. In institutional aspect, FFS has become the mainstream of extension approach for KFS as mentioned in KFS's Strategic Plan, and have been used in many projects supported by other donors including African Development Bank, World Bank, FAO, and UNEP.

Furthermore, the project has produced a great impact on human resource development since FFS master trainers[3] developed by the project have contributed for expansion of FFS approach. FFS master trainers have been involved with the UNEP supported "Innovative Approaches towards the Rehabilitation of Mau Ecosystem (IARME)" and the FAO supported "Sustainable Livelihoods Development in the Mau Forest Complex". One master trainer has attained managerial position in the World Bank-JSDF project, while many have taken part in implementation FFS in projects supported by other donors.

Therefore, effectiveness/impact of this project is high.

Honey sale by FFS members at Mbeere

Mango trees planted by a FFS member in Kitui

3 Efficiency

While the inputs were appropriate for producing the outputs of the project and the project period was within the plan (ratio against the plan: 100%), the project cost was slightly higher than the plan (ratio against the plan: 116%) because of implementation of an additional study on economic and financial impact of the project and the purchase of motorcycles for monitoring of FFS activities. Therefore, efficiency of the project is fair.

The project has been implemented efficiently; Introducing an existing approach of FAO's FFS has saved the time and resource consumption for developing a new approach, and developing a FFS implementation guideline with the support of FAO.

4 Sustainability

This project is consistent with the Kenya's policies of Vision 2030, District Development Plans 2002-2008, Medium Term Plan 2008-2012, and KFS's Strategic Plan, which emphasizes activities for forestry conservation, importance of development agenda in ASALs, and especially continuous utilization of FFS as the important extension approach, and therefore the project continues to be positioned as an important part of the Kenya's forestry sector. The implementing agency has no problem in the technical aspect because nine master trainers have been trained, FFS projects supported by other donors have been continuously implemented, and capacity development within KFS has been carried out.

However, in terms of institutional aspect, although the Extension Division is willing to promote FFS, and implementation of 500 FFS by 2013 is one of the objectives under the KFS's Strategic Plan, the implementing agency has a problem of lack of personnel for further extension.

For financial aspect, the implementing agency has so far implemented 57 FFS over the period 2010 and 2011 with its own budget, and more FFSs are scheduled to be opened in 2012 and 2013: over 40 District Forestry Officers are scheduled for training in FFS methodology and to run FFSs in 2012 and a further 20 will be trained in 2013 and this will lead to opening and running of these additional FFSs in North Rift, Nyanza and Coast conservancies using KFS funds[4]. However, there has been some problem. Although the Extension Division applies the budget for extension every year, it has been difficult to obtain sufficient annual budget from KFS's headquarter. In addition, although various donors support FFS projects including SCBFFE by World Bank-JSDF which has succeeded this project, it is not clear how KFS mobilizes financial resources after those projects complete. Detailed financial information of KFS was not obtained.

As stated, since the implementing agency has some concerns with regard in institutional and financial aspects, sustainability of the project effect is fair.

[3] Trainers who has the same capacity as those who attended three-months facilitator training by FAO.

[4] It is expected that the running of these FFSs would be enhanced when the 50 new mortorcycles which have been procured under the Forest Preservation Programme (FPP), a grant aid programme of Japan, would be delivered in February 2013.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

KFS implements FFS methodology every year using its own budget and various donors have supported forestry projects which use FFS approach. KFS should document the results and lessons of those projects and work to promote FFS by organizing seminars and workshops. Although FFS approach is an established approach to some extent, it could be improved based on the various projects' experiences. In addition, in order to expand KFS's personnel and budget, it is important to raise public recognition of FFS approach.

Considering the high number of existing FFS and planned new ones, it is necessary to monitor and confirm the continuation of activities by farmers' facilitators and farmers themselves.

Lessons learned for JICA

1. Effective use of existing approaches

This project applied the existing proven extension approach in agriculture sector to use FFS methodology in the forestry sector through innovative adjustments to the methodology (timelines, curriculum and careful participatory choice of enterprises). By doing so, the project was completed in time because the project saved the time and operational resource consumption for the approach development. In the future project planning, JICA should utilize existing approaches for this purpose.

2. Effective use of local human resources

Implementation of farmer run FFS is one of the factors that social forestry has been applied to many farmers. In addition, after the project, there is a case that a farmer group formed by a farmer facilitator carries out awareness raising activities to promote drought mitigation for agricultural production. In this project, farmer facilitators have social cohesions with neighbors and in many case, they continue activities because of "satisfaction" of being a facilitator or a leader. In addition, some of them are employed by other project supported by other donors such as activities to promote drought mitigation for agricultural production and they follow up FFS, too, while carrying out other activities. Because farmer facilitators are local, they can be key persons for other rural development activities after the project completion, and FFS group can be the core organization for those activities. In rural development projects, it is important that there are existing local organizations or leaders who can act as partners of the projects. Local resource can be used not only for forestry projects but also for agriculture projects.

3. Contribution to empowerment

FFS approach contributes to empowerment of participant farmers. The FFS graduates said (1) female farmers, who had not had opportunity to express their opinions before the project, are now able to speak in front of many people with confidence and discuss how they should improve their agriculture production and livelihood with their colleagues and share opinions, and (2) they are able to manage fund for their activities thanks to the experience of FFS activities. These advantages of FFS approach can be utilized from the gender perspective for future project planning.

4. Project components

According to interviews with beneficiaries, marketing is limiting for the mangoes being produced, since many farmers plant them. Under this situation, some farmers have increased incomes by starting new production items such as apiculture and goat farming, while others are not able to shift to new product items because they do not have knowledge on how to select items which match the local environment and local needs, or they do not have money for the purchase of seedlings. Farmers who sell honey in small volume to individual farmers said they want to cooperate with other individual farmers and sell honey in high volume so that they can expand their markets and stabilize their incomes. In response to those problems, the World Bank-JSDF project was planned and is being implemented. When JICA formulates agriculture and forestry projects which use FFS approach in future, it is important that JICA includes components such as "access to finance (eg. Microfinance)", "access to market (eg. selection of sellable tree species, linkage to market and others)", and "networking of FFS groups (forming of an association), as the World Bank-JSDF project does. If FFS project can select an item which is marketable and profitable, and techniques for seedlings and planting can be extended, the livelihood of farmers improves. And if farmers are able to increase their incomes, they will plant more trees, and therefore contribute to forest conservation.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Cameroon office: March, 2013

Country Name	The Project for Rural Water Supply (Phase IV)
Cameroon	(Projet d'hydraulique rurale (Phase IV))

I. Project Outline

Project Cost	E/N Grant Limit: (Phase I) 515 million yen, (Phase II) 478 million yen		Contract Amount: (Phase I) 416 million yen, (Phase II) 388 million yen
E/N Date	(Phase I) June, 2006, (Phase II) August, 2007		
Completion Date	(Phase I) March, 2008, (Phase II) March, 2009		
Implementing Agency	The Ministry of Energy and Water (Ministère de l'Energie et de l'Eau)		
Related Studies	Basic Design Study: June, 2005-March, 2006		
Contracted Agencies	Consultant(s)	(Phase I and II) Japan Engineering Consultants Inc.(current Eight-Japan Engineering Consultants Inc.)	
	Contractor(s)	(Phase I)Koken Boring Machine Co., Ltd. (Phase II) Tone Engineering Corporation	
	Supplier(s)	None	
Related Projects (if any)	Cooperation by Japan ・The Projects of Rural Water Supply Phase I-III (Grant Aid, 1983-1996) ・The Follow-up Cooperation for the Third Project of Rural Water Supply (Grant Aid, 2004-05) Cooperation by Other Donors ・Provillage (KfW, 1992-2008)		
Background	The government of Cameroon set the national target to increase the coverage of rural water supply to 75% by 2015. However, only 42% of the rural population had access to safe water in 2003 since the limited budget constrained the basic infrastructure development in rural areas. There were more than 8,800 villages with less than 1,000 population which had no water supply facilities in the country. In such villages, people had no choice to depend on contaminated water sources which had been inducing spread of water-borne diseases. Therefore, since the development of water supply facilities was a key development issue in the country, the government of Cameroon requested Japan to support the development of water supply facilities in 4 provinces in south-central Cameroon.		
Project Objectives	Outcome To increase the population receiving safe and stable water supply by construction of deep wells and establishment of water users associations in 184 villages in provinces of Adamaoua, Littoral, Sud and Centre.		
	Outputs(s) Japanese Side ・ Construction of 184 deep wells ・ Establishment of water users associations, awareness campaign and trainings for pump repair persons (Soft Component) Cameroon Side ・ Procuring sites for deep well construction ・ Repair of access roads to the sites		

II. Result of the Evaluation

Summary of the Evaluation

In Cameroon, the poverty reduction strategy targeted 75% of access to safe water in rural areas by 2015. However, the rural water supply covered only 42% of the rural population while the coverage of urban water supply reached 77%. Although the most villages in the 4 target provinces have been utilizing spring water or traditional shallow wells since there are abundant surface water, the most of water sources were contaminated. The contaminated water has been causing water-borne diseases, including diarrhea in such villages. In addition, the dried-up water in the dry season induced problems such as heavy burden of fetching water as well as conflicts.

The project has achieved the objectives of the increase in the population with access to safe water by the construction of rural water supply facilities. Also the project resulted in increase in the water consumption volume in the target villages, improvement of water quality, decrease in water-borne diseases as well as reduction of work burden on women and children for fetching water. As for sustainability, problems have been observed in terms of structural, technical, financial aspects as well as current status of operation and maintenance due to the insufficient operation and maintenance (O&M) activities led by the villagers, the insufficient technical level of pump repair persons trained by the project as well as the insufficient water tariff collection by the water management committees supported by the project.

For relevance, the project has been highly relevant with Cameroon's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Cameroon's development policies of the Poverty Reduction Strategy (PRSP or GESP) and the Energy Sector Policy ("the coverage of rural water supply of 75% by 2015"), development needs

("ensured access to safe and stable water supply by deep well construction), as well as Japan's Country Assistance Strategy to Cameroon for supporting rural water supply which is one of the priority areas at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has achieved its objectives of the number of available deep wells, the water consumption and the population with access to safe water as mostly planned despite that the activities of the water management associations established by the project were below the target. Out of 184 deep wells constructed by the project, 168 wells, more than 90% of the total wells constructed were operational as of 2009/10. The water consumption volume in the target villages reached 15-20 litter per person per day in average. As a result of the site survey in 50 villages in 2011, it was confirmed that the deep wells had been operated in 45 villages (90%)[1].

The people fetcning water from the deep well constructed by the project in Boyamagagne Village, Centre province

In addition, water qualities were improved by the project. Since it was confirmed that the water qualities of all the deep wells constructed by the project met the water quality standards of Cameroon, the population with access to safe and stable water supply in the target villages increased from 3,600 in 2005 to approximately 76,500 in 2011 (estimation based on the village populations). As for impact of the project, according to the interviews with the villages in the 3 villages where the site visits were conducted for the ex-post evaluation, use of safe water decreased water-borne diseases. In addition, the shorter distance to the water source reduced the work burden of women and children for fetching water.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

	Actual (2005, BD)	Target (2008)	Actual (2008)	Actual 2009/10 (Inspection)	Actual (2011)
Indicator 1: The number of deep wells available to use which were developed by the project.	(Actual) 0	(Plan) 184 wells	(Actual) N.A.	(Actual) 168 wells	(Actual) 45 wells out of 50 wells surveyed
Indicator 2: The intake volume of water from the deep wells developed by the project (person/day in average)	(Actual) 【Drinking Water】 Rainy Season : 20 litter Dry Seasons : 11 litter	(Plan) 25 litter (1)	(Actual) N.A.	(Actual) 15～20 litter (1) (2)	(Actual) 15～20 litters(1)(2)
Indicator 3: The population with access to safe and stable water in the target villages	(Actual) 3,600 people	(Plan) Approximately 82,800 people, including 3,600 people using the existing deep wells.	(Actual) N.A.	(Actual) Approximately 72,100 people	(Actual) Approximately 76,500 people

(Source) The post-observation survey report (March, 2011), and the information collected by the site visits for the ex-post evaluation

(Note 1) The intake volume of water from the deep wells, including drinking water and other uses.

(Note 2) According to the site surveys of the three villages in 2012, the intake volume from the deep wells in the dry season increases by 2-3 times of the volume shown in the table above due to the decrease in the surface water.

3 Efficiency

Although the project cost was within the plan (81% against plan), the project period exceeded the plan (114% against plan) because of redoing the construction mainly caused by insufficient technical level of the local sub-contractors. The outputs were mostly as planned except minor changes in some parts. Therefore, efficiency of this project is fair.

4 Sustainability

The facilities constructed by the project are maintained by the water management committees which are organized by the villagers using the deep wells under the supervisions of communes (municipalities). The Ministry of Energy and Water, the executing agency of the project, provides technical advices when necessary. 90% out of 50 wells which were checked by the site visits in 2011were available to use; however, such good maintenance status was due to the fact that the site visits had been conducted one year after the repair according to the results of the defect inspection.

Although the awareness activities for the villagers, including technical training for maintenance and hygiene education how to utilize water safely, were conducted by the soft component of the project, such activities were not sufficient to make the villagers appropriately understand how to adequately operate and maintain the deep wells by themselves because the

[1] Although the executing agency does not have information of current operational status of the deep wells, the post-observation survey conducted the site visits in 50 sites (26 sites of Phase I and 24 sites of Phase II), which accounted for about 27% of the total sites of 184.

activities were only 2 days per village. Therefore, the most of the water management committees have neither been carrying out the necessary daily maintenance, nor the water tariff collections and the reserves for repair of the deep wells[2]. In addition, 28% of the villages surveyed in 2011 did not have the pump repair person though 3 pump repair persons in each village had been trained by the project in order to implement necessary maintenance of the pumps, including overhaul. On the other hand, many villages requested the retraining for the repair persons because the 4-day-training including on-the-job was not enough for the repair person to obtain necessary technical capacity. In the case that there is no repair person or the repair person is not capable enough, some water management committee requests the private company when the pump of the deep well breaks down. However, there are cases that the pump has not been repaired when the villagers have alternative water sources (even though not safe) and are not willing to pay the water tariff.

Commune staff and a trained pump repair person in Ezedouan (chefferie) village, Centre province

The project has problems in structural, technical and financial aspects as well as the current status of operation and maintenance due to the issues mentioned above. Therefore, sustainability of this project is low.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

After the execution of the decentralization policy in 2011, the responsibility for management of water supply facilities was transferred from the Ministry of Energy and Water, the executing agency of the project, to local government of communes (municipalities). However, each commune does not have enough financial and human resources for management of the water supply facilities. Therefore, it is recommended that the Ministry of Energy and Water establish necessary arrangement and system to provide guidance and support to the communes based on the appropriate situation analysis. Also, it is requested that the Ministry conduct regular monitoring for all the sites and provide technical and financial supports to repair the broken deep wells according to the needs.

Lessons learned for JICA[3]:

- It is pointed out by the Ministry of Energy and Water and the beneficiaries of the project that the soft component of the project, which is important to ensure sustainability of project effects, is not sufficient to make the water management committee function adequately and continuously operation and maintenance of the pumps of the deep wells by themselves. It is essential to design optimum O&M system and trainings based on sufficient assessment in each site including availability of repair persons or companies in the sites or the regions and their technical level.
- It is observed at the time of ex-post evaluation that the implementing agency does not have enough information about the current status of pump in each site, including operation and maintenance. Therefore it is suggested that, in addition to examine the monitoring system at the planning stage, JICA should seek action from the implementing agency for maintaining the monitoring system after the project completion so that the project effects would be sustained.

[2] Regular cleaning and maintenance had been carried out only in 7 sites out of 50 sites in 2011. The number of villages where problems had not been observed regarding water tariff collections and the reserves for repair was 13 sites.

[3] （1）Providing technical support to the local contractor is out of JICA's scope under the Grant Aid, the following sentences are deleted. "Insufficient technical level and reliability of some local sub-contractors induced redoing of the construction which resulted in the excess of the planned project period. In addition to assessment of technical level of local contractors, the adequate construction management and technical support are necessary for compliance of the planned project period."（2）Some information is added to specify the problems to be tackled with. Before the revision, the sentence was as follows; It is necessary to check the monitoring system at the planning stage since the implementing agency does not have enough information about the current status of pump in each site, including operation and maintenance.

（Revised in November 2014）

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ghana office (Sierra Leone Field Office): March, 2013

Country Name	Agricultural Development Project in Kambia District
Sierra Leone	

I. Project Outline

Project Cost	353 million yen	
Project Period	February, 2006 – March, 2009	
Implementing Agency	Ministry of Agriculture, Forestry and Food Security (MAFFS); Rokupr Agricultural Research Center (RARC) (Former Rice Research Station at Rokupr (RRS-R))	
Cooperation Agency in Japan	RECS International Inc.	
Related Projects (if any)	[Japan's cooperation] ・ Children and Youth development Project in Kambia District (Development Study, 2005-2008) ・ Sustainable Rice Development Project (Technical Cooperation, 2010-2014; de facto Phase 2) [Other donors' cooperation] ・ Agricultural Business Unit (ABU) (UNDP) ・ Farmers Field School (FFS; technical assistance for improving productivity) (FAO) ・ Freetown-Conakry Highway (rehabilitation of national highways, 2011) (EU) ・ NEPAD/CAADP Investment Plan "Small Commercialization Program (SCP)" (EU, GAFSP, etc., 2009-2014)	
Background	Sierra Leone, located in the tropical rain forest climate zone in West Africa, is blessed with plentiful rainfall and sunlight, and thus suited for growing variety of crops such as rice, cassava, groundnut and sweet potato. In Kambia district, the target area of this project, most of the 270,000 population was engaged in agriculture, and the district served as a major rice production center to support the national economy until the 1980s. However, the civil war that started in 1991 destroyed the district's agricultural facilities including storage, rice mills and research institutions, and farmers couldn't help but leave their farmland. As a result, rice production was halved compared to pre-civil war time. Considering these backgrounds, MAFFS requested technical cooperation to strengthen the agricultural support system of the district and thereby to increase food production centering on rice.	
Inputs	Japanese Side	Sierra Leone Side
	1. Experts: 9 persons for Long term 2. Trainees Received: 1 person 3. Equipment: 20 million yen 4. Local Cost: 34 million yen	1. Personnel assigned: 24 persons 2. Land and facilities: project office
Project Objectives	Overall goal Productivity of food crops for self-sufficiency thereby contributing to food security in Kambia district is improved.	
	Project Objective(s) Agricultural technical support system in Kambia district is strengthened.	
	Output(s) ・ Output 1: Agricultural support system of MAFFS-K is improved. ・ Output 2: Agricultural technical package to improve agricultural productivity is formulated. ・ Output 3: Agricultural technical support guidelines for farmers is developed.	

II. Result of the Evaluation

Summary of the Evaluation

In Sierra Leone before the commencement of this project (2005), there was still a long way to self-sufficient food production due to crop storage buildings and rice mills that were destroyed during the civil war and the dysfunctional agricultural extension system. Under such circumstances, the Government of Sierra Leone held self-sufficient food production as the most important issue, amongst which promotion of high potential rice production was the urgent task.

For the project purpose of strengthening agricultural technical support system in Kambia district, this project has partially achieved the target: it achieved the development of the agricultural technical package and the guidelines for extension of the package to farmers, but challenges remain in terms of still insufficient manpower and technical level of MAFFS Kambia district office (MAFFS-K), the implementing agency. Therefore, the extension system for the entire district (including non-pilot sites) is still weak, and MAFFS-K receives support from the Phase 2 of this project as well as other donors. For the overall goal, the outcomes of this project are continuously applied in the Small Commercialization Program (SCP) that is being implemented under the National Sustainable Agricultural Development Plan (NSADP) developed by MAFFS in 2009. Positive impacts of this project are expected if NSADP, which aims at food security through increased crop production, is implemented as planned.

As for sustainability, while this project is well placed in the policy aspect, some problems have been observed in terms of institutional, technical and financial aspects due to the above-mentioned challenges of MAFFS-K in its extension system and technical capabilities, and also because the financial aspect may depend on donors' funding situations.

For relevance, the project has been highly relevant with Sierra Leone's development policy, development needs as well

as Japan's ODA policy. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Sierra Leone's development policy "self-sufficient food production through agricultural promotion" as set in policy documents including the Agricultural Development Program 2004, Sierra Leone Poverty Reduction Strategy Paper (SL-PRSP) (draft as of 2005) and SCP 2009, development needs "development of rice cultivation in Kambia district", as well as Japan's ODA policy "assistance in community development through agricultural promotion" as set in the policy dialogues and JICA's Country Assistance Program at the time of both ex-ante and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

The purpose of this project aimed at (i) improvement of capacity of extension officers of MAFFS-K so that they acquire skills for agricultural extension and become able to utilize the tools for extension (guidelines), (ii) development of a prototype of agricultural technical package, and (iii) development of the agricultural technical support guidelines that contain methods of extension. For (i), extension officers acquired skills such as adhere to the cropping calendar, reduction of the amount of seed rice and post-harvest handling. Also, as a result of the pilot activities in which the extension officers provided guidance to farmers with supervision by Japanese experts, crop production increased in the pilot sites (7 villages for rice and 2 villages for vegetables). However, for disseminating the agricultural technical package to rice farmers in the entire district (i.e. beyond the pilot sites), there remain challenges in terms of insufficient manpower and technical level of the extension system. MAFFS-K is facing an issue of aging of its staff: vacancies created by retirement are not filled. Also, as the extension services had not functioned for a long period of time, many extension officers lack basic techniques of rice cultivation and calculation skills. As for (ii) and (iii), the agricultural technical package and the technical support (extension) guidelines focusing on rice cultivation were developed through the pilot activities. Therefore, the target (ii) and (iii) were achieved while (i) was partially achieved. In response to these challenges, MSADP/SCP that MAFFS started in 2009 is developing capacity of extension officers with advices from FAO. It also puts gradual hiring of new staff in perspective.

As for the overall goal, the indicators to measure the achievement level were not set at the time of project planning. Nevertheless, extension officers kept applying part of the technical packages in the pilot sites after the project completion, and farmers there maintain the productivity that the pilot activities achieved (0.5t/ha before the pilot activities and 0.76t/ha after the pilot activities; both without fertilizer). There is no yield per unit data on vegetables, production is reported to have been increased with support from NSADP/SCP. With regard to impacts in the entire Kambia district, extension officers of MAFFS-K keep using the techniques/ knowledge they acquired through this project as well as the agricultural technical package and the extension tool (guidelines), and are actively engaged in activities of NSADP/SCP such as provision of seeds and fertilizer, implementation of training and construction of Agricultural Business Center (ABC) with financial support from EU and Global Agriculture and Food Security Program (GAFSP). As NSADP aims at food security through increased crop production, the achievement of the overall goal of this project is expected.

In this way, this project has somewhat achieved the project purpose and overall goal in terms of consolidating the agricultural technical package suitable for Kambia district and increasing food production in the pilot sites, while additional assistance was needed for expansion of these outcomes to the entire district. Therefore, effectiveness/ impact of the project is fair.

3 Efficiency

While the inputs were mostly appropriate for producing the outputs of the project, and the project cost was within the plan (ratio against the plan: 99%), the project period was slightly longer than the plan (ratio against the plan: 106%) because of several reasons such as the delay in the pilot activities following the delay in aggregating the results of the baseline survey. Therefore, efficiency of the project is fair.

4 Sustainability

In the policy aspect, this project is still given importance in the current development policy as it aims at the increase in crop production of small-scale farmers through enhanced productivity focusing on rice. The structure of the implementing agency is facing an issue of insufficient manpower to cover the entire district, though the number of staff was partly increased after the project. As for the technical capacity of extension officers of the implementing agency (MAFFS-K), they have been given opportunities of capacity development such as trainings under Phase 2 of this project, which aims to disseminate the project outcomes to the whole country, and Farmers' Field School (FFS) under SCP. Nonetheless, the insufficient level of their technical skills is still an issue as they are weak in putting what they learned into practice in the field and in case-by-case application. The financial aspect may depend on donors' funding situations in the future: donors are monitoring the progress of SCP and considering continuing their financial assistance. From these findings, it is considered that the project has some problems in institutional, technical and financial aspects of the implementing agency; therefore, sustainability of the project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

Since the project completion up to the present date, the agricultural extension system of MAFFS-K has lacked manpower and technical capacity to cover the district beyond the pilot sites (where certain outcomes were brought). Nevertheless, hiring of new staff has been started slowly using the SCP budget, and the extension division of MAFFS-K implements re-training of extension officers using the FFS approach based on the medium- and long-term plan to consolidate the technical capacity. Phase 2 of this project also provides more practical and widely-applicable trainings. MAFFS-K is recommended to fully utilize those trainings. Furthermore, MAFFS headquarters is recommended to standardize such trainings, make the guidelines and manuals official, and conduct monitoring of extension works after the training.

Lessons learned for JICA

When supporting a country where aid coordination is in progress, planning a project in line with the sector program (such as NSADP) and establishing an implementation set-up in coordination with other donors will enhance the project impacts and sustainability. Also, compared to the time when this project was started, studies on more efficient assistance during the post-civil war transitional period have already been conducted by a number of donors including JICA and international organizations. Therefore, future assistance for the transitional period should utilize the tools and approaches proposed in those studies.

Rice field of a farmer's group that are still used. It has just been plowed for sowing. (Kunthai Village)

A farmer's group and an extension officer of MAFFS-K (Kalintin Village)

A farmer who continues cultivation of water melons with support from SCP (Makatick Village; photograph taken in 2011)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Nepal Office:March, 2013

Country Name	The Project for the Improvement of Short Wave and Medium Wave Radio Broadcasting Stations
Nepal	

I. Project Outline

Project Cost	E/N Grant Limit: 937 million yen		Contract Amount: 915 million yen
E/N Date	September, 2006		
Completion Date	February, 2008		
Implementing Agency	Radio Nepal (RNE)		
Related Studies	Basic Design Study: December, 2004 – June, 2005		
Contracted Agencies	Consultant	NHK Integrated Technology Inc.	
	Contractor	Hitachi Plant Technology, Ltd.	
	Supplier	Mitsubishi Corporation	
Related Projects (if any)	Japan's Cooperation ・ The project for the improvement and development of medium wave radio broadcasting network (Grant Aid, 1981) ・ The Project for Expansion and Development of the Medium Wave Radio Broadcasting Network I / II (Grant Aid, 1988) ・ Project for Promoting Peace Building and Democratization through the Capacity Development of the Media Sector in Nepal (Technical Cooperation, 2010)		
Background	The Tenth Five-year plan (2002–2007) had raised poverty reduction to the major objective. One of the strategies to achieve this was the effective provision of basic social services and improvement of fundamental infrastructures. The target set to extend the radio broadcast services to all citizens reflects the provision of equal access to information as a means to alleviate poverty. Radio Nepal (RNE), a public radio station established in 1951, was the only nationwide broadcasting service. The past Grant Aid assistance resulted in the expansion of RNE to cover 75% of the national population, and broadcasting time had increased subsequently. However, due to aging of equipment and inability to procure spare parts, it became difficult for RNE to sustain the population coverage. Furthermore, the Maoist attack on one of the stations (in Bardibas) in 2002 resulted in shrinking of RNE broadcasting coverage to 48%. The shortage of vacuum tubes of short wave (SW) transmitter also caused decreasing the coverage of RNE. In such a circumstance, the Government of Nepal requested the Government of Japan to refurbish the transmitting stations.		
Project Objectives	Outcome To provide broadcasting services to all people in Nepal by renovating transmitting facilities of Short Wave (SW) and Medium Wave (MW) transmitting stations and by procuring and renewing transmitting equipment		
	Outputs Japanese Side ・ Khumaltar 100kW SW Transmitting Station: Procurement of spare vacuum tubes ・ Bhainsepati 100kW MW Transmitting Station: Renewal of transmitter and partial renovation of facilities ・ Pokhara 100kW MW Transmitting Station: Renewal of transmitter, partial renovation of facilities and renewal of studio equipment ・ Kathmandu Studio Center: Renewal of studio equipment and others ・ Bardibas 10kW MW Transmitting Station: Overall renovation of facilities and renewal of equipment, including Solid state type 10kW MW transmitter ・ Procurement of spare vacuum tubes for Dharan 100kW MW Transmitting Station, Surkhet 100kW MW Transmitting Station, and Dipayal 10kW MW Transmitting Station Nepali Side ・ Re-connect of the Radial Earths System and Backfilling of Security Trenches at Bardibas Transmitting Station ・ Clearance, Transfer and Disposal of the Equipment to be renewed at Bardibas Transmitting Station ・ Clearance, Transfer and Disposal of the Equipment and Facilities to be renewed at Bhainsepati Transmitting Station, Pokhara Transmitting Station and Kathmandu Studio Center		

II. Result of the Evaluation

Summary of the Evaluation
Due to aging of equipment and inability to procure spare parts, it became difficult for Radio Nepal (RNE) to sustain the population coverage of 75% they once had. Furthermore, the Maoist attack on one of the stations (in Bardibas) in 2002 resulted in shrinking of RNE broadcasting coverage to 48%. The shortage of vacuum tubes of SW transmitter also contributed in decreasing the coverage of RNE. This project has largely achieved its objective. The population coverage area of RNE has increased to 85% covering a large area of Nepal, and daily broadcasting time has increased. After the project, the broadcasting hours of social

awareness raising programs have increased, and thereby the project has contributed to the economic activities and social well-being. As for sustainability, problems have been observed in terms of technical and financial aspects as well as the current status of operation and maintenance due to lack of training and manuals, decreasing financial resources, and unavailability of spare parts.

