Internal Ex-Post Project Evaluation 2016

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	2005	Ex-post Evaluation	Nigeria	Water Supply、Water Resources Development	The Project for Rural Water Supply and Sanitation in Kano State	0506600
T	2005	Ex-post Evaluation	Thailand	Public Utilities / General	Project on Land Readjustment Promotion in Thailand	200601188
T	2004	Ex-post Evaluation	Cambodia	Government / General	Legal and Judicial Development Project （Phase 2）	200601345
T	2008	Ex-post Evaluation	Myanmar	Social Welfare Services	Project on Strengthening of Rehabilitation	200601874
T	2003	Ex-post Evaluation	Bhutan	Government / General	Local Governance and Decentralization Project	200602208
T	2007	Ex-post Evaluation	Nicaragua	Agriculture / General	Project for Improvement of Living Standard through Promotion of the Farming Production in the Indigenous/Ethnic-Communities of Puerto Cabezas	200603238
T	2006	Ex-post Evaluation	Ethiopia	Forestry / Forest Preservation	Participatory Forest Management Project in Belete-Gera Regional Forest Priority Area Phase 2	200604584
T	2006	Ex-post Evaluation	Kenya	Health / Health Care	Project for Strengthening People Empowerment Against HIV/AIDS in Kenya （SPEAK） Phase1	200604764
T	2007	Ex-post Evaluation	Niger	Health / Health Care	Malaria Control Project	200605408
T	2007	Ex-post Evaluation	Malaysia	Environment Issue	Program for Bornean Biodiversity and Ecosystems Conservation （BBEC） Phase 2	200608911
T	2007	Ex-post Evaluation	Madagascar	Health / Health Care	The HIV Prevention Strengthening Project	200609389
T	2007	Ex-post Evaluation	Bolivia	Agriculture / General	Project for Rural Development in Altiplano Central	200700536
T	2008	Ex-post Evaluation	Indonesia	Forestry / Forest Preservation	The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information	200700809
T	2009	Ex-post Evaluation	Zambia	Electrical Power	The Project for the Capacity Development for Rural Electrification	200700927
T	2008	Ex-post Evaluation	Egypt	Basic Healthcare	The Project on the Promotion of School Health Services in Upper Egypt	200701031
T	2008	Ex-post Evaluation	Cambodia	Government / General	Legal and Judicial Development Project （Phase 3）	200701047
T	2008	Ex-post Evaluation	Barbados	Rivers / Erosion Control	Caribbean Disaster Management Project Phase 2	200701107
T	2010	Ex-post Evaluation	Brazil	Environment Issue	Jalapao Region Ecological Corridor Project	200701195
T	2008	Ex-post Evaluation	Colombia	Social Welfare Services	Project for Strengthening the Integral Rehabilitation System for Persons with Disabilities, Especially for Victims of Landmines	200701222
T	2009	Ex-post Evaluation	Indonesia	Agriculture / General	Project for Standardization and Quality Control for Horticulture Products of Indonesia （Improvement of Thermal Treatment against Fruit Flies on Fresh Mango）	200701835
T	2008	Ex-post Evaluation	Indonesia	Other Industries	The Project for Development of Industry based on Local Resources in South Sulawesi Province	200701852
T	2007	Ex-post Evaluation	Indonesia	Regional Development Planning	Sulawesi Capacity Development Project	200701854
T	2009	Ex-post Evaluation	Myanmar	Fisheries	Small-scale Aquaculture Extension for Promotion of Livelihood of Rural Communities in Myanmar	200701901
T	2008	Ex-post Evaluation	Viet Nam	Regional Development Planning	Urban Planning Formulation and Management Capacity Development	200701967
T	2008	Ex-post Evaluation	Ethiopia	Water Resources Development	Ethiopian Water Technology Centre （EWTEC） Project Phase III	200702153
T	2008	Ex-post Evaluation	Cuba	Water Resources Development	The Project for Capacity Development on Groundwater Development and Management for Climate Change Adaptation	200702174
T	2009	Ex-post Evaluation	China	Agriculture / General	Sustainable Agricultural Technology Research and Development Phase 2	200702357
T	2008	Ex-post Evaluation	Thailand	Information / Public Relations	The Project of Human Resource Development through Utilizing the Information Technology for Rural Community Vitalization	200703946
T	2009	Ex-post Evaluation	China	Water Resources Development	Capacity Development Project for Management Plan of Dam in China	200800297
T	2009	Ex-post Evaluation	Mongolia	Environment Issue	Capacity Development Project for Air Pollution Control in Ulaanbaatar City	200800305
T	2009	Ex-post Evaluation	Bhutan	Vocational Training	Strengthening of Quality of Vocational Education and Training Delivery	200800307
T	2008	Ex-post Evaluation	Nepal	Government / General	Gender Mainstreaming and Social Inclusion Project	200800392
T	2009	Ex-post Evaluation	Sri Lanka	Livestock Industry	Small Scale Dairy Farming Improvement through Genetic and Feeding Management Improvement	200800416
T	2009	Ex-post Evaluation	Fiji	Communications / Broadcasting / General	ICT for Human Development and Human Security Project	200800434
T	2009	Ex-post Evaluation	Dominican Republic	Environment Issue	Project for Appropriate Waste Management in Santo Domingo de Guzman, National District	200800479
T	2009	Ex-post Evaluation	Brazil	Forestry / Forest Preservation	Utilization of ALOS Images to Support Protection of the Brazilian Amazon Forest and Combat against Illegal Deforestation	200800569
T	2009	Ex-post Evaluation	Kenya	Health / Health Care	Project for Strengthening of Health System Management in Nyanza Province	200800842
T	2010	Ex-post Evaluation	Burkina Faso	Forestry / Forest Preservation	Seedling Production Support Project	200800936
T	2009	Ex-post Evaluation	Burkina Faso	Fisheries	Project for Rural Development through Aquaculture	200800945
T	2009	Ex-post Evaluation	Burundi	Road Transport	Rehabilitation of Public Transportation	200800948

Type of Assistance	Project Start Year*	Type of Evaluation	Country	Sector/Theme	Project Name	Project Number
T	2009	Ex-post Evaluation	China	Housing	Human Resource Development Project for Seismic Engineering and Construction of Buildings	200804688
G	2008	Ex-post Evaluation	Palestine	Education	The Project for the Establishment of New Schools in the West Bank	0868640
G	2009	Ex-post Evaluation	Niger	Water Resources Development	The Program for Emergency Water Supply for Addressing Climate Change	0868710
T	2010	Ex-post Evaluation	Indonesia	Environment Issue	Project for Capacity Development of Wastewater Sector through reviewing the Wastewater Management Master Plan in DKI Jakarta	200900215
T	2009	Ex-post Evaluation	Indonesia	Roads	Project on Capacity Building for Asset Management of Road and Bridges	200900224
T	2009	Ex-post Evaluation	Cambodia	Health / Health Care	Improving the Capacity of the National TB Control Program through implementation of the 2nd National TB Prevalence Survey	200900379
T	2010	Ex-post Evaluation	Laos	Electrical Power	The Project for Improvement of Power Sector Management	200900404
T	2010	Ex-post Evaluation	Viet Nam	Water Supply	Project on Capacity Development for Urban Water Supply Utilities in the Central Region	200900441
T	2009	Ex-post Evaluation	China	Forestry / Forest Preservation	Project on Forestry Human Resource Development in Western Region of China	200900471
T	2010	Ex-post Evaluation	Mongolia	Trade	The Project for Capacity Development for Promoting Foreign Direct Investment	200900490
T	2010	Ex-post Evaluation	El Salvador	Tourism / General	Project for Strengthening of the Capacities for Rural Tourism Development in the Eastern Region of El Salvador	200900651
T	2009	Ex-post Evaluation	Kenya	Health / Health Care	Project for Strengthening People Empowerment Against HIV/AIDS in Kenya （SPEAK） Phase2	200900963
T	2011	Ex-post Evaluation	Tanzania	Roads	Project for the Comprehensive Transport and Trade System Development Master Plan	200901038
T	2010	Ex-post Evaluation	Indonesia	New / Renewable Energy	Project for Capacity Building for Enhancement of the Geothermal Exploration Technologies	200901480
T	2010	Ex-post Evaluation	Rwanda	Electrical Power	The Project for Capacity Building for Efficient Power System Development in Rwanda	200904112
T	2009	Ex-post Evaluation	Sri Lanka	Social Infrastructure / General	Disaster Management Capacity Enhancement Project Adaptable to Climate Change	200905852
G	2009	Ex-post Evaluation	Viet Nam	Forestry / Forest Preservation	The Project for Afforestation on the Coastal Sandy Area in Southern Central Viet Nam （phaseⅡ）	0960050
G	2009	Ex-post Evaluation	Niger	Water Resources Development	Project for Water Supply of Guinea Worm Eradication in the Region of Tillaberi	0960120
G	2009	Ex-post Evaluation	Nepal	New / Renewable Energy	The Project for Clean Energy Promotion Using Solar Photovoltaic System	0961240
G	2009	Ex-post Evaluation	Belize	Health / Health Care	Project for Introduction of Clean Energy by Solar Electricity Generation System	0961320
G	2009	Ex-post Evaluation	Nigeria	Water Supply、Water Resources Development	The Project for Water Supply in Bauchi and Katsina States	0961680
G	2009	Ex-post Evaluation	Gambia	Water Supply、Water Resources Development	Project for Rural Water Supply III	0961830
G	2009	Ex-post Evaluation	Guatemala	Health / Health Care	Project for Construction of the Center for Conservation and Investigation of the Cultural Heritage in the Tikal National Park	0961970
G	2009	Ex-post Evaluation	Cambodia	New / Renewable Energy	Project for Introduction of Clean Energy by Solar Electricity Generation System	0962090
T	2010	Ex-post Evaluation	Solomon Islands	Health / Health Care	Project for Strengthening of Malaria System Phase II	201000389
T	2010	Ex-post Evaluation	Ghana	Government / General	Project for Institutional Capacity Development of the Civil Service Training Centre in Ghana	201000584
T	2011	Ex-post Evaluation	Ghana	Regional Development Planning	The Project for the Study on Comprehensive Urban Development Plan for Greater Kumasi	201000602
T	2011	Ex-post Evaluation	Albania	Development Planning / General	Project for Tirana Thematic Urban Planning	201000689
T	2010	Ex-post Evaluation	Indonesia	Rivers / Erosion Control	Project for Capacity Development of Jakarta Comprehensive Flood Management	201001019
T	2010	Ex-post Evaluation	Indonesia	Government / General	The Project for Public Private Partnership Network Enhancement	201001041
T	2011	Ex-post Evaluation	Iran	Environment Issue	Project for Strengthening Environmental Management in Petroleum Industry in Persian Gulf and its Coastal Area	201002478
G	2010	Ex-post Evaluation	Mongolia	Health / Health Care、Environment Issue	The Project for Freshwater Resources and Nature Conservation	1060030
G	2010	Ex-post Evaluation	Guinea-Bissau	Fisheries	The Project for Construction of Plant for Small Fisheries in Tombali Region	1060360
G	2010	Ex-post Evaluation	Uzbekistan	Health / Health Care、Transportation / Traffic / General	Project for the Installation of X-ray Scanning Equipment at the Check Points of Uzbekistan Borders with the Neighboring Countries （Phase I） （Phase II）	1060390
G	2010	Ex-post Evaluation	Angola	Health / Health Care	The Project for Renovation of Viana Vocational Training Center	1060450
G	2010	Ex-post Evaluation	Malawi	Water Supply、Water Resources Development	The Project for Groundwater Development in Mwanza and Neno	1060810
G	2011	Ex-post Evaluation	Myanmar	Water Supply	The Provision of Equipment for Rural Water Supply Project In the Central Dry Zone	1061000
G	2010	Ex-post Evaluation	Djibouti	Water Supply	The Project for Rural Water Supply in Southern Djibouti	1061020
G	2011	Ex-post Evaluation	Moldova	Electrical Power	The Project for Introduction of Clean Energy by Solar Electricity Generation System	1061030

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G	2010	Ex-post Evaluation	Laos	Transportation / Traffic / General	The Project for Improvement of Transportation Capacity of Public Bus in Vientiane Capital	1061190
G	2010	Ex-post Evaluation	Kosovo	Environment Issue	The Project for Improvement of Solid Waste Management	1061240
T	2011	Ex-post Evaluation	Djibouti	Measurement / Map	The Project for Managing Digital Topographic Data in Djibouti City	201100585
T	2011	Ex-post Evaluation	Senegal	Urban Sanitation	Project for Treatment of Sewage, Rainwater and Wastes in Kaolack City	201100628
T	2012	Ex-post Evaluation	Mongolia	Water Supply	Study on the Strategic Planning for Water Supply and Sewerage Sector in Ulaanbaatar City	201102785
T	2012	Ex-post Evaluation	Philippines	Roads	The Project for Study on Improvement of the Bridges through Large Scale Earthquakes Disaster Mitigating Measures	201102788
G	2011	Ex-post Evaluation	Kenya	Health / Health Care	The Project for the Reinforcement of Vaccine Storage in Kenya	1160540
G	2011	Ex-post Evaluation	Benin	Primary Education	The Project of Reinforcement of Capacity of Djougou Teacher Training School	1160640
G	2011	Ex-post Evaluation	Angola	Vocational Training	The Project for Equipment Renovation of Viana Vocational Training Center	1161050
G	2011	Ex-post Evaluation	Mongolia	Urban Planning / Land Development	The project for Improvement of Capacity of Fire Fighting Techniques and Equipment in Ulaanbaatar	1161120
G	2011	Ex-post Evaluation	Cambodia	Health / Health Care	The Project for Improvement of Medical Equipment in National, Municipal and Provincial Referral Hospitals	1161510

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Nigeria Office: September 2018

Country Name	**The Project for Rural Water Supply and Sanitation in Kano State**
The Federal Republic of Nigeria	

I. Project Outline

Background	In Nigeria, the water supply coverage in urban areas was 81% but the ones in rural areas where nearly 60% of the total population inhabited was 39% (WHO, 2000). In Kano State, while 80% of the population lived in the rural areas (Kano State Statistical Year Book, 2003), the water supply coverage in the rural area was only 14.8 % and considerably low compared to the national average. Therefore, most of the people in the state were forced to use unsanitary water sources such as streams, ponds, and hand dug wells, which caused high incidence of water-borne diseases. While the incidence of guinea worm which had used to be one of a serious water-borne disease in the state was very limited after the UNICEF's eradication campaign of using filters for drinking water, the incidences of other water-borne diseases such as diarrhea, cholera, and dysentery still remained, in particular at the beginning of rainy season in May and July and of dry season in September and October. Under those situations, improvement of the water supply coverage in the state had been a keen issue to be adressed as a part of sanitation improvement program.			
Objectives of the Project	To develop water supply facilities in the selected villages of Kano State and establish the Village Water and Environment Sanitation Committees (VWESCs)* for operation and maintenance (O&M) of the facilities through procurement of necessary equipment for groundwater development and strengthening O&M system, thereby contributing to improvement of water supply and sanitary conditions of the people in rural areas of Kano State. *Note: VWESC (now renamed as WASHCOM (Water Sanitation and Hygiene Committee) by Kano RUWASA) is a village level committee run by a community to properly operate and maintain a borehole constructed in the community. The necessary knowledge and skills for O&M of the borehole are expected to be transferred from the Local Government Areas (LGA) Unit to the community.			
Contents of the Project	1. Project Site: Kano State 2. Japanese side • Procurement of equipment: drilling, geophysical survey, pumping test, vehicles, operation and management (O&M) tools, etc. • Technical Assistance (Soft component): technical training for construction management, strengthening of O&M system for water supply facilities 3. Nigeria's side: • Construction of borehole including procurement of consumable materials for drilling, and establishment of VWESC at each community			
Project Period	E/N Date	July 11, 2005	Completion Date	December 20, 2006 (completion of soft components)
	G/A Date	July 11, 2005		
Project Cost	E/N Grant Limit / G/A Grant Limit: 356 million yen, Actual Grant Amount: 350 million yen			
Implementing Agency	The Federal Ministry of Water Resources (FMWR) The Rural Water Supply and Sanitation Agency of Kano State (RUWASA)			
Contracted Agencies	Main Contractor(s): Marubeni Corporation Main Consultant(s): Yachiyo Engineering Co., Ltd.			

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- According to the basic design study report, one of the indicators to verify quantitative effects is "Ratio of decreased patients with water-borne diseases in the rural areas of Kano state". However, the installation of boreholes in the targeted areas of Kano state can increase clean water to be supplied in the target sites but cannot directly decrease the incidence of water-borne diseases in the entire rural areas of the Kano State. Therefore, the indicator was verified in the target sites of the project as an expected positive impact by the project.

1 Relevance

<Consistency with the Development Policy of Nigeria at the Time of Ex-Ante and Ex-Post Evaluation>

The project has been consistent with the Nigeria's development policies of the "National Water Supply and Sanitation Policy" (2000) and the "National Economic Empowerment and Development Strategy" (2004), aiming at an increase in the water supply coverage to 100% by 2011, at the time of ex-ante evaluation as well as the "Partnership for Expanded Water Supply, Sanitation and Hygiene" (2016), extending the target year to 2030, at the time of ex-post evaluation.

<Consistency with the Development Needs of Nigeria at the Time of Ex-Ante and Ex-Post Evaluation >

The project has been consistent with the Nigerian development needs of installing boreholes across the country, particularly in rural areas, to increase the water supply coverage and prevent water-borne diseases including Guinea worm, diarrhea and cholera. The development needs were confirmed at the times of ex-ante evaluation and of ex-post evaluation.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy for Nigeria, which was confirmed by the policy dialogue for economic cooperation between Japan and Nigeria in 1999, to support water supply as one of the 6 priority areas through installation of boreholes, organization of communities, capacity building of maintenance, and health education.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Effectiveness>

The project objectives have been partially achieved by the time of ex-post evaluation. Although the number of boreholes constructed in the target areas by using the equipment installed by the project (Indicator 1) was 168 in 2009, a target year, it reached the target value of 240 in 2011[1]. On the other hand, according to the records in RUWASA, the estimated number of VWESCs established in the target areas in 2009 was 70 which was far below the target value of 240. It has not been encouraged to establish VWESCs in other villages because the rest of the provided maintenance kits were distributed to other Local Governments by the then Deputy Governor of 2009 without any prior training. After this irregularity, the rest of the remaining 170 VWESCs were later formed by Kano RUWASA without the necessary training and handing over maintenance toolkits as recommended in the project activities. Since 2015, VWESCs have been organized in partnership with UNICEF. However, that influence is limited to only 2 LGAs which are not in the targeted areas under the JICA's project.