For relevance, the project has been highly relevant with Nepal's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

The project has been highly relevant with Nepal's development policy (Making information and communication service easily accessible to every citizen) as set in the Tenth Five-Year Plan (2002-2007) and the First and Second Three-Year Interim Plan (2007–2009, 2010-2013) and development needs (Improvement of SW and MW radio broadcasting stations) at the time of both ex-ante and ex-post evaluation. However, the emphasis on the development policy as well as the needs for medium are gradually shifting to FM stations nowadays, since MW network cannot cover the whole country and FM is becoming more popular due to its quality and cheep radio receiver. In response to this situation, RNE is going to launch two high power FM relay stations provided by "Project for Promoting Peace Building and Democratization through the Capacity Development of the Media Sector in Nepal" to strength its coverage area very soon. The project has been highly relevant with Japan's ODA policy at the time of ex-ante evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project has largely achieved its objectives. Population coverage area of MW broadcasting network has increased to 85%, and the citizens that are not covered by MW broadcasting has been covered by SW broadcasting, realizing the provision of broadcasting services to all people in Nepal. Daily broadcasting time has also increased, while broadcast interruption has decreased. Based on the interview with listeners and RNE officials, it seems to be found that the number of listeners have increased in remote areas. Many people in urban areas tend to listen to FM broadcasting more; however, they also listen to certain programs in MW.

As to impact, according to RNE, the project also has somewhat contributed to economic activities and social well-being, since the broadcasting hours and the number of social awareness raising programs (including distant learning programs) in the area of agricultural production, health and hygiene, education, and public welfare have increased.

Therefore the effectiveness and impact of this project is high.

Technical Studio, Radio Nepal Pokhara Station

Quantitative Effects

Indicator(unit)	Baseline Value (2004)	Target Value (2007)	Actual Value (2008)*1	Actual Value (2012) (at ex-post evaluation)
Indicator 1: The population coverage area of the national MW broadcasting network of RNE	48%	75%	80%*2	85% *3
Indicator 2: The daily broadcasting time	16hours/day	18hours/day	18 hours/day	18 hours/day

(Source: Radio Nepal unless specified otherwise)

*1 Actual completion is February, 2008

*2 Source: BBC Survey in 2008

*3 Source: A report submitted to National Planning Commission

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and project period were within the plan (ratio against the plan: 99% and 98%, respectively). Therefore, efficiency of this project is high.

4 Sustainability

The facilities and equipment provided by the project are maintained by RNE, the implementing agency. Institutionally, RNE has enough number of staff for the continuity of the project effect. However, problems were observed in technical and financial aspects as well as the current status of operation and maintenance.

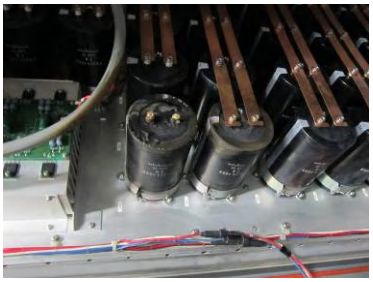
As to technical aspect, whenever problems which cannot be fixed by each station occur, RNE head office responds well. On the other hand, each station has problems of lack of proper training and manuals. Although training and manuals were provided to RNE through the project, it may not have been disseminated properly within RNE.

Although detailed financial information was not accessible, RNE also has a problem in the financial aspect due to reduction of budget from the government and reduction of revenue generation, according to RNE.

CD player lens (not working)

Regarding the current status of operation and maintenance, although the most of the facilities and equipment at each site are maintained and operated well, problems are observed. A 100 kW MW transmitter at Bhainsepati is temporarily not functioning due to the breakdown of analogue digital converter. As a local company does not produce it anymore, RNE has opened a letter of credit and it will be replaced with new equipment before January, 2013[1]. Thus, RNE has tried hard to maintain the facilities and equipment; however, unavailability of spare parts due to the lack of budget and inappropriate logistical arrangement is always a concern.

Therefore, sustainability of this project effect is low.



Damaged discharge switch

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. Training and proper manuals were provided to RNE, but it may not have been disseminated properly within RNE. Proper manuals for maintenance should be provided to each station. RNE should carry out proper training so that technical know-how can be transferred within RNE.
2. RNE should try to procure and distribute enough spare parts of major units to each station on time even though they face serious financial problem.
3. RNE should take immediate action to purchase any damaged equipment so that transmission will resume quickly.

Lessons learned for JICA

1. It took a while to replace an analogue digital converter of 100kW MW transmitter at Bhainsepati, since it is not produced locally anymore. It should be analyzed that whether the spare parts will be available in future or not.
2. One should check whether the existing technology will remain as main medium of transmission or not as much as possible. Also, whether the system is compatible in transforming in the new coming system or not (relating MW and FM stations) should be examined. Otherwise the implementing agency may not meet the demand of people.

[1] As to other facilities and equipment, Khumaltar SW transmitting station where the project procured the spare vacuum tubes only, is in almost closed state due to the end of life time of the station equipment (At the time of ex-ante evaluation, the procurement of the spare vacuum tubes were expected to prolong the life time of the station function for 3-5 years).

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ecuador office / Peru office: March, 2013

Country Name	Project for Enhancement of the Volcano Monitoring Capacity
Ecuador	

I. Project Outline

Project Cost	352 million yen	
Project Period	(Original) May, 2004 – April, 2007 (Extension) May, 2007 – April, 2009	
Implementing Agency	- Geophysical Institute, Department of Geophysics, National Polytechnic University (IG: Instituto Geofisico, Departamiento de Geofisica, Escula Politécnica Nacional)	
Cooperation Agency in Japan	- National Research Institute for Earth Science and Disaster Prevention (NIED)	
Related Projects (if any)	Cooperation by other donor - Early Warning System and Natural Risk Management (Inter-American Development Bank: IDB, 2006-11)	
Background	Ecuador is a sub-Andean country with 8 active volcanos. The volcano disaster management has been a key issue for the country because eruptions of volcanos extensively damage human lives and livelihoods in the piedmont areas of the volcanos by volcanic ash falls and large scale debris flows. However, since the IG's system could not monitor broadband seismic and infrasound seismic signals at the early phase of volcanic activity, it was difficult to take appropriate disaster mitigations measures which required volcanic activity report reflecting internal activities of volcano. Therefore, the government of Ecuador requested the Japanese government technical cooperation for introduction of data collection system and analytical techniques to more precisely comprehend volcanic activities.	
Inputs	Japanese Side	Brazilian Side
	1. Experts 15 experts of 5 areas for Short term 2. Trainees Received: 5 trainees 3. Equipment: 225 million yen 4. Local Cost: 2 million yen	1. Counterpart: 31 persons 2. Land and facilities: Office spaces for Japanese experts 3. Equipment: 1,937 USD 4. Local Cost: 0.4 million USD
Project Objectives	Overall goal To enhance the capacity of mitigating volcanic disasters in Ecuador.	
	Project Objectives To enhance the capacity of volcano monitoring at Cotopaxi and Tungurahua Volcanoes.	
	Outputs ・IG improves its capacity to obtain the data on volcanic activity including long-period and very-long-period events on a real time basis at Cotopaxi and Tungurahua Volcanoes. ・IG improves its capacity to process and store volcanic activity data properly including long-period and very-long-period events at Cotopaxi and Tungurahua Volcanoes. ・IG enhances its capacity to analyze precursory signals of eruptions. ・The results of the analyses are described properly in the volcanic activity reports. ・Improved volcanic activity reports and supplemental information are adequately received by organizations for disaster prevention.	

II. Result of the Evaluation

Summary of the Evaluation

Volcanic activity of Tungurahua Volcano, one of the project sites, has been continuing since October, 1999. There have been concerns about damage on 20,000 people living in the piedmont and its vicinity areas of the volcano due to the danger of pyroclastic flows. Cotopaxi Volcano, another project site, has had no eruption since the last eruption 1903. However, approximately 100,000 people face threats of damage by lahars because they live on debris which occurred by the last eruption. Although these two volcanoes have been monitored by the IG's short-period seismograph network, the monitoring system could not monitor long-period and very-long period earthquakes at the beginning of volcanic activity and constrained collection and analysis of the data of early phase of volcanic activity which is critical for volcanic disaster mitigation actions, including evacuation alert for the people, based on volcanic activity report properly reflecting signs of eruptions.

The Project has achieved enhancement of capacity to data collection, data compiling and analysis, analysis of signs of eruptions, improvement of contents of volcanic activity reports as well as adequate transmission of the reports to stakeholders for the project purpose of enhancement of volcanic monitoring capacity at Cotopaxi and Tungurahua. And it has achieved improvement of countermeasures for volcanic disaster and the volcanic information transmission system of the relevant organization for disaster control and enhancement of monitoring capacity for other volcanoes, for the overall

goal of enhancement of capacity for volcanic disaster mitigation in Ecuador. As for sustainability, there was no problem observed in the project owing to the importance of risk management including volcanic disasters in the national development plans and laws, the sustaining technical capacity and the ensured budget for the volcanic monitoring and disaster control systems and volcanic monitoring activities.

For relevance, the Project has been highly relevant with Ecuador's development policy, development needs as well as Japan's ODA policy. For efficiency, both the project cost and the project period exceeded the plan.

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

1 Relevance

This project has been highly relevant with Ecuador's development policy, the Contingency Plan for Disaster and the National Development Plan for Better Life (2009-2012)" ("reduction of social and environmental vulnerability against disasters, including volcanic disaster management"), development needs of "mitigation of disaster damage on the people living in the vicinity of volcanoes", as well as Japan's ODA policy for Ecuador to support "disaster prevention", at the time of both ex-ante evaluation and project completion. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved the project purpose of "enhancement of volcanic monitoring capacity at Cotopaxi and Tungurahua Volcanoes". Since all the monitoring networks installed by the Project have been functioning, it enables to obtain data at real time to analyze them more accurately. As a result, it brought about improvement of accuracy of volcanic information and timeliness of information transmission to the relevant organizations. In terms of the overall goal, the Project brought about placement of signs indicating danger zones, transmission of alerting information based on the guidelines as well as voluntary evacuation according to the alert information. Also, the monitoring system and knowhow introduced by the Project contributed to improvement of transmission system of volcanic information through the establishment of nationwide volcanic monitoring system in Ecuador. At the vicinity areas of Tungurahua with continuous eruption activity, no victim at the occurrence of debris flows can be verified as a tangible positive impact of the Project. On the other hand, at Cotopaxi with settled volcanic activity, there is an issue to increase awareness of the local people without strong sense of danger because of no alert information transmitted so far. Besides, there is another positive impact on promotion of alliance between IG and research institutes of Europe and USA, since IG has been highly recognized in the international community owing to the efforts to figure out the mechanism of volcanic activity and publications of literatures about Tungurahua, including its eruption mechanism. Therefore, its effectiveness/impact of this project is high.

Monitoring Point in the Mountain

Achievement of the Project Purpose and the Overall Goal

Outcomes	Indicators (Target)	Actual Achievement
Overall Goal Enhancement of capacity of mitigating volcanic disaster in Ecuador	- Guidelines on appropriate measures in case of volcanic crises of Cotopaxi and Tungurahua Volcanoes are elaborated among organizations for disaster prevention. - Organizations for disaster prevention take measures described in the above Guidelines. - People have consciousness toward the potential volcanic risk and take adequate actions.	(At the time of ex-post evaluation in 2012) - According to the hazard map elaborated by IG, the signs indicating danger zones, evacuation routes, designated places, etc. were placed in all the municipalities affected by the both volcanoes. - The enhanced communication protocol based on the IG's Guidelines enables to obtain real time information of volcanic activity. - At Tungurahua, alerting information was transmitted 700 times according to the Guidelines. At the occurrence of debris flows, the evacuations based on the alerting information resulted in no victim by the disaster. - The communities in the vicinity of Tungurahua organize a volcano monitoring mission by the chiefs and voluntary evacuation system based on the alerting information by IG.
	The Capacity to monitor other active volcanoes is improved.	- The nationwide volcano monitoring system was established through the establishment of volcano monitoring and early alert system at the national level by the IG Enhancement Plan aiming at expansion and modernization of services on seismology and volcanology by IG and the Project on early alert system and natural hazard management by the government of Ecuador. - The monitoring system and knowhow to utilize the system installed by the Project have been applied for monitoring of other active volcanoes. -
	Transfer system of volcanic	- According to the Information Transmission Guidelines, the

	information is improved.	information transmission routes are secured by utilization of various types of communication modes, including land lines, mobiles, satellite phones, digital radios, internet, e-mails and so on. - The programs such as volcanic activity index and volcanic instability alerts based on the data acquired by the monitoring networks enable to take actions at the adequate timing.
Project Purpose Enhancement of capacity of volcano monitoring at Cotopaxi and Tungurahua	The quality of the volcanic activity information to organizations for disaster prevention is improved.	(At the time of project completion in 2009) - All the monitoring networks installed by the Project have been functioning and acquiring data in real time for more accurate analyses. - The accuracy of volcanic information and timeliness of information transmission to the relevant organizations have been improved.

Source: Terminal Evaluation Report and interviews with the implementing agencies.

3 Efficiency

The inputs were appropriate for producing the outputs of the Project although 2 experts of chief project advisor and chief advisor for monitoring networks were added to the planned 3 experts of seismography, earthquake analysis, and volcanic disaster prevention. Both the project cost and the project period were exceeded the plan (ratio against the plan: 187% and 167%, respectively) due to the necessity to procure new equipment in order to replace volcano monitoring equipment damaged by the eruption of Tungurahua in 2006 and the interruption of data collection for technical training on analysis of volcanic monitoring data by the eruption. Therefore, efficiency of this project is fair.

4 Sustainability

Seismograph installed at the Monitoring Point

The government of Ecuador prioritizes risk management as key issues at the national level in the National Development Plan for Better Life (2009-2013) and the Law on National Land Formation, Autonomy and Decentralization Organization legislated in 2010. IG remains the main organization to analyze volcano and earthquake risks, to monitor volcanic and seismographic activities, and to transmit information to the relevant organization in Ecuador. IG has 11 researchers specializing in volcano monitoring out of 67 personnel in total. Also, IG assigns 1 staff for implementing seminars and training courses in order to enhance understandings on information transmitted by IG of staff in the organizations responsible for disaster prevention and the local governments. The skills and knowledge on volcano monitoring and analysis transferred by the Project have been sustained by the working group of IG and taken over the managerial staff even in the case of change in personnel. In addition, NIED has been continuously providing technical cooperation and advices after the completion of the Project. It is expected that the cooperation between IG and NIED will be continued for future. The monitoring equipment installed by the Project now can be utilized even in the case of eruption owing to the introduction of wind power generator after the malfunctions of solar panel generator by the ash falls at the eruption of Tungurahua. IG allocates 0.41 million USD to cover the cost of maintenance, consumables and services out of the total budget of 1.66 million USD from the government budget in the fiscal year of 2012. In addition, 9 million USD is allocated to the IG Enhancement Plan, jointly implemented by IG and the National Secretary of Science and Technology (SENACYT: Secretaría Nacional de Ciencia y Technología) for 4 year period from 2009 to 2012. In addition, IG has other financial sources, including consulting fees from research works, donation from private companies, and financial supports from donors (IDB) and a French development research institute. Therefore, with no problem in policy background, structural, technical and financial aspects of the implementing agencies, sustainability of the project effect is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- The interviews with the local governments for the ex-post evaluation highlighted that IG earns the trust of them by not only provision of volcanic information but also proactive involvement in the seminars and the trainings. It is expected that IG will contribute to further increase in awareness of the local governments and communities for volcanic disaster prevention through continuation and reinforcement of these activities in the future.

Lessons learned for JICA

- For the Project, although no long-term expert was dispatched, the short-term experts shared the volcano monitoring data and provided technical guidance for the IG researchers even during their absence from the project site. Such continuous efforts of the experts can be a key success factor of effective technical transfer.
- During the project implementation, the volcano monitoring equipment was damaged by the pyroclastic flows associated with the eruption of Tungurahua. Since the damage of equipment impeded data collection which was necessary for technical guidance on volcano monitoring data analysis, the project period was needed to extend two years. Although it is difficult to fully prevent damages by large scale pyroclastic flows, some troubles, such as malfunction of solar panel generators by ash falls, can be avoidable by countermeasures reflecting predictable risks.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Kenya office:March, 2013

Country Name	The Project for Rural Water Supply[1]
Kenya	

I. Project Outline

Project Cost	E/N Grant Limit: 497 million yen	Contract Amount: 488 million yen
E/N Date	September, 2006	
Completion Date	February, 2008	
Implementing Agency	Department of Water Development, Ministry of Water and Irrigation (MWI)	
Related Studies	Basic Design Study: May 2004 – October 2004 Implementation Review Study : December 2005 – July 2006	
Contracted Agencies	Consultant	Nippon Koei Co., Ltd.
	Contractor	Urban Tone Cooperation
	Supplier	-
Related Projects (if any)	・ Aftercare Study on the National Water Master Plan in the Republic of Kenya (Development program study), 1997-1998 ・ The Project on the Development of the National Water Master Plan 2030 (Technical Cooperation), 2010-2012 ・ The Project for Rural Water Supply（Phase II） (Grant Aid), 2011-2012	
Background	The ASAL, where was classified as arid and semi-arid region, occupied an area of 490,000 km^2 or 83% of the overall land area of Kenya, and was inhabited by 25% of the overall population who basically engage in agriculture and livestock. In ASAL, it was difficult to take surface water throughout a year and people relied on shallow wells which did not supply sufficient water in terms of quality and quantity. During the dry season, the water sources were dried up, which caused shortage of drinking water, and in addition, deteriorated hygiene conditions and affected livestock adversely. Resolution of this persistent water shortage had been one of the major agendas of the development of ASAL in Kenya. The ninth National Development Plan (2002 to 2008) defined rural development and poverty eradication as one of the goals of the plan, and therefore, development of ASAL which suffered most from extreme poverty was set as a major policy. Under this circumstance, the Government of Kenya requested the Government of Japan for extending grant aid assistance for improvement of living condition by development of groundwater supply facilities in the four districts of Machakos, Makueni, Kitui and Mwingi which were extremely poor, and least served with water in ASAL. (The first phase of the project targets Kitui and Mwingi only.)	
Project Objectives	Outcome To increase served population with safe and stable drinking water supply by providing water supply facilities, organizing water users associations for sustainable water supply and procuring operation and maintenance equipment in two eastern districts (Kitui (25 villaged) and Muwingi (34 villages): Total 59 villages)	
	Outputs Japanese Side ・ Construction of water supply facilities: hand pumps (24 sites), submersible pumps (34 sites) (The plan at the time of ex-ante evaluation: hand pumps for 27 sites and submersible pumps for 31 sites) ・ Rehabilitation and improvement of existing facilities with spring water source (one site) ・ Procurement of operation and maintenance equipment (vehicles, motor bikes, electrical sounding equipment, portable water quality equipment, operation and maintenance tools for submersible pumps) ・ Technical support for operation and maintenance by water users associations (Soft component) Kenyan Side ・ Land for water facilities and ground leveling ・ Construction of transmission and distribution pipeline, fences surrounding facilities	

II. Result of the Evaluation

Summary of the Evaluation
In Kenya, water service ratio in urban areas where 12.5 million people lived was almost 100%, while the ratio in rural areas where 26.1 million lived was extremely low with 35% only. Since water sources in rural areas were rainwater and raw spring water, there were problems of water shortage and water quality degradation in the dry season. This project has largely achieved the objective of increasing served population with safe and stable drinking water supply in former Kitui and Mwingi (Currently Kitui is divided into ten districts and Mwingi is divided into six districts): Population with safe drinking water, service ratio and walking distance to water point have achieved targets. Facilities are

[1] The project is implemented in two phases. This evaluation studies the first phase only. An Exchange of Notes for the phase II of the project which targets Machakos and Makueni was signed in May 2007; however, the project was suspended because there was no tender. After an additional implementation review study was carried out, an Exchange of Notes for the Project for Rural Water Supply (Phase II) was signed in August 2011.

operated and maintained by communities, although the degree of commitment to operation and maintenance work is not uniform. With regards to impact, the number of water-borne diseases and the workload of collecting water have decreased.

As for sustainability, problems have been observed in terms of institutional and financial aspects as well as current status of operation and maintenance. Neither of District Water Offices (DWOs) nor Tanathi Water Service Board (Tanathi WSB) for whom the water supply facilities under the project was transferred from the Ministry of Water and Irrigation (MWI) have sufficient number of technical staff. Water Committees (WCs) organized by community members do not have sufficient savings required for the replacement of large-size equipment and repair, and there are no systematic annual maintenance plan or annual income/budget plan.

For relevance, the project has been highly relevant with Kenya's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Kenya's development policies (to ensure that safe water is available and accessible to all as set in Vision 2030 and others), development needs (to improve access to water in ASAL) as well as Japan's ODA policy (Country Assistance Program for Kenya).

Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project has largely achieved its objective of increasing served population with safe and stable drinking water supply. Populations with safe drinking water and service ratio have achieved targets. Although the average distance to water point did not reach the target at the target year, it has achieved the target at the time of ex-post evaluation. The water supply facilities constructed by the project are used well, although people use the existing water sources as well. As to the effect of the soft component of the project, according to interviews, most communities at site visit are not aware of the existence of the community action plan which was developed by the project. However, many effects were found at communities: WCs were developed, lands for water facilities were donated by communities themselves, people participated in community works such as construction of drain ditches, and facilities are operated and maintained by communities, although the degree of commitment to operation and maintenance work is not uniform.

With regards to impact, according to the implementing agency and beneficiaries, the number of water-borne diseases and the workload of collecting water have decreased.

Therefore, effectiveness/impact of this project is high.

Quantitative effect

		Baseline value (2001)	Target value (2008)	Actual value (2008)	Actual value (2009)	Actual value (2010)	Actual value (2011)	Actual value (2012)
Indicator 1 : Served Population (1,000 persons)	Former Kitui	50.5	91.3	93.1	96.8	100.7	104.7	108.9
	Former Mwingi	29.8	65.9	67.2	69.2	71.3	73.4	75.6
Indicator 2 : Service Ratio (%)	Former Kitui	9.8	17.7	19.5	21.6	23.5	24.7	25.5
	Former Mwingi	9.8	21.7	24.3	26.0	27.4	28.1	28.6
Indicator3 : Average distance to water point (km)	Former Kitui	5.0	3.2	4.5	3.6	3.0	2.6	2.2
	Former Mwingi	10.0	5.7	6.2	5.5	5.0	4.5	4.2

(Source) Tanathi WSB

People using a hand pump

People buying water from a water kiosk

People queuing at a water kiosk

3 Efficiency

Although the outputs were produced mostly as planned, fences around the water supply facilities which were supposed to be constructed by communities were not constructed at many project sites. The project cost was within the plan (ratio against plan: 98%); however, the project period slightly exceeded the plan (ratio against the plan: 125%), since submersible pumps arrived late because of the suspension of cargo handling and customs clearing due to the aftermath of presidential election in December 2007.

Therefore, efficiency of this project is fair.

4 Sustainability

In accordance with the water sector reform currently being implemented in Kenya, water supply and sewage facilities of MWI have been transferred to several Water Service Boards (WSBs), and the facilities constructed by the project have been transferred to Tanathi WSB. Under the reform, DWOs in the former Kitui and Mwingi are expected to be transferred to Tanathi WSB; however, the budget for DWOs including personnel expenses are still borne by MWI due to the limited financial base of Tanathi WSB. Hence, transition has not be completed.

At the time of ex-ante evaluation, it was anticipated that Water Service Providers (WSPs) obtain a business license from WSBs, make a contract with WSBs on service provision, and operate and maintain the water supply facilities constructed by the project. However, 58 facilities out of 59 facilities under the project are currently operated and maintained by WCs in a participatory fashion. The size of WCs is too small to obtain a business license from Tanathi WSB, and thereby WCs do not enter into an agreement with Tanathi WSB for its operation and maintenance for the time being. Without a contact, Tanathi WSB is not able to oversee or audit WCs appropriately. From this institutional perspective, it is not certain whether the effect of project continues in the future.

Although the number of technical staff is not sufficient and a regular monitoring system is lacking, there is no problem in the technical capacity either of DWOs for large scale maintenance and WCs for daily operation and maintenance (facility operation, parts and consumables replacement, and simple repair).

Financially, WCs collect water fee from users and apply it for the maintenance expenses including fuel expenses and personnel expenses (water kiosk keepers). However, WCs do not have sufficient savings for repair and purchase of large-size equipment (Fences have not been constructed partly because of the lack of savings by WCs' side.). When WCs need to incur such expenditure, they request DWOs for funding, and DWOs further request MWI, if they do not have sufficient budget. According to the interviews with WCs, there are no WCs who have an annual income/expenditure plan or an annual maintenance expenditure budget.

As to the status of operation and maintenance, currently, WCs maintain facilities well by carrying out regular cleaning, cleaning of storage tanks, patrolling, and purchasing fuels. However, there is uncertainty whether appropriate actions can be taken when a problem/breakdown happens in the future, since WCs do not have a regular facility monitoring plan and spare parts. Currently, three water supply facilities out of 59 total facilities constructed by the project are out of order.

Therefore, sustainability of this project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. Tanathi WSB and DWOs who oversee and support the facilities constructed by the project and WCs are dependent on the central government budget (MWI). In addition to the continuing financial support, MWI needs to take measures for an additional budgeting in order to secure additional personnel at WSB and DWOs.
2. For sustainability of the project effect, each WC needs to make and keep a regular monitoring plan, an annual income/expenditure plan, and an annual maintenance plan with maintenance budget. Support for making the above mentioned plans from Tanathi WSB and DWOs is needed.

Lessons learned for JICA

Fences were supposed to be constructed by the beneficiaries of the project (communities) at the time of implementation study review; however, fences were actually not constructed at many project sites. At the time of ex-ante evaluation, financial and technical capacities of communities should be thoroughly reviewed. Based on the review, items and expenditures undertaken by communities which are considered to be feasible should be agreed by Japan and a recipient country.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Bolivia office: March, 2013

Country Name	The Project for Improvement of Health Supply Center (CEASS)
Bolivia	(El Proyecto de Mejoramiento de la Central de Abastecimiento y Suministros de Salud)

I. Project Outline

Project Cost	E/N Grant Limit: 761 million yen		Contract Amount: 761 million yen
E/N Date	August, 2006		
Completion Date	March, 2008		
Implementing Agency	Health Supply Center (CEASS) under jurisdiction of Ministry of Health and Sports		
Related Studies	Basic Design Study: January, 2006 - July, 2006		
Contracted Agencies	Consultant	Matsuda Consultants	
	Contractor	HAZAMA Corporation	
	Supplier	Ogawa Seiki Corporation	
Related Projects (if any)	・ Technical Cooperation: Project of Strengthening Rural Networks of Maternal Health and Child with Focus on Rights, Intercultural and Gender in the Cochabamba Department (FORSA Cochabamba) (2007 - 2011); Project of Strengthening the Network of Health Rural N°4 Achacachi (Omasuyos Larecaja Andina) with Approach of Maternal and Child Health in the Department of La Paz (FORSA La Paz) (2010 - 2014); Integral health Communitarian outreach project (PSIEC); Study on Enhancement of District Health System for Beni Prefecture in the Republic of Bolivia (2001 - 2003); Project for Strengthening the Regional Health Network for the Santa Cruz Department (FORSA) (2001 - 2006). ・ Grant Aid: The Project for the Improvement of Health Facilities in Southern Beni Prefecture ・ Other donors' assistance: UNFPA Global Program to Enhance Reproductive Health Commodity Security including technical assistance to CEASS with marketing consultants and condoms donation.		
Background	In Bolivia, 25% of population does not have access to medical supplies (drugs) due to economic and geographical reasons. CEASS, the only non-profit (public) institution that procures and reserves all types of essential drugs that are generic and supplies them to public health institutions nationwide at lower prices than market prices, has a significant role towards equal access to medical supplies among poor population. However, drugs delivered by CEASS accounted for only 10% of supply of essential drugs designated by Universal Security for Mother and Child (SUMI) - medical insurance to provide free medical services to all under-five children, pregnant women and women during the first six months after delivery - in 2004, due to the CEASS's low capacity in preservation/delivery of drugs, and it was an obstacle to supply of drugs to poor population. Given this situation, the government of Bolivia requested the government of Japan for grant aid to improve medical supply through CEASS by construction/renovation of buildings and development of equipment at central and local levels.		
Project Objectives	Outcome To stably and safely provide the medical supplies to the covered medical facilities by construction of CEASS and improvement of equipment related to pharmaceutical preservation/delivery/packaging at both central and local levels.		
	Outputs Japanese Side: ・ Construction of National Center of CEASS ・ Procurement of equipment to National Center (forklifts, rack, blister machine, refrigerators, vehicles, etc) ・ Procurement of equipment to eleven (11) local centers (refrigerators, vehicles, etc) Bolivia Side: ・ Construction/Repair of the local centers of CEASS		

II. Result of the Evaluation

Summary of the Evaluation

Although the role of CEASS as the public institution that procures, reserves, supplies and sells essential drugs at low cost was important particularly towards equal access to drugs by poor population, it was suffering from its low capacity of preservation/delivery of drugs, and improvement of facilities and equipment of CEASS at both central and local levels was considered urgent at the time of ex-ante evaluation.

This project has partially achieved its objectives of stable and safe provision the medical supplies to medical facilities covered by CEASS; At the local center in La Paz, sorting was found an issue at the time of ex-post evaluation although other centers achieved its expected level.

As for sustainability, some problems have been observed in terms of structural, technical and financial aspects due to frequent change of management personnel, insufficient allocation of professional staff, and insufficient execution of annual maintenance budget, while those problems do not seriously affect the status of operation and maintenance of CEASS, which is mostly well functioning at both central and local levels. For relevance, the project has been highly relevant with Bolivian development policy, needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, project cost was as planned but project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with the Bolivian development plan (such as National Health Policy and National Policy on Medicine), development needs (equal access to medical service of quality through CEASS network), as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness / Impact

This project has partially achieved its objectives of stable and safe provision the medical supplies to medical facilities covered by CEASS at the time of ex-post evaluation as most indicators set at the ex-ante evaluation, such as percentage of drugs that are sorted, preserved and managed (except at the local center in La Paz), percentage of drugs delivered in adequate conditions, and losses and damages through delivery, have achieved considerably. On the other hand, time spent for delivery "length of delivery (number of days) of drugs" to some CEASS Local Centers had not been reduced until November 2011 because of insufficient stock of drugs at CEASS Central (In November 2011, this problem was solved as National Vaccine Programs started utilizing CEASS as delivery institution). In addition, it should be noted that the increased percentage of blistered drugs was not brought by this project because the blistered drugs not produced by this project but produced by private company of which has brought to rapid transformation(currently more than 80% of drugs are packaged in blisters).

Besides those indicators, it was found that CEASS has been utilized by some national vaccine programs *as stock*. Also, according to the interview and observation in the CEASS Central and Local Centers (La Paz, Santa Cruz, Potosi, Sucre), local centers of CEASS are generally satisfied with the project equipment as well as the quality, presentation and quantity of medicine. Furthermore, from those interviews it is considered that the improvement of drug distribution through CEASS, together with other interventions including JICA technical cooperation projects, has contributed to better access of the poor to essential drugs related to SUMI.

As shown above, the project has partially achieved the expected outcomes; therefore its effectiveness/impact is fair.

Quantitative Effects

Indicator	Baseline value (2005)	Target value (2009)	Actual value (2009)	Actual value (2011)
1) Sorting, preservation and management of drugs	0	Increased	-	More than 70% of drugs are sorted, preserved and managed adequately in Santa Cruz (SCZ), Sucre and Potosi local centers but in La Paz, sorting has not reached the expected level due to inadequate capacity of staffs and deficiencies in infrastructure and equipment.
2) Length of delivery (number of days) of drugs from National Center to Local Center	Max 20 days	Decreased	-	Last Length of delivery to SCZ was 7 days, to Potosi and Sucre 30 days; this problem was generated by CEASS Central which did not have sufficient stock of drugs and thus could not compete with prices of national providers; In November 2011 that problem was solved as National Vaccine Programs started utilizing CEASS as delivery institution. The length of delivery was reduced to within 20 days. The reason has been an important acquisition of drugs in December 2011 and January 2012 which did gives it sufficient inventory of products to respond to the demand.
3) Percentage of drugs delivered in adequate conditions	20%	Improved	-	80%
4) Loss and damage through delivery	10%	Decreased	-	2%
5) Percentage of blistered drugs	10%	Increased	-	95%, but not by blister machine procured by this project (the machine is not used, and now more than 80% of medicines in tablets are packaged and sold in blisters by most of providers)

Sources: Interview and Site visit of CEASS central and four local centers, information on all local centers of CEASS central

Storage space, CEASS

Main entrance, CEASS

3 Efficiency

Although the project cost was as planned (ratio against plan: 100%), the project period slightly exceeded the plan (ratio against plan: 114%). Outputs of the Japanese side were produced mostly as planned, but as for the outputs of the Bolivian side, renovation of some local centers were not completed due to discontinuity of policy decisions on construction works with frequent turnover of personnel. Therefore, efficiency of the project is fair.

4 Sustainability
Some problems have been observed in structural, technical, and financial aspects. In the structural aspect, although the structure of CEASS was sustained in the similar manner to the implementation period, it has some problems due to its frequent changes of high level officers and insufficient allocation of professional staff. In the technical aspect, technical level of staffs is not sufficient to handle some equipment. As for the financial aspect, the execution rate of annual maintenance budget had been decreasing until 2010 mainly due to frequent turnover of CEASS authorities without takeover of plans that their predecessors had prepared, which had resulted in non-execution of the budget ensured for such plans . However, no serious problem has been observed in current status of operation and maintenance aspects as CEASS Central and Local Centers are mostly well functioning due to local staff's effort to elaborate rules to minimize risks for operating the facility. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

Ministry of Health and Sports and CEASS are recommended:

- To stably allocate the professional staffs of CEASS both at central and local centers to increase total capability.
- To disburse the budget for maintenance properly.
- To have a focus also on acquisitions of medical products with low demand in the market (e.g.: High-cost and low-demand drugs but critical such as the treatment of cancer) as recommended by "Situational diagnosis of the CEASS and restructuring proposal- 2011"

Lessons Learned for JICA

- At the planning stage of a project to improve pharmaceutical affairs, provision of blister machines should be examined carefully by checking technical capacity and feasibility of maintenance at local level, as well as with comparison of cost benefit between buying medicine in hospital bottles for blistering and buying blistered medicines.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Solomon Islands office, Papua New Guinea office: March, 2013

Country Name	The Project for the Reconstruction of Bridges in East Guadalcanal
Solomon Islands	

I. Project Outline

Project Cost	E/N Grant Limit: 913 million yen		Contract Amount: 913 million yen
E/N Date	August 2006		
Completion Date	April 2008		
Implementing Agency	Department of Infrastructure and Development, Ministry of Infrastructure and Development		
Related Studies	Basic Design Study: November 2005 – July 2006		
Contracted Agencies	Consultant(s)	Construction Project Consultants, Inc.	
	Contractor(s)	Kitano Construction Corp.	
	Supplier(s)	—	
Related Projects (if any)	[Japan's cooperation] • Project for reconstructing the Lunga bridge (1990) (Grant Aid) • Project for Construction of Bridges in Guadalcanal Island (1993-1996) (Gant Aid) [Other donors' cooperation] • Post Conflict Emergency Rehabilitation Project (PCERP) (2005-2008) (Loan, ADB) • Transport Sector Development Project (2010-2015) (Technical Assistance, ADB) • Transport Sector Development Fund (Grand Aid, AusAID and Government of Solomon Islands) • Transport Sector Development Program (Technical Assistance, AusAID)		
Background	In Solomon Islands, transport infrastructures such as roads and bridges and the country's key industries such as palm oil plantation and gold mining were seriously damaged by the outbreak of ethnic conflict during the period between 1998 and 2003. Since Guadalcanal Island was the economic center of the country, more than 90% of the country's total transport volume was concentrated in Guadalcanal Island. The trunk road which stretched east and west from Honiara, the capital city, was the only land transport route and it played an extremely important role in the national economy. Many bridges on the trunk road connecting East Guadalcanal and Honiara in the project target area were deteriorated even after the post-conflict period. Since rehabilitation of the damaged roads and bridges were urgent need not only for improvement of transport convenience but also for restoration of national industries and reconstruction of national economy, the Government of Solomon Islands requested the Japan's Grant Aid for bridge reconstruction.		
Project Objectives	Outcome To reconstruct the three damaged and aged bridges on the trunk road connecting East Guadalcanal and Honiara city and port in order to improve transport capacity through securement of smooth transport flow and enhancement of bearing capacity of each bridge.		
	Outputs(s) Japanese Side • Reconstruction of the existing three bridges: (1) Tenaru 1 Bridge (length: 55.0m, type: 3-span continuous non-composite girder, carriage way: 4.0m, footway: 1.2m), (2) Tenaru 2 Bridge (length: 25.0m, type: composite girder, carriage way: 4.0m, footway: 1.2m), (3) Ngalimbiu Bridge (length: 120.0m, type: 3-span continuous non-composite girder, carriage way: 4.0m, footway: 1.2m) Solomon Side • Removal of Ngalimbiu Bridge, repair and removal of existing bridge. • Research and removal of unexploded bombs within the targeted sites prior to construction and issuance of a safety certificate.		

II. Result of the Evaluation

Summary of the Evaluation

The trunk road connecting East Guadalcanal and Honiara city was seriously damaged by the outbreak of ethnic conflict, and many bridges were in dangerous situations due to corrosion of steel grinders and crack of concrete after 20-50 years of its construction. The above deteriorated road and bridge condition was a bottleneck for the land transport and economic activities in the country.

This project has largely achieved its objectives of the increase in bearing capacity and traffic volume, securement of smooth transport flow, and decrease in traffic accidents. Also the project has contributed to restoration of key industries in the project target area such as plantation and mining, employment creation for the local people, and improvement of accessibility to social services such as medical, educational, and market services.

As for sustainability, some problems have been observed in term financial aspect and current status of operation and maintenance, because (i) the MID budget heavily relies on the financial assistance of foreign donors and (ii) damages at a part of guardrails and drainage facilities identified by the defect investigation and the post observation study have not been repaired yet, although there are no critical damage and malfunction of the project facilities.

For relevance, the project has been highly relevant with Solomon Islands' development policy, development needs, as

well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Solomon Islands' development policy ("restoration of the productive sector and the rebuilding of supporting infrastructure" in the National Economic Recovery, Reform and Development Plan in 2003 and "infrastructure development and its effective utilization for securement of accessibility to social services and markets" in the National Development Strategy 2011-20), development needs ("road transport infrastructure development between East Guadalcanal and Honiara"), as well as Japan's ODA policy "the Japan's Country Assistance Strategy to Solomon Islands: the Fourth Japan-Pacific Islands Forum Summit Meeting 2006" with priority area of transport infrastructure development for economic growth at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

While this project reconstructed the three bridges on the eastern trunk road in Guadalcanal Island, the other damaged bridges and roads were reconstructed and rehabilitated by the financial assistance of Asian Development Bank (ADB). Eventually the entire stretch of the eastern trunk road in Guadalcanal Island was restored.

This project has largely achieved its objectives of the increase in bearing capacity and traffic volume, securement of smooth transport flow, and improvement of transport capacity as planned. Also the decrease in number of traffic accidents was observed. The bearing capacity was increased from 20 tons/vehicle in 2005 to 66 tons/vehicle in 2008 (Note 1), the traffic volume was doubled from 450 per 12 hours in 2005 to 554 per 6 hours in 2012 despite a difference in period to time (Note 2).

According to the interview survey with the local residents in the project target area, plantation firms and bus drivers, it was recognized that a separation of carriage way and footway made safer and smoother traffic flow on the target bridges after the project implementation. In addition, thanks to increase in bearing capacity of bridges, the frequency of truck traffic was increased and number of passengers, volume of cargo, and transportation speed were dramatically increased. Although no statistical data was available, the result of interview survey revealed that the number of traffic accidents on Tenaru 2 Bridge was decreased because the visibility of drivers became clearer and wider than before by removal of bush along the approach roads to the bridge and the expansion of road width.

The project has positive impacts on increase of production and shipping volume of plantation and gold mining firms in the project target area coupled with the outcome of other donor's contribution on improvement of physical distribution on the target road. It is considered that the above positive impact further contributed to restoration of key industries of the country. At the same time, the expansion of production activities of key industries brought about a spillover effect on employment creation for the local people. Furthermore, the improvement of transport accessibility contributed to improvement of accessibility to social services such as medical, educational, and market services. It is reasonable that the above mentioned positive impacts are produced not only by this project but also the other donors' interventions including the ADB project.

No negative environmental impact was observed and the land acquisition was properly implemented according to the related guidelines and regulations. Also the resettlement of the people which was initially planned was not implemented because the area of construction site did not invade the residential area.

Therefore, the effectiveness of the project is high.

Quantitative Indicators

	baseline value (2005)	target value (2008)	actual value (2008)	actual value (2012)
Indicator 1 Increased bearing capacity (tons/vehicle)	20	66	66	66
Indicator 2 Traffic volume (no. of vehicle)	450 (in 12 hours)	increase	N.A.	554 (in 6 hours)

Source: Ministry of Infrastructure Development and the sampling traffic volume survey conducted during the ex-post evaluation.

Note1: It is assumed that bearing capacity of 66 tons/vehicle means a single bridge can accommodate a trailer with 66 tons weight at one time.

Note 2: The actual traffic volume in 2005 (baseline value) was collected by the traffic volume survey conducted at 6:00-18:00 on December 3, 2005.

Note 3: The actual traffic volume in 2012 (at ex-post evaluation) was collected by the sampling traffic volume survey conducted at 7:00-13:00 on June 27, 2012.

3 Efficiency

Although the project cost was within the plan (100%), the project period slightly exceeded the plan (112%) because some local residents who were not satisfied with the compensation for crops blocked the construction works despite its compensation process was implemented according to the related guidelines and regulations. Outputs were produced as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The facilities/equipment provided by the project are maintained by the Ministry of Infrastructure Development (MID), which is responsible for contract management and monitoring for outsourced maintenance works and technical assistance to the private contractors. While the actual maintenance works at field level are conducted by the private contractors including the local community group based upon subcontracting. Regarding the institutional aspect, no problem is observed since MID

plans to increase its staff number including technical staff and to develop their capacity in the next five years through an on-going major organizational reform started from 2011. Regarding the technical aspect, no problem is observed since MID has conducted the operation and maintenance based upon the manuals and the specification documents. Although the current technical capacity of the private contractors for maintenance works done not fully meet the sufficient level, this issue is expected to be improved in the near future because MID has been promoting the capacity development of the private contractors by provision of technical training for road maintenance with the assistance of ADB, as well as the entry of foreign contractors into this market. Regarding the financial aspect, some problem is observed because the Solomon government heavily depends for the operation and maintenance budget on the foreign donors such as the Australian government (AusAID), as only less than 1% of the total MID budget is funded by the Solomon government. Regarding the current status of operation and maintenance, some problem is observed since (i) damages at a part of guardrails and drainage facilities caused by cars and floating objects at rise of water in the river, which were identified by the defect investigation and the post observation study, have not been repaired yet due to delay in allocation of maintenance budget, and (ii) the proper maintenance works were not fully implemented due to the lack of capacity of the contractors. However, the critical damage and malfunction of the project facilities are not observed so far.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendation for Implementing agency

- The defect investigation and the post observation study identified damages at a part of guardrails and drainage facilities of the target bridges, however MID has not taken any necessary actions for repair due to delay in allocation of maintenance budget. The Department of Infrastructure Development, MID, which is an implementing agency of the project, is requested to secure the necessary maintenance budget for the above identified damaged in consideration with its urgency and priority.

Recommendation for JICA

- JICA must request to MID to secure the necessary maintenance budget for the implementation of the recommendations made by the defect investigation through the negotiation between MID and Ministry of Finance.

Lessons learned for JICA

- Since this project was formulated in line with the national policy of Solomon Islands, and collaborated with other development partners, the project brought about a synergistic effect with the private sector development such as plantation and mining industries. It is important that the national policy and priority of the recipient countries must be paid attention in the project formulation.
- Since the majority of land is a customary land in Solomon Islands and the ownership of land is not clearly identified, it is easy to produce a problem during the land acquisition process. If the project requires any land acquisition in a customary land, a special consideration is required such as the government support for mediation and consultation with the land owners and monitoring of the land acquisition process.

Public transport for the local residents

Mobile banking service supports the local industries

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Pacific Division (Micronesia Representative Office):March, 2013

Country Name	The Project for the Improvement of the Weno Harbor
Micronesia	

I. Project Outline

Project Cost	E/N Grant Limit: 725 million yen		Contract Amount: 716 million yen
E/N Date	August 2006		
Completion Date	January 2008		
Implementing Agency	Department of Transportation and Public Works (DTPW) , Chuuk State Government		
Related Studies	Basic Design Study: February 2006 – July 2006 Detailed Design Study: August 2006 – November 2006		
Contracted Agencies	Consultant	ECOH CORPORATION	
	Contractor	Penta-Ocean Construction Co. Ltd.,	
	Supplier	-	
Related Projects (if any)	【Japanese Assistant】 Grant Aid：Weno Harbor Extension Project (1993) 【Foreign Donors Assistant】 Federal Emergency Management Agency (USA): Renovation of damaged Pier B by concrete pavement, removal of water facilities and renovation (February 2005 – December 2006)		
Background	The Weno Harbor is the only port in the Chuuk State which not only had the commercial Dock for the ocean-going vessels, but also served as a major base for coastal vessels to deal with the freight handling operation. In other words, the Weno Harbor has assumed as a transportation hub and commercial center of state's economy in distribution of daily commodities for about 55,000 people of the Chuuk State. However, because of the damages caused by the destructive typhoon in 2002, the commercial Dock had become unusable. Consequently, it had taken more time for those ocean-going vessels to complete the cargo handling operation because they had to use other piers. They had often been tied up more days in offshore. On the other hand, because the North Port, where passenger ferries connecting small islands had anchored, did not have enough spaces, small local boats had ended up to illegally anchor at the south basin where the anchorage of small local boats were not allowed. As a result, there had been much congestion in the commercial Dock area where the large ocean-going vessels, coastal vessels and small local boats had been disorderly moving around. It was a pressing need to secure the navigation safety in the harbor.		
Project Objectives	Outcome To improve the port facilities in order to assure its safe and efficient operational condition at the Weno Harbor in Chuuk State by the rehabilitation of commercial Dock and North Port		
	Outputs Japanese side: ● Rehabilitation of pier A and B in the commercial Dock by the fender replacement, reconstruction of concrete curb, rehabilitation of superstructure concrete and removal of the Submerged Vessels in front of pier B ● Construction of the revetment wall and wave dissipating blocks in the North Port Micronesian side: ● Securement of the space to carry out the rehabilitation work and removal of the rubbles on the container yard ● Disposal of the oil waste bailing out from submerged vessels ● Relocation of the disused house at the North Port before the reconstruction work is started ● Treatment of the oil leak from the submerged vessels after their disposal ● Construction of the fence at the boundary of the commercial Dock after the relocation of small boats from south port		

II. Result of the Evaluation

Summary of the Evaluation

The Weno Harbor is the only port in the Chuuk State which has had the commercial Dock for the ocean-going vessels, serving as a commercial center of state's economy in distribution of daily commodities for the people of Chuuk State. Due to the damages caused by the destructive typhoon in 2002, the commercial Dock for the ocean-going vessels had become unusable. As a result, there has been much congestion in the area of commercial Dock where the large ocean-going vessels, coastal vessels as well as small local boats had been disorderly moving around. Thus it was difficult to secure the navigation safety in the harbor, and to smoothly complete the cargo handling operation.

This project has somewhat achieved its objectives to improve the port facilities in order to assure its safe and efficient operational condition at the Weno Harbor by the rehabilitation of commercial Dock and North Port, such that most of the port function has been restored and the cargo handling operation has been streamlined by rehabilitation of the commercial Dock (pier A and B). The revetment at the North Port constructed by the project has now been used for anchorages of midsize vessels, cargo handling operation by small boats and boarding of small boats passengers; however, it has not been used for anchorages of small local boats as it was originally planned. Several impacts in activating the marine transportation have

been observed, such that the volume of cargoes handled at the commercial Dock has been increased, the anchorage cases of ocean-going vessels (in both large size and midsize) for sightseeing tours has been increased.

The roles and structures of both implementing agency and the Transco Co., Ltd., which is in charge of cargo handling operation, are sustained what they were considered desirable at the time of ex-ante evaluation. As for the technical aspect, the implementing agency has no problem in dealing with the daily operation and maintenance. While, the implementing agency has some difficulties to obtain the budget needed to renovate the facilities and to spend for newly allocated budget items. It was also identified in the current status of operation and maintenance that several cases were left unrepaired, such as the caving in the container yard and electricity failure of beacon. Overall, the implementing agency has some problems in the financial aspect and the current status of operation and maintenance.

For relevance, the project has been highly relevant with Micronesia's development policy, development needs and Japan's ODA policy toward Pacific Islanders including Micronesia, at the time of ex-ante evaluation and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly consistent with the development policy of Micronesia, such as "to improve the infrastructure for revitalization of private sector and for strengthening the economic activities, distribution of goods and exchange bases" specified under the National Development Strategies (2004-2023), and development needs to rehabilitate the port function, resolution of congestion in the harbor, assurance of security navigation in the harbor and the promotion of streamlining the cargo handling operation, as well as Japan's ODA policy toward Pacific Islanders including Micronesia, such as "to support the infrastructure development on the transportation and facilities of fishery industries" endorsed at the 4th Pacific Islander's Meeting at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has achieved its objectives to improve the port facilities in order to assure its safe and efficient operational condition at the Weno Harbor by the rehabilitation of commercial Dock and North Port, such that there has been no congestion in the harbor, the navigation safety has been secured and the cargo handling operation has been streamlined by rehabilitation of the commercial Dock (pier A and B). As a result, the number of ocean-going vessels anchored at the commercial Dock has been increased, and the time of cargo handling operation for those vessels has been minimized. Furthermore, it has helped to secure the serenity level because the wave-dissipating blocks offshore have prevented the corrosion of ocean waves.

The North Port has now been used for anchorages of mid-sized vessels, cargo handling operation by small boats and boarding of small boat passengers. However, it has not been used for anchorages of small local boats as it was originally planned. Those small local boats have still anchored outside of the revetment in the North Port, and some of them have still anchored in the south basins. This means that what was intended, "for the sake of navigation safety for ocean-going vessels, the anchorage of small local boats should be restricted to the North Port and to block the south basin off from small local boats" has not been attained. With the fence set up at the boarder of commercial Dock, it is restricted for anyone except authorized persons to step into the commercial Dock.

Several impacts in activating the marine transportation have been observed, such that the volume of cargo handled at the commercial Dock has been increased, the anchorage cases of ocean-going vessels (in both large size and mid-size) for sightseeing tours has been increased. According to the DTPW, the contamination of sea water, which might have occurred during the construction period, was avoided by setting up the silt fence, as a non-proliferation measure. The process of planned relocation of abandoned house and residents were successfully completed. As for the proposition raised by some households who had claimed the conventional water rights, the documents on agreement was exchanged between the head of DTPW and those representing households after the series of stakeholder meetings. It is also confirmed that there has been no proposition raised since then.

Therefore, the effective ness/impact of this project is fair.

Quantitative Effects

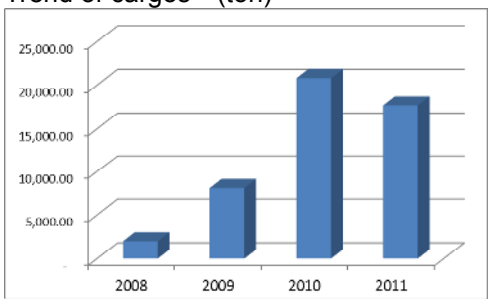
		BD Year Actual(2006)	Target Year Planned (2010)	Target Year Actual (2010)	Ex-post Evaluation Actual (2012)
Indicator 1 Number of foreign vessels Anchored at the pier B per year		As of 2004 0 vessel	More than 37 vessels (Note 1)	62 vessels (Including vessels anchored at the pier A (Note 2))	50 vessels (Including vessels anchored at the pier A (Note 2))
				(Annual data) 41 vessels (2008), 33 (2009), 62 (2010), 50 (2011) in average 46.5 vessels	
Indicator 2 Number of days spent for cargo handling operation for foreign vessels (Note 3)		3 days	2 days	At the pier B：1.5 days (Kyowa Shipping Co. Ltd.,) At the pier A：1 day (Matson Co. Ltd.,)	At the pier B：1.5 day (Kyowa Shipping Co, Ltd.,) At the pier A：1 day (Matson Co. Ltd.)
Indicator 3 Average number of	South basins for anchorage	40 vessels	0 vessels	100 vessels	60-70 vessels

small vessels anchored per day	North Port	80 vessels	120 vessels	100 vessels	60-70 vessels (Note 4)

(Data Source) DTPW, Chuuk State Government

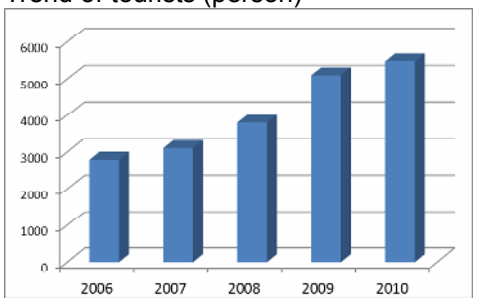
(Note 1) Before the project, it was recommended that the ocean-going vessels should not anchor at the pier A. But as the pier B was not usable, those vessels had to anchor at the pier A. The number of vessels anchored at the pier A during the year of 2004 was recorded as thirty-seven (37).
(Note 2) With the renovation of pier fender by the project, both piers (A and B) have become usable for ocean-going vessels.
(Note 3) As for the indicator 2, the source of data is from Kyowa Shipping Co. Ltd., for the pier B and Matson Company Led., for the pier A, as they are the main users for each pier.
(Note 4) Small local vessels are to anchor at the North Port, but outside of the revetment.

Trend of cargos (ton)



(Source) Transco Co. Ltd.,

Trend of tourists (person)



(Source) Chuuk State Government

Current situation of Pier B, renovated by the project

3 Efficiency

The outputs of the project were produced as planned, and the both the project cost and the project period were within the plan (ratio against the plan: 99% and 95.9%, respectively).

Therefore, efficiency of this project is high.

4 Sustainability

The facilities renovated by the project are maintained by DTPW, Chuuk State Government.

The roles and structures of implementing agency and the Transco Co., Ltd., which is in charge of cargo handling operation are sustained what they were considered desirable at the time of ex-ante evaluation, and are considered enough for continuity of project effectiveness.

As for the technical aspect, the implementing agency has no problem in dealing with the daily operation and maintenance. Any problems identified through regular maintenance and inspection are to be dealt by the DTPW in collaboration with Transco Co., Ltd.

Cavings identified at the container yard

While, according to DTPW, the implementing agency has some problems in the financial aspect as it has experienced the difficulties to obtain the budget needed to renovate the facilities and to secure the budget for newly allocated items. Furthermore, there are some problems in the current status of operation and maintenance of implementing agency as it was identified that several cases were left unrepaired, such as the caving in the container yard, electricity failure of beacon. Overall, as for the sustainability, the implementing agency has some problems in the financial aspects and the current status of operation and maintenance.

Therefore, the sustainability of this project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1) The revetment in the North Port, which was constructed by this project, has now been used for anchorages of mid-sized vessels, cargo handling operation by small boats and boarding of small boats passengers. However, it has not been used for anchorages of small local boats as it was originally planned. Therefore, some small local boats have still been anchored at the south basin.

   For the sake of the navigation safety in the Weno harbor, it is strongly recommended that the implementing agency should promote the vessels to anchor at the North Port, and at the same time, to prevent small local boats from anchorage at the south basin.

   For that purpose, it is suggested that the implementing agency should make it a rule for some part of North Port to be allocated to the cargo handling operation and boarding of passengers and others to the anchorage of small local boats. If the spaces are not sufficient for anchorages of all small local boats at the North Port, it is suggested that the implementing agency should consider the expansion of anchorage spaces such as constructing the floating docks at the public space.

2) Although there has been no problem for the technical level of implementing agency in dealing with the daily operation and maintenance of port facilities, it is recommended that the implementing agency should make some efforts to improve the staff's technical capacity by conducting trainings. So that the port administration, such as management of vessels arriving in and departing from the port, cargo and passengers, communicable disease control, navigation safety

and security, etc. can be systematically carried out.

3) It is strongly recommended that the implementing agency should repair the cavings in the container yard and others unrepaired , at their earliest convenience.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Uzbekistan Office: March, 2013

Country Name	The Project for Improvement of Primary Medical Services in Tashkent and Djizak Regions
Uzbekistan	

I. Project Outline

Project Cost	E/N Grant Limit: 595 million yen	Contract Amount: 535 million yen
E/N Date	January, 2007	
Completion Date	March, 2008	
Implementing Agency	Ministry of Health	
Related Studies	Basic Design Study: June, 2005 – October, 2006	
Contracted Agencies	Consultant	UNICO INTERNATIONAL CORPORATION
	Contractor	-
	Supplier	Ogawa Seiki Co., Ltd
Related Projects (if any)	Other donors' cooperation ・ World Bank " First Health Project" (1999-2004), and "Health-2 Project (2005-2010)" ・ Asian Development Bank "Woman and Child Health Development Project (2004-2009)"	
Background	In Uzbekistan, there had not been evident progress in reduction of the infant mortality rate and the under-5 mortality rate, and improvement of maternal health. Thus, people suffered poor health. More than 63% of the national population of Uzbekistan lived in rural areas and many of them were considered to be living in poverty. Because of a skewed distribution of medical and healthcare institutions that placed the rural areas at a disadvantage, the residents of those areas were in a position of inferiority with regard to maintenance of health and access to medical and health care. In addition, most of the medical/healthcare facilities in rural areas were structures that had been built during the Soviet era, and very many of them were in need of reconstruction or major repair. In national development policies, the Uzbekistan government adopted the improvement of healthcare and medical services as a priority concern and augmenting the regional allocation of medical resources creating rural medical centers (SVP) which provides primary healthcare services. The government aimed to create and improve SVPs in over 2,800 locations. The Uzbekistan government under assistance by the World Bank and Asian Development Bank (ADB) undertook to supply medical equipment for SVP. These efforts, even with the support of the World Bank and Asian Development Bank, were insufficient to accomplish the improvement of the equipment available at primary care facilities, as the number of SVP was large and the facilities were dispersed over a wide area. Under this circumstance, the government of Uzbekistan requested the government of Japan to provide grant aid assistance for improvement of SVPs at locations except the target areas of assistance from the World Bank and ADB to avoid duplication	
Project Objectives	Outcome To contribute to the improvement of primary healthcare services in the target areas by improving the medical equipment available for small rural ambulatory posts (SVP) at 114 locations in four districts in Tashkent Region and four districts in Djizak Region	
	Outputs Japanese Side: ・ Procuring medical equipment for primary healthcare (for GP Section, Treatment Room, Preventive Inoculation, Laboratory, Gynecological Section, Disinfection Room) for 114 SVPs in Tashkent and Djizak Regions (64 SVPs in Kibray District, Tashkent District, Yukorichirchik District, and Zangiota District in Tashkent Region and 50 SVPs in Gallaorol District, Djizak District, Pahtakor District, and Zarbdor District in Djizak Region) Uzbekistani Side: • Moving or relocating existing equipment and facilities, completing architectural work, and furnishing facilities for the necessary electricity, water, drainage, air-conditioning, and others.	

II. Result of the Evaluation

Summary of the Evaluation

This project is a project procuring equipment to SVPs which were not covered by the World Bank assistance projects. SVPs in Tashkent and Djizak Regions faced a problem of shortage of primary healthcare facilities.

This project has largely achieved its objective of improving primary healthcare services in the target areas by improving the medical equipment available for healthcare facilities in rural areas as the number of visitors has increased while the number of patients referred to the secondary medical facilities has decreased. With respect to impact, decrease in infant mortality rate and under-5 mortality rate have been reported. As for sustainability, no problem has been observed in institutional and technical aspects. However, some problems have been observed in terms of financial aspect and the current status of operation and maintenance as maintenance cost is not secured and there is no maintenance plan.