Geological terrain was a major constraint, thus the construction work in 9 out of the targeted 37 LGAs (Tsanyawa, Minjibir, Rimin Gado, Kabo, Kiru, Rano, Shanono, Bagwai and Dawakin Kudu) was slowed down. In addition, the following factors brought about the delays of construction works: i) inaccessibility of some project sites, particularly during rainy season (from July to September), ii) interference by the state supervisory ministry in the course of the project execution, iii) absence of a conducive office space at midterm of project period for the Agency, iv) breakdown of the drilling compressor procured by the project, v) vandalization of the drilling machineries during a Local Government election in 2007 by political thugs. Although all the equipment installed by the project was functional until 2011, some of the equipment, such as drilling compressors, has been broken down since 2013 due to inappropriate work at the site.

The technical assistance by the soft component of the project had contributed to improve technical skills of RUWASA since RUWASA had completed the 240 boreholes construction by using the equipment installed by the project. However, the developed training manuals for RUWASA to train VWESCs were not adopted and have not been used during the time of the project since the management of RUWASA at the time deemed it was unnecessary because the staff had known about the trained subject by the soft component. However, Kano RUWASA restarted the use of the manuals recently.

<Impact>

Some positive impacts by the project were observed at the time of ex-post evaluation. According to the 19 interviewees from villages visited by the field survey of the ex-post evaluation, there has been no case of water borne diseases since the borehole installation. Also, the constructed boreholes minimized time and burden for fetching water by female through improvement of accessibility to water. However, improvement of the water supply coverage in the target sites was not able to be verified due to unavailable data[2]. No negative impact was observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, a certain positive effect of the project has been observed. Therefore, the effectiveness/impact of the project is fair.

Quantitative Effects

Indicators	Baseline 2004 Baseline Year	Target 2009 3 Year(s) after Completion	Actual 2009 3 Years after Completion	Actual 2010 4 Years after Completion	Actual 2011 5 Years after Completion
Indicator 1 Number of boreholes in the targeted areas*	0	240	168	222	240
Indicator 2 Number of VWESCs in the target areas	0	240	70** (Estimated)	240	240

Source： Project Completion Report (2011) provided by RUWASA, Interviews with RUWASA/Residents in the targeted areas

*Note 1: The data of the indicator 1 is the number of boreholes constructed by using the equipment installed by the project and existing two rigs.

**Note 2: Since about 70 tool kits were distributed after completion of the training by 2009. Judging from this evidence, almost 70 VWESCs were established at that moment. And the remaining 170 were established after 2009, without proper training and handing over training kits.

3 Efficiency

Although the project cost was within the plan (against the ratio: 98%), the project period exceeded the plan (against the ratio: 124%) due to a delay of issuing a tax waiver for the equipment imported from Japan brought by mismanagement on the Nigerian side.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

There has been no organizational change in RUWASA. RUWASA has been responsible for O&M of equipment supplied by the project as well as promotion of establishing VWESC by encouraging communities where boreholes are constructed. The Water Supply Department, in charge of borehole construction using the equipment has 28 staff (5 for geophysical survey, 8 for drilling, 5 for pumping test and 16 for hand pump installation) with 6 staff playing dual roles in the different work units. The Workshop Department has 8 out of 13 staff in total (2 administrative staff for service delivery, 3 mechanics for repairing, 1 electrician for welding works and 2 operators for maintenance of compressor and generator) for maintenance of the equipment procured by the project. Since the number of mechanics decreased from 7 to 3 in 2005, the slow progress of repairs of their equipment can be attributed to the low numbers of mechanics. The Planning and Community Mobilization Department has been in charge of encouragement of communities to establish VWESC for O&M of

[1] By the completion of 240 boreholes, 286 boreholes have drilled. 31 boreholes out of 286 were dry and 15 boreholes out of 286 were below the water volume standard (0.2 L/sec). Totally, 46 boreholes were abortive.

[2] Although the water supply rate in rural and semi-urban area in 2016 was recorded as 12.5% in the Kano State Water Supply Master Plan (KNWSMP) 2016 -2018, it was lower than the target value of 16.8% and the baseline of 14.8%.

boreholes with 7 staff. However, since the limited number of technicians/technical staff constrains activities for monitoring and support for the communities, the General Manager of RUWASA has requested the state government to employ 20 technicians for both water supply and community mobilization teams. Although there is no proper monitoring system in the Kano state, they started to introduce a monitoring and support system for keeping well-functioning boreholes in the selected 2 LGAs with the support of UNICEF as a pilot activity.

<Technical Aspect>

The staff of the Water Supply Department and the Workshop Department has got necessary technical knowledge and skills for borehole construction and O&M of the equipment for borehole construction, respectively, through On-the-Job Training (OJT). The staff of the Planning and Community Mobilization Department have also necessary skills and knowledge to support VWESCs in order to make them properly carry out O&M of water supply facilities, respectively. The funding for official trainings is classed under overheads costs of the State Government, but they are sometimes delivered by a special funding by the State Government in case where the fund is available.

At the village level, it is deemed that VWESCs may not have sufficient technical capacity to properly conduct daily O&M of hand pumps for the boreholes and management of VWESC including money collection and hygiene and sanitation practices. According to the officers in charge of installation, maintenance and training mentioned that only about 70 of the 240 locations received VWESC training as of 2009. Since the funds for training has not been executed by the State Government and about 170 sets of maintenance kits were distributed to other LGAs with a political decision of the Deputy Governor in 2009, training for VWESC has been suspended since 2010 In fact, a VWESC surveyed for the ex-post evaluation[3] has not sustained the knowledge and skills for daily operation of hand pumps and management of VWESC.

<Financial Aspect>

The total capital budget of RUWASA disbursed by Kano State Government has been increased from 25 million NGN (Nigerian Naira) in 2014 to 66 million NGN in 2015, and further increased to 1.518 billion NGN in 2016 with the approval of approximately 263 million NGN for the UNICEF project for construction of boreholes which may use the equipment installed by the project. For the O&M of equipment, the actual expenditure by RUWASA[4] increases from 7 million NGN in 2014 to 24 million NGN in 2015. In 2016, although 15 million NGN was approved for O&M of equipment, the budget was not released due to the lack of fund. For the O&M of boreholes constructed, the actual expenditure by RUWASA steadily increased from 17.9 million NGN in 2014 to 99.9 million NGN in 2016. The lack of budget allocated hampered proper maintenance and necessary repair of the equipment. The current government is, however, executing the budget for the repair.

At the village level, no data is available due to lack of functional VWESC. However, it was ascertained that repairs of water supply facilities are done only after a breakdown. In situations where the cost of repairs exceeds the funds which are able to be raised through donations by the community, the problem is reported to the LGAs or the borehole is abandoned. The communities visited depend on RUWASA for major repairs and 80,000 NGN is budgeted per borehole in case RUWASA does repair. In case where VWESCs do not exist in the communities, donations are either collected from households, mosques and business owners for minor repairs with donations ranging from as low as 50 NGN to 5,000 NGN.

<Current Status of Operation and Maintenance>

At the time of ex-post evaluation, some of main equipment, such as high pressure air compressor, pumping test equipment, electric resistivity survey equipment and hand pump and maintenance kits have been in good conditions. For the period from 2009 to 2011, the JICA Nigeria Office and the Japanese experts dispatched by JICA continuously followed O&M of the equipment installed by the project. In particular, under the JICA's follow-up scheme, the air compressor was repaired since it had been frequently out of order. However, the drilling rig procured by the project broke down in 2012 and had not been repaired since then but now under repairing. According to RUWASA, the maintenance for the equipment has been carried out every after 10 boreholes are constructed. Considering the situation that the boreholes in some visited villages, such as Karfi and Kawarin Dangama, have been out of service for over a year, any activity for O&M of boreholes by LGA Unit have not been conducted. Procurement of spare parts and consumables have been undertaken intermittently over the years due to lack of funding. Because of the deteriorated security status caused by the Islamic extremism in Kano State since 2010, from 2012 all the JICA experts and JICA Staff were not allowed to visit Kano State unless specially approved, which prevented them from the day-to-day communications with RUWASA related to O&M issues.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency, although the financial situation is gradually improving under the current administration. Therefore, the sustainability of the project effect is low.

5 Summary of the Evaluation

The project has achieved its objective to develop boreholes in the target sites and partially achieved to establish VWESC in the target sites with boreholes constructed. As for sustainability, the limited technical human resources and budget of RUWASA have hampered proper maintenance and necessary repair of the equipment installed by the project. At the village level, VWESCs do not have necessary skills, knowledge and tools for O&M of boreholes constructed and for management of VWESC. As for efficiency, the project period exceeded the plan.

Considering all of the above points, this project is evaluated to be unsatisfactory.

III. Recommendations & Lessons Learned

Recommendations to Implementing Agency:

- The Water, Sanitation and Hygiene Committees (WASHCOMs), which were introduced to replace VWESCs, were introduced for only 70 boreholes constructed at the early stage of the project and the toolkits for repair have been provided to them. The communities where the boreholes were constructed later have got WASHCOMs established but the toolkits haven't been distributed to the most of the communities because about 170 donated toolkits were distributed to other LGAs due to a political decision of the former Deputy Governor in 2009. Therefore, RUWASA and the Kano State Government need to secure the budget for training and additional toolkits,

[3] 1 out of the 11 locations visited during the field survey of the ex-post evaluation had aWASHCOM.

[4] Different documents contain varying figures for rehabilitation and maintenance of equipment for the same years.

to activate WASHCOMs properly for all boreholes developed under the project and to provide toolkits for repair to all WASHCOMs which have not been received and give them proper training.

Lessons Learned for JICA:

- The developed manuals under this project have not been used at all since the staff of RUWASA was considered to have necessary skills and knowledge before the training by the project. Moreover, training and establishment of WASHCOMs were not carried out in all the communities targeted by the project to support them to properly conduct daily O&M of the hand pumps and boreholes due to the financial constraints. Therefore, in any case where soft component is planned /requested under this kind of grant aid project, JICA needs to carefully assess soft component needs at the designing stage. Also, it is better to consider other technical cooperation or advocacy meeting with State Government to support community mobilization when RUWASA starts construction work in order to make them properly conduct O&M of the water facilities.

A girl using both her hands to get water from borehole constructed by using the drill procured by the project for her iron bucket, saving her time from going to distant pond to get water.

A boy tries to fill a 20 liter jerry can while two other kids await their turn at the borehole constructed by using the drill procured by the project.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Thailand Office: March 2018

Country Name	**Project on Land Readjustment Promotion in Thailand**
Kingdom of Thailand	

I. Project Outline

Background	Living conditions and efficiency of socio-economic activities have been deteriorated in urban areas in Thailand due to the increase of urban population and rampant development. In order to cope with this situation, the Government of Thailand implemented the "Project on the Development Method of Urban Development (DMUD)" from 1999 to 2005 in collaboration with JICA to introduce appropriate methods for urban planning and urban development. The DMUD project enhanced understanding of organizations concerning effectiveness of land readjustment for urban development, and established a base for implementation of land readjustment in Thailand. Although the Land Readjustment Law was enforced in 2004 through the activities of the DMUD project, ministerial regulations, other rules and regulations and specific implementation manuals and guidelines necessary for conducting land readjustment projects were not yet prepared.		
Objectives of the Project	Through establishing and authorizing rules and regulations of land readjustment, improving capacities of staff at provincial offices and local authorities to draft land readjustment master plans to formulate implementation plans and to manage land readjustment projects, and promoting private sector involvement in land readjustment projects, the project implemented in Bangkok and 10 pilot project sites aimed at the establishment of the institutional base and human resource base in both public and private sectors, thereby contributing to the continuous utilization of land readjustment as the most effective urban development method. 1. Overall Goal: Land readjustment method is continuously utilized as the most effective urban development method, and urban environment is improved. 2. Project Purpose: The institutional base and human resource base in both public and private sectors are established in order to promote land readjustment projects in Thailand.		
Activities of the Project	1. Project Site: Bangkok and 10 pilot project sites (Phayao, Nan, Lampang, Phitsanulok, Uthai Thani, Rama IX, Samut Sakhon, Cha-am, Yala, Narathiwat) in Thailand 2. Main Activities: 1) establishment and authorization of rules and regulations on land readjustment, 2) improvement of capacities of staff at provincial offices and local authorities to draft land readjustment master plans, 3) improvement of capacities of staff at provincial offices and local authorities to formulate implementation plans, 4) improvement of capacities of staff at provincial offices and local authorities to manage land readjustment projects, and 5) promotion of private sector involvement in land readjustment projects. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 9 persons 2) Trainees Received: 26 persons 3) Equipment: PCs, projectors, visualizers, etc. 4) Operation cost: traveling cost of experts, interpretation cost, print cost, etc. Thai Side 1) Staff Allocated: 18 persons 2) Land and Facilities: Office space and meeting space including utility (electricity, water, telephone, etc.) 3) Operation cost: cost for implementation of pilot projects		
Project Period	November 2005 – November 2009	Project Cost	(ex-ante) 350 million yen, (actual) 312 million yen
Implementing Agency	Department of Public Works and Town & Country Planning (DPT), Ministry of Interior		
Cooperation Agency in Japan	Ministry of Land, Infrastructure, and Transportation		

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Thailand at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the development policies of Thailand aimed at the development of livable cities and communities for the improvement of living conditions of citizens stated in the "9th National Economic and Social Development Plan 2002-2006" at the time of ex-ante evaluation and the DPT's "Strategic Plan 2008-2011" at the time of project completion.

<Consistency with the Development Needs of Thailand at the Time of Ex-Ante Evaluation and Project Completion>

From the experience of the DMUD project, institutions such as DPT, the National Housing Authority (NHA), the Bangkok Metropolitan Administration (BMA) and local authorities highly expected land readjustment as one of the effective methods for urban development at the time of ex-ante evaluation and project completion. However, while land readjustment projects implemented by the Thai Government following the DMUD project were planned and managed by public sectors, implementation of surveys, detail designs and construction were done by private sectors, the capacity and involvement of private sector were below the appropriate level at the time of ex-ante evaluation

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy for Thailand, which aimed at institutional and human resource development anticipating forthcoming challenges accompanied with social maturation of the country[1].

[1] Source: ODA Data Book 2005.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. Five land readjustment projects had been approved by provincial land readjustment committees, and out of five, three projects started their construction works in March 2009.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been continued. According to the Director General of DPT, from the time of project completion until the time of ex-post evaluation in 2017, more than 40 land readjustment projects have been implemented in more than 30 provinces for realizing comprehensive area development. In these projects, the manuals and guidelines prepared by the project have been used as reference materials. Private sectors such as consulting firms and construction companies have been hired by the Land Readjustment Bureau (LRB) of DPT and provincial governments, thus they were involved in those projects.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was achieved by the time of ex-post evaluation. The number of land readjustment projects all over the country per year was one on average during the period from 2010 to 2013 due to the limited budget of provinces (Table 1). From 2014 onward, the number of new projects has increased to 10 because the policy of DPT was changed by the newly assigned Director General to further promote area development. In 2014, DPT has set the target of having at least one road network project to be planned in every province by using the land readjustment method, and secured the budget accordingly each year.

<Other Impacts at the time of Ex-post Evaluation>

No negative impacts have been observed on natural and social environment. There were land acquisitions and resettlements in land readjustment projects in three provinces, namely Phetchabun, Phitsanulok and Kanchanaburi, and 15 households were affected in total. DPT has compensated affected households according to the laws and regulations and agreements of the affected households, and there were neither complaints nor troubles about this operation. As for dissemination of the project effects, land readjustment method is still known by limited groups of public and private sectors.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved at the time of project completion, positive effects by the project have continued, and the Overall Goal was achieved at the time of the ex-post evaluation. Therefore, the effectiveness/impact of the project was high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) The institutional base and human resource base in both public and private sectors are established in order to promote land readjustment projects in Thailand.	At least three land readjustment projects are approved by provincial land readjustment committees and start the construction work by utilizing the manuals and guidelines developed by the Project.	Status of the Achievement: Achieved. (Project Completion) The Project Purpose was achieved by three land readjustment projects started the construction work by the time of project completion. (Ex-post Evaluation) Since the time of project completion until the time of ex-post evaluation in 2017, more than 40 land readjustment projects have been formulated involving private sectors in more than 30 provinces.
(Overall Goal) Land readjustment method is continuously utilized as the most effective urban development method, and urban environment is improved.	One land readjustment project starts the physical work* in each year on average. *Physical work includes replotting, land survey, land registration, and construction work.	(Ex-post Evaluation) Achieved. The average number of land readjustment projects started in a year all over the country has been increasing from 2014 due to the change of the policy of DPT (Table 1). Table 1. Number of land readjustment projects started in a year 2010: 1 / 2011: 0 / 2012: 1 / 2013: 1 / 2014: 10 / 2015: 8 / 2016: 10 / 2017: 10 Source: DPT

Source: Terminal Evaluation Sheet (2009), questionnaire survey to and interviews with the Director General and the staff of DPT

3 Efficiency

Both the project cost and period were within the plan (ratio against the plan: 89% and 100%, respectively). Therefore, efficiency of the project was high.

4 Sustainability

<Policy Aspect>

The “12th National Economic and Social Development Plan (2017-2021)” designates key strategic cities with major railway stations, and plans to initiate pilot projects on land reform, urban planning, and energy-efficient urban development. The Plan adopts the land readjustment to be applied to those pilot projects for realizing effective city planning of energy saving cities.

<Institutional Aspect>

The number of staff at LRB is 40 at the time of ex-post evaluation, which is insufficient for covering all the projects throughout the country. LRB is in short of technical staff as urban planners, architects, and draftsmen. Since LRB is not yet authorized as a formal division of DPT, the number of staff cannot be increased as formal divisions. However, according to the interview with the LRB Director, there is a possibility of LRB to be authorized once a land readjustment project is successfully completed. As of 2017, one of the projects in Chanthaburi Province is at its final stage. Along with the completion of the project in Chanthaburi, LRB is expected to be a formal bureau of DPT. The number of staff of provincial offices is also insufficient. While one planner and/or one architect are assigned to each provincial office, they are not only in charge of land readjustment projects but also in other development related works. The prospect of increase in the number of technical staff of provincial offices is unclear.

<Technical Aspect>

According to the interviews with DPT staff, the members of DPT and provincial officials trained by the project have sustained their knowledge and skills through the daily operations of project planning, execution and consultation. Adding to them, some regular training programs are provided by LRB in collaboration with the DPT Academy[2]. There are two regular training courses conducted in a year. One is the course for project management, and the other for replotting. Participants are staff of DPT's central office and provincial offices nationwide.