For relevance, the project has been highly relevant with Uzbekistan's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Uzbekistan's development policy "improvement of primary healthcare services as set in the Welfare Improvement Strategy 2005-2010 and 2008-2010", development needs "improving the primary medical equipment available for healthcare facilities in rural areas", as well as Japan's ODA policy "support for the reconstruction of social sector (healthcare)" at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objective of improving primary healthcare services in the target areas. According to the three SVPs which responded to the questionnaire, the number of visitors has increased while the number of patients reoffered to the secondary medical facilities has decreased[1]. Data on all of the 114 SVPs was not obtained, however, the effect of this project can be said to be high since the related project by the World Bank "Health-2 Project (2005-2010)" which provided the same kind of primary medical equipment as this project to the SVPs nationwide achieved the targets in terms of the number of visitors and decrease of patients referred to the secondary medical facilities. (Health-2 Project was implemented in all regions of the country, including the pilot regions of project "Health-1". The World Bank's project target areas include Djizak region where this project also provided equipment)[2].

The equipment provided by this project is utilized well, and after the replacement of the aging equipment and furnishing new equipment, the time required for diagnosis has decreased, and the quality of healthcare services have improved as the SVPs are able to provide services of examination, diagnosis, and treatment that could have not been carried out without the project.

As to impact, people's awareness, knowledge, reputation and behavior have changed. At the three SVPs which responded to the questionnaire, infant mortality rate and under-5 mortality rate have improved due to the increase of the stock of vaccines by procuring vaccination related equipment and therefore the increase of the number of children vaccinated (vaccination is implemented over a wider area). No adverse effect on natural environment is observed.

Therefore, effectiveness/impact of this project is high.

Quantitative Effect

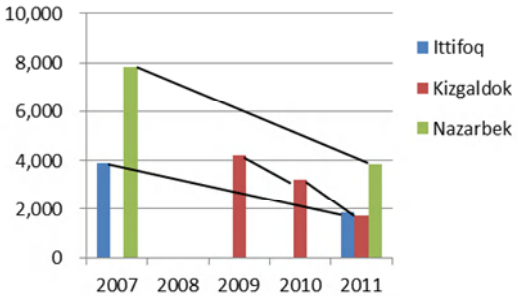
	2006 Actual (BD)	2009 Planned	2009 Actual	2010 Actual	2011 Actual
Indicator 1: daily number of visitors at the target SVPs	Average 79/day	Average 96/day *1	(Annual figures) Ittifoq 55,883 *2 Kizgaldok 45,857 Nazarbek 122,860	(Annual figures) Ittifoq 63,399 Kizgaldok 38,260 Nazarbek 14,049	(Annual figures) Ittifoq 60,280 Kizgaldok 42,524 Nazarbek 50,272
Indicator 2: Decrease of the number of patients referred to the secondary medical facilities *3	Average 1,100/month	Average 900/month	(Annual figures) Ittifoq N/A Kizgaldok 4,215 Nazarbek N/A	(Annual figures) Ittifoq N/A Kizgaldok 3,200 Nazarbek N/A	(Annual figures) Ittifoq 1,842 Kizgaldok 1,720 Nazarbek 3,866

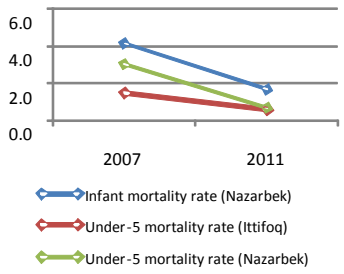
*1 Maximum anticipated number of visitors at a SVP is 35,040 (96 people X 365 days =35,040), although the figure varies according to the number of business days at respective SVP.

*2 Ittifoq、Kizgaldok、Nazarbek are SVPS located in Zangiota district in Tashkent Region. The number of visitors at Nazarebek in 2010 and 2011 decreased because the renovation of the facility was carried out.

*3 Comparison with the plan was impossible because data from the secondary medical facilities was not obtained. However, at Kizgaldok SVP, from which data was obtained, there is a decreasing trend for three years after the project completion. The decreasing trend was also observed at Illifoq SVP and Nazarbek SVP, as the actual number in 2007 is 3,892 and 7,845 respectively.

(Source: the Ministry of Health)





(Data was not obtained from Kizgaldok)

[1] Since the Ministry of Health does not have data on the primary level healthcare facilities, the evaluator tried to collect data from each SVP, however, only able to collect answers from 3 SVPs.

[2] The result of Health-2 project includes (1)94% against the plan in case of " Number of visits to primary healthcare facilities ", and (2) 125% against the plan in case of % of patients referred from SVPs to hospitals". (World Bank" IMPLEMENTATION COMPLETION AND RESULTS REPORT FOR THE HEALTH II PROJECT(2012)"

Figure1: Location map	Figure 2:The number of patients referred to the secondary medical facilities (per year)	Figure 3: Improvement of Infant mortality rate and under-five mortality rate

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 90%, 94%).

Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project are maintained by target SVPs. The institutional structure is sustained what it was considered desirable at the time of ex-ante evaluation, and is considered enough for continuity of project effectiveness. According to the Ministry of Health, in Zangiota District where the SVPs answered the questionnaire were located, maintenance services of medical equipment are provided by available technical services unit on the contractual basis. Besides, SVPs have an arrangement that agents of manufactures respond to a failure of expensive equipment. No problem has been observed in the technical aspect because SVPs operate the equipment provided by the project with no problem, they carry out maintenance when needed, and training courses are held with using manuals if needed.

On financial issues, an additional budget for the equipment provided by the project has not been allocated. Each SVP pays consumables, spare parts and repair cost from its own operation expenses when needed. According to interview with the Ministry of Health, they will respond to breakdown of the equipment when it arises, however, it is not clear whether they secure the budget necessary for maintenance continuously.

On the current status of operation and maintenance, the equipment provided to SVPs operates well with no problem, according to the Ministry of Health. However, there is a room for improvement, as SVPs currently do not have maintenance plan. For the sustainable operation of the equipment, SVPs need to make a regular inspection, maintenance and renewal plan.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for implementing agency:

- The Ministry of Health and SVPs should make a maintenance plan for the equipment provided by the project and secure a budget to implement the plan.

Lessons Learned to JICA

1. JICA should monitor projects even after the completion, in terms of sustainability (whether the maintenance cost is secured or maintenance plan is made and implemented) and continuity of effectiveness. Upon reviewing the status of maintenance for equipment and service life, JICA needs to consider implementation of a follow-up project.
2. It is difficult to understand the operation status of healthcare/medical facilities which are dispersed widely in rural areas. At the time of project planning, it is desirable to establish a monitoring structure by the central government.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Malawi office: March, 2013

Country Name	The Project for Improvement of Rural Health Care Facilities
Malawi	

I. Project Outline

Project Cost	E/N Grant Limit: 717 million yen		Contract Amount: 678 million yen
E/N Date	November, 2006		
Completion Date	May, 2008		
Implementing Agency	The Ministry of Health		
Related Studies	Basic Design Study: February - October, 2006		
Contracted Agencies	Consultant(s)	The Consortium of Kume Sekkei Co., Ltd. And EARL Consultants Inc	
	Contractor(s)	TODA Corporation	
	Supplier(s)	IWATANI	
Related Projects	[Japan's Cooperation] -Master plan study on strengthening primary health care services in the Republic of Malawi (1998-2000) -Dispatch of JOCVs (dietitian, public health, HIV) [Other Donors' Cooperation] -Sector Wide Approach (SWAp) in health(World Bank, UNICEF, WHO, UNFPA, USAID, GTZ/KfW/CIM, NORD/CIDA, DfID, etc. 2004-2010)		
.Background	In Malawi, at the stage of BD study, the average life expectancy at birth is low at 38 years (the average figure for the Sub-Saharan region is 46.years) and the infant mortality rate under five years of age is 178 per 1,000. Moreover, the maternal mortality rate is high at 1,800 per 100,000 births. Those figures are higher than those of Sub-Saharan region and the country is in inferior conditions in terms of health. The reasons of these findings pointed to i) shortage of medical facilities and equipment, ii) regional disparities in the level of services, in particular, poor access to facilities and low standard of medical care services in rural areas. Therefore, it was an urgent task to improve health and medical care facilities. In order to improve this situation, the Government of Malawi established "the Essential Health Package (EHP) in the Fourth National Health Plan (1999-2004) and committed to providing health and medical care services based on the district level. However, since large sum of budget was required because of a number of needed facilities in broad areas, the Government of Malawi requested the Government of Japan a grant aid project for improvement of health care facilities.		
Project Objectives	Outcome To improve health and medical services by constructing pediatric and maternity wards and procuring basic medical equipment in Rumphi and Mzimba Districts in the north of the country and Kasungu and Lilongwe Districts in the center.		
	Outputs(s) Japanese side -Construction of a total of 17 pediatric, maternity and outpatient wards/facilities (District Hospitals: two pediatric wards, one maternity ward, Health Center (HC): seven maternity wards, seven outpatient facilities) -Procurement of medical equipment (232 hospital beds for adults, 333 bedside lockers, 444 instrument sets, 52 delivery beds, 47 Resuscitator (manuals) sets, 52 solar system for night time delivery) Malawian side -Felling of trees in the sites, preparation of grounds at construction areas		

II. Result of the Evaluation

Summary of the Evaluation

There is high number of socially vulnerable people in the project's target areas, which are Rumphi and Mzimba Districts in the north of the country and Kasungu and Lilongwe Districts in the center. In these districts, medical and health situations were inferior compared to other regions/districts in Malawi because of i) shortage of medical facilities and equipment, ii) poor access to and poor quality in medical and health services, etc.

This project has largely achieved enhancement of accommodation capacity for patients and increase in the number of users at target district hospitals and HCs in Rumphi and Mzimba Districts in the north of the country and Kasungu and Lilongwe Districts in the center. In these districts, medical and health situations were inferior compared to other regions/districts in Malawi. JOCVs (dietitian, public health, HIV) were dispatched to Rumphi and Mzimba District hospitals in liaison with this project and supported activities concerning nutrition guidance and public health training. As a consequence, certain level of improvement was observed at the target hospitals in conducting specific care for mal-nutritious patients and preventing nosocomial infections. In addition, improvements are recognized in terms of access to and quality in medical/health services through i) increase in the number of beds, ii) enhancement of accommodation capacity by improved/newly constructed pediatric and maternity wards and iii) realization of safe delivery by the improved maternity wards. As for sustainability, some problems have been observed in terms of financial aspect and the current status of operation and maintenance due to limited budget for maintenance and management. For relevance, this project has been highly relevant with Malawi's development policy, development needs as well as Japan's ODA policy at the time of both

ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Malawi's development policy "development of health and medical care" as set in "Malawi Poverty Reduction Strategy Paper (2002)" and "the Second Malawi Growth Development Strategy (2011-2016)", development needs "improvement of health care facilities at district and below levels in underdeveloped northern and central Malawi" as well as Japan's ODA policy "improvement of health level" at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of increase in the number of beds/capacity and the number of patients as planned. The number of beds at pediatric and maternity wards in Rumphi District and that at pediatric wards in Mzimba Districts increased 1.5 - 3 times (2012), as compared the number at the stage of the basic design study (2006), and therefore, more patients are now able to be accommodated. The number of delivery at Rumphi District hospitals slightly decreased from average of 250 to 233 per month. In Rumphi District, a large number of migrant workers used to work in large-scale tobacco farms and outpatients to Rumphi District hospitals were those workers and their families; however, due to depression of the tobacco industry after 2009, they have lost their job and left the district, which may have affected the decrease in the number of delivery. The number of pediatric patients increased by 1.3 times, in comparison with before and after the project, both at Rumphi and Mzimba District hospitals. The Ministry of Health does not have the accurate data regarding the number of normal delivery at seven HCs with improved maternity wards and the number of outpatients at seven HCs with improved outpatient wards; however, according to the hearing with HC personnel at the stage of ex-post evaluation, both numbers are recognized to have been increased. JOCVs (dietitian, public health, HIV) were dispatched to Rumphi and Mzimba District hospitals in liaison with this project and supported activities concerning nutrition guidance and public health training. As a consequence, certain level of improvement was observed at the target hospitals in conducting specific care for mal-nutritious patients and preventing nosocomial infections. In addition, improvements are recognized in terms of access to and quality in medical/health services through i) increase in the number of beds, ii) enhancement of accommodation capacity by improved/newly constructed pediatric and maternity wards and iii) realization of safe delivery with the improved maternity wards. The project didn't make any negative impacts in terms of the natural environment, and medical wastes from each hospital and HC are properly disposed at the existing disposal facilities.

Therefore, effectiveness/impact of this project is high.

Quantitative effects

Indicator (unit)	baseline value (2006)	target value (2008)	actual value (target year: 2008)	actual value (2012)
Indicator 1 Increase in the number of beds/capacity for patients in the target districts				
pediatric wards at Rumphi District hospitals	24	48	48	54
maternity wards at Rumphi District hospitals	24	60	60	72
pediatric wards at Mzimba District hospitals	48	72	72	72
Indicator 2 Increase in the number of delivery at maternity wards in Rumphi District hospitals (number of cases/month)	average 250 cases ／month (including complicated delivery)	increase	N.A.	average 233cases ／month
Indicator 3 Number of pediatric patients (number/month)				
pediatric wards at Rumphi District hospitals	Average 220 persons ／month	Increase	N.A.	average 303persons／month
pediatric wards at Mzimba hospitals	Average 220 persons ／month	increase	N.A.	average 287persons／month
Indicator 4 Increase in the number of normal delivery at the improved maternity wards of HCs (number/month)	N.A.	increase	N.A.	increase (sampling survey based on hearing)
Indicator 5 Increase in the number of outpatient at the improved outpatient wards of HCs (number/month)	N.A.	increase	N.A.	increase (sampling survey based on hearing)

Source: Ministry of Health

Note 1: Pediatric, maternity and outpatient wards that were newly established by this project are as follows;

- Rumphi District hospitals: one pediatric ward, one maternity ward
- Mzimba District hospitals: one pediatric ward
- Seven HC maternity wards: Katowo Regional Hospital, Mwazisi HC, Endindeni HC, Euthini Regional Hospital, Kapelula HC, Chamwabvi HC, Mtenthera HC
- Seven outpatient wards of HC: Endindeni HC, Kafukule HC, Chulu HC, Simulemba HC, Khola HC, Chiwamba HC, M'bang'ombe HC

Note 2: At the stage of planning, the number of beneficiaries was set at 740 thousand at the level of district hospitals that provide the secondary medical services (Rumphi District: 150 thousand, Mzimba District: 590 thousand) and 320 thousand at the level of HCs that provide the first medical services.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 94%), the project period slightly exceeded the plan (ratio against the plan: 113%), because of the delay in construction caused by shortage of cement, which was accompanied by stadium construction for FIFA World Cup in South Africa, as well as insufficient capacity of sub-contractor. Outputs were produced mostly as planned. Therefore, efficiency of this project is fair.

4 Sustainability

While the equipment provided by the project are maintained by the maintenance section of Rumphi and Mzimba District hospitals, daily cleaning is carried out by staff of each HC. Although the number of staff has gradually been increasing at target hospitals and HCs, rate of vacancy is high and shortage of staff is chronic. Therefore, the project has some problems in structural aspect. JICA implemented "The Project for Strengthening Physical Assets Management (PAM) Programme (2006-2010)" and dispatched an expert for "medical equipment maintenance/management (2011-2013)", and has conducted technical support for technical staff who deal with district medical equipment as well as for users in order to enhance capacity in maintaining and managing such equipment. The Ministry of Health encourages the existing doctors and nurses to obtain qualification/certification as well as higher education and promotes employment of technical staff dealing with medical equipment at the district level. The project has no problem in technical aspect despite chronic shortage of relevant personnel. Budget for maintenance and management of facilities constructed/improved by this project is supposed to be provided according to district health plan; however, the budget is chronically insufficient due to limited financial allocation. Therefore, the project has some problems in financial aspect. While facilities constructed/improved by this project are currently utilized without major problems, there are some difficulties in dispatching maintenance staff to HCs in remote areas from district hospitals due to insufficient personnel and fuels. Thus, it is observed that part of facilities is kept improperly maintained or damaged, and attritions and damages of equipment are recognized due to excessive use by increased patients.

The project has some problems in financial aspect and the current status of operation and maintenance of the executing agency. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is desirable to secure sufficient budget for maintenance and management of facilities and equipment constructed/procured by this project. In particular, personnel expenses share the largest ratio among all expenditures and in reality, based on the direction of each hospital, the budget for maintenance and management of facilities and equipment is transferred to be spent as personnel expenses including trips and training of relevant staff. However, part of such trips and training is not necessarily needed and also daily allowance is paid as an incentive for staff to participate in the training. These are recognized as a problem of inefficient budget expenditure. It is considered that budget spending for maintenance and management of facilities and equipment would be improved to a certain extent by prioritization of budget and promotion of more efficient expenditure mainly by the Ministry of Health.
- Shortage of medical staff is an important issue to be overcome for the sustainability of the project's effects. It is understood that the entire amount of budget to employ staff is insufficient. In addition, coordination with the Ministry of Finance and the Ministry of Economic Development Plan, which are in charge of budget allocation, is not smoothly conducted in securing budget for the Ministry of Health to employ staff. These ministries are not fully aware of the serious shortage of medical staff and therefore do not allocate sufficient budget for such purpose. Thus, it is considered that budget allocation for staff employment would be enhanced by improving coordination among relevant ministries. Moreover, as mentioned above, it is considered possible to cut back such expenditures as unnecessary meeting cost, travel expenses and daily allowance, and transfer such fund saved by cutting needless expenditure to employ necessary staff.

Lessons learned for JICA

- Since i) obligations/responsibilities of recipient country, i.e. arrangement of electricity and water, were not smoothly taken in this project and ii) as mentioned in "II Summary of the Evaluation" and "4 Sustainability", there are some problems in structural aspect of the implementing agency, it is necessary to carefully examine basic infrastructures such as electricity and water as well as authorities and structures of health administration agencies, and to prepare a plan that takes active measures to overcome risks concerning delay in project implementation. In addition, it is essential to regularly monitor institutional system of relevant agencies as well as situational changes of the recipient country and to urge these agencies to take necessary measures in order to keep planned effects after the completion the project.

Maternity Ward in Rumphi District Hospital

Pediatric Ward in Mzimba District Hospital

Pediatric Ward in Mzimba District Hospital (hospitalization room)

conducted by Balkan Office: March, 2013

Country Name	The Project for Improvement of Medical Equipment for Main Hospitals
Montenegro	

I. Project Outline

Project Cost	E/N Grant Limit:441 million yen:	Contract Amount: 329 million yen
E/N Date	December, 2006	
Completion Date	December, 2007	
Implementing Agency	Clinical Center of Montenegro in Podgorica (the "Clinical Center"), General Hospital Niksic and General Hospital Kotor	
Related Studies	Basic Design Study: March, 2006 – September, 2006	
Contracted Agencies	Consultant	ICONS, Inc.
	Contractor	-
	Supplier	Mitsubishi Corporation
Related Projects	-	
Background	In 2005, the Montenegro Ministry of Health in its master plan for national health policy "Development of the Health Care System in Montenegro for the period 2005-2010" listed the main aims including: i) to provide equal access to health care, ii) to increase the efficiency and quality of health care and iii) to improve organizational structure and management of the health care system. In order to fulfill these policies there was a concrete action plan of strengthening the referral system and improving the functioning of hospitals. However, with the dissolution of former Yugoslavia, the imposition of international sanctions, and the resulting deterioration in the economy and finances of the former state of Serbia and Montenegro, the budget for medical health services had been curtailed. This meant that since the 1990's the facilities and equipment in each tier of medical establishments had in large part not been renewed, and so both the quality and volume of medical health services had markedly decreased. In addition, the poor function of the referral system had become a major problem.	
Project Objectives	Outcome To improve the quality of medical health service in the Clinical Center of Montenegro in Podgorica (the "Clinical Center", the sole tertiary healthcare facility in the country), General Hospital Niksic and General Hospital Kotor (the secondary healthcare facilities) by procuring medical equipment such as CT scanner, X-ray unit, color doppler and others.	
	Outputs Japanese Side ・ Procuring 40 items of equipment (91 pieces) such as spiral CT scanner, general X-ray unit, color doppler, mammograph unit and others for the Clinical Center. ・ Procuring 40 items of equipment (96 pieces) such as mobile C-arm X-ray unit, color doppler and others for General Hospital Niksic. ・ Procuring 36 items of equipment (60 pieces) such as general X-ray unit, color doppler, Electro Cardio Graph (ECG), electrosurgical unit and others for General Hospital Kotor. Montenegrin side ・ Removing existing equipment such as units for diagnosis and operation in all target hospitals	

II. Result of the Evaluation

Summary of the Evaluation

With the dissolution of former Yugoslavia, the imposition of international sanctions and the resulting deterioration in the economy and finances, the budget for medical health services in Montenegro had been curtailed and as a result, the quality of medical services had decreased. Especially, with the budget constraint the facilities and equipment in each tier of medical establishments had in large part not been renewed, and so both the quality and volume of medical health services had markedly deteriorated. In addition, the poor function of the referral system had become a major problem. Thus, renewing the medical equipment and strengthening the referral system were urgently needed to protect the health of the citizens.

This project has largely achieved its objectives of improving quality of medical health services at the Clinical Center (a sole tertiary medical facility), General Hospital Niksic and General Hospital Kotor (secondary medical facilities) by the procurement of medical equipment. After the project completion, they are able to offer a wider range of medical services. In terms of the anticipated effects, the number of outpatients, operations and diagnoses has increased. In addition, the number of outpatients sent outside the country has decreased as expected. As to impact, according to General Hospital Niksic and General Hospital Kotor as well as the Ministry of Health, the referral system has improved as the occurrence frequency to refer patients to the Clinical Center, a tertiary medical facility, has decreased, although detailed information was not obtained with respect to strengthening of the referral system.

As for sustainability, some problems have been observed in terms of financial aspect and the current status of operation and maintenance. Financially, no sufficient maintenance budget is secured. Most of the equipment operates well, however, some of the equipment does not operate because consumables have not been supplied.

For relevance, the project has been highly relevant with Montenegro's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the

project period were within the plan.
In the light of the above, this project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with Montenegro's development policy "Improving efficiency and quality of medical health service as set in Montenegro Healthcare System 2005-2010 and 2010-2013", development needs "Providing adequate secondary and tertiary medical services and improvement of referral system by renovating aged facilities and procuring equipment ", as well as Japan's ODA policy "Improvement of medical and educational services as set in JICA Country Assistance Program " at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of improving quality of medical health services at the target hospitals by the procurement of medical equipment. After the project completion, they are able to offer a wider range of medical services. In terms of the anticipated effect, the number of outpatients, operations, diagnoses by CT scanners/X-ray units and ultrasound diagnoses has increased compared with situation before the project implementation, though the actual numbers vary year by year. In addition, the number of outpatients sent outside the country has decreased as expected.

The medical equipment procured for the three target hospitals is utilized well. The increase of ultrasound diagnosis at General Hospital Niksic and General Hospital Kotor as a result of the procurement of new equipment is remarkable and therefore, the medical services there have been strengthened. The equipment procured by the project also plays a major role at the Clinical Center, although the minor equipment also have been procured by themselves and by other donors. However, General Hospital Niksic has some equipment which is not operational because they are not able to purchase consumable goods. Therefore, sometimes General Hospital Niksic cannot respond to the patients with critical conditions and sometimes they respond to the patients with the equipment which are not fully functional (Color dopplers).

As to impact, national health indicators have improved after the project such as infant mortality rate (40% decrease), perinatal mortality rate (35% decrease). This project contributed to this improvement, since this project has improved the medical services by procuring major new equipment at three medical facilities (including the Clinical Center, a sole tertiary medical facility in the country) which cover the 66% of the total population. According to the interview with the implementing agencies, the referral system has improved since they are able to carry out their original functions, although no data was obtained. General Hospital Niksic and General Hospital Kotor as well as the Ministry of Health said that they are now able to provide a wider range of services thanks to the additional equipment provided by the project, and therefore the number of patients referred to the Clinical Center, a tertiary medical facility, has decreased.

Therefore, effectiveness/impact of this project is high.

Quantitative Effect

	2005 Actual (BD)	2010 Planned	2010 Actual	2011 Actual
Indicator 1 : The number of outpatients (per year) ①The Clinical Center ②General Hospital Niksic ③General Hospital Kotor	 ①352,540 ②42,631 ③19,625	Increase	 ①386,860 ②66,712 ③31,814	 ①419,513 ②66,833 ③3 ,578
Indicator 2 : The number of surgical operations (per year) ①The Clinical Center ②General Hospital Niksic ③General Hospital Kotor	 ①9,820 ②1,300 ③1,325	Increase	 ①10,311 ②1,743 ③1,410	 ①10,764 ②1,678 ③1,309
Indicator 3 : The number of diagnoses by CT scanners at Clinical Center (per year)	18,767	Increase	22,098	24,765
Indicator 4 : The number of diagnoses by using X-ray units (per year) ①The Clinical Center ②General Hospital Niksic ③General Hospital Kotor	 ①46,404 ②12,757 ③2,502	Increase	 ①59,391 ②13,676 ③4,149	 ①50,851 ②12,329 ③4,123
Indicator 5 : The number of ultrasound diagnoses (per year) ①The Clinical Center ②General Hospital Niksic ③General Hospital Kotor	 ①34,721 ②477 ③4,146	Increase	 ①24,914 ②7,930 ③5,739	 ①27,119 ②8,052 ③6,364
Indicator 6 : The number of patients sent outside the country (per year)	7,155	Decrease	6,455	NA

(Source) Clinical Center, General Hospital Niksic and General Hospital Kotor

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 75%, 99%).

Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project is maintained by the implementing agencies: the Clinical Center, General Hospital and General Kotor. This project has no problem in the institutional aspect as the number of staff in the implementing agencies have been increasing and the implementation structure is sustained what it was considered desirable at the time of ex-ante evaluation. General Hospital Niksic has institutional support from the Clinical Center: If General Hospital Niksic is not able to respond to the breakdown of the equipment, the Clinical Center sends technical staff to the General Hospital Niksic. However, it would be desirable to establish the regular inspection structure at the General Niksic since there are some cases that the broken equipment would have been fixed during the guaranteed period if the regular inspection had been carried out at the General Hospital Niksic. There is no problem on the technical aspect of the implementing agencies as the most of the staff who are trained for the operation and daily maintenance of equipment procured by the project have not resigned. Although staff at the implementing agencies have no technical expertise other than Clinical Center which has technical staff for equipment maintenance, those staff can operate and maintain the equipment well. On the financial aspect, the target hospitals have main financial source of medical treatment fee from Health Insurance Fund ("HIF"), but all of them often run a net loss. The loss is covered by HIF, but the balance of HIF is not stable either. Besides, expenditure for maintenance is not secured since the personnel expenses and expenses for the drug purchase are prioritized. In case of General Hospital Niksic, some of the equipment is covered by medical equipment insurance.

The equipment at the target hospitals operates well since daily operation and maintenance is carried out properly and the equipment are repaired by the agents of manufactures when a large repair is necessary. In spite of the hospitals' own efforts, there are still rooms for improvement. Some equipment does not operate because of the shortage of consumables (anesthesia units and anesthesia units with monitors[1] at the Clinical Center, syringe infusion pumps and blood gas analyzers at General Hosptal Niksic) and others are left unfixed because they require high repair expense (color dopplers at the General Hospital Niksic).

As there are problems in financial aspects and current status of operation and maintenance, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for implementing agency

1. The hospitals where there is no technical staff for equipment maintenance need not only the support for the repair but also support for regular inspections. The Ministry of Health should coordinate such regular inspection by the Clinical Center or other institutions.
2. The implementing agencies should secure the maintenance expenses. At the same time, they could hold the medical equipment insurance policy like General Hospital Niksic.
3. The implementing agencies should have all the equipment operate by purchasing consumables and replacing the connecting plug.

An infant warmer at the Clinical Center

A mammography unit at General Hospital Niksic

[1] The Clinical Center tried to connect the anesthesia units with monitors to medical gas piping, instead of anesthesia cylinder, after the delivery by the project, but failed due to lack of the expense. Anesthesia cylinder also has not been purchased. As a result, the anesthesia units have remained inactive.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Indonesia office: March, 2013

Country Name	The Project for Expansion of Radio Broadcasting Coverage in the Remote Areas
Indonesia	

I. Project Outline

Project Cost	E/N Grant Limit: 357 million yen		Contract Amount: 352 million yen
E/N Date	July, 2007		
Completion Date	January, 2009		
Implementing Agency	Radio Republic Indonesia (RRI)		
Related Studies	Basic Design Study: November, 2005 – March, 2006		
Contracted Agencies	Consultant	NHK ITEC	
	Contractor		
	Supplier	Sumitomo Corporation	
Related Projects (if any)	[Japan's Cooperation] - Development Plan for Radio and Television Broadcasting (technical cooperation, 1984, 1989, 1997 (only preliminary study)) - Enhancement of Radio and Television Network Project (ODA Loan, 1985, 1987) - Radio and Television Networks Improvement Project (ODA Loan, 1990, 1993, 1995) [Other Donors' Cooperation] - Modernization and Extension of FM Transmitters (Phase II) (KfW, 2006)		
Background	In order to realize "provision of radio broadcasting service for all the population" specified in the National Development Plan, RRI had been establishing medium wave radio broadcasting facilities at three (3) broadcasting stations out of five (5) stations, which did not have such facilities, responding to the need to establish nationwide broadcasting network mainly by rapid set-up of relevant facilities. Because of the limited budget, however, it was difficult to establish medium wave broadcasting facilities at two (2) stations in Tolitoli of Central Sulawesi and Tarakan of East Kalimantan (Tarakan Station and Tolitoli Station), which are remote and poor areas.		
Project Objective	Outcome Medium wave broadcasting services are provided/improved at all the 58 RRI stations including Tolitoli of Central Sulawesi and Tarakan of East Kalimantan by establishing medium broadcasting system both at Tolitoli and Tarakan stations.		
	Outputs <u>Japanese side</u> Procurement of equipment of medium wave broadcasting system for Tarakan Station and Tolitoli Station (2 sets for each of the following equipment) ・10kW medium wave broadcasting transmitter ・Medium wave transmitter antenna system ・Program input equipment ・Studio Transmitter Link (STL) program transmission equipment ・Lightening protection transformer ・Automatic Voltage Regulator（AVR） ・Uninterruptible Power Supply (UPS） ・VHF Communication set ・Digital Audio Mixer ・Measuring equipment ・Spare parts <u>Indonesian side</u> ・Obtainment of frequency for medium wave broadcasting at Tarakan Station and Tolitoli Station ・Preparation (clearing, leveling and reclamation) of land for medium wave broadcasting at Tarakan Station and Tolitoli Station ・Construction of buildings for medium wave broadcasting at Tarakan Station and Tolitoli Station (including supplementary facilities), power source building (including emergency power generator), STL tower, etc.		