<Financial Aspect>

Annual budget and the LR (Land Readjustment) Fund for land readjustment projects have been prepared by DPT, and the amount is in an upward or constant trend (Table 2)[3]. LR Fund was established by the government in 1993 in order to realize flexible mobilization of fund for land readjustment projects[4]. According to the interviews with the staff of LRB, the amount of the budget is sufficient, while the Fund is becoming less sufficient due to the increasing number of land readjustment projects. Therefore, from 2016, the Cabinet started the annual allocation of 80 million Baht to the Fund.

Table 2. Budget and Fund for LR

unit: million Thai Baht

	2015	2016	2017
Budget for LR	329	755	627
Annual allocation	(62*)	80	80

*Carryover of the capital fund from 1993

<Evaluation Result>

In light of the above, slight problems have been observed in terms of institutional aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved at the time of project completion. The project effects have been continuing and the Overall Goal was achieved by the time of ex-post evaluation. As for its sustainability, while the number of staff of LRB and provincial offices of DPT is insufficient for the volume of work, LRB is expected to be authorized soon as a formal bureau of DPT and it will increase the number of staff as other formal divisions. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations

Recommendations for Implementing Agency:

- In order to increase the number of staff members and assure the sustainability of the project effects, it is recommended for DPT and LRB to accelerate the authorization process of LRB to be a formal bureau of DPT. For that purpose, it is expected DPT and LRB to ensure the successful completion of the land readjustment project in Chanthaburi Province.
- Since the concept and methods of land readjustment are still known by limited groups of public and private sectors, it is recommended for DPT and LRB to promote its publicity and disseminate technology to provincial offices of DPT, local governments, and private-sector corporations through the implementation of training and seminars and distribution of PR materials.

Participants from all over the world to the "Training on Land Readjustment Method for Urban Development" held in Thailand in July 2017. The training was a program of JICA's Knowledge Co-Creation Program (KCCP)

A BMA official explaining about a land readjustment project in Thailand. The participants benefited by learning land readjustment method of Thailand would adapt it to their social context.

[2] DPT Academy is a logistics support unit under DPT to organize seminars and workshops. The contents of seminars and workshops are considered and prepared by the bureaus in charge, and DPT Academy supports organizing and conducting of seminars and workshops.

[3] The budget amount of 2017 was below the amount of 2016 due to the change of budget itemization took place in 2017. The budget amount of 2017 should be almost same as the amount of 2016 if the former itemization is applied to the budget of 2017.

[4] DPT started studying land readjustment methods in 1983 by sending a staff to Japan. In 1992, the cabinet approved DPT to be the agency to implement land readjustment projects under the supervision of LR Committee chaired by the Permanent Secretary of Ministry of Interior. In 1993, the cabinet ordered the Bureau of Budget to extend a financial support of 50 million Baht as the LR Fund to DPT for promoting its land readjustment activities.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Cambodia Office: March 2018

Country Name	**Legal and Judicial Development Project (Phase 2)**
Kingdom of Cambodia	

I. Project Outline

Background	In Cambodia, legal and judicial reform for establishing the rule of law had been one of the most important issues of the nation since the end of the civil war in 1991. However, the underdevelopment of the legal structure such as basic laws coupled with the insufficient capacity and technical level of government officials and judicial personnel had made it difficult for them to develop laws and judicial system on their own. Under such circumstances, the Legal and Judicial Development Project (1999-2003) ("the Phase 1 project"), a JICA technical cooperation project, was implemented with the aims of drafting the Civil Code (CC) and the Code of Civil Procedure (CCP) and developing the law enforcement procedures and judicial organizations. The Phase 1 project was completed with the handover of the draft Codes to the Ministry of Justice (MOJ).		
Objectives of the Project	As the Phase 2 of the Legal and Judicial Development Project, this project aimed to promote legislation of the CC and the CCP mainly by developing capacity of related personnel and drafting related provisions, laws and/or bylaws and instructional materials, thereby realizing reliable and useful application of laws and regulations on civil affairs in Cambodia. 1. Overall Goal: Laws and regulations with respect to civil affairs and their applications are reliable and useful for Cambodian People. 2. Project Purpose: Conditions for promoting legislation of the Civil Code and the Code of Civil Procedure are prepared.		
Activities of the Project	1. Project site: Phnom Penh 2. Main activities: Preparation of documents related to the Codes such as annotations for article; provision of advices by Japanese experts and Japanese Working Groups for Supporting the Draft of CC and CCP ("the Working Groups") to the members of the Committee for CC and CCP ("the Committee") in MOJ and other legal and judicial experts in Cambodia; holding of workshops/training sessions/seminars by the Japanese experts and the Working Groups; drafting of provisions, laws and/or bylaws and instructional materials regarding application and/or enforcement of the Codes by the Working Groups, etc. 3. Inputs (to carry out above activities) *As of Terminal Evaluation in October 2006 Japanese Side 1) Experts: 6 persons 2) Trainees received: 14 persons 3) Equipment: office equipment, etc. 4) Support funding for local activities Cambodian Side 1) Staff allocated: 12 Committee members; 2 counterpart personnel of the Project for Improvement of Training on Civil Matters at the Royal School for Judges and Prosecutors (RSJP); 2 supporting staff from MOJ 2) Office and meeting space 3) Electricity for the project office		
Project Period	April 2004 to April 2008 (Extension period) April 2007 to April 2008	Project Cost	(ex-ante) 250 million yen, (actual) 213 million yen
Implementing Agency	Ministry of Justice (MOJ)		
Cooperation Agency in Japan	Ministry of Justice, Supreme Court of Japan, Japan Federation of Bar Associations		

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Verification of achievement of Project Purpose: The indicators of Project Purpose only specify the type of measure (Indicator 1: level of understanding; Indicator 2: deliberation results of draft laws) but the expected changes are not clear. In this evaluation, it is judged as "achieved" if improvements/progress in the specified respects are confirmed compared to situations before the project. It should be however noted that such a judgment may be overrated.
- Contribution of other phases: The effectiveness of this project is partly based on the achievement of the preceding phase of "Legal and Judicial Development Project" (Phase 1 in 1999-2003), and the observed statuses of continuation of project effects and achievement of Overall Goal include both outcomes/impacts of this project (Phase 2) and the succeeding phases (Phase 3 in 2008-2012 and Phase 4 in 2012-2017). It is difficult to separate outcomes/impacts of this project from those of other phases.

1 Relevance
<Consistency with Development Policy of Cambodia at the time of ex-ante evaluation and the project completion> The project was consistent with the Cambodia's development policy such as the "Second Socio-Economic Development Plan" (2001-2005), which holds the establishment of a proper legal and judicial systems and nurturing of the legal profession for promoting the rule of law and good governance as one of the most important development issues, as well as the "Rectangular Strategy" (2004) and the "National Strategic Development Plan" (2006-2010), which give a high priority on legislation of the Basic Codes including the CC and the CCP.

<Consistency with Development Needs of Cambodia at the time of ex-ante evaluation and the project completion>

As mentioned in "Background" above, legislation on civil affairs was needed at the time of the ex-ante evaluation. Also, promotion of legislation and proper enforcement of the Codes was requiring explanation of the draft Codes to- and coordination with relevant agencies, and the Cambodian side needed to acquire high level of understanding of the draft Codes and related provisions. Such requirements still existed at the time of project completion, since The CC was promulgated in December 2007 and expected to be enforced in 2011, and the CCP was promulgated in July 2006 and enforced in July 2007.

<Consistency with Japan's ODA Policy for Cambodia at the time of ex-ante evaluation>

The area of the project was consistent with "strengthening of good governance" aimed in the Country Assistance Program for Cambodia (2002).

<Evaluation Results>

In the light of the above, the relevance of this project is high.

2 Effectiveness/Impact

<Status of Achievement for Project Purpose at the time of project completion>

Project Purpose was achieved by the project completion. Although the exact degree of change cannot be determined, the Committee members (through deliberation of draft Codes, training/seminars, meetings, etc. under the project) and other legal and judicial personnel (through training by MOJ) increased their level of understanding on the Codes according to the terminal evaluation and MOJ (Indicator 1). With the interaction with Council of Ministers, Inter-Ministerial Meetings, National Assembly and Senate, the legislation processed steadily. Consequently, the CCP was promulgated in July 2006 and enforced in July 2007, and the CC was promulgated in December 2007 (Indicator 2).

<Continuation Status of Project Effects at the time of ex-post evaluation>

The project effects have continued. After project completion, MOJ kept drafting/deliberating related laws and regulations on civil affairs under succeeding phases of the technical cooperation. While most laws and regulations have been jointly drafted with Japanese experts, some regulations were drafted by MOJ alone (also see "Technical Aspect" in 4. Sustainability below). From this, it is inferred that the members of the drafting groups (restructured from the Sub-Committee under Phase 3) have steadily gained their understanding of the Codes. Also, through continuing provision of dissemination workshops/training by its own training of trainers (TOT) team formed under Phase 3, MOJ considers that legal and judicial personnel have further improved their understanding of the CC and the CCP.

<Status of Achievement for Overall Goal at the time of ex-post evaluation>

Overall Goal has been achieved. The number of civil adjudications processed with application of the CCP rose from 2012 to 2014, and then slightly decreased in 2015, showing an overall increasing trend. No explanation was given by MOJ on the increase and decrease of the number, but it can be considered that the increase of complaints filed with courts means the better implementation of the CC and the CCP. It may be assumed that legal system relevant civil matters function appropriately (Indicator 1). As mentioned above, the CCP was promulgated in July 2006 and enforced in July 2007. The CC was promulgated in December 2007 and enforced in December 2011 (Indicator 2). According to MOJ, people began to file their complaints directly with courts instead of with MOJ, showing their awareness of/trust on the civil legal system. Also, people's criticisms on courts have decreased (Indicator 3).

<Other Positive and Negative Impacts>

No negative impact on environment and other aspects has been observed. According to MOJ, the CC has a positive impact on the period for economic land concession by investment companies which is reduced from ninety-nine (99) years to fifty (50) years. Regarding a positive impact on gender, the CC has been drafted to ensure the equality of men and women. For example, Article 2 of the CC speculates, "this code gives concrete embodiment to the concepts of the dignity of the individual, the equality of the sexes and the guarantee of property rights provided in constitution."

<Evaluation Results>

The Project Purpose of preparing the conditions for promoting legislation of the CC and the CCP was achieved by the project completion, and it has continued up to the time of the ex-post evaluation. The Overall Goal of making the legal system on civil matters reliable and useful was also achieved at the time of ex-post evaluation. Therefore, the effectiveness/impact of this project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) Conditions for promoting legislation of the Civil Code and the Code of Civil Procedure are prepared.	(Indicator 1) Level of understanding by people in legal and judicial sector on the contents of each law.	Status of achievement: Achieved (Continued) (Project Completion) ・ The Committee members went through series of activities that facilitated the legislation process: discussions on the contents of the draft Codes and the draft laws related to the Codes in the training in Japan and the seminars in Cambodia; participation in the terminology-selecting meetings; explanation and responses in the deliberation process; and the coordination with other laws related to the Codes supported by other development partners. ・ MOJ considers that the level of understanding among judicial personnel other than the Committee members increased, as all civil personnel were trained by the Department of Personnel Training of MOJ on the contents of CCP and CC. (Ex-post Evaluation) ・ MOJ has drafted/deliberated related laws and regulations on civil affairs under Phase 3 and Phase 4 with or without assistance from the Japanese experts. ・ MOJ considers that legal and judicial personnel have improved their understanding of the CC and the CCP through workshops and training by MOJ's own TOT team to help explain various legal aspects of CC and CCP.

<table>
<tr><td></td><td>(Indicator 2)
Actual results of deliberating the draft Codes in the legislation process by the Defending Committee.

* The Defending Committee is considered to mean the Committee for CC and CCP.</td><td>Status of achievement: Achieved (Continued)
(Project Completion)
In the deliberation process of the draft Codes, the Committee has been making a series of appropriate elaboration and responses to the questions made by the members of Council of Jurists of Council of Ministers, Inter-Ministerial Meetings, National Assembly and Senate. This process deepened the understanding of those members on the Codes and the creation of collaborative environment for the legislation. In reality, the CCP was promulgated in July 2006 and enforced in July 2007, and the CC was promulgated in December 2007 and enforced in December 2011.</td></tr>
<tr><td rowspan="3">(Overall goal)
Laws and regulations with respect to civil affairs and their applications are reliable and useful for Cambodian People.</td><td>(Indicator 1)
Increase in the number of civil cases (No. of filing and final adjudication)</td><td>Status of achievement: Achieved
(Ex-post Evaluation)
Number of civil dispute resolutions (adjudications) processed with application of the CCP
<table><tr><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr><tr><td>3,920</td><td>4,419</td><td>5,850</td><td>5,120</td><td>N.A.</td></tr></table>The data on the number of filing was not available.</td></tr>
<tr><td>(Indicator 2)
Enactment and application of new Civil Code and Code of Civil Procedure</td><td>Status of achievement: Achieved
(Ex-post Evaluation)
CC was enforced in December 2011.
(The followings were achieved by the end of the project: The CCP was promulgated in July 2006 and enforced in 2007, and the CC was promulgated in December 2007. See indicator 2 for project purpose.)</td></tr>
<tr><td>(Indicator 3)
Degree of satisfaction of Cambodian people with civil court system</td><td>Status of achievement: Achieved
(Ex-post Evaluation)
Complaints filed with MOJ have decreased while complaints filed with courts have increased (data is not available). People began to file their complaints directly with courts instead of with MOJ, showing their awareness of/trust on the civil legal system. Also, people's criticisms on courts have decreased, meaning people are now more satisfied (people files complain to MOJ if they are not satisfied with the court system).</td></tr>
</table>

Source：Terminal Evaluation Report, Interviews with MOJ at the time of ex-post evaluation

3 Efficiency

While the project cost was within the plan, the project period was longer than planned as the project was extended for one year to produce Outputs that had not been completed within the original project period (ratio against the plan: 85% and 133%, respectively). Therefore, the efficiency of this project is fair.

4 Sustainability

<Policy Aspect>

The "Rectangular Strategy Phase 3" (2013) and a number of sub-decrees and regulations (e.g., Sub-decree on Establishment of Committee for Legal and Judicial Reform, No. 491, dated 24 October 2013) support legal and judicial reform including the civil legal system at the time of ex-post evaluation.

<Institutional Aspect>

Pursuant to Sub-Decree, No. 240, dated 29 August 2014, on Organization and Functioning of MOJ, the concerned ministry has General Department of Civil Affairs under which the subordinate departments, namely, (1) Department of Legal Affairs and Civil Statistic (20 staff members with responsibilities: legislate bill and regulations in civil affairs; participate in dissemination and law training: and monitor and provide comments on draft laws of the concerned Ministry and other institutions) and (2) Department of Research, Dissemination, and Law Training on Civil Matters (10 staff members with responsibilities: organize to disseminate on laws in civil matters via media; research and evaluate situation of the need of dissemination, law training in civil matters). With that Sub-Decree, MOJ only changed the names of departments but the personnel remain the same. No problem is reported on the number of personnel of the departments in pursuing their tasks on civil affairs.

<Technical Aspect>

Most of the counterpart personnel for this project still work in MOJ. Based on the interview with MOJ, most of the members of the working groups under this project, namely, Committee, drafting group and TOT members, are still working in their respective groups for Phase 4. However, many of them were moved to different departments where mandate is not relevant to civil matters, and are involved in civil matters only when they participate in the Phase 4 activities (once or twice a week). Since the working groups are not institutionalized in MOJ, there is a concern on sustainability of the technical level after termination of assistance from JICA in the future.

On some topics, mostly on immovable registration and hypothec, MOJ officials has capability to draft law at its own initiative. Other than that, MOJ and Japanese experts for Phase 4 are working in group to draft law. For dissemination of law, they are able to disseminate on their own initiative or cooperate with the Japanese experts. For example, MOJ has conducted various workshops in provinces on hypothec and other issues related to land for the judicial personnel.

<Financial Aspect>

Based on figures (see the table) and information given by MOJ, the gradual increase in the budget allocations is because of the policy of support to the judicial system. MOJ has the total actual expenditure a bit less than 100% of the total actual budget plan. Despite such an increase and the fact that MOJ steadily draft laws, regulations, etc. and disseminate the CC and the CCP, MOJ considers the level of budget is still limited and not enough for fully disseminating the Codes.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

MOJ budget allocation and expenditure

Unit: Million Riel

	2014	2015	2016
Total budget allocation			
Planned	55,031.9	66,631.0	96,162.9
Actual	47,038.0	57,564.5	N.A.
Total expenditure			
Actual	44,718.2	53,008.4	N.A.

Source: MOJ

5 Summary of the Evaluation

The project achieved its Project Purpose by the time of project completion: the legislation process for the CC and the CCP progressed, and the level of understanding of the Codes among legal and judicial personnel increased. After project completion, MOJ continued activities to develop the civil legal system under Phase 3 and Phase 4, and Overall Goal of making this system reliable and useful to Cambodian people was achieved by the time of ex-post evaluation. With respect to the sustainability, slight problems have been observed in terms of the technical and financial aspects of the implementing agency, while the policy support and the MOJ's organizational structure of for development of the civil-related legal system are secured. As for the efficiency, the project period exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Even though the people's awareness is increasing, the CC and the CCP are complicated to understand. Therefore, MOJ is recommended to further engage in dissemination of the CC and CCP via TV, radio, etc. to enhance understanding of the public people.

MOJ should assign, those who have been trained as trainers, to the institution where the mandate is relevant to civil matters.

These measures should be taken as soon as possible to enhance the sustainability of the project effects.

Lessons Learned for JICA:

In the planning stage of a project that is to form a new Working Group, JICA should pay careful attention to the implementing agency's arrangement to make sure the Working Group members function would be institutionalized as regular work of its members. Such institutionalization failed in the project, it would undermine the sustainability of the project effects.

Books of the Civil Code and the Code of Civil Procedures, together with their commentaries, explanatory notes, textbooks and other related regulations (pictures taken under Phase 3)

Appendix

JICA Evaluation Department

On Views of Experts

In this ex-post evaluation, opinion of academia was invited to capture more specialized and diverse views for the projects, in addition to the perspectives of the DAC five evaluation criteria to be conducted by the evaluator (JICA overseas office). The Evaluation Department selected and enlisted the support of a leading figure in the field: Yoshiko Homma, professor of Law School of Soka University Law School. Prof. Homma, author of this report, used to be one of the experts dispatched to a technical cooperation project, "the Legal and Judicial Cooperation Project (Phase 1)," whose successive project is the project of this ex-post evaluation. She, at the time of ex-post evaluation, also makes advice to JICA as a member of the Advisory Committee on Evaluation. For these reasons, we asked her to conduct in depth analysis based on her expertise and experience.

Specifically, Prof. Homma depicted some positive impacts of a series of the projects for almost 20 years that were implemented in Cambodia by JICA in the field of legal and judicial system development: "the Legal and Judicial Cooperation Project" (Phase 1: 1999-2002; a follow-up project: 2002-2003; Phase 2: 2004-2008; and Phase 3: 2008-2012); "the Legal and Judicial Cooperation for the Bar Association of the Kingdom of Cambodia" (Phase 4 of the aforementioned project. 2007-2010), "Legal and Judicial Development Project" (Phase 5 of the aforementioned project. 2017-2022 (plan); and "the Project for Improvement of Training on Civil Matters at the Royal School for Judges and Prosecutors" (Phase 1: 2005-2008; and Phase 2: 2008-2012).

The result of the analysis was appended to the evaluation report as attachments.

Social Impact of Assistance with Legal and Judicial System Development

Expert: Yoshiko Homma (Professor, Law School of Soka University Law School)

A series of projects assisting with legal and judicial system development in Cambodia (the "Assistance Projects") has continued for as long as 20 years since 1999. Although some may criticize these unusually long projects, I have seen a visible positive impact of the Assistance Projects on Cambodia and its people.

The largest achievement of the Assistance Projects should be human resources development. I stayed in the country as a long-term expert from 2002 to 2004 (in the Legal and Judicial Development Project [Phase I]), during which time Cambodian judges in their 30s and 40s, as core members of the working group of the Cambodian side, worked with usme on drafting the Civil Code and the Code of Civil Procedure. They are now Secretaries of State or Assistant Secretaries of State of the Ministry of Justice, judges of the Supreme Court, the Chief Justice of the Appellate Court or other government officials, playing a major role in the nation's judicial reform. Another Cambodian, who worked as my assistant-interpreter, later earned Ph.D. at Nagoya University on a scholarship from JICA and is now legal manager of a major financial institution in Cambodia.

In the middle of the Legal and Judicial Development Project (Phase I), Cambodia held its first bar examination and opened the Royal School for Judges and Prosecutors and the Lawyers Training Center. With subsequent assistance from JICA, the two schools have annually sent graduates into the legal and judicial circles. With their worn-out books of the Civil Code and the Code of Civil Procedure, those graduates of the schools are working energetically and educating and training their fellow junior colleagues.

Human resources development is a time-consuming effort, but the energy spent on the effort is never wasted. Once a certain number of core legal professionals are produced, they play a leading role in educating the next generation of legal professionals. Then a stock of legal professionals, bearers of the rule of law, builds up gradually. Cambodia has seen this process over about 20 years from the start of the assistance.

Cambodian society has also changed steadily. In 2002, even roads in Phnom Penh were still unpaved and covered with red clay; people lived in poverty with quite a few children running around in bare feet in impoverished areas. Now in Cambodia, roads are paved, children go to school with shoes on, and high-rise buildings and Japanese major supermarket stores can be found. Although there are still some problems, as described in the ex-post evaluations of the Assistance Projects, Cambodian people try to settle disputes at court without resorting to violence and to protect their property rights by registering them. Cambodia has become remarkably prosperous in just 15 years. Although the whole progress cannot be credited to the Assistance Projects, I firmly believe that the Assistance Projects have made some impact because public expectations that individual rights are protected and disputes can be settled by law without the use of violence are the foundation of stable society.

JICA should assess the impact on the nation's society of the Assistance Projects not only individually, but also as a whole. When a similar project is expected to need long-term assistance, JICA should monitor the project for a long time by using expected long-term impacts as reference indicators. This is because the outcome of a series of projects as a social experiment will offer valuable implications for future cooperation on the Rule of Law promotion in other regions. Furthermore, such evaluation will also be of reference for discussing the future of the Rule of Law in Japan and other donor countries, as well as international harmonization of law. This is because the outcome of a series of projects as a social experiment is useful for assistance with legal and judicial system development in other regions as well as for Japan and other donor countries to discuss how legal and judicial system development and law should be harmonized internationally.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Myanmar Office: January 2018

Country Name	**Project on Strengthening of Rehabilitation**
Republic of the Union of Myanmar	

I. Project Outline

Background	In Myanmar, approximately five million people, which was accounted for 10% of the total population in the country, had disabilities due to infectious diseases, landmine accidents, malnutrition, lack of health care services and medical supplies, etc. The Government of Myanmar had provided special education, social services like vocational training and employment for persons with disabilities (PWDs) via efforts of the Ministry of Social Welfare, Relief and Resettlement (MSWRR). Also the Ministry of Health provided medical services of prevention and rehabilitation. However, provided services were not sufficient in terms of quantity and quality, and there were urgent needs for increasing opportunities of basic medical rehabilitation services for PWDs and upgrading techniques of the service providers.		
Objectives of the Project	Through the improved training system of the National Rehabilitation Hospital (NRH), upgraded NRH's system to provide quality rehabilitation services and enhanced collaboration among NRH and related institutions, the project aimed at strengthening the system for providing quality rehabilitation services in NRH, thereby contributing to improvement of the quality of rehabilitation services in Myanmar.		
	Overall Goal: Quality of rehabilitation services in Myanmar is improved. Project Purpose: The system for providing quality rehabilitation services in NRH is strengthened.		
Activities of the project	1. Project site: Yangon. 2. Main activities: development of training materials, training of the trainers on rehabilitation services, development of monitoring and evaluation of rehabilitation services at NRH, conduct of the seminars on referral, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts from Japan: 16 persons 2) Training in Japan and third country: 33 persons 3) Equipment: rehabilitation equipment, PC, books for rehabilitation purposes, etc. 4) Operation cost for holding trainings and seminars, NRH rehabilitation, etc. Myanmar Side 1) Staff allocated: 19 persons 2) Land and facilities: Office space, lodges for training participants, etc. 3) Operation cost for electricity and telephone bills, etc.		
Project Period	July 2008 to July 2013	Project Cost	(ex-ante) 340 million yen, (actual) 300 million yen
Implementing Agency	Ministry of Health and Sports (MoHS) (Renamed from the Ministry of Health in May 2016)		
Cooperation Agency in Japan	National Rehabilitation Center for Persons with Disabilities, Japanese Physical Therapy Association and Japanese Association of Occupational Therapists		

II. Result of the Evaluation

[Special perspectives of evaluation considered at the ex-post evaluation]

- Indicator 2 of the Project Purpose (Health and mental condition of discharged patients are improved.) did not have any target value to be achieved or any baseline data to verify improvement. In the ex-post evaluation, it was judged as achieved if the actual status was improved compared with the beginning of the project.
- Indicator 3 of the Project Purpose was set as "Hospitalization period at NRH is shortened" in PDM. However, as pointed out by the Terminal Evaluation, it is not an appropriate indicator for verification of achievement of the Project Purpose, because it can be affected by external factors such as patient's request to stay longer for receiving quality rehabilitation service at NRH and family conditions to receive the patient. In the ex-post evaluation, this indicator was not applied to verify the achievement and continuation level of the Project Purpose.

[Evaluation constraints]

- Three hospitals were targeted in the Overall Goal in PDM. Due to the time and resource constraints, Yangon General Hospital (YGH) and Mandalay General Hospital (MGH) were visited for the site survey of this ex-post evaluation, as there were more participants in the trainings during the project period than Nay Pyi Taw General Hospital (NGH). The survey was conducted with North Okkalapa General Hospital (NOGH), though it was not targeted in PDM, as recommended by the Terminal Evaluation team.

1 Relevance

<Consistency with the Development Policy of Myanmar at the time of ex-ante evaluation and project completion>

Disability was one of the priority issues in the "National Health Plan (2006-2011)," and in the "National Plan of Action for Persons with Disabilities 2010-2012" which was still effective at the project completion, one of the objectives was to increase mobility, accessibility and opportunities for persons with disabilities. Thus, the project was consistent with the development policy of Myanmar.

<Consistency with the Development Needs of Myanmar at the time of ex-ante evaluation and project completion >

Though the Government of Myanmar had provided social and health services for PWDs, these provided services were not sufficient in terms of quantity and quality. Rehabilitation personnel (physicians, nurses, physiotherapists (PTs), etc.) were not sufficient in terms of quantity and quality, either. In such circumstances, there were great needs for capacity development of NRH who plays a principal role for capacity building of the rehabilitation personnel at both the ex-ante evaluation and project completion, and thus the project was relevant with these needs.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

As the Japan's ODA policy for Myanmar, new economic cooperation projects had been suspended since 2003 considering the political situation in Myanmar, but there were exceptions of projects with urgency and humanitarian purposes and aiming at capacity

building for democratization and economic structural reform to be implemented after careful consideration of project components. This project was consistent with humanitarian purpose of exceptional project to be implemented by the Japan' ODA[1].

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. During the project period, four satisfaction surveys were conducted regarding NRH's medical and rehabilitation services, rehabilitation equipment and referral services after discharge, and in all of the surveys the average scores were 4.6 to 4.8 exceeding 4 in five-grade evaluation (Indicator 1). Also, the other survey showed that physical and mental conditions of the discharged patients of spinal cord injury (SCI) were improved (Indicator 2). SCI was one of the topics which the project focused on.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued. NRH's major functions strengthened by the project such as the patient report system, case conference, risk management and barrier-free facilities have been sustained. After the project completion, the patients' satisfaction survey was conducted every year in which the average scores always exceeded 4. The survey to assess physical and mental conditions of the discharged patients has not been conducted through home visits for follow-up by PTs and Medical Social Workers due to the staff and fund shortage and low accessibility to patients' residence. However, NRH considers they have been improved because they provide quality rehabilitation services and wheelchairs and training opportunities when they are needed.

For diffusion of the project experience, trainers who had been trained in the project annually conducted specialized trainings from 2013 to 2015[2]. In each training, rehabilitation personnel of NRH, MGH, YGH and other hospitals participated (25 participants in 2013, 28 in 2014 and 25 in 2015) in order to learn rehabilitation for SCI, cerebral palsy (CP) and stroke. Since 2016, with support of the International University of Health and Welfare (IUHW) of Japan, NRH has been conducting 5-day trainings for PTs in the country on physiotherapy, speech therapy and occupational therapy. 20 staffs of NRH and other hospitals participated in the training in 2016. Besides these trainings, NRH has shared the project experience with other hospitals through monthly meetings of the Myanmar Society of Rehabilitation Medicine (MSRM) and annual rehabilitation symposium and conference.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It is judged that the Overall Goal has been mostly achieved. MGH, YGH and NOGH had been expected to conduct surveys on patients' satisfaction, and after the project completion, and questionnaire sheets had been prepared for patients' satisfaction by the project. However, any survey has not been conducted at either of these hospitals (Indicator 1), because they had not been informed of the survey and no instruction had been given to them by MoHS. On the other hand, the interviewed personnel of these hospitals answered that rehabilitation patients must have been satisfied with their services because their rehabilitation personnel got better knowledge and skills than before the project, provided team rehabilitation, and so on. Regarding the number of rehabilitation patients, the number of the outpatients has been increasing at all of MGH, NOGH and YGH and the number of the inpatients has been mostly stable (Indicator 2). In particular, the number of SCI patients has almost tripled at YGH, due to their quality acute rehabilitation services and sophisticated medication such as magnetic resonance imaging (MRI), according to YGH. Also, YGH answered that their personnel gained better rehabilitation knowledge and skills from the trainings in Japan during the project period and specialized trainings after the project completion.

<Other Impacts at the time of Ex-post Evaluation>

The Medical Superintendent (MS) who joined NRH after the project completion and learned the project experience from his colleagues has given lectures in the master course on rehabilitation medicine and physiotherapy, and their learning has been shared with the students who will be in the rehabilitation sector in the future. No negative impact has been confirmed in the natural environment and social aspects.

<Evaluation Result>

In light of the above, the Project Purpose was achieved and the effects have mostly continued. It is judged the Overall Goal has been mostly achieved. Therefore, the effectiveness/impact of the project is high.

Achievement of the Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="2">(Project Purpose)
The system for providing quality rehabilitation services in NRH is strengthened</td><td>1. Satisfaction of patients to rehabilitation services at NRH exceeds 4 in five-grade evaluation.</td><td>Status of achievement: Achieved.
(Terminal Evaluation)
In all of the satisfaction surveys with rehabilitation patients at NRH, the average exceeded 4.
<table>
<tr><td></td><td>Dec. 2010 to April 2011</td><td>May 2011 to Oct. 2011</td><td>Nov. 2011 to April 2012</td><td>May 2012 to Oct. 2012</td></tr>
<tr><td>Average</td><td>4.6</td><td>4.8</td><td>4.8</td><td>4.8</td></tr>
</table>
Note: The survey was conducted on 16 topics of 1) medical and rehabilitation services, 2) equipment and 3) referral services.
(Ex-post Evaluation)
<table>
<tr><td></td><td>2014</td><td>2015</td><td>2016</td></tr>
<tr><td>Average</td><td>4.6</td><td>4.8</td><td>4.8</td></tr>
</table>
Note: The survey was conducted on the same topics.</td></tr>
<tr><td>2. Health and mental condition of discharged patients are improved.</td><td>Status of achievement: Achieved..
(Terminal Evaluation)
- During the period from Sep. 2011 to Dec. 2012, 50 inpatients were assessed on their</td></tr>
</table>

[1] Ministry of Foreign Affairs (2009) "ODA Databook 2008."

[2] There was an agreement between the project and NRH to continued specialized trainings for three years.

<table>
<tr><td></td><td></td><td>discharge. 40 (82%) answered that they have “no health problem” and 32 (64%) answered they feel mentally “very good” or “good.” The survey was conducted with SCI patients on discharge.
(Ex-post Evaluation)
- No data was available because the survey has not been conducted, but its personnel consider that health and mental condition of the discharged patients have been improved due to their quality service, provision of wheelchairs and training opportunities.</td></tr>
<tr><td></td><td>3. Hospitalization period at NRH is shortened.</td><td>Status of achievement: Not to be verified for evaluation.
<Reference information>
(Terminal Evaluation)
<table><tr><td></td><td>2008</td><td>2009</td><td>2010</td><td>2011</td><td>2012</td></tr><tr><td>Days of hospitalization</td><td>49</td><td>46</td><td>47</td><td>43</td><td>52</td></tr></table>(Ex-post Evaluation)
<table><tr><td></td><td>2014</td><td>2015</td><td>2016</td></tr><tr><td>Days of hospitalization</td><td>47</td><td>41</td><td>37</td></tr></table></td></tr>
<tr><td rowspan="2">(Overall Goal)
Quality of rehabilitation services in Myanmar is improved.</td><td>1. Satisfaction of patients to rehabilitation services at Mandalay General Hospital (MGH), (Nay Pyi Taw General Hospital) NGH, and Yangon General Hospital (YGH) is increased.</td><td>Status of achievement: Partially achieved.
(Ex-post Evaluation)
- Satisfaction surveys have not been conducted at MGH, YGH and NOGH, though their personnel consider that patients’ satisfaction have been improved</td></tr>
<tr><td>2. Number of patients treated for the rehabilitation service at MGH, NGH, and YGH is increased.</td><td>Status of achievement: Achieved.
(Ex-post Evaluation)
<table><tr><td></td><td>2014</td><td>2015</td><td>2016</td><td>2017</td></tr><tr><td>YGH (Inpatients)</td><td>278</td><td>270</td><td>272</td><td>n.a.</td></tr><tr><td>YGH (Outpatients)</td><td>13,770</td><td>15,976</td><td>17,692</td><td>10,256 (as of June)</td></tr><tr><td>MGH (Outpatients, first visit)</td><td>13,329</td><td>13,148.</td><td>16,709</td><td>12895 (as of Sep.)</td></tr><tr><td>MGH (Outpatients, return visit)</td><td>3,157</td><td>6,827</td><td>12,541</td><td>9,176 (as of Sep.)</td></tr><tr><td>NOGH (Outpatients)</td><td>2,109</td><td>1,402</td><td>1,792</td><td>1266 (as of Oct.)</td></tr><tr><td>NOGH (Inpatients)</td><td>87</td><td>86</td><td>81</td><td>63 (As of Oct.)</td></tr></table>Note: The numbers of the outpatients at MGH, NOGH are those of walk-in patients for physical medicine treatment and those referred from other hospitals.</td></tr>
</table>

Source: Terminal Evaluation Report, interview with MoHS, NRH, YGH, MGH, NOGH.

3 Efficiency

Outputs were produced as planned, and both the project cost and period were within the plan. Therefore, the project efficiency is high.

4 Sustainability

<Policy Aspect>

In the “National Comprehensive Development Plan” (2011-2030), one of the strategic thrusts to achieve goals is promotion of human development and poverty reduction,” which includes improvement of public services and inclusive access to quality services for the vulnerable. The “Myanmar National Strategy for Development of Persons with Disabilities” (2016-2025) prioritizes rehabilitation and capacity building among others.

<Institutional Aspect>

At NRH, there are 121 appointed personnel including 4 rehabilitation physicians, 1 health administration & health management specialist, 22 PTs, 19 nurses, 14 nurse aids and 8 Prosthetics and Orthotics (P&Os). Though the appointed posts are fewer than 201 sanctioned posts, NRH has sustained major functions strengthened by the project as explained above, except follow up home visits, the library management and task group for speech therapy. NRH has been upgraded to a 100-bedded hospital since January 2016. For capacity building of the rehabilitation personnel, NRH as well as other related hospitals discusses with MSRM and Myanmar Medical Association (MMA) every month. The information how NRH evaluates trainings for the next training could not be confirmed at the ex-post evaluation. At NRH, there are 5 trainers on SCI, CP and stroke who work as trainers when needed, and the number is sufficient, according to NRH.

With regard the rehabilitation personnel in the whole country, the number of PTs has been increasing. There are currently 360 PTs, as there are more 156 PTs assigned after the project completion. However, there are still few other professions such as P&Os, occupational therapists and rehabilitation nurses. According to MoHS, these numbers are not sufficient to provide quality rehabilitation services in 113 hospitals where such services are provided.

<Technical Aspect>

According to NRH, YGH and MGH and NOGH, the rehabilitation personnel have sufficient knowledge and skills. They judge so based on their experience gained from the project and increasing the number of patients. Furthermore, they continuously have training opportunities of ongoing projects for capacity building for rehabilitation personnel, with support from international and national organizations including IUHW, Exceed Worldwide, and Nippon Foundation. Booklets and pamphlets developed by the project have been utilized at NRH, YGH, MGH and NOGH. These materials are used also as reference by the master course students in rehabilitation medicine and physiotherapy at NRH internship. For trainings of the rehabilitation personnel, those who were trained in TOT during the

project period still serve as trainers. Rehabilitation equipment has been utilized except a gravicorder[3] of which spare parts are not available in the country.