II. Result of the Evaluation

Summary of the Evaluation
The Government of Indonesia aimed to provide radio broadcasting services for all the population in the country and RRI, which is a public broadcasting agency, attempted to enhance its service area with medium wave broadcasting. At the commencement of the project, 56 broadcasting stations out of 58 had medium broadcasting facilities or were establishing such facilities. Two (2) remaining stations were Tolitoli and Tarakan Stations, which were the target agencies of the project.

This project has largely achieved its objectives of “provision of radio medium wave broadcasting services in Tolitoli and Tarakan areas” since the number of population who are able to receive such broadcasting service has increased in both areas with the expansion of RRI service. As a consequence, population in these areas has become able to obtain information concerning natural disasters, incidents, accidents and so forth. As for sustainability, there was no problem observed in the project in terms of technical aspect and current status of operation and maintenance, since i) RRI is fully utilizing equipment provided by the project and providing daily medium wave broadcasting services, ii) manuals are prepared and iii) training are continuously conducted. Some problems have been observed in terms of structural aspect as both stations recognize that the number of maintenance and management staff is not sufficient. With regard to financial aspect, budget for maintenance and management has not been allocated to RRI so far, since authority to possess equipment was just transferred to RRI from the Ministry of Communication and Information Technology in 2012. Thus, it is necessary to ensure the adequate budget allocation from 2013. For relevance, the project has been highly relevant with Indonesia’s development policy, development needs as well as Japan’s ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, although the project cost was within the plan, the project period slightly exceeded the plan.
In the light of above, the project is evaluated to be satisfactory.

1 Relevance

This project has been highly relevant with Indonesia’s development policy “establishment of facilities for radio services that can be utilized by all the population”, as set in Medium-term National Development Plan (REPENAS 2004-2009, 2010-2014)”, development needs “expansion of radio broadcasting facilities” as well as Japan’s ODA policy “JICA Country Assistance Program”, at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of “realization of medium wave radio broadcasting services”. Qualitative effects are summarized in the below table. In the target year of 2008, the achievement was significantly below the planned figure since facilities had not yet been utilized. At the time of ex-post evaluation, however, broadcasting service areas were expanded to Tolitoli and Tarakan areas, and the number of population who are able to receive broadcasting service was exceeded the planned target figure. As for impact, according to personnel of Tolitoli and Tarakan Stations, residents in the remote areas can now obtain information concerning natural disasters, incidents, accidents and so forth. Such expected indirect impacts are recognized and no major negative impact on environment and society has been observed. Therefore, effectiveness/impact of this project is high.

Qualitative effects

	Baseline Value 2006（BD）	Target Value 2008	Actual Valued Achieved at target year (2008)	Achievement 2010*
Indicator 1 : Increase in number of population who are able to receive broadcasting service in Tolitoli area with the expansion of RRI broadcasting service area	110,000	250,000	N.A.	489,000
Indicator 2 : Increase in number of population who are able to receive broadcasting service in Tarakan area with the expansion of RRI broadcasting service area	100,000	420,000	129,000	626,000

* Statistics/figure at the time of ex-post evaluation
Source: Responses to questionnaire

Transmitter Equipment for medium wave radio

Program input/monitoring equipment


Medium wave transmission antenna

3 Efficiency
Although the project cost was within the plan (ratio against plan: 99%), the project period slightly exceeded the plan (ratio against plan: 112%) because of the delay in procurement of equipment due to the delayed budget allocation for the customs clearance. Outputs were produced mostly as planned. Therefore, efficiency of this project is fair.
4 Sustainability
The facilities/equipment provided by the project are maintained by Tolitoli and Tarakan Stations, the implementing agency. At the time of ex-post evaluation, i) both stations are fully utilizing equipment provided by the project and daily medium wave broadcasting services are continuously provided, ii) manuals concerning procured equipment, maintenance and management of facilities are prepared, and iii) training/re-training are conducted to fully utilize relevant facilities and equipment. Therefore, there are no problems concerning technical aspect and the current status of operation and management. However, with regard to structural aspect, both stations recognize that the number of maintenance and management staff is not sufficient. As for financial aspect, budget for maintenance and management has not been allocated to RRI since authority to possess equipment was just transferred to RRI from the Ministry of Communication and Information Technology in 2012. So far, there has been no problem and maintenance and management have been carried out with the ordinary budget allocated to each station. The project has some problems in structural and financial aspects due to the situations stated above; however, no problem has been observed in technical aspect and the current status of operation and management of the executing agency. Therefore, sustainability of this project is fair. It should be noted that budget is supposed to be allocated from 2013.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:
It is recommended that budget for maintenance and management be properly allocated. In the future, it is inferred that the case of breakdowns and damages of equipment increases and the level of such inconveniences becomes higher. Therefore, it is desirable to continuously improve skills of maintenance and management staff in order to deal with such situations.

Lessons learned for JICA:
In Indonesia, according to a regulation, in case that the maintenance and management agency (implementing agency) is not a ministry or the central government office, the agency cannot request budget unless properties (facilities and equipment) are transferred from the central government to the agency. Although at the time of BD study, it was reported that there would be no problem in allocating budget for maintenance and management, it is desirable to fully recognize the maintenance and management system before the commencement of the project.
As for indicators, increase in the number of beneficiaries was set as an indicator to assess effectiveness and i) improvement of living environment, ii) promotion of economic activities and iii) poverty alleviation were set to assess impact at the time of BD study. It is difficult, however, to clearly explain a causal relationship between effectiveness and impact as well as the degree of contribution made by the provision of medium wave broadcasting equipment. Regarding effectiveness, for instance, “the ratio of population who are able to receive broadcasting service” is considered more appropriate as an indicator, since it is in line with the contents of the project. It is desirable to set up indicators of effectiveness and impact that directly correspond to the contents of the project.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Nepal office: March, 2013

Country Name	The Project for the Construction of New Kawasoti Substation
Nepal	

I. Project Outline

Project Cost	E/N Grant Limit: 847 million yen		Contract Amount: 790 million yen
E/N Date	June, 2007		
Completion Date	March, 2009		
Implementing Agency	Nepal Electricity Authority (NEA)		
Related Studies	Basic Design Study: October 2005 – May 2006		
Contracted Agencies	Consultant(s)	Nippon Koei	
	Contractor(s)	Mitsubishi Corporation	
	Supplier(s)	-	
Related Projects (if any)	[Other Donors' cooperation] Construction of Mukundapur Substation and 33kV transmission lines to connect to New Kawasoti Substation (ADB)		
Background	In Nepal, while the problem of lack of generating capacity had been solved by construction of hydropower stations, weaknesses in power transmission and distribution system were being disclosed. Nawalpalasi District, where the Kawasoti area is located (120km west-southwest from Kathumandu), was rapidly developing as it was close to Indian border, but the power supply system could not afford the sudden increase in electricity demand. Electricity was transmitted from Bardhaghat Substation to Bharatpur Substation via 70km-long 132kV transmission lines, then to the existing Kawasoti substation via 35km-long 33kV sub-transmission lines, and transformed to 11kV to distribute to consumers. The transmission capacity of this system was very small, and the long distance 33kV transmission lines and 11kV distribution lines made supply unreliable. Transmission loss was also remarkable. Under such circumstances, the government of Nepal requested a grant aid from Japan for construction of New Kawasoti Substation.		
Project Objectives	Outcome To ensure stable power supply in the Kawasoti area, Nawalparasi District in the middle west of Nepal by construction of New Kawasoti Substation.		
	Outputs Japanese Side ・ Construction of 132kV/33kV/11kV New Kawasoti Substation Nepal Side ・ To secure land for the new substation and temporary yard, to provide related facilities to the substation, etc.		

II. Result of the Evaluation

Summary of the Evaluation

The extension of the existing power transmission and distribution facilities could not fully keep up with the growing electrical demand in isolated industrial areas like Kawasoti. The poor condition of the transmission and distribution facilities caused power failures and resulted in an unreliable power supply. In addition, there were so many domestic consumers left without being connected to the distribution lines because the priority for connection was placed on industrial/commercial consumers.

This project has partially achieved its objective of ensuring stable power supply because some of the indicators such as transmission losses and the power output showed low figures due to the slower growth of electricity demand than projected and delays in the construction of some transmission lines connected to this project. Nevertheless, the power outages were reduced significantly. As for sustainability, some problems have been observed in terms of financial aspect due to the continuing losses of NEA (implementing agency) and the insufficient allocation for the yearly operation and maintenance budget by NEA according to the demand from the Substation.

For relevance, the project has been highly relevant with Nepal's development policy, development needs as well as Japan's ODA policies at the time of both ex-ante and ex-post evaluation. For efficiency, the project cost was within the budget but, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Nepal's development policy ("promotion of rural electrification for stimulating economic growth in rural areas" as per the 10th Five-Year Development Plan (2002-2007) and "to provide reliable electricity services to the rural people" as per the Three Year Plan (2010-13)), development needs (the continuing demand for stable electricity supply and demand for electricity growth in Kawasoti area) as well as Japan's ODA policy for Nepal (2007), at the time of both ex-ante and ex-post evaluation. Therefore, it's relevance is high.

2 Effectiveness/Impact

Since the project was completed in 2009, the year 2009 is regarded as the target year. This project has somehow achieved its objective of ensuring stable power supply in Kawasoti area as shown in the reduction of the power outage due to 33kV transmission lines ground fault, which is deemed to have been contributed to the increase in the socio-economic activities and realizing the basic human needs as the number of consumers including schools and hospitals/clinics has increased. There were no considerable negative impacts on the natural and social environment including land acquisition for this project.

The maximum output has been below the expected level from 2009 to 2011 as (i) the actual electricity demand growth (annual average: 9%) was slower than projected at the ex-ante evaluation (15%), and (ii) Mukundapur Substation and the connecting 33kV transmission lines to receive power from New Kawasoti Substation had not been constructed on schedule due to opposition from residents. The Mukundapur substation came into operation in February 2012 and increased some output from New Kawasoti Substation for 2012. Transmission loss data were not available in a comparable form to the planned value, but, according to NEA the transmission loss has not been reduced as desired. The noticeable improvement is reduction in the power outages from 25 hours/year in 2006 to 1.7 hours/year in 2012.

Therefore, the effectiveness/impact is fair.

Quantitative Effects

Indicator(unit)	baseline value (2006)	target value (target year) (2008)	Actual value			
			2009	2010	2011	2012 (ex- post evaluation)
indicator 1 Total transformer capacity of existing/new Kawasoti SS (MVA)	(actual value) 8MVA	(planned value after 2008) 38MVA	38 MVA	38 MVA	38 MVA	38MVA
indicator 2 Maximum output of New Kawasoti SS	-	(planned value) 2009: 15MVA 2012: 23MVA 2014: 30MVA	8.6 MVA	9.4 MVA	10 MVA	14.51MVA (9.37MVA from 132kV, 5.14MVA from 33kV)
indicator 3 Power outage due to 33kV transmission lines ground fault (hour/year) (Bharatpur SS – Existing/ New Kawasoti SS)	(actual value) 25 hours/ year	(planned value after 2008) reduced	0.15 hours/ year	3.47 hours/ year	2.3 hours/ year	1.7 hours/year

Note: (1) SS stands for substation. (2) Transmission loss data is not shown in this table as it is not available in a comparable form.

Source: NEA

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 94%), the project period slightly exceeded the plan (ratio against the plan: 114%) because of social unrest that delayed the detailed design and procurement. Outputs were produced mostly as planned. Therefore, efficiency of the project is fair.

4 Sustainability

The facilities/ equipment provided by the project are maintained by New Kawasoti Substation under the Butwal Grid office, NEA.

The project has some problems in the financial aspect due to the severe financial loss of NEA with low tariff rate and high cost of purchase of electricity from abroad and independent power producers (IPPs). Although NEA has tried to secure budget to keep running New Kawasoti Substation and other transmission/ distribution facilities so far, the allocated amount is lower than requested. The average 20% hike in electricity tariff was implemented recently, but there still remains a concern on the securement of the future budget. Meanwhile, no problem has been observed in structural and technical aspects and current status of operation and maintenance of the implementing agency with the available budget: according to Butwal Grid office, sufficient number of staff is allocated and has properly practiced operation and maintenance so far, and the overall condition of the facility is good. A small concern on the structural aspect can be pointed out though it is not a problem for now: if complicated maintenance becomes necessary in the future, the office of Butwal Grid (around 85km away) will provide support, but it may be delayed during strikes and other similar problems. Also, through the data collection process for this ex-post evaluation, it was found that the NEA's data and information management system could be improved (e.g. not all data were readily available, and responsibility over particular data/ information was unclear).

Therefore, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- NEA should do internal review for further enhancing its record keeping and data registration system for better grasp of effectiveness.
- The required full budget for the operation and maintenance of New Kawasoti Substation should be secured for the future despite NEA's bad financial health.
- Some mechanism for improvement to ensure prompt system should be developed for major maintenance as the supporting organization (Butwal Grid office) is quite far, especially in times of strikes and calamities, though this provision has not posed serious problem till now. The improvement measures could be,
  - Enhancing the existing staff capacity for major repair and maintenance for New Kawasoti SS Staff or Kawasoti SS

with equipment supplement, which the existing staff can respond to both the substation in case of emergency. Spares which should always be available are 1) Vacuum interrupters, 2) Closing coil, and 3) Trip coil)

- Depute repair and maintenance expert with necessary equipment for major maintenance from the Butwal Grid to either Kawasoti Substation or the New Kawasoti Substation, which are proximity to each other.

Lessons learned for JICA

- The data and information for evaluations should be clearly stated in the Basic Design in a consistent manner with the standard practice of data collection and analysis at the implementing agency. (In case of this project, the baseline and target of transmission loss should have been calculated in a consistent manner with the general data managing system of NEA so that it could be comparable before, during and after the project.)
- The BD study should also set up the data recording system suitable in the partner country's context, if it does not exist in their system, and assistance in capacity building (as a soft component) should also be considered.
- When planning a future substation project, progress of construction of connecting transmission facilities should be thoroughly examined; attention should be paid to social aspects of not only the concerned project but also other projects which has relation with this project and could affect its performance.

External View of New Kawasoti Substation

Relay panel

Preparing for survey to consumers (enumerators for ex-post evaluation being briefed by Chief of New Kawasoti Substation)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Sri Lanka office / Maldives office: March, 2013

Country Name	The Project for Construction of the Second Girls Secondary School in Male'
Maldives	

I. Project Outline

Project Cost	E/N Grant Limit: 674 million yen		Contract Amount: 673 million yen
E/N Date	June, 2007		
Completion Date	March, 2009		
Implementing Agency	Ministry of Education		
Related Studies	Basic Design Study: October, 2006 – March, 2007		
Contracted Agencies	Consultant(s)	Mohri, Architect & Associates, Inc.	
	Contractor(s)	Wakachiku Co., Ltd.	
	Supplier(s)	-	
Related Projects (if any)	None		
Background	"Vision 2020," long-term national development plan of Maldives envisaged "10 years of formal schooling", and "the Seventh National Development Plan (2006-2010)" addressed an issue of universal secondary education and has set to "ensure all children in having access to quality basic education" besides to "expand and improve the quality of vocational and technical education" as its major policies. Out of three government secondary schools on Male' island, two were for boys and one was for girls. The number of students at the government girls' secondary school was approximately 2,600, which exceeds the 1,500 figure for school enrolment capacity set by the Ministry of Education from the administrative viewpoint. As a consequence of classroom shortages, temporary classrooms were observed to be used in addition to regular classrooms. Furthermore, by reason of facilities been built nearly 60 years back, it is noticeable that many of them have decayed. In this backdrop, the Government of Maldives requested the Government of Japan to provide financial assistance through the Grant Aid program for the construction of school facilities and procurement of equipment/furniture, in order to establish a new government girls secondary school on Male' island.		
Project Objectives	Outcome To increase facility capacity at government girls secondary school on Male' island by building school facilities consisting of classrooms, special classrooms, and administrative and staff rooms, and by providing furniture and equipment		
	Outputs(s) Japanese Side ・ Building school facilities consisting of 25 classrooms, special classrooms, school hall and administrative and staff rooms ・ Procuring furniture and equipment including student's desks/chairs, blackboards, science principle experiment kits, and audio visual equipment Maldivian Side ・ Land filling & cleaning work, Transplantation of trees ・ Exterior work (gates, fences etc.), walls ・ Well Drilling, Connection of infrastructure lines		

II. Result of the Evaluation

Summary of the Evaluation

In Maldives even with much importance had been given to secondary education system improvements, the conditions of most of the school facilities in main Island of Maldives i.e. Male' was observed as decayed while certain facilities were constructed 60 years back. Also, due to recent intensification in student enrollments, a demand has arisen in increasing class room capacities, especially at Aminiya school, the only girls secondary school in Male'.

This project has largely achieved the objectives in terms of accommodating student enrolment per government girls secondary school on Male' island, in addition to increasing the number of sound classrooms at government girls secondary schools on Male' island, and has led to creating a better school environment for girls students in Male. As for sustainability, although the facilities and equipment were maintained and cleaned well, water pumps were observed as broken. In terms of institutional aspect, the number of technical staff is found as not sufficient.

For relevance, the project has been highly relevant with Government of Maldives development policy, development needs as well as Japan`s ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly consistent with Maldives development policy “Ensuring equitable access to quality education as set in the Seventh National Development Plan (2006-2010) and The STRATEGIC ACTION PLAN, National Framework for Development 2009 – 2012”, development needs (shortage of classrooms in Male’), as well as Japan’s ODA policy at the time of both ex-ante and ex-post evaluation

Therefore, relevance of this project is high.

2 Effectiveness/Impact

After the completion of the project, some of the education policies have been changed. (1) In October 2010, the government changed the shift system from “a double shift” to “a single shift”. (2) Since January 2011, primary school and secondary school have been amalgamated (Grade one to ten: grade one to seven is primary level, and grade eight to ten is secondary level). (3) Primary education has become coeducational. The project school follows these policy changes, and thereby the maximum number of students the project school can enroll has become 750, and has added Grade 1 and 2 students (boys and girls) hitherto. In terms of vocational training, it has been conducted in the school premises throughout the past years, except for the previous year (2012) due to unavoidable circumstances i.e.; syllabus not being accredited by Maldives Qualification Authority (MQA).

Under this situation, the project can be said to have achieved the objective of increasing facility capacity at government girls secondary school on Male’ by considering the following facts. Firstly, 25 sound classrooms constructed by the project have been fully utilized, although it deviates from the original plan where in, the current intake of the project school (Hiriya School) is 719 students in total: 446 girls at secondary level, and 278 students (girls and boys) at primary level. Among the 25 classrooms plus one multipurpose room, 17 are used by the girls at secondary level, and 9 are used by the students at primary level. Secondly, the project school offers good educational environment especially for 446 girls at secondary level. The current student per classroom ratio at the school is better than the target value of 30, which is recommended by Ministry of Education. Thirdly, as a result of the construction of the project school, the environment for the girls at secondary level studying at other government schools has also improved. The student ratio per classroom is found as better than that of 30 set by the Ministry of Education, or else the student ratio of the project school in prior to the project, including that of Amniya school, a former girls secondary school(solitary) in Male’. Following the change of education policies, such as single shift, amalgamation of primary and secondary schools, including coeducation, the enrolment ratio in all schools in Male’ including project school is controlled in terms of its balance and condition, but is still in the transition stage. In addition, the students and school management at the project school are quite satisfied with the facility quality. With respect to impact, benefits are found to be gained by the local community via school facility usage including school hall and audio visual room.

Therefore, the effectiveness/ impact of this project is high.

Quantitative effect

Indicator	baseline value (2006) (actual value)	target value (2010)	actual value (2010)	actual value (2012 at ex-post evaluation)
Indicator 1: The number of girl student enrollment at secondary level in government school on Male’ island *1	2,600 (at Aminiya School)	n.a.	(1)In the Project School: 675 (2)In Aminiya School: 1,493 (3) In other schools: 198 TOTAL: 2,366	(1)In the Project School: 446 *2 (2)In Aminiya School: 987*3 (3)In other schools: 1,039 TOTAL: 2,472
Indicator 2: The number of sound classrooms used by girls at government secondary schools on Male’ island	30 (at Aminiya School)	55	(1)In the Project School: 24 (2)In Aminiya School: 57 (3) In other schools: 9 TOTAL: 90	(1)In the Project School: 17 (2)In Aminiya School: 37 (3) In other schools: 28 TOTAL: 82 *5
Indicator 3 (supplementary indicator) Students per classroom	46 *4 (at Aminiya School)	30	(1)In the Project School: 28 (2)In Aminiya School: 26 (3) In other schools: 22	(1)In the Project School: 26 (2)In Aminiya School: 26 (3) In other schools: 39

*1 Considering the current situation, using the “the number of girl student enrolment at secondary level in government school on Male’ island” as an indicator is more appropriate. (Before the project, the girls at the secondary level only enroll at Aminiya, however, the girls enroll at various schools after the policy change.)

*2 The project school has enrolled primary level students since 2011.

*3 Aminiya School has become a single shift school and has enrolled primary level students since 2011.

*4 Based on the actual number of classrooms (57 classrooms including deteriorated classrooms and temporary classrooms).

*5 In secondary level, the number of students per classroom varies based on the options of streams which the students select, which is the reason why the number of students per classroom and total number of classrooms differ from 2010 to 2012.

(Source: Hiriya School, Ministry of Education)

3 Efficiency
The outputs of the project were produced as planned, although the transplant of trees, which were to be implemented by the Maldivian side, were not implemented due to soil impurity (corals and sand) which is not suitable to grow trees. Although the project cost was as planned, (ratio against the plan: 100%), the project period slightly exceeded the plan (ratio against the plan: 116%) because of the failure of the first bidding, but the delay was minimized owing to the effort of the people concerned. Therefore, efficiency of this project is fair.
4 Sustainability
The facilities / equipment provided by the project are maintained relatively well by the project school. And the implementing agency, Ministry of Education oversees the operation of the project school. Problems have been observed in terms of institutional and financial aspects as well as the current status of operation and maintenance. Institutionally, there are11 janitors; however the school does not have maintenance staff, while office staff conducts minor maintenance works. In terms of technical capabilities, the staff does not have sufficient capacity for major maintenance, but can respond to daily cleaning and minor maintenance works. With respect to current status of operation and maintenance, facilities and equipment were kept cleaned and maintained, except for the water pumps broken down, which were installed by the project. Currently only one pump is working after having it cleaned many times by local experts. As to financial aspect, no serious problem is found and the budget for the replacement of pumps is already allocated by the government. Pumps need repair but the spare parts which are needed are not available in Maldives. Also, there is a problem of water leakages. Therefore sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations
To establish an adequate maintenance system within the project school, by assigning of qualified maintenance staff and allocating sufficient maintenance budgets as per the original plan.

（Photo, chart, or graphics）

Main Gate

（Photo, chart, or graphics）

Inside of Hall

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Cameroon office: March, 2013

Country Name	The Project for Improvement of Radio Broadcasting Equipment (La Projet d'Amenagement de L'Equipment pour la Rasiodiffusion)
Cameroon	

I. Project Outline

Project Cost	E/N Grant Limit: 917 million yen		Contract Amount: 908 million yen
E/N Date	August 2007		
Completion Date	March 2009		
Implementing Agency	Cameroon Radio Television (CRTV)		
Related Studies	Basic Design Study: February 2006 – December 2006		
Contracted Agencies	Consultant(s)	NHK ITEC Inc.	
	Contractor(s)	–	
	Supplier(s)	Mitsubishi Corporation	
Related Projects (if any)	[Japan's Cooperation] • Project for Expansion of Radio Broadcasting Network (Grant Aid, 1992 - 1994) [Other Donors' Cooperation] • CRTV Equipment Digitization Project (China, 2012 – 2015)		
Background	In Cameroon, the diffusion rate of TV transmitter per household was 22%, while the diffusion rate of radio transmitter was approximately 80% and radio broadcasting was the most important tool to obtain information for those who live in rural areas. The Government of Cameroon placed the establishment of basic infrastructures, especially improvement of access to information by those in rural areas, as one of the priority policy tasks to be tackled. Cameroon Radio Television (CRTV), the only organization that provides public radio and television broadcasting services in the country, received radio broadcasting equipment for five (5) FM transmission stations in 1994 with the Japanese grant aid and as a consequence, the FM broadcasting services were improved. However, equipment of the other four (4) stations have been operated for more than 20 years and became considerably obsolete, thus FM transmitters could not be fully operated at the four (4) stations. In addition, program production at three (3) stations faced problems due to obsolete and damaged equipment. Therefore, it was necessary to immediately restore and update FM broadcasting facilities at these 4 stations; however, due to the limited budget it was difficult to carry out such tasks. Under these circumstances, the Government of Cameroon requested the Government of Japan for a grant aid project.		
Project Objectives	Outcome To improve the radio broadcasting services by repairing radio broadcasting equipment that are considerably obsolete and damaged in Yaounde City in Central Region, Ebolowa City in South Region, Ngaoundéré City in Adamoua Region and Maroua City in Far North Region in Cameroon.		
	Outputs Japanese side • Procurement of equipment of FM broadcasting system for Yaounde, Ebolowa, Ngaoundéré and Maroua stations (10kW FM transmitter system, FM transmitter antenna system, Program preparation equipment, UHF studio transmitter link, Program supervision equipment, Electric power distribution switch, Measuring equipment, Equipment for maintenance) • Others equipment (Equipment for Harmattan-control, Studio equipment, CDM equipment, Automatic voltage regulator, Spare parts) Cameroonian side • Repair/improvement of transmission station buildings (Yaounde, Ebolowa, Ngaoundéré, Maroua) • Repair/improvement of studio buildings (Yaounde, Maroua) • Building of new studios (Ngaoundéré) • Obtainment of frequency for UHF program transmission (Ngaoundéré, Maroua)		

II. Result of the Evaluation

Summary of the Evaluation

In Cameroon, CRTV, the only organization that provides public radio and television broadcasting services in the country, covered 11,400,000 people (approximately 70% of the entire population) in 1994 by FM broadcasting services of nine (9) stations. The figure, however, decreased to 51% at the time of project planning because of obsolete and damaged transmission equipment at Yaounde, Ebolowa, Ngaoundéré, and Maroua Stations. In particular, at Yaounde, Ngaoundéré, and Maroua Stations, program production faced problems because of the above reasons and it was an urgent task to restore and update the facilities for FM broadcasting.

This project has largely achieved its objectives of "i) increase in the number of population who are able to receive FM broadcasting service and ii) provision of stable FM broadcasting service in Central, South, Adamoua and Far North Regions". The number of population who are able to receive FM broadcasting service from targeted four (4) stations reached to 5,120,000 right after the project completion and broadcasting service hours and the number of programs increased by utilizing provided equipment. However, transmission capacity and areas of broadcasting service have been reduced from year to tear due to breakdown of amplifier caused by frequent power failures and above-mentioned positive project effects have been declining at the time of ex-post evaluation. On the other hand, information concerning i) evacuation in case of

disasters and ii) education and health in the local language can now be obtained in the areas that have broadcasting service, which is recognized as an positive impact on the daily living. As for sustainability, although minimum daily operation and maintenance activities are carried out, some problems have been observed in terms of structural, technical, financial aspects and the current status of operation and maintenance due to i) insufficient technical staff, ii) improper technical skills for repairing equipment and iii) shortage of spare parts resulted from insufficient budget, which keeps broken-down amplifiers unrepaired. For relevance, the project has been relevant with Cameroon's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period was slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Cameroon's development policy ("establishment of long-distance communication and development of IT technologies", specified in the Poverty Reduction Strategy Paper (2003) and "development of nationwide communication infrastructure" included in the Growth and Employment Strategy Paper (2009)), development needs ("enhancement of nationwide radio broadcasting services") as well as Japan's ODA policy ("establishment of basic environment including development of infrastructure, human resource and socioeconomic basis"), at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

At the time of project completion, this project had largely achieved its objectives of "the increase in i) the number of population who are able to receive FM broadcasting service from 4 targeted stations, ii) local broadcasting service hours by CRTV in Ngaoundéré and Maroua and iii) local programs at Ngaoundéré and Maroua stations. The number of population who were able to receive FM broadcasting service from 4 targeted stations increased from 2,020,000 in 2006 to 5,120,000 in 2009 and local broadcasting service hours as well as local programs at Ngaoundéré and Maroua stations increased.

After the project completion, however, output from four (4) targeted stations was lowered than anticipated due to breakdowns of amplifiers associated with high load on transmitters by frequent power failures. As a consequence, areas that receive broadcasting services are being reduced year by year. The number of population who are able to receive FM broadcasting service from 4 targeted stations has decreased by 31% from 5,120,000 in 2009 to 3,540,000 in 2012. Above-mentioned project effects are reduced and positive impacts, which is discussed below, are limited in the areas that can receive FM broadcasting services at the time of ex-post evaluation. On the other hand, improvement is observed with regard to the broadcasting frequency and service hours. For instance, maintenance records of 4 stations show that there is almost no suspension of broadcasting in the targeted 4 areas; and the interviews survey with 20 residents in Yaounde City, Ebolowa City, Ngaoundéré City and Maroua City revealed that the time of broadcasting suspension has been reduced compared to that before the project implementation. As for other impacts, the increase in the number of radio programs on environment, agriculture, health and so forth provides benefits to daily living: for example, residents can obtain information concerning evacuation from radio broadcasting in case of floods; and knowledge among residents is enhanced through information on education and health in the local language.

Therefore, effectiveness/impact of this project is fair.

It should be noted that equipment of five (5) broadcasting stations, apart from targeted four (4) stations, also have been getting decrepit and accordingly the number of population who are able to receive FM broadcasting service in the entire country dropped from 11,420,000 (70% of the population) at the time of the project completion to 6,240,000 (31%) at the time of the ex-post evaluation.