<Financial Aspect>

The budget source of NRH is the allocation from MoHS. As shown in the table, the budget of NRH has been on an increasing trend, deducting the large among of capital investment in 2015. According to MS of NRH, it is sufficient for exercising functions such as the patient report system and case conference to providing rehabilitation services, but not follow up home visits. Expenses for trainings of rehabilitation personnel have been borne by MoHS. It is sufficient for conducing trainings to meet needs for quality rehabilitation services, according to NRH. Meals and lodging for training participants are prepared by NRH and transportation costs are borne by the hospitals of the participants.

Table: Budget of NRH (million Myanmar Kyat)

	2013	2014	2015	2016
Current	183,499	208,008	366.380	347,139
Capital	6,505	0	370,000	47,250
	190,004	208,008	736,380	394,389

Source: MoHS.

<Evaluation Result>

In light of the above, slight issues have been observed in terms of the institutional and financial aspects of the related organizations. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved and the effects have mostly continued. The Overall Goal has been mostly achieved. Concretely, through project activities for capacity building of the rehabilitation personnel of NRH and TOT for trainings for the rehabilitation personnel in the country, NRH was strengthened to provide quality rehabilitation services which satisfied the patients. Even since the project completion, NRH has sustained most of the strengthened functions but not follow-up visits for the discharged patients. NRH also continued its function as a trainer for rehabilitation personnel of other hospitals, where the number of the rehabilitation patients has been increasing. On the other hand, it could not be concretely verified with quantitative data how rehabilitation services have been improved in other hospitals. Regarding the sustainability, though NRH does not have sufficient staff and fund for the home visits of the discharged patients, there are no other major issues, it has sufficient personnel for sustaining other services and their technical level is sufficient.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is recommended to MoHS to give instruction to the rehabilitation department of YGH, MGH and NOGH and other hospitals which provide rehabilitation services to conduct patients' satisfaction survey, so that each hospital can review their services for further improvement. The survey results also serve as feedback for the trainings currently conducted by NRH and IUHW.
- It is recommended to MoHS to allocate a budget to NRH to conduct home visits for follow-up of the discharged patients, at least those who reside in the areas reachable by car. Or, it is recommended to NRH to restart the home visits for follow-up of the discharged patients as much as possible with their own budget.
- It is recommended to NRH to encourage participants of the ongoing trainings for PTs to make an action plan for sharing training learnings with their colleagues and for improving their rehabilitation services and submit the plan to the head of their rehabilitation department.

Lessons learned for JICA:

- Patients' satisfaction has not been monitored at either of MGH, YGH and NOGH, though they had been expected to conduct surveys after the project completion. Questionnaire sheets had been prepared for patients' satisfaction survey by the project before the project completion. These hospitals had not been sufficiently informed of the survey and no instruction had not been given to them. If some surveys are required after the project completion, the responsible organization or person in charge should be sufficiently informed about why the survey is necessary and how it is conducted during the project period. It is desirable to make a survey trial with support of the project during the project period. Or, if it is expected to be difficult for each hospital to conduct the patients' satisfaction survey by itself after the project completion, it is necessary to examine what other means would be possible to monitor and verify the quality of its service provision, and it is desirable to support the target hospitals during the project period so that they would incorporate any possible means into their routine work.

Rehabilitation with the equipment provided by the project (NRH)

Rehabilitation equipment provided by MoHS after the project completion (MGH)

[3] The gravicorder is an equipment for evaluation of the equilibrium function of rehabilitation patients.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Bhutan Office: July 2017

Country Name	**Local Governance and Decentralization Project**
Kingdom of Bhutan	

I. Project Outline

Background	Since 1980s, the Royal Government of Bhutan (RGoB) promoted decentralization and reformed legislative framework for district and block level such as establishment of District Development Committee (Dzongkhag Yargay Tshogdu: DYT)(Note 1) and Block Development Committee (Gewog Yargay Tshogchung: GYT) (Note 2) in order to promote people's participation in the decision-making process. Although the legislative framework was in place, the process of decentralization was still in transition. In order to realize the effective decentralization system in the country, the following challenges must have been tackled such as: (i) establishment of practical guidelines and standard operating procedure in implementation of the GYT Act 2002 and DYT Act 2002; (ii) coordination with related government line ministries and agencies; (iii) creation of discretionary fund for local governments; and (iv) capacity development of local government officers. (Note 1) DYT, which is replaced Dzongkhag Tshogdu (DT) from 2007, is responsible for construction of district hospital and feeder roads, provision of communication service, preparation of city and town development plan, forest management plan, and rural electrification plan. (Note 2) GYT, which is replaced by Gewog Tshogde (GT) from 2007, is responsible for planning, implementation and monitoring of the following development projects in respective Gewog such as water supply, irrigation, farm roads and bridges, outreach clinics, community primary schools, etc. Block or "Gewog" refers to a group of villages in Bhutan and is the sub-division of district or "Dzongkhag". Gewog is referred to as County in the glossary of the Constitution from 2008. The functions and responsibilities of DT and GT are determined by the Functional and Financial Assignment Framework between Gewog, Dzongkhag and the central government.				
Objectives of the Project	The project aimed to develop an institutional framework for planning, implementation and monitoring of block grants[1] and to enhance the capacities of local government officers including elected local government officials for the above works through implementing pilot projects using assumed block grants in the target three districts, thereby contributing to enhancement of public service delivery at the community level throughout the country. 1. Overall Goal: Public service delivery at the community level is enhanced throughout the country. 2. Project Purpose: To institutionalize framework plans for strengthening local governance and decentralization in the Royal Government of Bhutan (RGoB) and make necessary arrangement for their implementation.				
Activities of the project	1. Project site: Three districts (Haa district, Bumthang district, and Trashigang district and 25 blocks (Gewogs)) 2. Main activities: (i) Provision of training/workshop for government officers at national level on planning, implementation and monitoring of pilot projects in accordance with GYT Act 2002, (ii) Development of guideline and manuals for the GYT Act 2002, (iii) capacity development of the Department of Local Governance (DLG) 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 3 persons 2) Trainees received in Japan: 14 persons 3) Trainees in Third Country: 14 persons (in Thailand) 4) Equipment: vehicle and office equipment (copying machines, computers, OHPs, typewriters, etc.) 5) Cost of local activities (cost for pilot projects, construction cost of 14 Gewog centers, training/workshop, etc.) Bhutanese Side 1) Counterpart personnel: 19 persons 2) Land and facilities: Project office 3) Local cost: Salaries for counterparts and supporting staff, travelling allowance for training/ workshop, maintenance fee of the equipment and related utility costs				
Ex-Ante Evaluation	2004	Project Period	March 2004 – October 2006 (Extension period: April, 2016-October, 201)	Project Cost	(ex-ante) 270 million yen (actual) 296 million yen
Implementing Agency	Ministry of Home and Cultural Affairs (MoHCA)				

[1] Block grant was devised by the RGoB as discretionary annual grant to local governments. It was institutionalized into "Annual Capital Grant" for all 205 Gewogs in 2008.

Cooperation Agency in Japan	Meiji University Ministry of Internal Affairs and Communications

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation >

(1) Consideration of terminal evaluation results of Phase II and Phase III of this project

- After the completion of this project, the outcome of the project was further expanded through implementation of Phase II (2007-2010) and Phase III (2010-2014) of this project. The results of terminal evaluation for the Phase II and Phase III were considered in order to verify impacts and sustainability of this project's effects by this ex-post evaluation.

(2) Definition of Verifiable Indicator 2 for the Overall Goal

- The verifiable indicator 2 of Overall Goal is "Programs and systems are in place for enhancing administrative and management capacities among local government officials for public service delivery". However, it does not clearly mention what kinds of programs and systems are expected to be established. On the other hand, the Phase II and III were implemented mainly focusing on establishment and institutionalization of the Integrated Capacity Building Plan (ICBP) [2] based on the results of this project. Considering the evolution of the project from the Phase I (this project) to the Phase II and III, it is understood that ICBP should be "programs and systems" mentioned in the indicator 2 of Overall Goal. Therefore, the ex-post evaluation confirmed the achievement status of the indicator 2 of Overall Goal by verifying "whether ICBP was developed and institutionalized as a program for capacity development of local government officials or not" at the time of ex-post evaluation.

(3) Sustainability

- Based on the above (2), this ex-post evaluation examined the sustainability of the project effects in terms of suitability of ICBP.

1 Relevance

<Consistency with the Development Policy of Bhutan at the time of ex-ante and project completion>

This project was consistent with Bhutan's development policy of "to promote decentralization and reform legislative framework for district and block level" as set forth in the policy documents including the 9th Five Year Plan (2002-2007).

<Consistency with the Development Needs of Bhutan at the time of ex-ante and project completion>

This project met the development needs of Bhutan to establish an effective decentralization system in district and block levels together with capacity development of government officers at district and block levels for management of block grants.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

This project was consistent with the Japan's ODA policy for the year of 2004 at the time of ex-ante evaluation, which was described in the ODA data book 2004, to prioritize to good governance including promotion of decentralization as one of four priority areas.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The project purpose was partially achieved by the project completion. A model of planning and implementing block grants was established, and functional within the three pilot districts by the project completion. The GYT members, block functionaries and community members in the three pilot districts became able to capitalize on block grants and address immediate needs identified by the communities. However, an effective model for monitoring of the block grants implementation to ensure benefits for the communities from the block grant could not be established by the project completion because the project period was very short to barely implement and complete the 2 cycles of pilot projects.

Valuable experiences from the project, such as effects of the bottom-up planning process, which was expected to be utilized to refine the national block grants system under the 10th Five Year Plan (2008-2013), were accumulated locally. At the same time, more efforts were required to systematically review and consolidate the important experiences and lessons learned in order to refine the framework and systems for block grants before the 10th Five Year Plan.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the project completion, the DT and GT in the pilot districts have continued to plan, implement and monitor their development activities with budget provided by the government based on the model established after the project completion. A National Monitoring and Evaluation System (NMES) has been set up by incorporating the Public Expenditure Management System (PEMS), Planning and Monitoring System (PLUMS) and Multi Year Rolling Plan Budget (MYRB). The Government Performance Management System (GPMS) aims at aligning budget to the objectives and real time monitoring and problem solving. After the project completion, various initiatives were taken by the RGoB and the experience of the project was reflected on the national strategy for decentralization as the model established by the project has been effective. For example, the Local Government Act of Bhutan 2009 was enacted on 11 September 2009 and came into force from 15 March 2010. In addition, the experiences through the project, greater flexibility in addressing the people's needs, development of leadership in GYT, greater participation through the bottom up planning, and so on, contributed to drafting of the Local Government Act. Also, the Guideline for the Annual Capital Grants for Local Government[3] was formulated in 2010 by the RGoB. For those series of initiatives taken by the RGoB, The RGoB referred the "Lessons Learnt from Block Grant Pilot Projects" study conducted by JICA, the United Nations Capital Development Fund (UNCDF) and the United Nations Development Programme (UNDP) in 2008.

[2] ICBP is a human resource development program initiated by the Department of Local Governance as a set of standard training modules for local government officials in strategic development planning, as well as block heads (Gups) and clerks of Gups (Geydrungs) in general management, office and financial management.

[3] The Guideline provides an overview of the various types of grant, the allocation formula for capital grants, the process of accessing the grants, the planning and budgeting calendar, the funding flows, release procedure and the eligible expenditure in accordance to the assignment of functional and fiscal responsibilities to the Local Government.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was achieved. The RGoB initiated a system of the Block Development Grants in 2008 for 205 blocks nationwide. From the beginning of the 10th Five Year Plan (2008-2013), the blocks have planned, and implemented their development activities with budget provided by the government based on the formula for the Annual Capital Grant. In the 10th Five Year Plan, ICBP, which is based on the training program implemented by this project, was formally introduced. Through the implementation of Phase II and Phase III of this project, the framework of ICBP was developed and institutionalized as a program for capacity development of local government officials in 2012. 10 training courses[4] for GYT members were identified as standardized module. Although a training calender was prepared by the project, all the training courses have not been delivered as planned due to the lack of budget allocated by the RGoB. However, some of them, such as introduction course and local government leadership, have been delivered by other donors' support, such as the Local Governance Support Programm (LGSP).

<Other Impacts at the time of Ex-post Evaluation>

The project has a positive impact on improvement of the status and position of the block heads (Gups), who were elected. Before the project, the working environment of the block heads was poor due to lack of office, equipment and no support staff. However, the status and position of the block heads was enhanced after their working environment was improved by the project through provision of offices and office equipment.

No negative impact on natural environment was observed and no land acquisition and resettlement of people was implemented.

<Evaluation Result>

Although the project purpose was partially achieved, the project effects have been continued, and the overall goal was achieved. In addition, the project has a positive impact on the status of the block heads, and no negative impact was observed. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) To institutionalize framework plans for strengthening local governance and decentralization in the Royal Government of Bhutan (RGoB) and make necessary arrangement for their implementation.	(Indicator 1) A model of planning, implementing and monitoring block grants is established, and functional within the three pilot districts.	Status of the achievement: Partially achieved (Project completion) • A model of planning and implementing block grants has been well established in the project target area. • GYT members, block functionaries and community members could capitalize on block grants and address their immediate needs. • On the other hand, with regards to the monitoring of the block grants implementation, the project and the relevant authorities have yet to come up with an effective model. (Ex-post Evaluation) continued • The Guidelines for the Annual Grants for Local Government was framed in 2010 which is four years after the completion of the project. • The Government Performance Management System (GPMS) was established to align budget to the objectives and for real time monitoring and problem solving.
	(Indicator 2) The experience and lessons learned from the project is reflected into national strategy for local governance and decentralization.	Status of the achievement: Not achieved (Terminal Evaluation) • Valuable experiences, which were expected to be utilized for refining the national block grants system under the 10th Five Year Plan, have been accumulated locally. • More efforts were required to systematically review and consolidate the important experiences and lessons learned in order to refine the framework and systems for block grants before the 10th Five Year Plan. (Ex-post Evaluation) Achieved. • The Parliament of Bhutan enacted the Local Government Act of Bhutan 2009 on 11 September 2009 and came into force from 15 March 2010. • It was further amended by the Parliament on 4 December 2014.
(Overall goal) Public service delivery at the community level is enhanced throughout the country.	(Indicator 1) Annual block grants are introduced nationwide at the Gewog level, in accordance with the national strategy for local governance and decentralization.	Status of the achievement: Achieved (Ex-post Evaluation) • The government initiated a system of Annual Capital Grant for 205 blocks nationwide in 2010. From the beginning of the 10th Five Year Plan (2008-2013), the blocks planned, and implemented their development activities with budget based on the formula for Annual Capital Grant provided by the government. • For the period between 2008 and 2013, the government also introduced Constituency Development Grant up to Nu.10 million (1 Nu.=1.660 JPY as of March 17, 2017) per constituency to support decentralization and strengthen local government and to provide communities with access to small funds that are flexible and able to

[4] i) Introduction course, ii) Local government leadership, iii) Planning and prioritization, iv) Project management, v) Community facilitation, vi) Environment, climate change, disaster risk reduction, vii) Basic engineering, viii) Finance and budgeting, ix) Office management, x) Dzongkhag unicode

		meet emergent unplanned needs expeditiously. • From 2014 onwards the government introduced other annual block grant up to Nu 2 million each as "Gewog Development Grant." This is in addition to annual capital grant budget.
	(Indicator 2) Programs and systems are in place for enhancing administrative and management capacities among local government officials for public service delivery.	Status of the achievement: Achieved (Ex-post Evaluation) • The Phase II and III of this project were implemented based on the results of this project and ICBP was institutionalized through establishment of standardized training module. • With the emergence of and adoption of the Capacity Development Strategy formed in 2012, the revision of ICBP was carried out in 2012 for focusing mainly to local government officials at the block level. As a result, 10 trainings, such as introduction course and local government leader ship have been identified as standardized training module.

Source: Department of Local Governance (DLG), MoHCA

3 Efficiency

The project cost exceeded the plan (ratio against the plan: 110%) because of an increase in pilot project activities in a second cycle such as infrastructure development for roads, bridge, community hall, etc. The project period was longer than the plan (ratio against the plan: 133%) mainly because of suspension of the project activities by the natural disaster, such as flood in 2004 and the delay of the second cycle of pilot projects by a delay of the Gewog center and additional procedures required for budgeting. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The RGoB has been very supportive to strengthen the local governance and decentralization in the country as evidenced by the current 11th Five Year Plan (2013-2018), the enactment of various relevant acts and rules and regulations, guidelines etc.

<Institutional Aspect>

The Department of Local Governance, MoHCA is in charge of implementing of ICBP. There are 9 master trainers in the government as follows: 2 persons for planning and prioritization (the Royal Institute of Management[5]); 2 persons for community facilitation (the Royal Institute of Management); 2 persons for project management (the Department of Local Governance); 1 person for leadership (the Paro Dzongkhag Administration); and 2 persons for engineering, (the Chukha Dzongkhag Administration). In addition, 10 new trainers were certified under the Phase II project. The number of active ICBP trainers including master trainers is sufficient to continue in order to conduct capacity development training for local government officers and GYT/DYT members under ICBP as mentioned above. For long-term sustainability of the various training curricula developed under ICBP, the Local Governance Capacity Development Working Group, which is an advisory body to the Department of Local Governance, was formed in 2012. The responsibilities of the working group are development and implementation, review and monitoring of the Local Capacity Development programme as per the Capacity Development Strategy developed in 2012.

<Technical Aspect>

The ICBP trainers trained themselves in their specific area under the Phase II project and have sustained their knowledge and skills for delivery of capacity development trainings for the local government officers. In order to enhance capacity of the local government factionaries, the RGoB launched LGSP for five years from 2008 to 2013 with support from Denmark, Austria, the Swiss Agency for Development Cooperation (SDC), UNCDF, and UNDP and provided training activities/workshops/orientation program for local government officials. The following guidelines are being used: (i) Local Government Rules and Regulations 2012, (ii) Local Government Development Planning Manual, (iii) Annual Grants Guidelines for Local Government (districts and blocks) 2010, and (iv) Guidelines for the Implementation of the Block Development Grant.

<Financial Aspect>

The target three districts have received the annual block grants from the RGoB. For example, the received annual block grants in 2015 were 335 million Ngultrum in Haa district, 406 million Ngultrum (Nu) in Bumthang district, and 1,046 million Ngultrum in Trashingang district. The annual block grant covered not only projects at the block level but also the district administrative expenditure to support the blocks. On the other hand, although the Department of Local Governance does not have fixed annual budget for implementation of ICBP so far, the Local Governance Capacity Development Working Group shall be responsible for development, implementation, review and monitoring of the Local Governance Capacity Development Programs as per the Capacity Development Strategy for the future of ICBP trainings. Also, the RGoB and donor partners fully recognized the importance of capacity development and they carried out a number of training activities/workshops/ orientation for local government officials as mentioned above. Following LGSP, from 2013 to 2018, the Local Government Sustainable Development Program (LGSDP) is under implementation with donors' support (DANIDA, SDC, UNDP/the United Nations Environment Programme (UNEP)/UNCDF and EU): in the year of 2014-2015, 350,000 Nu was allocated for 20 dzongkhags and 156,000 Nu. for 205 Gewogs as Capacity Development Grant. In years of 2015/2016, there was no grant, but in years of 2016/2017, the Human Resource Development Grant of 40 million Nu was provided from the Government of India. Beyond 2017, RGoB is seeking support from EU, that agreed to provide financial support for local governments for the coming 5 years, to carry out ICBP.

<Evaluation Result>

[5] The Royal Institute of Management is a government owned management training institute providing professional knowledge and skills in management and public administration. The institute plays a key role in i) training and capacity development of the civil service, ii) capacity development needs of local governance institutions and agencies iii) supporting the private sector development.

In light of the above, no problem has been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The project has partially achieved the project purpose and achieved the overall goal. A model of planning and implementing block grants was established, and functional within the three pilot districts, but a model for monitoring of the block grants implementation could not be established by the project completion. The experience and lessons learned from the project was accumulated locally, but it could not be reflected into national strategy for local governance and decentralization by the project completion. However, the experience of the project was utilized for formulating the Local Government Act of Bhutan 2009 and the Guidelines for the Annual Capital Grants for Local Government in 2010, following the institutionalization of Annual Capital Grant for 205 blocks nationwide in 2008. Through the implementation of Phase II and Phase III of this project, the framework of ICBP was developed and institutionalized for enhancing administrative and management capacities among local government officials for public service delivery

Regarding sustainability, no problems have been observed in terms of the policy, institutional, technical and financial aspects. As for efficiency, the project cost was higher than the plan and the project period was longer than the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- The Capacity Development Strategy under the Department of Local Governance should include new and emerging topics, such as health and safety, gender issues, community vitality, community contract protocol and legal framework, through the review of original initial modules of ICBP. The training program should be made mandatory in the Block Annual Work Plan and necessary budget for the training program should be provided from the District Development Grant (soon to be approved) and the Annual Capital Grant of the Local Government.
- More number of the Master Trainers should be trained to provide necessary support and back up for deliver trainings on the new topics mentioned above.

Lessons learned for JICA:

- The project was successfully implemented and brought about the expected outcomes, which were attributed by the following factors:
  - Timely intervention to support government's decentralization policy: The project was implemented at the right time when the government was moving forward to decentralization and strengthening local government. Therefore, it is essential to consider timing of project implementation in case where the project aims at capacity development of local government officers at the time of project formulation
  - Effective implementation of pilot project as OJT: Implementation of pilot project using the Block grant brought about not only capacity development of the local government officers through the process of pilot project from planning to supervision but also development of necessary physical infrastructure such as Gewog center. It is important to consider framework and objective of the pilot projects at the time of project planning.
  - Since the project component to reflect key project results in national policy initiatives were incorporated, the model of planning and implementation for Block grant and the capacity development trainings for the local government officers have been reflected into the policy initiatives. Therefore, it is preferable to consider a project component how to reflect the project results into policy initiatives in order to disseminate the project results nationwide under decentralization.

Gewog Office at Ura Block, Bumthang District

LG Officials at Katsho Block, Haa District

Public gathering at Bartsham Block, Trashigang District

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Nicaragua Office: June 2017

Country Name	**Project for Improvement of Living Standard through Promotion of the Farming Production in the Indigenous / Ethnic-Communities of Puerto Cabezas**
Republic of Nicaragua	

I. Project Outline

Background	Due to the civil war for over 10 years since 1979, the Nicaraguan economy was battered and poverty reduction has been a principal issue for the government of Nicaragua. In particular, the situation in the Atlantic region including the North Atlantic Autonomous Region (RAAN) was severe as 76% of the population was in poverty (2001). In RAAN, most of the habitants have been indigenous people and they have been engaged in agriculture. Attributed to the disease and insect damages and monoculture cropping, the production was limited even for the self-consumption. However, no technical support was provided to RAAN since the agricultural sector was not given priorities. In such circumstances, the government of Nicaragua requested technical cooperation to the government of Japan for Puerto Cabezas Municipality in RAAN as a pilot municipality.				
Objectives of the Project	Through the establishment of the Committee for Rural Development (CDR) and implementation of the model projects for new agricultural techniques and life improvement in model areas in the Municipality of Puerto Cabezas, the project aimed at increasing the model farmers' production and improving the livelihood, thereby contributing to the extension of the introduced model to other areas in the municipality and other municipalities.				
	Overall Goal: 1. The living standards of farmers in the Puerto Cabezas Municipality is improved through agricultural extension established by the model farmer groups; 2. Agricultural extension activities are disseminated among indigenous areas outside of the Puerto Cabezas Municipality. Project Purpose: The living standard of the farmers of model groups is improved.				
Activities of the project	1. Project site: 3 areas (Llano Norte, Llano Sur and Tasba Pri) in Puerto Cabezas Municipality 2. Main activities: Establishment of CDR, training of the community promoters on agricultural technologies and life improvement approach, training of the model group farmers through the trained promoters, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 6 persons 2) Training in Japan: 12 persons 3) Equipment: Vehicles, PCs, motorcycles, etc. 4) Operation cost for hiring local consultants, travel expenses, facility rental, etc. Nicaraguan Side 1) Staff allocated: 9 persons (technical counterpart) 2) Land and facilities: Office space, equipment, etc. 3) Operation cost for staff salaries, office utilities, etc.				
Ex-Ante Evaluation	2007	Project Period	February 2008 to February 2013 (Extension period: February 2012 to February 2013)	Project Cost	(ex-ante) 250 million yen (actual) 313 million yen
Implementing Agency	Municipality of Puerto Cabezas				
Cooperation Agency in Japan	None.				

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation>

- The first Overall Goal was "the living standards of farmers in the Puerto Cabezas Municipality is improved through agricultural extension established by the model farmer groups." However, the indicators were those which verify the agricultural extension. In the ex-post evaluation, if the farmers apply the techniques introduced by the project and increase the production, it was interpreted that the farmers improved the living standard.
- In the Indicators 1-2, 1-3 and 1-4 of the first Overall Goal of PDM, 1,500 farmers were targeted. In Puerto Cabezas, it was confirmed that there are 1,500 farmers engaged in agriculture and fishery in 86 communities at the time of the ex-post evaluation, though the breakdown data of the numbers was not available. 780 farmers in 32 communities receive support from the municipality, due to the limitations of human and financial resource of the municipality and its vast area. In the ex-post evaluation survey, the data was available only for the 780 agricultural farmers, and therefore, the achievement level was verified based on these 780 farmers. As well, though the whole municipality was targeted in the Indicator 1-5, the achievement level was verified based on that the 32 communities.

1 Relevance

<Consistency with the Development Policy of Nicaragua at the time of ex-ante evaluation and project completion>

The project was consistent with the Nicaraguan development policies, as the indigenous autonomous area on the Atlantic Coast including RAAN has been regarded as an area of poverty which needs a special attention regarding the regional characteristics in the National Development Plan (2006-2010) and the National Plan for Human Development (2012-2016).

<Consistency with the Development Needs of Nicaragua at the time of ex-ante evaluation and project completion >

In Nicaragua, 45% lived in poverty and especially, the poverty ratio in the Atlantic Region including RAAN was as high as 76% (2001). The people are engaged in agriculture, but the productivity was low. There have been great needs for technical support for extension services until the time of ex-post evaluation.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

In the Country Assistance Program for Nicaragua (2002), one of the priority areas was agricultural and rural development for the next five years.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved. More than 80% of the model farmers who introduced the appropriate agricultural technologies for the area increased the production of the dominant crops such as rice, beans and root crops. The crops were diversified, as more than 80% of the model farmers newly introduced more than three vegetables. Besides, more than 50% of them continued to apply the life improvement technique.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued in the model areas since the project completion. 95% of the interviewed 43 model farmers have increased the production of the dominant crops such as tomatoes and chiltomas, by using the technologies introduced by the project such as soil improvement and citric graft. 69% of the farmers have introduced more than at least one new crop (e.g. tomatoes, chiltomas, carrots, etc.). With regard to the life improvement, 72% of the model farmers have continued the techniques such as healthy diet and decent housing.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

With regard the first Overall Goal (improvement of the living standard of the model farmers), it has been partially achieved. In other words, CDR has not functioned as a coordinating agency for the agricultural extension in Puerto Cabezas. However, the member organizations of CDR (Municipality of Puerto Cabezas, University of Autonomous Region of North Atlantic (URACCAN), Bluefields Indian & Caribbean University-Inter University Center of Morava Church (BICU-CIUM) and PANAPANA (local NGO)) have their own plan of the extension services and conduct training and follow-up visits for the farmers. As a result, 448 farmers (57% of the farmers supported by the municipality in 32 communities) have applied at least one technology introduced by the project and 717 (92%) have improved the production of the dominant crops. And, 269 farmers (34%) have introduced more than three new crops. As for the second Overall Goal (extension to outside Puerto Cabezas), it has been achieved. Not CDR but the member organizations have conducted workshops for exchanging farmers' experience in the municipalities of Rosita, Bonanza, Waspan and Prinzapolka.

<Other Impacts at the time of Ex-post Evaluation>

Firstly, among the interviewed 138 farmers in Puerto Cabezas, 53% considers that their cooperation has been strengthened, 49% increased surplus crops for business, and 54% increased the agricultural income. Second, more women (77%) have come to participate in agriculture activities much or to some extent than before, according to CDR. The project had activities in which the women could be involved easily, such as housing improvement, training on organization, etc.

No negative impacts on the natural and social environment caused by the project have been observed.

<Evaluation Result>

In light of the above, the Project Purpose was completed and its effects have continued in some areas in the Municipality of Puerto Cabezas. However, the Overall Goal has been achieved partially, or, the project experience has not been fully extended to the other areas in the municipality. Therefore, the effectiveness/impact of the project is fair.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The living standard of the farmers of model groups is improved.	1. 50% of the model farmers who introduced the appropriate agricultural technologies for the area increase the production of the chief crops.	(Project Completion) Achieved. - More than 80% of the model farmers who introduced the appropriate agricultural technologies for the area increased the production of the dominant crops (rice, frijoles and root crops). (Ex-post Evaluation) Continued. - 95% of the interviewed model farmers have increased the production of the dominant crops with the technologies introduced by the project.
	2. 50% of the model farmers introduce more than 3 new agricultural crops (diversification of the crops).	(Project Completion) Achieved. - More than 80% of the model farmers introduced more than 3 new agricultural crops (vegetables). (Ex-post Evaluation) Partially continued. - 69% of the interviewed model farmers have grown at least one crop introduced by the project.
	3. 50% of the model farmers sustainably apply learning from the training on the life improvement.	(Project completion) Achieved. - More than 50% of the model farmers sustainably have applied learning from the training on the life improvement. (Ex-post Evaluation) Continued. - 72% of the interviewed model farmers have applied at least one life improvement technique introduced by the project.
(Overall goal) 1. The living standards of farmers in the Puerto Cabezas Municipality is improved through agricultural extension established by the model farmer groups.	1-1. The plan of CDR is revised periodically and implemented.	(Ex-post Evaluation) Not achieved. - CDR has not functioned. It has not prepared the annual plan or implemented any programs.
	1-2. 1,500 small farmers in 50 communities of Puerto Cabezas Municipality apply the technologies introduced by the project.	(Ex-post Evaluation) Partially achieved. - Among 780 farmers in 32 communities currently attended by the municipality, 448 (57%) have applied at least one technology introduced by the project.
	1-3. 1,500 small farmers in 50 communities of Puerto Cabezas Municipality improve the production of the dominant crops (rice, frijole, root crops, etc.).	(Ex-post Evaluation) Mostly achieved. - Among 780 farmers in 32 communities attended by the municipality, 717 (92%) have improved the production of the dominant crops.

	1-4. 1,500 small farmers in 50 communities of Puerto Cabezas Municipality introduce more than 3 new agricultural crops (diversification of the crops).	(Ex-post Evaluation) Not Achieved. - Among 780 farmers in 32 communities attended by the municipality, 269 (34%) have introduced more than three new crops.
	1-5. In the whole Puerto Cabezas Municipality, the diffusion system of the life improvement functions appropriately.	(Ex-post Evaluation) Achieved. - Each of the Municipality of Puerto Cabezas, URACCAN, BICU-CIUM and PANAPANA has conducted diffusion activities on the life improvement through direct visits, training workshops and students' practice in 32 communities in Puerto Cabezas, according to the interview with each organization.
2. Agricultural extension activities are disseminated among indigenous areas outside of the Puerto Cabezas Municipality.	2-1. The exchange among the farmers of indigenous communities outside Puerto Cabezas Municipality is conducted each year in 3 neighboring municipalities.	(Ex-post Evaluation) Achieved. - Workshops or training for exchanging farmers' experience were conducted in Rosita Municipality (by URACAAN in 2013), in in Bonanza and Waspan Municipalities (by BICU from 2014 to 2016) and in Siuna, Rosita, Bonanza Prinzapolka and Waspan (by the Ministry of Family, Community, Cooperatives and Association Economy (MEFCCA) in 2016).

Source: JICA internal documents, Terminal Evaluation Report, CDR, Puerto Cabezas Municipality, interview for model famers.

3 Efficiency

Both of the project period and cost exceeded the plan (ratio against the plan: 125% and 125%, respectively). Due to the Hurricane Felix in 2007 and assault to the project office, some project activities were delayed and had to be redesigned. Also, there were internal conflicts within the municipality which caused the delay of some activities. Approximately half of the excess of the project period was due to force majeure. The project efficiency is fair.

4 Sustainability

<Policy Aspect>

Development of the Caribbean Coast is considered as an important theme in the country's poverty reduction strategy in PNDH (2012-2016). Objectives set in the Development Strategy of the Caribbean Coast (2012-2016) include the improvement of the socio-economic well-being of the residents.

<Institutional Aspect>

CDR was established by the project with involvement of the Municipality of Puerto Cabezas, URACCAN, BICU-CIUM and PANAPANA. CDR's responsibilities are mentioned in the municipality's internal regulation, such as planning and implementation of agricultural projects and inter-institutional and inter-sectoral coordination for agricultural development. However, since the project completion, it has not fulfilled the roles such as preparation of the annual plan, extension services for the farmers, monitoring, diffusion of the experiences, etc. This is because the member organizations have their own duties and also limitations on human and financial resources for carrying out their responsibility as CDR. The other reason is that when the personnel changed, necessary handover was not carried out in these organizations. Since the project completion, CDR has not prepared the annual plan or implemented any programs. Instead, each of the Municipality of Puerto Cabezas, URACCAN, BICU-CIUM and PANAPANA have independently conducted the extension services as per each plan. For example, URACCAN and BICU-CIUM conducted training for the new farmers based on the project experience. The number of the extension workers at the Municipality, URACCAN and BICU-CIUM is not sufficient to cover all the needs in Puerto Cabezas. Promoters trained by the project are still working in 13 among the interviewed 19 communities to diffuse the introduced techniques and life improvement approach and the nearby farmers can receive technical support from them upon necessity.

<Technical Aspect>

Since the project completion, the extension workers have had training opportunities provided by URACCAN and BICU-CIUM and experience sharing with the ex-trainees of JICA training courses on the life improvement approach, and 80% of the interviewed extension workers consider that they have sufficient knowledge and skills for supporting the farmers. 59% of the interviewed promoters answered that the training given by the project was useful to train other farmers in the community. Some promoters still have training opportunities from various institutions including the Ministry of Economy of Family, Community, Cooperative and Association, Ministry of Education, NGOs, etc., related to the model developed by the project. New promoters have been selected and trained in 19% of the interviewed communities. The training manuals developed by the project have been utilized by about half of the extension workers and promoters.

<Financial Aspect>

Since CDR is not a legally established organization, no budget has been and will be guaranteed. The budget of the Section of Natural Resources of the Municipality of Puerto Cabezas which is in charge of agricultural extension has been increasing (5,150 thousand Córdobas[1] in 2013 to 7,373 thousand Córdobas in 2016), but it is to cover also issues of water, hygiene, forestry, and solid waste and therefore it is not sufficient for the agricultural activities. Financial data were not available from URACCAN, BICU-CIUM and PANAPANA, but they answered that currently the budgets are not sufficient for the extension and follow-up activities.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was completed and its effects have continued. Concretely, the model farmers applied appropriate agricultural technologies, diversified the crop production, and increased the production of the dominant crops. And, they introduced the life improvement technique. These effects have continued in some areas including model areas in Puerto Cabezas. However, the project experience has not been fully extended to the other areas in the municipality. Regarding the sustainability, CDR established by the

[1] One Nicaraguan Córdoba is equivalent to 3.84 Japanese yen in March 2017, according to JICA Exchange rate (available at JICA website).

project for coordination of the agricultural extension services substantially has not functioned. Instead, each member organization has implements its own extension services, but its budget is not sufficient for the extension and follow-up activities. As for the project efficiency, both of the project period and cost exceeded the plan, due to the damages brought by the hurricane, assault to the project office, internal conflicts in the municipality.

Considering all of the above points, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- CDR functions have been suspended since the project completion, and it seems to be difficult to reactivate as it was during the project period. However, the member organizations have continued the extension activities for the farmers. In this situation, it is recommended to the Municipality of Puerto Cabezas to act as a facilitator for exchanging the information and experience among these member organizations and connecting them with other related organizations such as the Regional Government, National System of Production, Consumption and Commerce, and international donors. In the annual or semiannual meetings, the members can share their work plan and achievement so that the meeting participants can implement more effective and systematized activities for the farmers. It is effective to invite the extension workers and promoters in the model areas to the meetings to share their experience. Also, the media can be invited for further dissemination of the project experience.

Lessons learned for JICA:

- In the project, a committee was newly organized for coordination of the extension services with participation of the municipality (implementing agency), two universities and local NGO. However, since the project completion, the committees has nominally existed but not fulfilled the roles. This is because the member organizations have their own duties and also limitations on human and financial resources to carry out their responsibilities as a committee. The other reason is the personnel change without necessary handover. These are probably caused because the committee has not been given an officially legal status. Currently, extension services have been independently conducted by each member organization under their respective program. In the projects in which it is planned to establish a new organization, it is necessary to carefully consider whether any existing organization can take the responsibility beforehand. If it is decided to establish a new one, it is desirable to guarantee the organization's status, clarify the functions of the members, and prepare the action plan during the project period with the secured budget, for at least the first year after the project completion. Or, it can be effective to strengthen the network mechanism between the farmers and technicians trained by the project rather than to establish a new coordination organization.