Qualitative effects

	Baseline value (2006)	Target value (2009)	Actual value (2009)	Actual value (2011)
Indicator 1 Number of population who are able to receive FM broadcasting service from 4 targeted stations (1,000 people)	2,020	Total: 5,120 (Central: 2,020 South: 330 Adamoua: 420 Far North: 2,350)	Total: 5,120 (Central: 2,020 South: 330 Adamoua: 420 Far North: 2,350)	Total: 3,540 (Central: 1,470 South: 310 Adamoua: 420 Far North: 1,260)
Indicator 2 Increase in local broadcasting service hours by CRTV in Ngaoundéré and Maroua (hour/day)	0	19	19	19
Indicator 3 Increase in local programs at Ngaoundéré and Maroua stations (number)	0	increased	Increased Ngaoundéré: 50 Maroua: 55	Increased Ngaoundéré: 72 Maroua: 55

Source: CRTV

Note: Service areas of four (4) targeted stations are; Central Region South Region, Adamoua Region and Far North Region .

3 Efficiency

Although the project cost was within the plan (99% against the plan as 15m-panzer mast was not required), the project period was slightly exceeded the plan (104%) because of the unexpected delay in the bidding procedures, approval by the Cameroonian Government, transportation of equipment, customs clearance, and so forth. Outputs were produced mostly as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The facilities and equipment provided by this project are maintained by CRTV. Regarding structural aspect, decrease in the number of technical staff is evident since i) few technicians has been newly employed since 1988 and ii) no replacement was conducted after the retirement of relevant staff. According to interviews with CRTV, however, staff for operation and maintenance are secured. As for technical aspect, training concerning operation and maintenance for CRTV technical staff was conducted by this project (but not including repair of amplifier). Although technical staff of each station have been conducting daily maintenance and inspection of equipment by utilizing knowledge and skills obtained by the training, it is not clear if those limited number of staff would be able to keep relevant techniques for a long term and succeed them to the future generation. With regard to financial aspect, according to interview with CRTV, minimum budget is secured for operation and maintenance at each station. However, the entire budget of CRTV is being reduced and the negative influences are observed, which causes insufficient budget for spare parts of amplifiers and suspended new employment of technical staff, for instance. As for the current status of operation and maintenance, daily operation and management and periodical inspection of provided equipment, which are placed in a transmission center and studio at each broadcasting station, are properly conducted. However, no effective measures are taken for repair and replacement of amplifiers since (i) there is no import agent in Cameroon that deals with repair service and spare parts purchase of the provided equipment and (ii) budget is limited for purchasing spare parts as mentioned above.

The project has major problems in financial aspect and the current status of operation and maintenance of the executing agency and has some problems in structural and technical aspects. Therefore, sustainability of the project effect is low.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- It is recommended that causes of breakdowns of amplifiers be investigated and that the prompt purchase of necessary spare parts be promoted. The number of population who are able to receive FM broadcasting service is expected to recover to the level that was recorded at the project completion, provided that functions of amplifiers at each targeted station are recovered. In order to secure budget for those spare parts, it is necessary to consider prioritized allocation of the Cameroon's own budget for CATV's equipment repairs and also to look for possible finance assistance from other donors in case of insufficient budget on the Cameroonian side. By conducting the above recommendation, it is expected that the number of population who are able to receive FM broadcasting service be 6,750,000 (Central Region: 2,890,000, South Region: 440,000, Adamoua Region: 540,000, Far North Region: 2,870,000).
- It is necessary for CATV to make every effort to employ relevant staff at each broadcasting station because further shortage of technical staff is concerned due to every-year reduction of CATV's entire budget. In this process, it is important to establish a system that ensures operations conducted with certain technical level through transfer of skills and knowledge to newly employed personnel. In addition, for the equipment that cannot be repaired by the existing system, it is desirable to consider utilizing outside resources such as manufacturers and private repair experts.

Lessons learned for JICA

- Considering sustainability, particularly in case of provision of equipment by grant aid, it is essential to carefully consider, at the time of basic design study, i) possibility of local procurement of equipment and spare parts and ii) procurement routes and procedures in case spare parts need to be imported from abroad or to be repaired by manufacturers. At the same time, it is important to share such information with project counterparts by preparing manuals. It is also necessary to improve the future training contents, by including training concerning equipment repair as well as operation and maintenance. In addition, the implementing agency (technical staff who carry out daily management and inspections) needs training that contributes to the enhancement of its own technical skills to conduct repair of equipment, as far as the repair can be dealt with by themselves.

Transmission Equipment for Ngaoundéré Station

Equipment for Studio at Maroua Station

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Mozambique office: March, 2013

Country Name	The Project for Construction of the Cuamba Teacher Training Center
Mozambique	

I. Project Outline

Project Cost	E/N Grant Limit: 998 million yen		Contract Amount: 997 million yen
E/N Date	June, 2007		
Completion Date	March, 2009		
Implementing Agency	The Ministry of Education and Culture		
Related Studies	Basic Design Study: August, 2006-March, 2007		
Contracted Agencies	Consultant(s)	Matsuda Consultants International Co., Ltd.	
	Contractor(s)	Dai Nippon Construction	
	Supplier(s)	Dai Nippon Construction	
Related Projects (if any)	Cooperation by Japan ・The Project for the Construction of the Chimoio Primary Teacher Training Center (Grant Aid, 2005-07) ・Dispatch of Teacher Training Advisor (Technical Cooperation, March, 2010-March, 2012) Cooperation by Other Donors ・Fund of Support for Education Sector (FASE: Fundo de Apoio Sectorial à Educação) (Training for in-service teachers, 4.36 million meticais [1 metical = 4.56 JPY as of October, 2006]) ・Intermon Oxfam: Support for distance training program for unqualified in-service teachers in Niassa Province (Provision of equipment and technical transfer)		
Background	In Mozambique, while the number of primary enrollments had been increasing by the expansion of access to primary education, the number of qualified teachers could not overtake the demand. Since the insufficient number of qualified teachers led to continuous employment of unqualified teachers, the proportion of the unqualified teachers in the total number of teachers had been expanding. As a result, the Government of Mozambique started to promote development of the Institutes of Primary Teacher Training (IMAP: Institúto de Magistério Primário) with dormitories for trainings of primary teachers in order to improve the number and quality of teachers, which is the urgent issue for equalization of education opportunities. However, the IMAP course in Niassa Province had been temporarily operated in the Center of Primary Teacher Training (CFPP: Centro de Formação de Professores de Primários), which is a lower teacher training school, without necessary specialized classroom and training materials for the IMAP program. Therefore, the Government of Mozambique planned construction of IMAP in the City of Cuamba in Niassa Province and requested the Japanese Government grant aid for construction of facilities and provision of necessary equipment.		
Project Objectives	Outcome To contribute to increase in the number of qualified primary school teachers in Niassa Province y establishment of the Cuamba Teacher Training Institute		
	Outputs Japanese Side ・Construction of facilities: 7,475.98 m^2 of total areas, including administrative building, instruction and supervision building, class room building, library, gymnasium, dormitories, and so on.) ・Provision of equipment: Teaching materials for training programs (laboratory instruments, music instruments, gymnastic instruments, and so on) and general equipment (office equipment, audio visual equipment and so on) Mozambique Side ・Procurement and development of sites, construction of fences, exteriors and lines of electricity, telephone and water pipe. ・Procurement of office furniture, fixture, other equipment and consumables except items provided by the Japanese side		

II. Result of the Evaluation

Summary of the Evaluation
In Mozambique, provision of high quality primary education for all has been one of the priority agenda with the goal to give primary education to all the school age children (age of 6-13) by 2015. The net primary enrollment rate at 2005 was 83.4%. However, the supply of primary teachers was not able to overtake the rapid growth of demand for primary education. While the number of pupils per teacher deteriorated to 67.7, the ratio of qualified teachers remained at only 60%. In Niassa Province, the target area of the Project, the growth of the number of primary students was 11.5% which was higher than the national average (9.3%). Although the number of pupils per teachers (56.2) was better than the national average, the ratio of qualified teachers (54.4%) was worse than the national average. The project has achieved the objectives of the increase in the number of qualified primary teachers in Niassa Province

by preparation of facilities and equipment for IMAP which are compliant with the IMAP curriculum due to the increase in the number of newly qualified teacher trained at the Cuamba IMAP and the unqualified in-service teachers retrained by the distance learning program. Also, the Project contributed to the improvement of ratio of the qualified teachers as well as the number of pupils per teacher in the province as expected. As for sustainability, problems have been observed in terms of financial aspects and current status of operation and maintenance, due to the unclear future budget for maintenance of the facilities and the insufficient maintenance for a part of the facilities, despite of the good organizational arrangement and technical levels for operation and maintenance of the facilities.

For relevance, the project has been highly relevant with Mozambique's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Mozambique's development policies of the Action Plan for Reduction of Poverty (PARPA 2001-2005 [Plano Acção para Redução da Pobleza Absoluta] and PARP 2011-2014 [Plano Acção para Redução da Pobleza]) and the Strategic Plan for the Education Sector (PEE: Plano Estratégico de Educação) ("universal access to primary education"), development needs ("improvement of qualify of education through the increase in the number of qualified teachers), as well as Japan's country assistance policy to Mozambique for supporting education at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has achieved its objectives of the increase in the number of qualified primary teachers as planned. Under the shortened program for the period between 2009 and 2011, the actual number of newly qualified teachers trained at the Cuamba IMAP reached 444 in 2009. It exceeded the target value. Although the number of qualified teachers trained at the Cuamba IMAP decreased to 174 in 2011, it is a temporary measure to limit the number of enrollments of IMAPs nationwide because many graduates of IMAPs could not be recruited as teacher just after the completion of IMAP program, due to the fiscal problems of the government. The trainings to produce qualified teachers at the Cuamba IMAP have contributed to improvement of the ratio of qualified teachers in the total number of teachers in Niassa Province: it substantially increased from 62.9% in 2006 to 88.1% in 2011. Also the number of pupils per qualified teacher has improved from 88 in 2006 to 64 in 2011. In addition, the number of female teachers trained at the Cuamba IMAP achieved 188 against the annual plan of 160 persons. In 2011, the number of female teachers trained at the Cuamba IMAP decreased to 24 due to the limit in the total number of enrollments of IMAPs and the full competition for the entrance examination of IMAPs without any affirmative actions. However, in 2012, the actual number of female enrollment of the Cuamba IMAP is 60 which is the target of the government. In Niassa Province, since the ratio of the female teachers in the total number of qualified primary teachers improved to 37.9% in 2011 from 25.3% in 2006, the Project contributed to the increase in the female teachers in the province. Furthermore, the distance learning program at the Cuamba IMAP retrained the unqualified in-service teachers and enhanced their capacity: 308 teachers in 2009 and 407 in 2011.

Students of the Cuamba IMAP and school building constructed by the Project

According to the results of the questionnaire survey for the teachers and students of the Cuamba IMAP, the facilities and equipment provided by the Project have been utilized for high quality training sessions. They appreciated that the training environment improved by the Project contributed to production of highly qualified graduates from the Cuamba IMAP. In addition, the Project brought about beautification of training environment through the planting in the site of the Cuamba IMAP and its spillover effect of community building since some local people seeking better living environment moved to the surrounding areas of the Cuamba IMAP.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

	Actual (2006, BD)	Target (2009)	Actual (2009)	Actual 2010	Actual (2011)
Indicator 1: The number of newly qualified teachers trained at the Cuamba IMAP	(Actual) N.A. since the Cuamba IMAP was newly established.	(Plan) 308 persons/year for the period 2009-2011* 154 persons/year since 2012	(Actual) 444 persons/year	(Actual) 317 persons/year	(Actual) 174 persons/year
Indicator 2: The number of unqualified in-service teachers retrained by the distance learning program at the Cuamba IMAP	(Actual) N.A. since the Cuamba IMAP was newly established.	(Plan) N.A.	(Actual) 308 persons/year	(Actual) 426 persons/year	(Actual) 417 persons/year

Indicator 3: The number of female teachers newly trained at the Cuamba IMAP	(Actual) N.A. since the Cuamba IMAP was newly established.	(Plan) 160 persons/year (enrollment limit)	(Actual) 188 persons/year	(Actual) 155 persons/year	(Actual) 24 persons/year

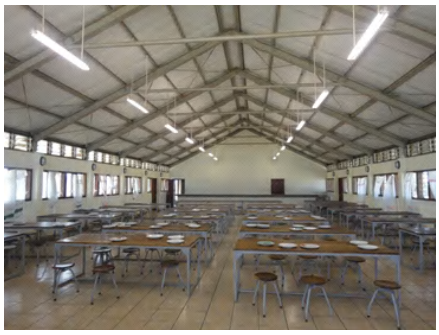
(Source) The Provincial Directorate of Education and Culture of Niassa
(Note 1) *For the period between 2007 and 2011, the shortened program with one year training was provisionally implemented despite of the two year training program defined in the Strategic Plan for Education and Culture 2006-2010/11 (PEEC: Plano Estratégico de Educação e Cultura).

3 Efficiency

Although the project cost was mostly as planned (100% against plan), the project period slightly exceeded the plan (104% against plan) because of the uncompleted site development by the Mozambique side and the delay of redevelopment of the site by heavy rain. Therefore, efficiency of this project is fair.

4 Sustainability

At the time of ex-post evaluation, while the Directorate of Human Resource of the Ministry of Education is responsible for the content of trainings at IMAPs, the Division of Construction and Equipment, the Directorate of Planning and Cooperation is responsible for technical issues for facilities and equipment of IMAPs. For the Cuamba IMAP, 50 staff are assigned: 5 management staff, including the director and the vice-director, 32 teaching staff, and 13 administrative and maintenance staff. While the Provincial Directorate of Education and Culture of Niassa is responsible for deployment of teaching staff and monitoring and evaluation of training courses, the city of Cuamba dispatches technicians for maintenance of the facilities of the Cuamba IMAP, because the Provincial Directorate does not have any technicians and the Cuamba IMAP is located far from the provincial capital of Niassa where the Provincial Directorate is located. All the teaching staff of the Cuamba IMAP are university graduates with teaching experience.



Cafeteria cleanly maintained

The budget for the Cuamba IMAP has been allocated from FASE, the common fund for the education sector since 2010. The budget in 2011 was 4.7 million meticais. The actual expenditure for maintenance was 82,000 meticais. According to the Cuamba IMAP, there is no financial problem so far. However, there is a certain concern about securement of budget for the projected incremental maintenance cost in future.

In terms of the current status of the facilities and equipment provided by the Project, there is no major problem and no severe damage. These facilities and equipment have been fully utilized for the intended purpose of trainings of primary teachers. However, some toilets cannot be used in rainy season because the septic tank can be full by rain water.

The Project has some problems in financial aspects as well as the current status of operation and maintenance due to the issues mentioned above. Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

- The Cuamba IMAP needs to take measures to improve maintenance of the septic tank in order to avoid unserviceable toilets due to the rain water.
- It is inevitable for the Cuamba IMAP to request the Ministry of Education continuously allocate sufficient budget to them since it is projected that the necessity of budget for maintenance of the facilities will increase in future.

Lessons learned for JICA (for the projects in Mozambique)

- Not only this project but also other projects in Mozambique have similar problem of unserviceable toilet in rainy season due to the inflow of rain water to septic tank. Therefore, it is necessary to carefully consider a place of installation of septic tank.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Balkan Office: March, 2013

Country Name	The Project for Improvement of the Equipment for Road Maintenance
Bosnia and Herzegovina	

I. Project Outline

Project Cost	E/N Grant Limit: 844 million yen		Contract Amount: 843 million yen
E/N Date	September, 2007		
Completion Date	January, 2009		
Implementing Agency	CESTE d.d. Mostar (CESTE)		
Related Studies	Basic Design Study: February, 2006 – March, 2007		
Contracted Agencies	Consultant	Katahira & Engineers International	
	Contractor	-	
	Supplier	ITOCHU Corporation	
Related Projects	-		
Background	The road traffic was the main system of the transportation in Bosnia and Herzegovina. After the conflict from 1992 to 1995, the financial resources were mainly allocated for the recovery and reconstruction works on the collapsed roads and bridges. Although importance was recognized, road maintenance works for the existing roads were insufficient because of the lack of the budget of road sector. As the result, generally pavement of the road in the country was aging, and deterioration of the surface was being faster. CESTE d.d. Mostar (CESTE) was in charge of regular road maintenance work on the 15 routes of main road and 30 routes of regional road, total length 1,617km, located in the 5 cantons where many ethnic Croats live. The equipment owned by CESTE was significantly insufficient. Many of those were aging and working with low operation rate. CESTE faced difficulty of executing their work on a timely fashion.		
Project Objectives	Outcome To ensure the proper road maintenance in five cantons: Posavina, Central Bosnia, Herzegovina Neretva, West Herzegovina, Canton 10 (Herzeg Bosna) by procuring equipment for road maintenance for CESTE which undertakes maintenance works for roads in the five cantons.		
	Outputs Japanese Side: ・ Procurement of equipment of 17 items for road maintenance of 15 routes of main road and 30 routes of regional road, total length 1,617km, located in the 5 cantons including: Motor grader, Dump truck, Asphalt finisher, Asphalt milling machine, Asphalt sprayer, Truck, Concrete cutter, Multi purpose vehicle, Wheel backhoe, Backhoe loader, Vibration roller, Wheel loader, Truck with crane, Line marker, Pile driver (Self-propelled), Crack filler, and Mobile workshop truck. Bosnia and Herzegovina side ・ Ensuring prompt forwarding the equipment to base point of each canton office from the delivery site.		

II. Result of the Evaluation

Summary of the Evaluation

The road traffic was the main system of the transportation in Bosnia and Herzegovina. Financial resources were mainly allocated for the recovery and reconstruction works on the roads and bridges collapsed during the conflict. Road maintenance works for the existing roads were insufficient because of the lack of the budget of road sector. As the result, generally pavement of the road in the country was aging, and deterioration of the surface was being faster.

This project has somewhat achieved its objectives of ensuring the proper maintenance of the target roads in terms of “overlay with milling machine”. With respect to “surface milling for anti-slip”, although the project fails to achieve the target at the time of ex-post evaluation due to the delay in budget disbursement of the federal government, the contractee, CESTE is expected to achieve the target in 2012. However, in terms of “reshaping of rock slope”, the project failed to achieve the target because the number of contracts awarded have decreased due to the competition with private companies. Regarding impact, the service life of the target roads is expected to be extended for 10 years by the prevention of deterioration with the quick work of repairing the damages with the equipment provided by the project. As for sustainability, there was no problem observed in the project because the implementing agency has sufficient operators, no technical problems, and positive cash flow although there is a loss on the profit and loss statement due to the depreciation of the equipment. Besides, the implementing agency keeps log of equipment use and carries out maintenance properly.

For relevance, the project has been highly relevant with development policy and needs of Bosnia and Herzegovina as well as Japan’s ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with development policy of Bosnia and Herzegovina “Strengthening and modernization of transportation network as set in the Mid-term Development Strategy 2004-2007 and Country Development

Strategy (in draft: Approval has been delayed due to the delay in cabinet formation after the national election), country's development needs "Improvement and equalization of quality in road maintenance", as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has somewhat achieved its objectives of ensuring the proper maintenance of the target roads in terms of "overlay with milling machine". With respect to "surface milling for anti-slip", although the project achieved the target in the target year (2009), it failed to achieve the target at the time of ex-post evaluation (Actual figure in 2011) due to the delay in budget disbursement of the federal government, the contractee. However, CESTE is expected to achieve the target in 2012. According to interviews with road users of the target roads in the five cantons such as transport companies and bus companies, the road conditions have significantly improved after the project completion. Furthermore, the subcontract expense has been curtailed thanks to the provided equipment which enable CESTE to perform all of their own maintenance work. However, in terms of "reshaping of rock slope", the project fails to achieve the target because of the competition with the other companies. When the project was requested, as a government corporation, CESTE were able to win contracts exclusively for maintenance work in specific roads. However, the principle of competition for the efficient procurement was introduced in 2008 and as a result, CESTE were no longer able to win contracts exclusively. The change of the procurement policy influenced CESTE's number of contracts for reshaping of rock slope immediately, since the contract were awarded on ad-hoc basis. On the other hand, CESTE won the contract for comprehensive road maintenance package which includes overlay with milling machine and surface milling for anti-slip until March 2013, the volume of these two works will be unchanged for the time being. Nonetheless, CESTE may compete with other companies in these respects as well in the future.

As to impact, according to interviews with the implementing agency, the service life of the target roads is expected to be extended for 10 years by the prevention of deterioration with the quickly work of repairing the damages with the equipment provided by the project. The equipment were procured in accordance with the environmental standard of European Union, therefore, adverse effect of emission from engines on natural environment is mitigated.

Therefore, effectiveness/impact of this project is fair.

Quantitative Effects

	2005 Actual (BD)	2009 Planned	2009 Actual	2011 Actual
Indicator 1: Overlay with milling machine	2,540ton	6,000～7,000ton	7,200 ton	7,099 ton
Indicator 2: Surface milling for anti-slip	13,000m^2	227,000m^2	276,000 ㎡	26,000 ㎡
Indicator 3: Reshaping of rock slope	3,000m^3	520,000m^3	1,850 m^3	1,047 m^3

（Source）CESTE d.d. Mosta

3 Efficiency

Although the project cost was as planned (ratio against the plan: 100%), the project period slightly exceeded the plan (ratio against the plan: 119%) because of the delay in manufacturing and transportation of some equipment. Outputs were produced as planned.

Therefore, efficiency of the project is fair.

4 Sustainability

The equipment provided by the project are maintained by CESTE, the implementing agency who carries out proper maintenance with the equipment. CESTE has no technical problem because there are sufficient operators who have been working for CESTE for years and take part in regular training. In terms of financial aspect, though CESTE has to compete with private companies, it still secures certain number of contracts from the federal and canton governments and therefore maintains a certain revenue level. Although CESTE generates a loss on its profit loss statement due to the depreciation of equipment, it has positive cash flow and no problem on its capital-to-asset ratio. On the current status of operation and maintenance, the implementing agency keeps log of equipment use and carries out maintenance properly.

As stated above, since the project has no problem in institutional, technical and financial aspects as well as the current status of operation and maintenance, sustainability of the project effect is high.

III. Recommendations & Lessons Learned

Recommendations for implementing agency:

The number of contracts of the implementing agency is partly dependent on the status budget disbursement by the federal and canton governments. However, in order to win contracts stable, the implementing agency should improve its productivity and cost competitiveness.

Lessons Learned to JICA

When the project was requested, as a government corporation, CESTE were able to win contracts exclusively for maintenance work in specific roads. However, the principle of competition for the efficient procurement was introduced in 2008 and as a result, CESTE were no longer able to win contracts exclusively. Even though an implementing agency is a government corporation, JICA needs to consider the possibility that business environment may change in the future which influences performance of the implementing agency.

A motor grader


Reinforcement work of shoulder

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Fiji office: March, 2013

Country Name	The Project for Improvement of Funafuti Port
Tuvalu	

I. Project Outline

Project Cost	E/N Grant Limit: 932 million yen		Contract Amount: 930 million yen
E/N Date	July, 2007		
Completion Date	March, 2009		
Implementing Agency	The Department of Marine, the Ministry of Communication and Transport		
Related Studies	Basic Design Study: November 2006 – May 2007		
Contracted Agencies	Consultant	Fisheries Engineering Co, Ltd.	
	Contractor	Dai Nippon Construction	
	Supplier(s)	-	
Related Projects	-		
Background	The deepwater wharf at Funafuti Port is Tuvalu's only jetty where large ships and inter-island vessels were able to approach and moor, and as the central base of inter-island transportation of people and cargo in the country, Funafuti Port played a significant role in supporting the foundation of the livelihood of the Tuvaluans. However, the deepwater wharf was rather decrepit and hence its load bearing capacity had been decreasing. As a result, the allowable weight of a container to be unloaded on the jetty was restricted. Furthermore, the efficiency of cargo handling at Funafuti Port had been undermined due to the lack of container transporting equipment together with the fact that the large-size forklift that can lift containers was superannuated and frequently broke down.		
Project Objective	Outcome To ensure safer and more efficient cargo handling activities at Funafuti Port by constructing a new jetty and improving existing facilities.		
	Outputs Japanese Side ・ Construction of a new jetty and a water tank ・ Repair of the warehouse ・ Development of the container yard ・ Procurement of cargo handling equipment Tuvalu Side ・ Appropriation of the project site, removal of existing structures, and preparation of the land ・ Securing a temporary site and an alternative yard during implementation		

II. Result of the Evaluation

Summary of the Evaluation

The government of Tuvalu prioritized infrastructure development as the foundation for economic growth in its national development strategy, and posted vitalization of economy and promotion of the outer islands through fisheries by constructing a new jetty as priority issues. In 2006, Funafuti Port played a significant role in supporting Tuvalu's logistics and economy, however, deterioration of the deepwater wharf made it difficult to ensure safe and efficient cargo handling activities. Furthermore, due to the restriction of the maximum weight of cargo in a container, Funafuti Port was not able to respond to the increasing cargo volumes.

This project has largely achieved its objectives of securing safe and more efficient cargo handling activities at Funafuti Port by constructing a new jetty and others, in terms of (1) the restriction on the weight of 20-foot containers has been alleviated, (2) the time required to transport 20-foot containers from the jetty to the yard has been shortened, (3) the impediments brought by the mooring of Nivaga II has been solved, and (4) the water storage capacity has been expanded. However, currently, cargo handling is temporarily less efficient, due to some technical problem of the equipment procured by the project. As to impact, some impacts have been observed including stabilization of ship operation due to the improved capacity to supply freshwater to inter-island vessels. However, the project has limited contribution to the promotion of fisheries in outer islands, and transport cost reduction, partly because of external factors. As for sustainability, problems have been observed in terms of institutional, technical, financial aspects as well as the current status of operation and maintenance. The implementing agency does not have sufficient number of personnel, and lacks technical capacity. In addition, the budget for operation and maintenance is not fully secured, and some of the equipment are not in full operation.

For relevance, the project has been highly relevant with Tuvalu's development policy, development needs, and Japan's ODA policy at the time of ex-ante evaluation and ex-post evaluation.

For efficiency, the project period slightly exceeded the plan and a part of outputs by Tuvalu side has not been implemented.

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

1 Relevance

This project has been highly relevant with Tuvalu's development policy "development of high quality inter-island transportation infrastructure", under the national development strategy, and development needs (infrastructure development responding to increasing maritime transportation demand), as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives: (1) the restriction on the weight of 20-foot containers has been alleviated, (2) the time required to transport 20-foot containers from the jetty to the yard has been shortened, (3)the impediments brought by the mooring of Nivaga II has been solved (the short mooring berth length causes the mooring line for Nivaga II's mooring to be an obstacle to the access of other vessels), (4) the water storage capacity has been expanded, and (5) safety of cargo handling activities was improved. Currently, cargo handling activities is temporarily less efficient. A 25-ton forklift procured by the project is not operational when it rains since it gets a hole due to air filter erosion. In addition, the time required to transport containers temporarily increases due to the breakdown of a tractor's hydraulic system. A maritime transportation company who is in charge of cargo handling is expected to respond to these technical problems shortly. On the other hand, removal of an existing workshop building, which was to be implemented by Tuvalu side, was actually not implemented, therefore a part of container yard has not been developed. As a result, it is difficult to improve the efficiency of cargo handling further. As to impact, although the project is expected to contribute to the promotion of fisheries in outer islands, and transport cost reduction, impact to those aspects is limited with the effects of external factors. However, according to the implementing agency, cargo handling costs of the Department of Marine has decreased due to the reduction in time for cargo handling, and the improved capacity to supply freshwater to inter-island vessels has contributed to the stabilization of ship operations. In addition, the volume of transportation increased after the project completion (2010) compared to the before the project implementation (2006): The volume of domestic freight increased from 6,073m^3 to 6,328m^3, and the number of passengers increased from 10,223 to 15,961. Furthermore, according to retail companies, retail businesses such as a cold storage business have been vitalized; the number of reefer containers[1] increased from five to 10. Together with the stable power supply by "The Project for the Upgrading of Electric Power Supply in Funafuti Atoll", another grant aid project which was implemented at the same time, the project contributed to this economic vitalization. According to the implementing agency, there is no negative impact on natural environment and no case of land acquisition and involuntary resettlement.

Therefore, effectiveness/impact of this project is high.

Quantitative effects

	2007 Actual (BD) Before the project	Planned (After 2009) After the project	Actual (2009)	Actual (2012)
Indicator 1: The re triction on the weight of 20-foot containers will be alleviated	Across-the-board threshold of 18 tons	By-container norms with a total combined maximum weight of between 20 and 30 tons.	Same as on the left	Same as on the left
Indicator 2*: The time required to transport 20-foot containers from the jetty to the yard will be shortened	15 minutes	12 minutes	n.a.	Approximately 10 minutes
Indicator 3: The impediments brought by the mooring of Nivaga II will be solved.	9.1 days/month	0 days/month	0 days/month	0 days/month
Indicator 4: The water storage capacity will be expanded	150m^3	750m^3	750m^3	750m^3

(Source) The Department of Marine, the Ministry of Communication and Transport

* Ex-ante evaluation sheet describes the actual figure before the project and target as 2.5 minutes/container and 1.5 minutes/container respectively, however, it is not clear how those figures were calculated. In addition, there are other figures in BD as listed above. Therefore, taking those figures into consideration and based on the interview with the implementing agency, the above figures are used for ex-post evaluation.

[1] A type of container which is capable of maintaining the temperature of frozen, chilled or warm cargo with adiabators on the wall. A refrigeration unit is built onto the nose of the container.

A jetty: Cargo handling by a trailer has become easy because of the sufficient width.

The number of reefer containers has increased.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), the project period was slightly exceeded the plan (ratio against the plan: 101%), due to the delay in construction because the ground was harder than expected. Although the outputs by the Japanese side were produced as planned, Tuvalu side has not carried out removal of the existing workshop building) due to lack of funds. Therefore, efficiency of this project is fair.