A farmer showing the vegetable seedling grown with the techniques which he learned from the project

Improvement of the kitchen environment with the life improvement techniques

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ethiopia Office: February 2018

Country Name	**Participatory Forest Management Project in Belete-Gera Regional Forest Priority Area Phase 2**
Federal Republic of Ethiopia	

I. Project Outline

Background	In Ethiopia, the forest area used to account for approximately 35% of the land area (equivalent to approximately 42 million ha), but due to inappropriate land use, excessive deforestation, population growth, and so forth, it decreased to about 4.5 million ha (2000). Although the Government of Ethiopia made efforts for forest preservation including selection of national forest priority areas, the effects were limited. Upon request from the Government of Ethiopia, JICA implemented "the Forest Resources Management Study in the southwestern part of Ethiopia (1996-1998)" in which the survey on the forest and sub-villages in the Belete-Gera Regional Forest Priority Area (RFPA) was conducted. The survey revealed that the natural forests were diminishing every year due to expansion of residential areas and agricultural land and that there were emergent needs for effective utilization and conservation of forest ecosystems. Based on this survey result, a technical cooperation project for development and participatory forest management was implemented in two districts in Belete-Gera RFPA (Participatory Forest Management Project in Belete-Gera RFPA, 2003-2006). The project was requested for further capacity development of the implementing agencies and sub-villages and expansion of sustainable forest management along with livelihood improvement including wild coffee business to other districts.		
Objectives of the Project	By organizing forest management associations (WaBuBs), establishing coffee business partnership and conducting field schools for farmers, the project aimed at developing participatory forest management in selected areas, thereby contributing to implementation of the participatory forest management in sustainable manner in Belete-Gera RFPA. * WaBuB PFM approach is composed of the forest management (organization of WaBuB and preparation and implementation of WaBuB Forest Management Plan (FMP)) and livelihood support components (WaBuB Field School (WFS) and Forest Coffee Certification Programme (FCCP)). Each WaBuB signs the Provisional Forest Management Agreement (P-FMA) after demarcating the forest boundaries, prepares FMP based on the joint monitoring with Jimma Brach Office (JBO) of the Oromia Forest and Wildlife Enterprise (OFWE), and signs the Forest Management Agreement (FMA).		
	1. Overall Goal: Participatory forest management is carried out in a sustainable manner by the local people in Belete-Gera Regional Forest Priority Area (RFPA). 2. Project Purpose: WaBuB Participatory Forest Management (WaBuB PFM)* is developed in selected areas in Belete-Gera RFPA.		
Activities of the project	1. Project site: 124 sub-villages in Belete-Gera RFPA 2. Main activities: Establishing and supporting WaBuBs for implementing Forest Management Plan, supporting WaBuBs for participating in the coffee certification program, conducting the field school for increasing the agricultural productivity and improving farmers' livelihood, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts from Japan: 11 persons 2) Experts from the third country: 4 persons 3) Training in Japan and third country: 38 persons 4) Equipment: vehicle, PCs, GPS equipment, etc. 5) Operation cost. Ethiopian Side 1) Staff allocated: 10 persons 2) Land and facilities: Office space in Jimma and Gera, etc. 3) Operation cost for hiring assistant officers, expenses for joint monitoring, coffee certification program, water and electricity, etc.		
Project Period	October 2006 to March 2012 (Extension period: October 2010 to March 2012)	Project Cost	(ex-ante) 370 million yen, (actual) 503 million yen
Implementing Agency	Oromia Forest and Wildlife Enterprise (OFWE), Jimma Brach Office (JBO) *OFWE was separated from the Rural Land Administration Sector of Agriculture and Rural Development Bureau in 2009, due to the structural change in the Oromia Regional Government.		
Cooperation Agency in Japan	None.		

II. Result of the Evaluation

[Special perspectives of evaluation considered at the ex-post evaluation]

- Among the indicators of the Project Purpose and Overall Goal set in PDM, some were not appropriate to verify the achievement level. For example, the Overall Goal was described as "practice of PFM" but its indicators included those which verify the result of practiced PFM. At the ex-post evaluation, the indicators which were set in PDM were verified, and some supplementary information was used for explaining the logic for attaining the project effects.
- Indicator 3 of the Overall Goal was set as "At least 70% of WaBuB members observe that deforestation in their designated area has stopped." To verify deforestation more objectively, the data on the forest was used.
- There were 125 target sub-villages in the project. Slightly before the project completion, two sub-villages were merged into one sub-village, and therefore the number of the target sub-villages was considered as 124 at the ex-post evaluation.
- During the project period, a total of 7,977 households graduated from WFS, and 1,856 households participated in FCCP. Among them, 327 and 205 households, respectively, were surveyed at the ex-post evaluation.

- Among the target WaBuBs, those where forest coffee is grown have been supported by the successor project implemented by OFWE and JICA (Project for Supporting Sustainable Forest Management through REDD+ and Certified Forest Coffee Production & Promotion, 2014-2020). This ongoing project aims at increasing farmers' income through FCCP linked with appropriate forest management. It was difficult to verify the project effects and sustainability by strictly separating this ongoing intervention in these WaBuBs' activities with regard to coffee production.

1 Relevance

<Consistency with the Development Policy of Ethiopia at the time of ex-ante evaluation and project completion>

Necessity of forest management in Ethiopia is described in the proclamation of forest conservation, development and utilization (No.94/1994) of the Federal Government of Ethiopia and in the forest proclamation (No.72/2003) of the Oromia Regional Government. These policies have been effective until the time of the ex-post evaluation, and therefore the project was consistent with development policies of Ethiopia.

<Consistency with the Development Needs of Ethiopia at the time of ex-ante evaluation and project completion >

Most high forest areas in Oromia Region are located within regional forest priority areas. In particular, highland areas above the elevation of 1,500m were assumed to be densely covered with closed high forest. However, owing to the explosive population growth and resulting human encroachment into forests, these forests were drastically diminishing. Oromia Region represents approximately 70% of the forest resources of the country, however, its closed high forests were annually diminishing 50,000 to 100,000 ha due to agricultural expansion, fuel wood collection, illegal settlers, urbanization, forest fires, and poor logging practice. There were great needs for forest management both at the time of the ex-ante evaluation and project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

In the discussion for preparation of "the Country Assistance Program for Ethiopia" which was developed in 2006, top priority areas for assistance were agriculture and water. It was planned that the long- and mid-term assistance would be provided for farmers in poverty[1].

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved. By the project completion, all of the 124 target WaBuBs signed P-FMA and FMA (Indicator 1). A total of 321 WFS were organized and 7,977 farmers (4,297 male and 3,680 female) graduated from WFS. More than 80% of the graduates improved agriculture practices such as weeding and home garden, and more than 70% improved agricultural management methods such as regular farm visit, proper spacing and use of manure/compost (Indicator 2). All of WaBuBs where wild coffee was grown participated in FCCP and no case of violating certification criteria was reported (Indicator 3). They got premium rates (15-25%) when selling coffee.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued. All of the 124 target WaBuBs have sustained FMA. All of the 124 surveyed households which graduated from WFS have still applied the learnings such as weeding and home garden. They have also continued acquired agricultural management methods such as regular farm visits, proper spacing and use of manure/compost. Activities related to FCCP have been continued by the surveyed households who participate in FCCP (205 households) with support from the ongoing project supported by JICA. However, less than half of them have gained more than 15% of benefits for selling coffee. It is because they cannot sell coffee to JBO if the quality is not good even though they follow FCCP criteria.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It can be judged that the Overall Goal has been partially achieved from the following reasons. First, PFM has not been practiced at WaBuB level but individual level. Since the project completion, no WaBuB has conducted joint monitoring with OFWE or PFM activities such as planting and replanting based on the action plan of FMP due to the lack of OFWE's coordination. However, individual households recognized PFM and respected the forest boundary, according to the WaBuB members (327 households) interviewed for the ex-post evaluation. They understand that logging in forest area is prohibited and if they find it they report to the local government.

On the other hand, though PFM application has been partial, forest dependent households in the Belete-Gera RFPA increased their incomes more than planned by selling coffee and other agricultural products. Households which participate in FCCP increased their incomes by 72% on average through FCCP and also from selling vegetables and fruits (2,415 Ethiopian Birr (ETB) to 4,165 ETB). Although the data for the Indicator 1 was not available, the average income for all the 92 households surveyed considerably increased. Therefore, it is reasonably assumed that the average income for individual households may have increased by the more than target value of 20%. Households which graduated from WFS increased incomes by 43% on average (Indicator 1). Furthermore, it can be said that WaBuB forest management has improved the members' livelihood, as 85% of the surveyed households who participate in FCCP and 57% of those which do not participate in FCCP answered that their livelihood vulnerability has reduced due to benefits obtained from forest coffee and other agricultural products (Indicator 2). Regarding the forest area, WaBuB members themselves realize that "deforestation has decreased due to forest protection and the forest area has increased," and recognize the effectiveness of PFM. However, as far as the data show, the forest area has not increased, but the deforestation rate has decreased since the project started (Indicator 3).

<Other Impacts at the time of Ex-post Evaluation>

There are several positive impacts as follow. First, WaBuB members became conscious about PFM and came to properly dispose non-degradable solid waste including plastics. Second, the habitat range and the number of the wildlife animals such as monkey and porcupine have increased according to the interviewed WaBuB members. Thirdly, men and female have equally participated in the PFM activities and they consider forest ownership and resource sharing are not influenced by gender. No negative impact has been reported on the natural environment.

<Evaluation Result>

In light of the above, the Project Purpose was achieved, and the effects have mostly continued. The achievement level of the Overall

[1] Ministry of Foreign Affairs (2007). "ODA Databook 2006."

Goal has been partial. Therefore, the effectiveness/impact of the project is high.

Achievement of the Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="4">(Project Purpose)
WaBuB Participatory Forest Management (WaBuB PFM)* is developed in selected areas in Belete-Gera RFPA.</td><td>Indicators:
1. At least 60 % of WaBuBs signed Provisional Forest Management Agreement (P-FMA) to implement PFM through the WaBuB PFM approach.</td><td>Status of achievement: Achieved (Continued).
(Project Completion)
- All of the 124 targeted WaBuBs (100%) were established through P-FMA, and signed FMA to implement PFM.
(Ex-post Evaluation)
- All of the 124 targeted WaBuBs have sustained FMA.</td></tr>
<tr><td>2. At least 80% of households graduating from WaBuB Field School (WFS) improved land use and agriculture practices as a result of the WFSs.</td><td>Status of achievement: Achieved (Continued).
(Project Completion)
- More than 80% of the graduates adopted and improved land use and agriculture practices. More than 70% adopted and improved agricultural management methods.
(Ex-post Evaluation)
- All of the 327 surveyed households which graduated from WFS (117 in Belete and 210 in Gera) have applied learnings from WFS.</td></tr>
<tr><td>3. At least 90% of households participating in the Forest Coffee Certificate Programme (FCCP) respect the certification criteria</td><td>Status of achievement: Achieved (Continued).
(Project Completion)
- No violation was reported.
(Ex-post Evaluation)
- All of the 205 surveyed households who participate in FCCP have respected the certification criteria.</td></tr>
<tr><td>4. At least 80% of households participating in FCCP realize an increased producer price of at least 15% resulting from FCCP.</td><td>Status of achievement: Achieved (Partially continued).
(Project Completion)
- All WaBuBs which participated in FCCP experienced in premium rates (15-25%) when selling their products.
(Ex-post Evaluation)
- Among the 205 surveyed households which participated in FCCP (70 in Belete and 135 in Gera), 90 households (44%) answered that they have gained more than 15% of benefits of the increased price from FCCP.</td></tr>
<tr><td rowspan="4">(Overall goal)
Participatory forest management is carried out in a sustainable manner by the local people in Belete-Gera Regional Forest Priority Area (RFPA).</td><td>1. At least 50% of forest dependent households in the Belete-Gera RFPA have increased their real incomes by at least 20% through legally secured access to forests, intensified and diversified farm land use, and improved marketing.</td><td>Status of achievement: Achieved.
(Ex-post Evaluation)
- The average annual income of the 92 surveyed households which participate in FCCP increased from 2,415 ETB before joining WaBuBs to 4,165 ETB, through cultivation of forest coffee and intensive agricultural products (increase by 72%).
The proportion of the households which increased their real incomes by more than 20% could not be confirmed. However, since the average income of all the 92 households increased by 72%, it can be presumed that the set target has been achieved.
- The average annual income of the 32 surveyed households who did not participate in FCCP has increased from 2,144 ETB to 3,450 ETB, through cultivation of vegetables and fruits (increase by 61%).
- The average annual income of the 124 surveyed households which graduated from WFS has increased from 2,345 ETB before joining WaBuBs to 3,355 ETB, through cultivation of fruits and vegetables and apiculture (increase by 43%).

*Note: The average incomes are gross incomes before deducting the expenses.</td></tr>
<tr><td>2. At least 50% of project beneficiaries state that their livelihood vulnerability has reduced as a result of the WaBuB Participatory Forest Management (PFM) approach</td><td>Status of achievement: Achieved.
(Ex-post Evaluation)
- 85% of the 205 surveyed households which participated in FCCP answered that their livelihood vulnerability has reduced as a result of participatory forest management.
- 57% of the 122 surveyed households which did not participate in FCCP answered that their livelihood vulnerability has reduced as a result of participatory forest management.</td></tr>
<tr><td>3. At least 70% of WaBuB communities (members) observe that deforestation in their designated area has stopped</td><td>Status of achievement: Not achieved.
(Ex-post Evaluation)
<Supplementary information>
<table>
<tr><th></th><th>1995</th><th>2000</th><th>2010</th><th>2015</th></tr>
<tr><td>Forest area in Belete-Gera (ha)</td><td>115,537</td><td>108,823</td><td>101,860</td><td>99,508</td></tr>
<tr><td>Increase rate</td><td>NA</td><td>-5.8%</td><td>-6.4%</td><td>-2.3%</td></tr>
<tr><td>Forest coffee area (ha)</td><td>69,593</td><td>64,688</td><td>63,245</td><td>62,041</td></tr>
<tr><td>Increase rate</td><td>NA</td><td>-7.0%</td><td>-2.2%</td><td>-1.9%</td></tr>
</table>
.</td></tr>
<tr><td></td><td><Supplementary information>
- Among 124 WaBuBs, no WaBuBs have conducted joint annual monitoring with OFWE, revised the forest management action plan or practiced PFM activities as WaBuB. On the other hand, individual households have recognized PFM and respected the border of forest and homestead area
- 117 WaBuBs (94%) have obeyed rules of land-use mapping. Agricultural land use within the mapping has been decreased.</td></tr>
</table>

Source: Project Completion Report and other internal documents, interview with WaBuB members.

3 Efficiency

Outputs were produced as planned, but both the project cost and period exceeded the plan in order to ensure PFM application in all the targeted sub-villages (ratio against the plan, 136% and, 138%, respectively). Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

Promotion of forest management for mitigating deforestation is prioritized in the government policy. As the government's commitment to building Climate Resilient Green Economy is described in the Second Growth and Transformation Plan (GTP-II) (2014-2019), forest management is a priority issue towards adaptation to climate change and mitigation of greenhouse gases emissions.

<Institutional Aspect>

JBO is responsible for supervising forest management in Belete-Gera. Only one person is assigned as PFM Expert. At the Unit Offices of Belete and Gera, six and five Forest Experts are assigned, respectively, but not specifically dedicated to PFM. Though these staff numbers have been increasing, it is not sufficient to support PFM activities in 44 villages. For example, joint monitoring with WaBuBs has not been conducted, because no sufficient personnel and budget are not assigned as OFWE doesn't consider PFM as top priority because it does not make profits. The District Agriculture and Rural Development Offices (ARDO) take responsibility for agricultural extension. 28 and 76 Development Agents (DA) are working as extension officers in Gera and Shabe Districts, respectively. The number is sufficient, but ARDOs do not collaborate with OFWE as before due to lack of coordination. DAs' intervention related to PFM has been reduced. Since the project completion, operation of WFS has been handed over to ARDOs. However, WFS have not been conducted, due to lack of coordination between ARDOs and OFWE. They used to get together five times per year, but since the project completion they have had only one meeting per year. Meetings of WaBuBs' representatives for information sharing on PFM have also been reduced. They meet each other only when they have serious problems such as illegal logging or land use. During the project period, six coffee cooperatives were organized and during the follow up period one cooperative was newly established. Under the ongoing JICA project, these seven cooperatives have been continuously supported.

<Technical Aspect>

JBO staff including PFM Expert and Coffee Expert themselves consider its technical staff acquired sufficient knowledge on PFM except GIS mapping and FCCP from the project activities, but, as mentioned, there are few opportunities to exercise their knowledge to support WaBuBs. The DAs of ARDO and the Farmer Facilitators selected from the WFS graduates have sufficient knowledge as trainers of WFS, according to WaBuB members, and they still keep facilitator's manuals on seedling fields, seedling management, agroforestry, planting management. However, they have no chance to utilize acquired knowledge and materials as no WFS has been organized. Regarding the technical level of WaBuB members, as most of the WaBuB leaders (121 of the 124 interviewed) answered that they have sufficient skills on PFM and cultivation of coffee and vegetables such as use of organic fertilizers. They still use the guidelines of WaBuB PFM as reference and sometimes share their experience in quality assurance of forest coffee.

<Financial Aspect>

The budget of OFWE comes from the Oromia Regional Government. Though the budgets of OFWE and allocation to JBO have increased since the project completion, less than 1% has been assigned to PFM related activities, and it is not sufficient. PFM is not top priority for OFWE, because it does not make profits. As OFWE is an independent organization, it prioritizes commercial programs of plantation trees. Regarding FCCP, OFWE has borne expenses for the license acquisition.