4 Sustainability

The facilities and equipment provided by the project are maintained by the Department of Marine of the Ministry of Communication and Transport with the cooperation of Public Works Division (PWD) under the same ministry. Although the institutional structure is sustained what it was considered desirable, there are some problems for continuity of project effectiveness, since PWD are not able to allocate sufficient number of staff and time for O&M activities of the Department of Marine due to the limited number of staff themselves. The implementing agency has some problems in the technical aspect, since there is insufficient training plan for their personnel. The implementing agency also faces some problems in the financial aspect. The implementing agency secures budget of only half of the amount needed for O&M, partly because of lack of funds, and partly because of mismanagement of budget implementation. In addition, there are problems in current status of operation and maintenance. Due to inappropriate O&M plan and implementation and lack of budget for purchase of spare parts because of the insufficient capacity of spare parts procurement planning, the equipment procured by the project including the 25ton forklift and the tractor are not in fully operational. Furthermore, although the jetty and the warehouse are currently fully functional, more attention should be paid for the maintenance since a fender of the jetty has begun to deteriorate. Although not included in the scope of the project, the road in front of the warehouse has not been paved, which might shorten the life of a hydraulic system of the forklift which carries heavy containers.
Therefore, sustainability of the project effect is low.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1. The road in front of the warehouse needs to be paved, since the current rough road might shorten the life of a hydraulic system of the forklift which carries heavy containers.
2. Ministry of Communication and Transport needs to allocate sufficient funds for O&M for the facility and equipment constructed/procured by the project, and needs to manage proper budget implementation.
3. Delay in procuring spare parts for the equipment procured by the project have somewhat hampered the achievement of the outcome and might shorten the life of the equipment. Therefore, in order to maintain the current function of the equipment, in addition to securing budget for O&M, measures for prompt procurement of spare parts should be taken under the condition that it takes time to procure spare parts in Tuvalu.

Lessons learned for JICA

1. Although main output of the project is construction of a jetty, proper operation of cargo handling equipment including the forklift was the key for the achievement of the project outcome. Therefore, more attention should have been paid for the efficient operation and maintenance of the cargo handling equipment. Although the recipient country's own effort of building O&M capacity and securing budget is important, assistance for a small island nation like Tuvalu may need to include measures for improving utilization of the equipment procured by a project (e.g. Procurement of additional equipment as a backup or including procurement of spare parts to the project scope).
2. The pavement the road in front of the warehouse and removal of existing workshop building were not included in the scope of the project due to budget constraint, however, that excluded scope might have caused the breakdown of the equipment procured by the project. Such kind of possibility should be taken into consideration for procurement planning.
3. Aligning development of related infrastructure projects has synergetic effects on economy vitalization. In the case of this project, another grant aid project for stable power supply was implemented at the same time, which contributes to the retail business vitalization, i.e. increase of reefer containers.
4. Calculation method for one of the indicators for quantitative effect on the ex-ante evaluation sheet was not clear and therefore it was impossible to use the indicator at the time of ex-post evaluation. In order to measure the effect precisely, not only the target but also calculation methods and standards should be presented at the time of ex-ante evaluation.

conducted by Philippines Office:March, 2013

Country Name	The Project for Enhancement of Communications System for Maritime Safety and Security
The Republic of the Philippines	

I. Project Outline

Project Cost	E/N Grant Limit: 609 million yen		Contract Amount: 607 million yen
E/N Date	July 2007		
Completion Date	March 2009		
Implementing Agency	Philippine Coast Guard (PCG), Department of Transportation and Communication(DOTC)		
Related Studies	Basic Design Study: May, 2006 - March 2007		
Contracted Agencies	Consultant(s)	Oriental Consultants (As of Dec. 2008, the business was transferred to the Oriental Consultants from the Pacific Consultants International)	
	Contractor(s)	NA	
	Supplier(s)	Toyota Tsusho Corporation and Japan Radio Co. ltd.	
Related Projects (if any)	Japan's cooperation: -The Project on Philippine Coast Guard Human Resource Development Project (Technical Cooperation, 2002–2007) -Philippine Coast Guard Education and Human Resource Management System Development Project (Technical Cooperation, 2008-2013) -Individual Expert Dispatch on Coast Guard Administration (2009-2012) -Maritime Telecommunication System Development Project (Loan, 1989-1996) -Maritime Safety Improvement Project (Loan, phase 1 for 1990-1994 and phase 2 for 1995-2001)		
Background	At the sea surrounding Philippines, marine crimes, such as drug/arms smuggling, bomb fishing, and piracy has continued to be major concerns. The Philippine Coast Guard (PCG), an agency under the Department of transportation and Communications (DOTC) performs search and rescue, safety administration, environmental protection, and law enforcement within its area of responsibility. However, PCG's communication system had relied on old equipment which operated only on a limited coverage. Precise and encrypted information, required for immediate and coordinated search and rescue operation, was not able to be transmitted quickly within the organization. The Manila Coast Station had been out of operational since the microwave circuit between stations was cut off by radio wave interference from mobile communication. Furthermore, the Philippines has not carried out Global Maritime Distress and Safety System (GMDSS) which was already established in other major Asian countries. Given these circumstances, there was a pressing need to improve the current communication system.		
Project Objectives	Outcome To enhance the capability of communication system at Philippine Coastal Guard by the procurement of communication equipment for the VSAT Satellite Communication System, Microwave Communication System and VHF/HF Radio System as well as the rehabilitation of Manila Coastal Station *VSAT : very small aperture terminal *VHF/HF: very high frequency (wave) / high frequency (wave)		
	Outputss Japanese Side: 1) VSAT Satellite Communication System Hub Station – Operation Centre (1 station) Fixed Station – 9 stations (Cebu, Zamboanga, Palawan, Batangas, Iloilo, San Fernando, Davao, Legaspi, Cagayande Oro) Transportable Station – Operation Centre (1 station) 2) Microwave Communication System – 6 stations (Headquarter, Operation Center, Transmitting Station, Receiving Station, Sangley Point, HICGD) 3) VHF/HF Radio System -3 Headquarters of Coast Guard Districts and 20 affiliated Coast Guard Stations and Operation Centre 4) Manila Coast Station – Rehabilitation of Operation Centre, Transmitting Station, and Receiving Station (3 stations) Philippine Side: 1) Obtaining radio station (or frequency) license 2) Negotiation and contract of satellite circuit to be leased 3) Finishing the grading and installation of fences at Transmitting station 4) Construction or repair of engine generator rooms 5) Provision of commercial power supply		

II. Result of the Evaluation

Summary of the Evaluation
In order to promote safety of life and property at the sea and to safeguard marine environment and its resources, it was utmost important to enhance the capability of communication system at PCG. For that purpose, provision of the communication equipment for the VSAT Satellite Communication System, Microwave Communication System and VHF/HF

Radio System and the rehabilitation of the Manila Coastal Station was strongly needed.

This project has achieved its objectives of enhancement of the capability of communication system at Philippine Coastal Guard. The coverage of VSAT and VHF/HF has been achieved mostly as planned. At present, eight VSAT systems out of ten are functioned and remaining two systems are supposed to be resumed once PCG completes the relocation work. Sufficient communication for search and rescue operation for Manila Coast Guard Station, GMDSS operation and NAVTEX (navigation telex) services have become available mostly as planned. However, one microwave system which connects Operation Center and Transmitting Station occasionally has communication failure caused by high-rise buildings or weather condition. At present, in case communication failure occurs, the connection is carried out by the back-up circuit. In addition, it has a limited impact on the decrease of telecommunication cost due to the substantial amount of expenses needed for satellite migration.

As for sustainability, the project has some problems in financial aspect and the current status of operation and maintenance due to the insufficiency of budget and the unavailability of spare parts. For relevance, the project has been highly relevant with the Philippine development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with the Philippine development policy ensuring maritime assets, maritime practices, and upgrading air and maritime capability, development needs to enhance the Coast Guard's communication effectiveness, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has mostly achieved its objectives of enhancement of the capability of communication system at Philippine Coastal Guard. As the data for 2010 was not available, the evaluation was carried out based on the actual value for 2012[1]. The coverage of VSAT and VHF/HF has been achieved mostly as planned. All ten VSAT systems functioned after the completion of the project. However, due to the expiration of fuel used for a satellite, the satellite link communication service for VSAT was suspended in September 2011. In response, PCG conducted VSAT antenna re-pointing and configuration works for all the ten systems in order to connect the new satellite. Eight systems out of ten have been successfully completed the works. Remaining two systems (Cebu and Davao) were required to replace the antenna in order to connect the new satellite[2]. PCG has been waiting for allocation of the budget.

As for Manila Coast Guard Station, sufficient communication for search and rescue operation, GMDSS operation and NAVTEX (navigation telex) services have become available mostly as planned. However, one microwave system out of five lines among six stations, which connects Operation Center and Transmitting Station[3], has not been occasionally functioned due to communication failure caused by high-rise buildings. Therefore, at present, in case communication failure occurs the search and rescue (SAR) communication between Operation Center and Transmitting Station has been temporarily carried out by the back-up circuit. It is required for PCG to set up the repeating station to utilize the microwave system provided by the project. Other four lines have been functioned by the microwave system provided by the project.

Though there are uncertain factors such as weather conditions which might always affect the communication network, the project contributed, to some extent, to the timely execution of communication procedures in the daily routine. According to the data for the SAR and counter-terrorism operations, the response time has been decreased from 2 days (before the project) to 1-2 hour (after the project). However, it has a limited contribution to the decrease of telecommunication cost as the substantial amount of expenses needed for satellite migration offsets the benefits generated by VSAT. In addition, there might be a risk of electrification or the high radiation of electromagnetic waves for neighborhood residents around the transmitting station because there is a possibility of neighborhood residents entering into the transmitting station where antennas are located due to lack of the absence of permanent tall fence. Illegal settlers have been also increasing in the transmitting station because of the absence of permanent tall fence and partly due to the difficulty of implementing relocation procedure of PCG[4] which requires legal processes and advance coordination with concerned authorities and respective government agency. Despite the situation, the expected effects of the project are observed as described above.

In light of the above, effectiveness/impact of this project is high.

Quantitative Effects

Indicator(unit)	baseline value (BD year 2006)	target value (2010)	actual value (at ex-post evaluation) 2012
1) (VSAT)Dedicated communication link secures encrypted communication (coverage of the maritime areas of the Philippines with VSAT communication)	(actual value) 0%	(planned value) 100%	80%

[1] One of the indicators set out at the Basic Design, the Indicator 4 "number of ships assisted by GMDSS, was not used as the data for 2012 was not available.

[2] In case of Cebu, the antenna should be relocated within CGD (Cebu) property. In Davao, the antenna should be elevated on the CGD (Davao) building.

[3] Microwave system provided by the project connects not only between Operation Center and Transmitting Station, but among Headquarters, Operation Centre, Transmitting Station, Receiving Station, Sangley Point, and H1CGD.

[4] Resettlement of illegal settlers is out of the project scope, while it was mandatory for rehabilitation of existing facilities in the antenna yard.

2) (VHF/HF)Encrypted function is able to transmit all required information (ratio of CGSs with functioning VHF/HF system to total CGSs)		(actual value) 0%	(planned value) 38%(the system is to be procured to 20 CGS among 52 CGSs)	38%
3) Manila Coast Station	1)Sufficient communication for SAR operation (ratio of use of the rehabilitated microwave system to all communication for SAR to/from Manila Coast Station)	0%	100%	80%*
	2)GMDSS becomes operational (ratio of MF Coast Stations that operate GMDSS to all MF Coast Stations)	0%	Improved by 10% (only at Manila Coast Station)	10%
	3)NAVTEX services (coverage of the maritime areas of the Philippines with NAVTEX communication)	0%	Achieved to 50%	50%

Data Source: Report of the JICA Individual Expert for Coast Guard Administration (as of Sep.3, 2012)
Note:
*As pointed out on the above, the microwave system (indicator 3-1) has not been fully functioned since there is 1 line that does not function. It will fully function when PCG sets up the relaying point in order to get around the interception caused by the high-rise buildings.


VSAT antenna

Coverage of Manila NAVTEX

Squatters area showing within the 50 meters perimeter of the Antenna

3 Efficiency

The project cost was within the plan (ratio against the plan: 100%), and the project period slightly exceeded the plan (ratio against the plan: 108%) because the construction was temporarily suspended by the request of the Navy even after their approval. The outputs of the Japanese side was produced mostly as planned, but the outputs of the Philippine side, such as permanent fence at transmitting station, were not yet fully produced as planned due to the unavailability of fund and much time being required for the process of contract negotiation. Therefore, efficiency of this project is fair

4 Sustainability

PCG is responsible for the operation and maintenance of the communication systems as well as physically maintaining the facilities / equipment provided by the project. The project has some problems in financial and the current status of operation and maintenance due to the insufficiency of budget for constructing the repeating station for Microwave System and relocation of two VSAT antenna in CGD Cebu and CGD Davao, and the unavailability of spare parts (and some measurement apparatus in Coast Guard districts). Much effort has been made to obtain the budget even from the outside. Furthermore, the PCG conducted trainings for the technical personnel so that they can manage the simple maintenance and operation even with their limited budget. No problem has been observed in the structural aspect of the executing agency that takes initiative to maintain and enhance the staff's technical level. Therefore, sustainability of the project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

1) PCG should relocate VSAT antenna for remaining two districts (Cebu and Davao) so that stable and sufficient capacity link is fully realized and dedicated communication link can be fully secured in encrypted communication.
2) PCG should set up the repeating station in order to have stable connection between Operation Centre to Transmitting Station by the microwave system provided by the project in order to get around the interception caused by the high-rise buildings in Bonifacio area.
3) PCG should obtain the budget to construct the proposed permanent fence in Transmitting Station with DOTC, in order to demarcate the PCG's land area from the houses of the illegal settlers.

Lessons learned for JICA

Commitment agreed with counterparts before project implementation in terms of plan and budget allocation should be closely assessed in the process of the implementation as well as after the project. In this project, if appropriate remedial measures, in case of nonperformance of commitment such as the installation of fences, had been taken, the project could have avoided the problems encountered.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Uzbekistan Office:March 2013

Country Name	The Project for Improvement of Medical Equipment for Obstetrics and Gynecology Research Institute
Uzbekistan	

I. Project Outline

Project Cost	E/N Grant Limit: 367 million yen		Contract Amount: 354 million yen
E/N Date	August, 2007		
Completion Date	September, 2008		
Implementing Agency	Obstetric and Gynecologic Research Institution		
Related Studies	Basic Design Study: December, 2006 - July, 2007		
Contracted Agencies	Consultant	International Techno Center Co., Ltd	
	Contractor	-	
	Supplier	Ogawa Seiki Co., Ltd	
Related Projects (if any)	-		
Background	The Uzbekistan government had drafted the "State Public Health Reform Program (1998-2005)" (partly revised in 2003). This program defined the improvement in maternal and child healthcare services as one of its policies, which puts special emphasis on health education for expectant and nursing mothers, training of healthcare workers and provision of healthcare facilities. The Uzbekistan Ministry of Health had worked to improve the situation of primary and secondary healthcare in the field of maternal and child healthcare mainly in rural districts with the assistance of the UNICEF, the ADB and others. However, it had been unable to start any work for tertiary-level healthcare. Japan had provided medical apparatuses and appliances to important facilities for maternal and child healthcare in rural areas in Uzbekistan thereby helping major rural referral hospitals improve their obstetric, gynecologic and pediatric healthcare apparatuses and appliances. However, in recent years, improvement of tertiary healthcare facilities in the capital region, which served a large number of patients but had not yet been revamped, had become an important issue. Against this background, the Uzbekistan government requested Japan to conduct a project for improving healthcare apparatuses and appliances for Obstetric and Gynecologic Research Institution located in Tashkent, the capital, which is a top referral facility among the country's obstetric and gynecologic facilities.		
Project Objectives	Outcome To improve the quality of medical service of Obstetrics and Gynecology Research Institution in Tashkent, a top referral medical facility in the maternal and child healthcare field by providing medical equipment		
	Outputs Japanese Side: ● Procuring apparatuses and appliances necessary for diagnoses and treatment activities for obstetrics and gynecology (68 items): narcotizing units, hysteroscope, incubators, infant warmers, sets of surgery apparatuses for obstetrics and gynecology, laparoscopes, operating tables, hanging-type operating lamps, respirators, biochemistry analyzers, blood electrolyte and blood gas analyzers, tissue processor, ultrasonic diagnosis units, general radiographic cameras, radioscopic units, mammography equipment, High-pressure steam sterilizers, and others. Uzbekistani Side: ● Removal of existing equipment ● Repair of X-ray room and Central Sterile Supply Department		

II. Result of the Evaluation

Summary of the Evaluation
Obstetric and Gynecologic Research Institution (the "Hospital") is a top referral medical facility in the maternal and child healthcare field of Uzbekistan and provides advanced medical services such as difficult delivery, and treatment for patients with cancers. However, more than 30 years had passed since its establishment, and the medical equipment within the facility had greatly exceeded usability. Due to aging of equipment, there had been a decline in accuracy of treatment in the area of obstetrics and gynecology. This project has somewhat achieved its objective. The quality of examination, diagnosis and treatment of the Hospital has improved and such services have become efficient. The number of patients who are diagnosed as uterine cancer patients has increased and the Hospital are able to provide advanced medical services which had not been offered before the project. With respect to impact, the referral system has been improved as a result of the project. However, some indicators such as the number of inpatients and the number of radiologic diagnoses have not been achieved because facilities and equipment of primary and secondary healthcare services have improved. As for sustainability, no problem has been observed in institutional, technical and financial aspects as well as the current status of operation and

maintenance. Sufficient number of staff for continuity of the project is secured, the staff has good skills for operation and maintenance, the Hospital has good financial performance, and equipment operates well with a few exceptions.

For relevance, the project has been highly relevant with Uzbekistan's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Uzbekistan's development policy, "improvement of maternal and child healthcare services" as set in the State Public Health Reform Program (1998-2005) and the Welfare Improvement Strategy (2008-2010), and development needs of "improving the quality of medical service of the Hospital, a top referral medical facility in the maternal and child healthcare field", as well as Japan's ODA policy "support for the reconstruction of social sector (healthcare)" at the time of both ex-ante and ex-post evaluation.

Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has somewhat achieved its objective. The quality of examination, diagnosis and treatment of the Hospital has improved and such services have become efficient by replacing damaged or aging equipment to new medical equipment including equipment for advanced medical treatment. The number of patients who are diagnosed as uterine cancer patients has increased and the Hospital are able to provide advanced medical services which had not been offered before the project. On the other hand, some indicators have not been achieved as the number of inpatients has decreased and the number of radiologic diagnoses has been halved, because facilities and equipment of primary and secondary healthcare services have improved and therefore the referral system have become functional. Although the data for the number of breast cancer patents was not available at the Hospital, the Hospital provides services of the breast cancer diagnoses.

As for impact, according to the director of the Hospital and doctors, the Hospital takes in increasing number of critically-ill patients, and the Hospital receives good reputation from other hospitals since the Hospital's takes in more referred patients. The director and the doctors also say that patients feel safe, and the improvement of services contribute to the decrease in infant mortality rate and maternal mortality rate, although data is not available. There is no negative impact, as the medical waste and the drainage water are disposed properly.

Therefore, effectiveness/impact of this project is fair.

Quantitative Effect

	2006 Actual (BD)	2009 Plan *1 (Target year)	2012 Actual (Year of ex-post evaluation) *2
Indicator 1 : The number of inpatients	12,276/year	increase	Approximately 9,000/year
Indicator 2 : The income from healthcare services	604 million sum/year	increase	469 million sum/year
Indicator 3 : The number of referrals of breast cancer patients to a specialized hospital	12/year	increase	N/A
Indicator 4 : The number of referrals of uterine cancer patients to a specialized hospital	17/year	increase	118/year
Indicator 5 : The number of laparoscopic operations	757/year	increase	820/year
Indicator 6 : The number of radiologic diagnoses	7,804/year	increase	3,200/year
Indicator 7 : The number of electrocardiographic diagnoses	5,625/year	increase	7,040/year

*1 Actual values for the target year (2009) were not obtained.

*2 Actual values for January – November, 2012

(Source) Obstetric and Gynecologic Research Institution

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 96%, 91%).

Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project is maintained by the Hospital. The institutional structure is sustained what it was

considered desirable at the time of ex-ante evaluation as there is no change in the number and composition of the staff, and is considered enough for continuity of project effectiveness. No problem has been observed in the technical aspect because the staff operates the equipment provided by the project without any troubles, carries out maintenance and inspection whenever necessary. The technical training is also implemented.

On financial issues, although an additional budget for the equipment provided by the project has not been allocated, sufficient amount of budget is secured for continuity of project effectiveness, according to the Hospital, and no problem has been observed in the profit/loss of the Hospital. There is no problem in the current status of operation and maintenance, as the equipment provided by the project operates well. Three of equipment were found to be broken at the time of ex-post evaluation study, however, the Hospital had already arranged necessary actions (a budget for repair was being allocated and parts were being supplied).

As stated above, this project has no problem in structural, technical and financial aspects of the implementing agency, as well as the current status of operation and maintenance. Therefore, sustainability of this project is high.

III. Recommendations & Lessons Learned

Recommendations for implementing agency:

1. The implementing agency needs to submit an order to agents of equipment manufacturers to repair the broken equipment as soon as possible.
2. The implementing agency needs to collect and manage the important indictors/data including maternal mortality rate, infant mortality rate, and the number of patients for each disease, and the actual budget allocation for the maintenance.

Lessons Learned to JICA

Improvement of facility and equipment for primary and secondary healthcare services may improve the referral system in the healthcare field and result in the reduction of inpatients at the top referral hospital. In case of a project for procuring equipment for a hospital at the tertiary level, JICA needs to consider how the improvement of the healthcare services in the lower levels may have impact on the tertiary levels. Also, the indicators which result from the provision of advanced medical services should be set and collected for a project for the medical services at the tertiary level.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Kenya office: March, 2013

Country Name	The Project for Improvement of Regional Medical Service
Eritrea	

I. Project Outline

Project Cost	E/N Grant Limit: 296 million yen		Contract Amount: 292 million yen
E/N Date	September, 2007		
Completion Date	January, 2009		
Implementing Agency	Ministry of Health		
Related Studies	Basic Design Study: January, 2007 – June, 2007		
Contracted Agencies	Consultant(s)	International Total Engineering Corporation	
	Contractor(s)	-	
	Supplier(s)	Sirius Corporation	
Related Projects (if any)	Japan's cooperation: ・ Project for Strengthening Medical Equipment Management System for Quality Health Services (Technical Cooperation, 2008-2011) (hereafter "the related technical cooperation project") Other donors' cooperation ・ Construction of Burn Injury Treatment Center at Halibet Hospital (Hammer Forum, Germany, 2006)		
Background	Eritrea, since its independence in 1993, had implemented various health programs based on the infrastructures established during the Ethiopian rule. Much of those health infrastructures, however, were devastated by the military conflict with Ethiopia. After the conflict, Eritrea first focused on restoration of primary health care services, which turned out to be successful. Then, the focus was shifted to the improvement of secondary and tertiary health services. However, secondary health institutions faced many challenges such as inability to upgrade medical equipment due to budgetary reasons and poor health service provision due to lack of medical staff. Halibet, Agordat and Massawa hospitals, secondary health facilities that were expected to play the central role in regional medicine, had no development plans for medical equipment, and the existing equipment had been notably deteriorated with age. In addition, Villagio Ginio hospital, another secondary hospital, was opened in 2006 to meet the need of the growing population in Asmara the capital. It was becoming exponentially important to strengthen these hospitals as well as the Bio-Medical Engineering Unit (BMEU) that was responsible for maintenance of medical equipment and training for technical personnel in charge of maintenance.		
Project Objectives	Outcome To improve the secondary health care service system in Maakel, Gash-Barka and Northern Red Sea regions by procuring medical equipment and testing/ training equipment at the four core hospitals (Halibet hospital, Agordat hospital, Massawa hospital and Villagio Ginio hospital) and the Bio-Medical Engineering Unit (BMEU) and by providing technical assistance to BMEU.		
	Outputs(s) Japanese Side ・ Procurement of medical equipment for operation departments, radiology departments, laboratories, emergency departments, obstetrics and gynecology (OBGyn) departments, physiotherapy departments of the four hospitals, Halibet hospital (Asmara, Maakel region), Agordat hospital (Agordat, Gash-Barka region), Massawa hospital (Massawa, Northern Red Sea region) and Villagio Ginio hospital (Asmara, Maakel region), and BMEU (Asmara, Maakel region); procurement of equipment for repair, testing and training (type of equipment: autoclaves, electric cautery, X-ray equipment, etc.) ・ Soft component: technical assistance on operation and maintenance of medical equipment Eritrea Side ・ Wiring construction of electric cable at Agordat hospital ・ Construction of the operation ward and the X-ray ward at Villagio Ginio hospital		

II. Result of the Evaluation

Summary of the Evaluation
In Eritrea, the conflict with Ethiopia in 1998-2000 destroyed a number of medical infrastructures. The primary health care services were improved after the end of the conflict, but the improvement of secondary health facilities lagged behind due to budget shortage, which caused poor service provision to people. This project has achieved its objective of improving medical service of the four core hospitals to some degree, while challenges remain such as decrease in the number of tests and operations due to decrease in doctors. As for sustainability, problems have been observed in terms of structural and financial aspects and the current status of operation and maintenance due to insufficient allocation of personnel and budget. For relevance, the project has been relevant with Eritrea's development policy, development needs as well as Japan's ODA

policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Eritrea's development policy "development of the referral system" as set in the Health Sector Strategic Plans (2005-2014 and 2010-2014), development needs (improvement of regional health services), as well as Japan's ODA policy (consensus obtained at the economic cooperation policy dialogue in 2001 on the inclusion of health sector in the priority sectors) at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

The effects of this project has been limited compared to the expected level, as shown in many indicators whose values in the target year and the ex-post evaluation year were below the values before the project (about half of the designated indicators fulfilled the target "increase"). This was explained to be due to the opening of a new tertiary health institution, departing of doctors and so on. As for Villagio Ginio hospital newly constructed, no operations and X-ray photography have been carried out yet as the facility construction and assignment of doctors have been delayed due to difficulties in purchasing construction materials (resulted from foreign currency shortage, as suffered by other construction projects in Eritrea, too) and design changes. An underlying problem is the decline of public service expenditure reflecting the severe economic circumstances where the country's real economic growth rate has been below the African average since 2006 (-10% in 2008). Another factor is the sanctions imposed by the UN Security Council over Eritrea's. This resulted in restrictions of economic activities and a pressure on the fiscal situation of the government. Responding to the sanctions, the government of Eritrea announced a policy to restrict the activities of majorpartners, which is considered to have led to the delays in the facility development plan and the departing of foreign doctors, and thus affected the effectiveness of this project.

While some equipment is not operational due to breakdown, etc. (see "4 Sustainability"), the follow-up survey in September – October, 2012 found that at all of the target hospitals except Villagio Ginio hospital (temporarily closed), the operating rate of medical equipment was more than 80%, and examinations and treatment were provided using the equipment procured under this project.

Also, based on the interviews with the target hospitals, they recognize that the health services have been improved due to the upgrading of the medical equipment, and the staff and patients are highly satisfied. As for the project effects on BMEU, according to the health sector data collection survey in February 2012, the number of repair work significantly increased, and the customer hospitals highly trusted BMEU: it frequently visited the hospitals for repair of equipment upon requests, and used such opportunities of hospital visits to conduct preventive maintenance of other equipment as well.

Regarding impacts, the referral system seems to have been reinforced by the improved secondary health services with diagnostic equipment in place: patients are referred from primary to secondary and from secondary to tertiary institutions in the target areas other than Maakel region (where secondary and tertiary health institutions are located relatively close); Halibet hospital, one of the target hospitals, was upgraded to the national referral hospital. However, problems remain, such as the discharge of hospital effluent to the public sewerage as in the past[1].

As shown above, while qualitative effects have been observed, only a limited number of the indicators that were designated for evaluation have reached the expected level. Overall, therefore, effectiveness/impact of this project is low.

Quantitative Effects (Note) Figures in bold fonts achieved the target, i.e., exceeded the actual values of 2006.

	Actual value 2006 (basic design year)	Planned value 2010 (target year)	Actual value 2010 (target year)	Actual value 2011 (ex-post evaluation year)	Remarks (at the time of ex-post evaluation)
Halibet hospital					
No. of operations	5,841	Increase	4,192	4,144	Orrota hospital (tertiary) was opened in 2006.
No. of examinations	86,282	Increase	75,336	**110,120**	
No. of X-ray photography	16,201	Increase	13,684	14,821	
Agordat hospital					
No. of operations	**371**	Increase	136	248	Foreign doctors left the hospital around 2010 and the number of doctors decreased.
No. of examinations	**9,824**	Increase	**12,189**	**19,827**	
No. of deliveries	**530**	Increase	646	**875**	
No. of X-ray photography	**2,562**	Increase	1,269	2,636	
Massawa hospital					
No. of operations	510	Increase	**669**	441	Foreign doctors left for their home countries in 2011.
No. of examinations	25,650	Increase	18,330	15,938	

[1] The basic design study showed a concern on the lack of environmental measures, but did not suggest a concrete action plan.

No. of X-ray photography	1,877	Increase	**2,413**	**2,938**	
Villagio Ginio hospital (new)					
No. of operations	—	500	0	0	Construction of operation ward and X-ray ward was completed in 2010. However, operations and examinations were not practiced due to delayed selection of specialized doctors, etc. In March 2011, it was decided that the tertiary ophthalmic hospital, whose facilities were under repair, opened temporarily in this hospital. Therefore, this hospital is scheduled to be closed until November 2012.
No. of examinations	—	4,500	**4,579**	0	
No. of X-ray photography	—	4,200	0	0	
BMEU					
No. of repair of equipment	547	Increase	**776**	**889**	

Source: target hospitals; Health Sector Data Collection Survey in Eritrea (for data on BMEU)

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), the project period slightly exceeded the plan (ratio against the plan: 106%) because of partial design change and other reasons. However, if considering the delay in the construction works at Villagio Ginio hospital for which the Eritrean side was responsible, the project period is deemed to have significantly exceeded the plan (ratio against the plan: higher than 150%). Outputs were produced as planned though there were slight modifications and partial delays. Therefore, efficiency of this project is fair.

4 Sustainability

The equipment provided by the project is maintained by Ministry of Health (each hospital and BMEU), the implementing agency. Since 2012, the structure of BMEU has been strengthened in the organizational reform of the ministry. The number of staff of BMEU and each target hospital is mostly increasing, while the number of doctors in some specialties and general physicians are decreasing due to departing of foreign doctors, etc., at some hospitals.

In the technical aspect, frequent personnel change makes each hospital difficult to keep the adequate level of technical capabilities of operation and maintenance staff. At BMEU, however, the staff who were trained under the soft component of this project as well as the related technical cooperation project continue working and apply the learned techniques to repair equipment in response to requests from the hospitals. As such, BMEU has gained confidence of the hospitals, which served as the impetus for the organizational reform mentioned above. Overall, the technical aspect is considered to have no problem as the weaknesses of the target hospitals are covered by BMEU.

In the financial aspect, although the budget information was not disclosed and thus not available, the budget allocation especially for procurement of medical equipment and its spare parts is considered to be decreasing due to recent withdrawal of major partners' assistance (budgetary measures for running hospitals are taken). Also, BMEU does not receive budget to regularly conduct hospital visit for guidance and training/meetings, but it manages the problem to some extent by utilizing opportunities under the related technical cooperation project.

As for the current status of operation and maintenance, there was breakage of equipment due to frequent power outage. Also, spare parts are not available as they are imported exclusively by the government-run trade enterprise since 2007 and cannot be purchased from private distribution agents. BMEU does not have sufficient stock[2].

In this way, the project has problems in structural and financial aspect and the current status of operation and maintenance; therefore, sustainability of the effects of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

It is hard for the implementing agency to solve the problems involved in this project, which is strongly affected by the withdrawal of major partners' assistance. Nevertheless, improvement is seen in the structure and the technical level of BMEU, the central organization for operation and maintenance of the procured equipment. Together with this, better allocation of medical personnel will further enhance sustainability. Also, each hospital is recommended to take environmental measures including proper treatment of medical effluent.

Lessons learned for JICA

Given the situation where spare parts became unavailable due to the financial scarcity in the country, it was decided that JICA would implement a separate follow-up assistance to provide spare parts. In other similar projects, the equipment

[2] In response to the request from Ministry of Health for assistance in procurement of consumable supplies and spare parts, JICA conducted the follow-up survey in October 2012. Based on this, JICA plans to procure parts, etc. that are needed during the lifetime of the procured equipment.

maintenance/ inspection system should be checked before the implementation, and enough attention should be paid to ensuring measures to obtain consumable supplies and spare parts as well as the repair system in case of breakdown of the equipment.

Surgical equipment provided to Halibet hospital

Autoclave provided to Massawa hospital

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Morocco office:March, 2013

Country Name	The Project for Improvement of Equipment for the Flood Control
Morocco	（Le ProjetAmenegement des Equipment de Protecion contre les inodations）

I. Project Outline

Project Cost	E/N Grant Limit: 782 million yen		Contract Amount: 685 million yen
E/N Date	August, 2007		
Completion Date	February, 2009		
Implementing Agency	State Secretariat of Water and Environment of the Ministry of Energy, Mining, Water and Environment (le Secretariat d'Etat Aupres du Ministère de l'Energie, des Mines, de l'Eau et de L'Environnement, Charge de L'Eau et de l'Envioronnement) (Former "le Secretariat d'Etat Aupres du Ministère de l'Amenagement du Territore , de l'Eau et de l'Environnement, charge de l'Eau, current Ministère de l'Energie, des Mines, de l'Eau et de L'Environnement, Département de l'Eau, Direction des Aménagements Hydrauliques, since 2012)		
Related Studies	Basic Design Study: November, 2006 - June, 2007		
Contracted Agencies	Consultant(s)	Kensetsu Kikaku (succeeded by INGÉROSEC Corporation after the succession of trustee status on January 29th, 2009)	
	Contractor(s)	-	
	Supplier(s)	(Lot A) Mitsubishi Corporation, (Lot B) Mitsubishi Corporation	
Related Projects (if any)	Cooperation by Japan ・The Projects of Procurement of Construction Equipment for Small Scale Multipurpose Dams (Grant Aid, 1986) ・The Projects of Procurement of Construction Equipment for Small Scale Dams (Grant Aid, 1989) ・The Ouergha River Basin Irrigated Agriculture Development Project (Grant Aid, provision of construction equipment of irrigation system, 1995)		
Background	In Morocco, heavy rains often induce floods, including flash floods and mud floods during the rainy season between April and October. The flood is one of the most serious natural disasters in the country with the largest frequency of occurrence and the largest number of victims. The number of persons killed or injured by the flood is the second largest after earthquakes. In addition, the damage of floods have been expanding due to underdevelopment of disaster prevention dams with function of flood control, insufficient drainage capacity of rivers and canals, the growing populations inhabiting in risk areas caused by the population growth, urban and agriculture development as well as the recent abnormal weather. The government of Morocco formulated an action plan for flood control to implement the "National Plan for Protection from Floods" and specific construction projects. Although the dam construction projects were forwarded step by step, the insufficient and aged construction equipment constrained its progress. Japan provided Morocco with construction equipment three times in the past (in 1986, 1989 and 1995). The equipment had been utilized for flood control projects for more than 10 years since their start of operation and over the economic life. Therefore, the government of Morocco requested Japan grant aid for procurement of necessary construction equipment for the implementation of the action plan of flood control.		
Project Objective	Outcome To promote construction of medium and small scale dams and promotion of rehabilitate and construction of river canals and banks based on the action plan of flood control at 30 sites in Morocco by procurement of construction equipment for flood control.		
	Outputs Japanese Side ・Construction equipment and machineries for flood control (construction of dams, river canals, river banks and so on.): bulldozers, hydraulic shovels, wheel roaders, motor graders, vibration rollers, dump trucks, trucks with crane, and sets of spare parts) Morocco Side ・None		

II. Result of the Evaluation

Summary of the Evaluation
The government of Morocco promoted flood control projects, including construction of dams, canals and banks, in order to prevent human and physical damages by frequent floods. However, construction equipment had been insufficient against the planned total work volume of construction. In addition, the existing construction equipment had been considerably aged and becoming scraps: the newest equipment among the ones provided by Japanese grant aid projects had been operated over 10 years. The State Secretariat of Water the implementing agency had been made efforts to continuously operate them by using parts of scrapped equipment. However, those aged equipment had frequent troubles

and lower operation rate of 50-70% as well as deteriorating operation capacity. Furthermore, it was anticipated that the further deterioration of equipment would rapidly reduce their operation rate and capacity and increase of the number of scrapped equipment.

The project has achieved the objectives of promotion of construction projects for flood control through construction of medium and small scale dams and river canals as planned. In addition, the equipment provided by the Project were utilized to reconstruction of flood damage which occurred in 2010. Also the Project contributed to employment creation by the construction projects for flood control as well as flow control of irrigation water by the dams constructed for flood control. As for sustainability, there was no problem observed in the project due to operation and maintenance of the equipment provided by the Project in good conditions and well-developed operation and maintenance system for the facilities constructed by using the equipment. For relevance, the project has been highly relevant with Morocco's development policy, development needs, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period slightly exceeded the plan.

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

1 Relevance

This project has been highly relevant with Morocco's development policies of the National Plan for Protection from Flood (PNI: Plan national de protection contre les inondations), development needs ("construction of dams for disaster control with flood regulating functions and replacement of construction equipment and machineries"), as well as the one of priority areas agreed at the policy dialogue for economic cooperation between Japan and Morocco at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Effectiveness/Impact

This project has mostly achieved its objectives of construction of dams and river canals and banks as planned though the quantitative data such as operation rate of the equipment provided by the Project are not available. The total number of dam constructions, including construction of rock-fill dams, masonry dams, and concrete dams, was 21 which was over the target number of 17. The number of construction of river canals and banks was 8, which was below the target of 8. The difference between the target and the actual values was attributed to intensive constructions of dams and river canals at the sites severely damaged by the floods occurred in 2009 and 2010. The actual number of constructions, which is higher than the possible number of constructions by the existing equipment before the Project, indicates that the Project contributed to improvement of implementation capacity for flood control projects through provision of construction equipment and machineries despite of the changes in the target sites to the areas damaged by the floods.

In the sites where the constructions of flood control facilities have been completed, no damage by flood was reported so far. Since the agreement between the Directorate of Water and the Ministry of Internal Affairs requires to employ the local people for 40% of construction workers of public work projects. As a result, the employments for the local people in the target sites were created by the constructions of the flood control facilities. At the site of construction of the Aharal Dam (masonry dam), where the site survey was conducted for the ex-post evaluation, a total of 40,000 workers, including the local people, were employed for the construction period between September, 2010 and April, 2012. On the other hand, the relatively large scale dams, such as concrete dams, in the target sites of the Project, have been utilized as control of irrigated water flows by the outlets for discharge. In addition, in the southern areas, the impounded water at the dams nourishes the ground water. Such water is supplied through *"Khattara"*, a traditional underground canal system, and utilized for stable cultivation of dates and vegetables in some areas in the south. Besides, in Murilt where the river canals were constructed by the Project, spillover effects of the Project were observed. Local development of the river side areas with high flood risk were promoted by construction of trunk road and construction of community facilities along the road, such as multipurpose road, fire station and vehicle terminal. There is no problem related to resettlement and land acquisitions concerned about the flood control projects. Neither, no negative environmental impact has been reported while environmental monitoring after the completion of the constructions has been conducted by the agencies of river basin from the aspect of water resource management.

Therefore, effectiveness/impact of this project is high.

Qualitative Effects

	Baseline* (2006, Basic Design)	Target** (2007-2011)	Actual (2007-2011)	Actual*** (2012)
Indicator 1: The number of rock-fill dams constructed	4	7	6	1
Indicator 2: The number of masonry dams constructed	3	5	6	1
Indicator 3: The number of concrete tams constructed	4	5	9	2
Indicator 4: The number of river canals and banks constructed	6	13	8	1

(Source) Information provided by interview with the Directorate of Water of the Ministry of Energy, Mining, Water and Environment

(Note 1) * The baseline figure in 2006 is the number of possible construction project by the existing equipment at the time of planning.

(Note 2) ** The target values for the target year are the expected number of construction projects for the 5 year period from 2007 to 2011.
(Note 3) *** The figures for 2012 are the number of planned construction projects.


Concrete Dam
(Ain Kawachia Dam)


Masonry Dam
(Aharal Dam)


Arterial road constructed by a project for construction of river canal (Murilt)

3 Efficiency

Although the project cost was within the plan (88% against plan), the project period exceeded the plan (110% against plan) because the delay of procedure for tax exemption of custom duty caused the delayed delivery of the equipment provided by the Project to the construction sites. The outputs were as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The construction machinery provided by the Project

While the equipment provided by the Project are managed by the Warehouse Center of equipment for public works (Parc Central des engines de travaux publics), which is an independent institution under the Directorate of Water, constructions of flood control facilities are implemented by the Division of Medium and Small Dams (La Division des Petits et Moyens Barrages) of the Directorate of Water. The Center, which is responsible for the equipment, increased their staff from 46 in 2007 to 100 in 2011, including managers, engineers, mechanics, electronics, technicians for vehicles, and so on. Although the number of permanent staff increased by 5 from 23 in 2007 to 28 in 2011, the number of contract staff, in particular technicians for vehicle, significantly increased from 23 to 72 for the same period. It was to ensure flexibility of budgeting. Since the technical level of engineers and technicians in Morocco is generally high, the engineers and technicians of the Center, including the contract staff, have sufficient technical levels for adequate maintenance of the construction equipment and vehicles provided by the Project. The expenditure for repair and spare parts of the construction equipment amounted 9.5 million dirhams in 2006 and 5-7 million dirhams for the period between 2009 and 2011. Except vehicles with accident, there is no construction equipment which has been continuously malfunctioning among the equipment provided by the Project. The most equipment are adequately maintained and fully utilized for constructions of flood control facilities.

The Project has no problem in structural, technical and financial aspects as well as the current status of operation and maintenance due to the issues mentioned above. Therefore, sustainability of this project is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

・It is necessary for the Directorate of Water to intensively cope with reconstructions in the flood damaged areas once floods occur. On the other hand, it is expected that more precise prioritization of high flood risk area enables earlier implementation of construction of flood construction facilities in order to minimize flood damage and to increase positive effects of the Project.

・It is recommended to collect and provide operational data of the construction equipment provided by the Project, including the operation rate at construction site, in order to directly verify effects of the Project.

Lessons learned for JICA

- In terms of constructions of flood control facilities by the construction equipment provided by the Project, it is possible to change the target sites from the planned areas to the areas unexpectedly damaged by flood. Therefore, it is better to use more direct indicator such as operation rate of equipment in addition to the number of completed constructions by using the equipment in order to verify effectiveness of project.
- The construction works using the equipment provided by the Project contributed to not only reduction of the number of flood damage but also positive social impacts, including employment creation for the local people due to employment of the local people for the construction works according to the agreement between the Directorate of Water and the Ministry of Internal Affairs.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Middle East and Europe Department: March, 2013

Country Name	The Project for Improvement of Medical Equipment for Children's Hospitals
Ukraine	

I. Project Outline

Project Cost	E/N Grant Limit: total 938 million yen (1/2) 453 million yen (2/2) 485 million yen	Contract Amount: total 760 million yen (1/2) 383 million yen (2/2) 377 million yen
E/N Date	(1/2) February, 2007 (2/2) February, 2008	
Completion Date	February, 2009	
Implementing Agency	Ministry of Health	
Related Studies	Basic Design Study: April, 2006 – October, 2006	
Contracted Agencies	Consultant(s)	International Techno Center
	Contractor(s)	-
	Supplier(s)	Sirius Corporation (Package 1 of 2/2), Marubeni Corporation (Package 1 of 1/2 and Package 2 of 2/2), Ogawa Seiki (Package 2 of 1/2 and Package 3 of 2/2)
Related Projects (if any)	The Project for Improvement of Medical Equipment in the Ukrainian Children's Specialized Hospital OKHMATDET (Grant Aid, 2000)	
Background	As the population ages and the birthrate declines, the Ukrainian Government announced efforts designed to lower the infant mortality rate, enhance the health of children and make improvements in the field of pediatric care, with particular priority placed on rural rather than urban areas. Against such a background, Japan implemented a General Grant Aid Project for 2000, in order to upgrade medical equipment at the top referral hospitals for pediatric care in Ukraine. In 2001, the Ukrainian government then requested Japan to sponsor a project to upgrade medical equipment at region (*oblast*) -run children's hospitals, which are considered the secondary level of medical care in Ukraine and the top referral hospitals in the five regions.	
Project Objectives	Outcome To strengthen and improve medical services at children's hospitals of five regions (Lugansk, Kirovograd, Kharikiv, Dnipropetrovsk, Donetsk) by developing medical equipment.	
	Outputs(s) Japanese Side ・ Procurement of 53-55 kinds of medical equipment/hospital for basic diagnostic and treatment activities for operating/ treatment rooms, ICU, clinical laboratories, imaging diagnostic-related and other departments of the targeted regional children's hospitals. Ukraine Side ・ Removal of existing facilities and renovation of CT scanner rooms (Lugansk), arrangement of new CT scanner rooms (Kharikiv) and X-ray rooms (Lugansk, Kirovgrad, Dnepropetrovsk, Donetsk)	

II. Result of the Evaluation

Summary of the Evaluation

In Ukraine, medical service was deteriorating after the collapse of the Soviet Union, as a result of the incomplete reform of healthcare services, or the lack of funding for the maintenance of medical equipment. In addition, due to the decreasing birthrate, the improvement of health condition of new born babies or infants was regarded as an important issue to stop the decrease of the population. As a result, the rehabilitation of medical equipment outside the capital, especially in the eastern part of the country, was a big issue at the time of ex-ante evaluation.

This project has largely achieved the improvement of pediatric medical services due to provision of medical equipment that was in need. As for sustainability some problems have been observed in terms of financial aspects and current status of operation and maintenance due to lack of budget financed from the regional governments.

For relevance, the project has been highly relevant with Ukraine's development policy, development needs, and Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been in highly relevant with Ukraine's development policy "enhancement of health of children" as set in "Ukraine Millennium Dev't Goals 2000+5", state program "Children oncology, 2006-2010", and nation-wide program "National Plan in UN Convention on children rights implementation until 2016", development needs "upgrading the medical service in 5 target regions", as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objective of improvement of pediatric medical care service in 5 regions. Although the degree of achieving the targets varies from hospital to hospital, as a whole, it was observed that most of the major equipment provided by this project is in use, and the targets was achieved relatively well both at target year and ex-post evaluation.

Non-achievement of some indicators is justified by appropriate reasons: the increase in the illness resulted in the increase in referral cases to Kiev (marked with asterisk in the table); other hospitals in the region received the same equipment that resulted in the decrease in the number of examinations than planned. In addition, the particularly lower achievement level in Dnipropetrovsk than others is explained that the data are only about the equipment procured under this project, while all others refer to the total number of examinations including those with use of existing equipment. The increasing quantity of services at the hospital in Dnipropetrovsk can be seen in the number of patients as well as bed utilization that are steadily increasing (see the graph below). All of the five hospitals said that they can now provide medical services that were not possible before the project (e.g., new introduction of CT examinations, more opportunities of ultrasonic diagnosis, improved examination quality and precise diagnoses).

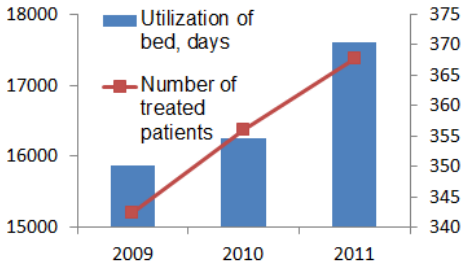
As a result, positive impacts were observed such as the reinforcement of pediatric medical care referral system (as improved medical services enable the hospitals to only refer patients who need specific treatment to Kiev), the reduction of psychological and economic burdens of patients (as they can now receive pediatric care in their region), and the reduction of under-five and infant mortality rates[i]. These effects may have been also contributed by other projects by the State budget or external assistance that took place around the same period of time.

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

Indicator	baseline (year of BD) (2005)	target (target year) (2008)	actual (target year) (2008)	actual (at ex-post evaluation) (2011)
Lugansk Region Children Clinical Hospital (Phase 1/2, Package 1)				
No. of X-ray examinations	10,867	Increase	11,731	12,728
No. of ultrasound examinations	47,230	Increase	60,018	91,058
No. of endoscope examinations	518	Increase	978	1,044
No. of CT scanner examinations	0	Increase	433	692
No. of patients referred from lower-level hospitals	9,244	Increase	13,455	15,807
No. of patients referred to Kiev*	176	Decrease	66	64
Kirovograd Region Children Clinical Hospital (Phase 1/2, Package 2)				
No. of X-ray examinations	14,101	Increase	21,877	25,081
No. of ultrasound examinations	15,541	Increase	16,278	11,209
No. of endoscope examinations	58	Increase	351	469
No. of patients referred from lower-level hospitals	12,065	Increase	13,209	14,024
No. of patients referred to Kiev*	320	Decrease	815	450
Kharkiv Region Children Clinical Hospital No.1 (Phase 2/2, Package 1)				
No. of X-ray examinations	6,241	Increase	8,062	11,746
No. of ultrasound examinations	46,738	Increase	41,185	59,436
No. of endoscope examinations	1,304	Increase	1,350	1,518
No. of patients referred from lower-level hospitals	14,827	Increase	16,349	17,861
No. of patients referred to Kiev*	11	Decrease	5	5
Dnipropetrovsk Region Children Clinical Hospital (Phase 2/2, Package 2)				
No. of X-ray examinations	16,832	Increase	11,357	12,735
No. of ultrasound examinations	76,177	Increase	25,534	28,414
No. of endoscope examinations	2,699	Increase	1,500	2,200
No. of patients referred from lower-level hospitals	13,764	Increase	12,768	21,251
No. of patients referred to Kiev*	5	Decrease	10	7
Donetsk Region Children Clinical Hospital (Phase 2/2, Package 3)				
No. of X-ray examinations	8,109	Increase	8,885 (2009)	8,682
No. of ultrasound examinations	44,004	Increase	45,394 (2009)	49,597
No. of endoscope examinations	3,569	Increase	11,940	11,603
No. of patients referred from lower-level hospitals	8,600	Increase	20,517	21,204
No. of patients referred to Kiev*	252	Decrease	371	395

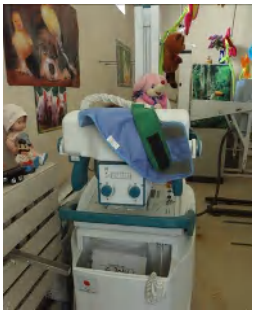
Sources: each hospital. Note: underlined figures show the non-achievement of the target.



Source: hospital data

Other related indicators (Dnipropetrovsk Region Children Clinical Hospital)

Infant warmer (Kharikiv Region Children Clinical Hospital No.1)



X-ray apparatus (mobile) (Donetsk Region Children Clinical Hospital)

3 Efficiency

The outputs of the project were produced mostly as planned, and both the project cost and the project period (in terms of the sum of the project periods of phase 1/2 and phase 2/2) were within the plan (ratio against the plan: 81%, 96%). Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project are maintained by the five target hospitals, the implementing agencies.

The project has some problem in financial aspects and current status of operation and maintenance due to budget shortage: in the financial aspect, some hospitals do not always receive the requested amount of budget from regional governments; The hospital in Lugansk and Donetsk receive relatively enough budget for the maintenance from the regional governments, while the hospital in Kharikov receives enough budget as a whole from the regional government, but the allocation for the maintenance is not enough. The hospitals in Kirovograd and Dnipropeterovsk have problem of the amount of the total budget. Although the hospitals are making efforts to compensate for the budget deficit by finding other sources such as donations from companies, they still faces deficit. As a result (in the current status of operation and maintenance), some equipment that became out of order are left unused for some time while waiting for the budget to buy spare parts. Also, some spare parts are not available in Ukraine, and the Lugansk hospital did not have information of agents of equipment abroad at the time of the ex-post evaluation though the lists of local agents had been provided to each hospital.

However, no problem has been observed in structural and technical aspects of the implementing agency. In the structural aspect, all the target hospitals are establishing systems and securing human resources required to operate and maintain the project facilities/equipment. As for the technical aspect, skills and opportunities of training/ seminars in other hospitals and educational institutions in the respective cities as well as in the capital required to sustain project effects and operate/maintain equipment are firmly secured. At all of the target hospitals, medical staffs are well qualified with attestation. In case the repair is beyond the capacity of the hospital staff, the hospitals outsource the work to agents.

Therefore, sustainability of this project is fair.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

It is desirable that hospitals make more efforts to increase efficiency of hospital management to raise the budget necessary for the purchase of spare parts, using the limited budget.

Lessons learned for JICA

In this project, there was such a problem that one of the hospitals could not procure spare parts and some equipment are left unused, because the hospital had lost information of agents for spare parts that had been provided at the completion of the project. In terms of keeping the project effect longer, the information of the agents are very important, therefore, it is recommended to press the executing agency for the appropriate management of the information at the time of the project completion.

[i] Based on questionnaire and interviewing with those from state government and 5 regional governments, 5 regional hospitals and site visits.

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Middle East and Europe Department: March, 2013

Country Name	The Project for Improvement of Equipment for the National Training Center for Agricultural Mechanization
Moldova	

I. Project Outline

Project Cost	E/N Grant Limit: 530 million yen		Contract Amount: 483 million yen
E/N Date	November, 2007		
Completion Date	December, 2008		
Implementing Agency	Project Implementation Unit of 2KR (PIU-2KR) of Ministry of Agriculture and Food Industry (MAFI)		
Related Studies	Basic Design Study: February, 2007 - September, 2007		
Contracted Agencies	Consultant(s)	Unico International Corporation	
	Contractor(s)	-	
	Supplier(s)	Itochu Corporation, Toyota Tsusho Corporation	
Related Projects	Japan's cooperation ・Grant Assistance for Underprivileged Farmers (2KR) (2000-2011)		
Background	During 2001-2006, Moldova acquired more than 2,700 pieces of agricultural machinery under 2KR, including the machinery that were purchased using revolving funds (proceeds from the cycle of procurement and sales of machinery), but O&M techniques were not sufficient. MAFI used the revolving funds under 2KR to establish the National Training Center for Agricultural Mechanization under the Ministry. The construction of the Center was completed by Moldovan side in March 2007, but budgetary constraints limited the ability of the Government of Moldova to acquire machinery needed for training and the equipment for the Center workshops.		
Project Objectives	Outcome To ensure training of sufficient quantity and quality provided by the National Training Center for Agricultural Mechanization located in Chisinau by development of workshop equipment and on-farm agricultural machinery.		
	Outputs(s) Japanese Side ・ Procurement of workshop training equipment (e.g. lifts, testers, etc.) and on-farm agricultural machinery (e.g. combines, tractors, etc.). Moldova Side ・ Procurement of communication facilities and computers, preparation works for installation of the equipment		

II. Result of the Evaluation

Summary of the Evaluation

In Moldova, the diffusion of appropriate technology for operation and repair of agricultural machinery was indispensable for the ongoing process of agricultural mechanization. The National Training Center was established to provide training for agricultural students, producers, mechanics and repair persons and educators in the use of new agricultural machinery and the technology for the operation, maintenance and repair. Through this project, it was expected to develop human resources for immediate mobilization in agriculture in Moldova by improving the training provided to the diverse levels of personnel who are to use or work with agricultural machinery.

This project has largely achieved the securement of the training provided by the National Training Center for Agricultural Mechanization located in Chisinau due to the fulfillment of producing the expected number of trainees in most of the training courses, which would have been impossible without the development of workshop equipment and on-farm agricultural machinery. As for sustainability, there was no problem observed in the project because machinery and equipment are well-maintained and income and expenditure are balanced.

For relevance, the project has been highly relevant with Moldova's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

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

1 Relevance

This project has been highly relevant with Moldova's development policy "promoting agricultural mechanization as set in the Agricultural and Food Sector Development Strategy (2006-2015)" and "training of qualified labor force as set in Moldova 2020 as a national development plan", development needs of providing trainings in modern agricultural technologies, as well as Japan's ODA policy "development of market economy system" at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives of securement of the training provided by the National Training Center. The target numbers of trainees were mostly achieved in 2010 (target year) and 2011. The reason for the non-achievement of some targets is that it took time to establish the practical functional scheme of the training courses and relationship between the center and the related parties including farmers and machine producers. These issues are solved at the time of this ex-post evaluation, and it is expected to achieve the target value in 2012. The survey with the ex-trainees (people involved in

agricultural machinery repair/maintenance and agricultural production) showed their high satisfaction with the training courses they took.

By observation of the facilities and training, the project machinery and equipment, which constitutes almost all equipment of the Center, are quite well maintained and in use. Besides the main training courses (see the table below), the Center organizes seminars, roundtables, workshops in subjects related to agricultural mechanization using the project machinery and equipment in collaboration with other organizations (as recommended in the design stage of this project).

According to MAFI and the Center, the ex-trainees spread to the regions in Moldova, and utilize the output of the trainings. The expected impacts of the project, such as shortening of time for farm work and reduction of mechanical breakdowns, are widely felt by ex-trainees though it is difficult to show it statistically. It was also heard that the trainees become confident of utilizing the modern equipment and changed their reluctant attitude to the new technologies and to buy new equipment themselves. In addition, as an unexpected positive impact, the Center provides technical know-how to the five Regional Centers that were open after 2009 as branch centers of the (National) Center and provide on-farm training to farmers in respective regions during agricultural seasons[1].

Therefore, effectiveness/impact of this project is high.

Quantitative Effects

Indicator	baseline value (2007) (year of BD)	target value (2010) (target year)	actual value (2010) (target year)	actual value (at ex-post evaluation) 2011
indicator 1 No. of persons trained (total of indicator 2 to 4)	(actual value) 0	(planned value) 1,655	1,600 (total)	1,848
indicator 2 No. of farmers trained in Farm Management/ Preventive Maintenance course (Module 1)	(actual value) 0	(planned value) 648	670	592
indicator 3 No. of students, farmers, etc. trained in Machinery Operation course (Module 2)	(actual value) 0	(planned value) 309-557	312	594
indicator 4 No. of students (Module 3-1), mechanics (Module 3-2) and teachers (Module 3-3) trained in Repair & Maintenance course	(actual value) 0	(planned value) 72 students 348 mechanics 30 teachers	250 students 320 mechanics 48 teachers	310 students 350 mechanics 2 teachers

Source: National Training Center for Agricultural Mechanization

3 Efficiency

The outputs of the project were produced as planned, and both the project cost and the project period were within the plan (ratio against the plan: 91%, 98%). Therefore, efficiency of this project is high.

4 Sustainability

The equipment provided by the project are very well maintained by the staff of the Center and PIU-2KR[2], the implementing agency, which supervises the Center.

It was observed that the organizational structure of the Center and PIU-2KR are well elaborated with sufficient number of capable staff members who are trained on permanent basis by the machinery and equipment manufacturer or supplier. On the financial side, income (mainly consisting of usage fees for training facilities (allocated from 2KR revolving fund) and training service fees) and expenditure is balanced every year, and the required cost for operation and maintenance are all funded from the income. Also, the machinery and equipment are very well-maintained carefully utilized.

Therefore, this project has no problem in structural, technical and financial aspects, and the current status of operation and maintenance of the implementing agency, and sustainability of the project effect is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency

For more effective management for the training provided of the Centers, it would be good to draw up annual activity plan which include the target number of trainees and the measures or actions.

Lessons learned for JICA

From this project, it is learned that in a new project, JICA should encourage the implementing agency to plan and implement their own activities by utilizing and further promoting the result and output of JICA project from the beginning to even after the project completion. In this project, we can see synergy between JICA's former 2KR cooperation and new project, and implementing agency's self-development effort. The National Center, the target of this project, functions as the

[1] The Regional Centers are financially independent from the National Center, and use machinery that were procured under 2KR (not from this project).

[2] Ministry of Agriculture and Food Industry intend to keep PIU-2KR as the responsible organization of the Center.

training center for the instructors in Regional Centers, which was not expected at the beginning by JICA, and the instructors conduct trainings in the Regional Center, using the equipment from former 2KR cooperation. In Moldova, executing agency, PIU-2KR is active and this contributed to the good synergy but it may not be the case with other countries/executing agency.

(Training course on agricultural machinery)

(Provided electric welder,
equipped with the manual made by the staffs)