Table: Executed budgets of OFWE and JBO (thousand ETB)

	2013	2014	2015	2016
OFWE	23,206	17,839	23,162	37,243
JBO	9,099	8,234	10,204	14,267

Source: OFWE.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved but the effects have mostly continued. The Overall Goal has been partially achieved. In other words, in all the targeted sub-villages, WaBuBs were organized to sign FMA and conducted livelihood improvement activities in accordance with PFM. Since the project completion, FMA itself has been sustained in all the WaBuBs, WaBuB members on average have increased incomes from forest resources, but there have been issues such as no joint monitoring with OFWE and no implementation of PFM activities based on the action plan. Regarding the sustainability, OFWE has not conducted PFM-related activities such as joint monitoring with WaBuBs and coordination with ARDO, due to the budget and personnel shortage. No farmer schools have been organized. WaBuBs which produce forest coffee have been supported by the successor project. So as to the efficiency, both the project cost and period exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- No WaBuBs have implemented PFM activities based on the forest management action plan, and their joint monitoring with OFWE has not been conducted. It is recommended that OFWE should revise WaBuB approach so that it can be applied with available human and financial resources of OFWE and restart supporting WaBuB PFM activities even in a limited number of the WaBuBs (both forest coffee area and highland area) to understand the current situation of coffee production linked with PFM.
- It is recommended to OFWE that it should also consider WaBuB approach with renewable membership so that many members could sustain their gained knowledge and skills for PFM.

Lessons learned for JICA:

- During the project period, the project made much effort in directly supporting target sub-villages, rather than involving OFWE in the project activities. As a result, WaBuBs were organized and FMA was signed in all of the target sub-villages. It can be said that the project approach which balanced PFM with livelihood improvement was effective, as WaBuB members have increased incomes from forest

resources and sustained forest protection activities. However, due to lack of OFWE's involvement, PFM activities as WaBuB have not continued. For sustainability of the project effects, the project team should have carefully examined the implementing agency's budget and personnel capacity. If the capacity is not considered sufficient, the project should prioritize capacity development of the implementing agency rather than achievement of the objectives at the beneficiaries' level. Furthermore, by trial and error, the project should revise a possible approach which the implementing agency could manage by itself after the project completion. Or, the project should involve other agencies which work for forest management besides the implementing agency so that PFM would be sustained.

WaBuB members who are taking training by ongoing JICA project

WaBuB members who are taking training by ongoing JICA project

conducted by Kenya Office: February 2018

Country Name	**Project for Strengthening People Empowerment Against HIV/AIDS in Kenya (SPEAK) Phase 1&2**
Republic of Kenya	

I. Project Outline

Background	Following the launch of the 2nd National Health Sector Strategic Plan (NHSSP II, 2005 – 2010), HIV/AIDS continued to be one of the priority public health problems targeted for response by the Government of Kenya. Kenya had been implementing a successful multi-sectoral response to HIV/AIDS under the leadership of National AIDS Control Council (NACC). In order to tackle the HIV pandemic, HIV Testing and Counseling (HTC) was one of key approaches adopted as an entry point for prevention as well as care and treatment. The Government of Kenya aimed to reach universal access goal of 80 % of Kenyans knowing their HIV status by the year 2010, but only 36% had been attained. In line with the national strategy, the technical cooperation project for Strengthening of People Empowerment against HIV/AIDS in Kenya, christened SPEAK Project (hereafter referred to as "Phase1") was implemented from 2006 to 2009. Phase1 made significant contribution towards the achievement of the target by development of the National HTC Guidelines, which standardized various HTC services. Phase1 contributed to increase accessibility of HTC services. In the process of scaling up of HTC services, however, the Government of Kenya faced numerous challenges in achieving targets for universal access. One of the challenges to be urgently addressed was improving quality of HTC service and thus the implementation of a succeeding project (hereafter referred to as "Phase2") was requested. (Phase 1 and Phase 2 are hereafter collectively referred to as "the project" in this report)
Objectives of the Project	Through standardizing HTC related services, trainings for HIV counselling and testing service providers and awareness building activities on HIV in the Phase 1 and enhancement of management and coordination capacity of the National AIDS and Sexually Transmitted Disease (STI) Control Programme (NASCOP), and quality control (QC) and quality assurance (QA) of HTC services in the Phase 2, the project aimed at provision of quality HTC services at HTC delivery points, and thereby contributing to increase in the number of Kenyans tested for HIV. 1. Overall Goal: The number of Kenyans (especially the youth aged 15-24 years) tested for HIV increases annually. 2. Project Purpose: Quality HTC (HIV Testing and Counseling) services are provided at HTC service delivery points. (Note) The objectives of the project were restructured for this ex-post evaluation based on the actual frameworks of the Phase 1 and Phase 2 since there were logic inconsistencies in the design of the projects. Details are explained in "Special Perspectives Considered in the Ex-post Evaluation".
Activities of the project	(Phase 1) 1. Project site: NASCOP in Nairobi 2. Main activities: 1) Rolling out new M&E tools and maintaining HTC related database, 2) standardizing HTC related services, harmonizing HTC related guidelines, training curriculum, and improving coordination among NASCOP, 3) producing and broadcasting radio programmes to increase awareness and understanding of HIV issues, 4) training of HTC service providers. (Phase 2) 1. Project sites: NASCOP in Nairobi and HTC Model Sites in Nairobi, Nakuru and Mombasa Counties 2. Main activities: (1) Strengthening of management and coordination capacity of NASCOP (development of national strategies, service standards and other necessary tools, development of business plan and others) (2) Conducting training of HTC service providers, (3) enhancement of QC and QA, (4) improving data quality for HIV programs, (5) facilitating and evaluating of full application of QC/QA/ QI measures for HTC in the demonstration sites, and (6) Informing national policies with the results of the evaluation of the application of QC/QA/QI. Inputs for Phase 1 and Phase 2 (to carry out project activities) Japanese Side 1) Experts: 2 persons (Phase 1), 4 persons (Phase 2) 2) Trainees received (Japan and the third country training): 13 persons (Phase 2 only) 3) Equipment: container (project office), vehicles, PCs and others (Phase 1), vehicle and others (Phase 2) 4) Local expenses: training expenses, printing costs, radio programmes (contracted to BBC WST) (Phase1), training expenses (Phase 2) Kenyan Side 1) Staff allocated: 41 persons (Phase 1), 56 persons (Phase 2) 2) Provision of Project offices 3) Local Expense: utility fee (Phase 1), part of training expenses (Phase 2)

Project Period	(Phase 1) July 2006-June 2009 (Phase 2) January 2010-January 2014	Project Cost	(Phase 1) (ex-ante) 380 million yen, (actual) 294 million yen (Phase 2) (ex-ante) Approximately 400million yen, (actual) 371 million yen

Implementing Agency	(Phase 1) National AIDS and STI Control Programme (NASCOP), Ministry of Public Health and Sanitation, Provincial AIDS and STI Coordinators (PASCOs) and District AIDS and STI Coordinators (DASCOs) (Phase 2) NASCOP
Cooperation Agency in Japan	-

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

There were some logical inconsistencies in the Project Design Matrix (PDM) for both Phase 1 and the Phase 2. Although better quality of HTC services and change in the people's behavior to the risk of HIV infection through awareness building lead to the greater number of people having HIV test, the Project Purpose for Phase 1 was to increase in the number of people taking HIV testing which should have been an expected impact of the project and the Overall Goal of the Phase 2 was provision of quality HTC services which should have been the intended outcome of both Phase 1 and Phase 2 as the Project Purpose. The original PDMs were as follows:

(Phase 1)

- Overall Goal: People's behavior to the risk of HIV infection is changed by HIV testing promotion.
- Project Purpose: The number of Kenyans (especially the youth aged 15-24 years) tested for HIV increases annually.

(Phase 2)

- Overall Goal: Quality HTC (HIV Testing and Counseling) services are provided at HTC service delivery points.
- Project Purpose: National capacities to scale up quality HTC services are strengthened.

・ For this ex-post evaluation, therefore, it was required to restructure the actual project framework for both Phase 1 and Phase 2 in order to verify actual achievements by Phase 1 and Phase 2 based on "the project designs actually intended." The Project Purpose and the Overall Goal of Phase 1 and Phase 2 were reclassified as mentioned in "Project Outline" above and "Effectiveness/Impact" of phase 1 and that of phase 2 were integrally evaluated in order to capture the outcome brought about by the project as a whole.

・ Sustainability of the project effects were also integrally assessed for Phase 1 and Phase 2 during this ex-post evaluation since the project effects were not able to be separated by each of Phase 1 and Phase 2.

1 Relevance

<Consistency with the Development Policy of Kenya at the Time of Ex-Ante Evaluation and Project Completion>

Phase 1 was consistent with the development policy of Kenya. At the time of ex-ante evaluation, "the Kenya National HIV/AIDS Strategic Plan 2005/6－2009/10 (KNASP) prioritized expanding Voluntary Counseling and Testing (VCT)". At the time of project completion, KNASP (2005/2006-2009/10)" identified "prevention of new infections" as one of the three pillars.

Phase 2 was consistent with the development policy of Kenya. At the time of ex-ante evaluation, the Government of Kenya was drafting "Kenya National HIV/AIDS Strategic Plan: KNASP III (2009/2010-2012/2013)" in which HIV service delivery was one of the four pillars. It planned to provide quality HIV service in line with guidelines and standards at 80% of the service delivery point by 2013. At the time of project completion, "the Kenya Health Sector Strategic and Investment Plan (KHSSIP) (2013–2017)" articulated among others a strategic objective to reduce the burden of communicable conditions. Among the health service packages to be provided is prevention of HIV and STIs. Similarly, "the Kenya AIDS Strategic Framework (2014/15–2018/19)" identifies scaling up of effective approaches to HIV prevention among them innovative HTC models.

<Consistency with the Development Needs of Kenya at the Time of Ex-Ante Evaluation and Project Completion >

Phase1 was consistent with the development needs of Kenya for HIV/AIDS service delivery. At the time of ex-ante evaluation, Kenya was one of the countries with a high rate of HIV infection (6.7% as of 2003). Though people have knowledge on HIV testing and HIV/AIDS, behavior changes to avoid the risk of infection were not widely taken in the population. At the time of project completion, the target age group of Phase 1 also remained appropriate: "the Kenya AIDS Indicator Survey 2007" (KAIS) (Preliminary Report) indicated that the infection rate of the youth age 15-24 remained high and that women age 15-24 were 4 times more likely to be infected than men.

Phase 2 was consistent with the development needs of Kenya for HIV/AIDS service delivery. At the time of ex-ante evaluation, the rate of adults (15-64 years old) who tested for HIV in 2007 was 36%, which was far lower than the targeted 80%. At the time of project completion, HIV infection continuously remained a serious issue in Kenya. According to the Kenya AIDS indicator survey 2012, the HIV positive ratio was estimated to be 5.6%, which means the rate had not been improved so much in past years.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was also consistent with Japan's ODA Policy. Japan's "Country Assistance Program to Kenya 2000" prioritized the health sector and especially highlighted the support for measures to tackle HIV/AIDS.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was deemed to be partially achieved by the time of project completion as a part of indicators (set to measure the achievement of the Project Purpose of the logic model made under the ex-post evaluation) such as "the proportion of facilities achieving the National HTC standards."(indicator 1) was attained, while there is no data for "Discrepancy rate of HIV testing (false positive/negative) is minimized" (indicator 2), and "Client's satisfaction for HTC services is improved." (indicator 3). Many Development Partners (DPs) such as USAID, JHPEIGO (a non-profit organization by Johns Hopkins University), CDC (US Center for Disease Control), USAID/WHO, The Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) supported HTC services and therefore, the project contributed to the improvement in HTC services to some extent.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the project was completed, measures for HIV/AIDS testing have continuously shown improvement. The number of facilities providing HTC services has increased from 5,345 in 2013 to 6,524 in 2016. As to the quality of services, there was no data available to

show the number of facilities achieving the national HTC standards, nor the discrepancy rate of HIV testing. However, the field survey by the ex-post evaluation revealed that national tools for quality management were still being referenced in service provision. Also, the HTC service providers indicated that they still offer quality services following the national quality standards[1]. Though data on the discrepancy rate of HIV testing is not available[2], DPs continue to help facilities create an enabling environment for quality HTC services, such as the support for training programs, revision of tools and distribution of Standard Operation Procedures (SOPs), guidelines and relevant job aids. This has minimized the possibility of discrepancy of HIV testing results. In one instance, one HTC counselor said, "I have never encountered nor seen any discrepant test results". It was also noted that county Medical Laboratory Technologists provide regular supervision to the HTC providers with an aim of improving proficiency and quality in service provision. Although client satisfaction surveys have not been conducted recentlya report by Kenyatta National Hospital (KNH): Exit Interviews at KNH VCT and Prevention Centre, 2014, which looked at client exit interviews, indicated that the clients perceived KNH as having high standards and that is why they opted to receive services there.

Many of the national standards and tools developed by the project (through technical working group headed by NASCOP) are in use and have been revised. However, some are still waiting to be revised. NASCOP continues to receive support from DPs such as GFTAM, USG (USAID, U.S. President's Emergency Plan for AIDS Relief (PEPFAR), CDC), to develop guidelines, curricula, IEC materials and to print and disseminate these to the counties. The partners support the work of the various technical working groups headed by NASCOP.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal is mostly achieved. The number of Kenyans annually tested for HIV surpassed the target for KNASP III and significantly increased from 10.6 million in 2013 to 13.1 million in 2016. The field survey results did not have disaggregated data for the youth aged 15-24 years. The numbers of Kenyans tested annually rose beyond the target projections due to:

1) major shift of strategy from voluntary testing to provider HTC since 2014
2) buy in by health providers who have promoted HTC to all patients.
3) DPs have supported the scale up of HIV testing and treatmentand others.

Regarding the indicator 2, due to the declining trends in HIV prevalence (Kenya AIDS Indicator Survey, 2012), while the number of clients newly testing positive for HIV has declined and so is the number being enrolled into care and treatment from newly tested clients, ratio of the number of new clients receiving care against the number of people who are newly found positive by HIV testing has been worsened. ccording to the former HTC Manager at NASCOP, the decline in the ratio of clients receiving care to those newly tested positive is mainly attributed to the following factors; (1) Loss of newly tested clients found positive in follow up at HIV treatment sites after referral, (2) Client / patient factors such as self-denial and refusal to enroll for treatment, and (3) Challenges in the referral system for HIV treatment services

<Other Impacts at the time of Ex-post Evaluation>

As a result of promotion of HIV testing, people now have a lot of information about HIV, what it is, how it is transmitted, how to prevent and even what to do if it is HIV positive. However, the field survey did not yield any hard evidence to indicate that this has translated to behavior change towards the risk of HIV infection.

No negative impacts were observed on natural environment and no land acquisition occurred under this project.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was partially achieved at the time of project completion, the effects of the project partially continued after the project completion and the Overall Goal is mostly achieved. Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="2">(Project Purpose)
Quality HTC (HIV Testing and Counseling) services are provided at HTC service delivery points. (phase 2-overall goal, phase 1-output 4)</td><td>Indicator 1: % of facilities achieving the National HTC standards</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion)
The target: 50%, Actual result: 73.4%
(Ex-post Evaluation)
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>Percentage of facilities achieving the National HTC Standards</td><td>73.4%</td><td>n.a</td><td>n.a</td><td>n.a</td></tr>
<tr><td>No. of facilities achieving the National HTC Standards</td><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></tr>
<tr><td>No of total facilities which provide HTC services</td><td>5,345</td><td>5,829</td><td>6,190</td><td>6,524</td></tr>
</table>
(Reference)
At the project completion of phase 1, the project improved the quality of HTC services, as the output 4, "the quality HIV testing services are provided at VCT centers and other clinical settings". The project achieved the indicator of "Totally 30% of applied sites pass the accreditation".</td></tr>
<tr><td>Indicator 2: Discrepancy rate of HIV testing (false positive/negative) is minimized.</td><td>Status of the Achievement: unverifiable(continuity unverifiable)
(Project Completion) No data is available.
(Ex-post Evaluation) No data is available.</td></tr>
</table>

[1] During the field survey it was observed that, national tools that were developed through the project and distributed to the HTC sites are being referenced in service provision. However, according to Sub-CASCO (County HIV /AIDS and STI Control Officer) in one of the county's, some of the tools are out of stock because of budget constraints. The counties are not able to reprint and redistribute the tools to be used at the facilities. Nonetheless, the service providers are still able to offer quality HTC services and adhere to a large extent the quality standards.

[2] In 2013, there was a data abstraction exercise sponsored by the project that aimed at among other things looking at discrepancy rates but due to the changing systems from Dry Blood Spot (DBS) to Proficiency Testing (PT) made this hard to determine.

<table>
<tr><td></td><td>Indicator 3: Client's satisfaction for HTC services is improved.</td><td>Status of the Achievement: unverifiable(partially continued)
(Project Completion) No data is available
(Ex-post Evaluation) No data is available. However, exit Interviews at KNH VCT and Prevention Centre in 2014 indicated that the clients perceived KNH as having high standards</td></tr>
<tr><td rowspan="2">(Overall Goal)
The number of Kenyans (especially the youth aged 15-24 years) tested for HIV increases annually.
(phase 1-project purpose)</td><td>Indicator 1: At least 4 million of Kenyan adults per year are tested according Kenya National AIDS Strategic Plan (KNASP) III targets.</td><td>Status of Achievement: achieved
(Ex-post Evaluation)
Number of adults per year tested
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>No. of adults who are tested</td><td>10,653,166</td><td>6,544,584</td><td>14,370,536</td><td>13,190,088</td></tr>
</table></td></tr>
<tr><td>Indicator 2: Ratio of # of new clients receiving care: # of people who are newly found positive by HIV testing</td><td>Status of the Achievement: achieved
(Ex-post Evaluation): Achieved
Actual result: 0.73:1
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>ratio of # of new clients receiving care: people who are newly found positive by HIV testing</td><td>1.07:1</td><td>0.74:1</td><td>0.66:1</td><td>0.73:1</td></tr>
</table></td></tr>
</table>

Source: JICA internal documents, questionnaires and interviews with NASCOP staff, former Counterpart in charge of HTC services and interviews with HTC counselors (8 HTC counselors from 10 model sites visited during the filed survey)

3 Efficiency

(Phase 1) Both the project cost and the project period were within the plan (ratio against the plan: 77%, 100%).
(Phase 2) Both the project cost and the project period were within the plan (ratio against the plan: 93%, 100%).
Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The latest government policies as of ex-post evaluation continuously specify the necessity and importance of HIV prevention and control. “Kenya HIV Prevention Revolution Road Map-countdown to 2030” by Ministry of Health indicates that “HTC is a cornerstone for this Prevention Roadmap in order to identify eligible and high risk populations for targeted HIV prevention interventions and is a routine primary health intervention”. In addition, “the Kenya AIDS Strategic Framework (2014/15–2018/19)” identifies scaling up of effective approaches to HIV prevention among them innovative HTC models.

<Institutional Aspect>

NASCOP has an organization structure and staff establishment necessary to carry out its core mandate of HIV policy formulation, development of standards and guidelines, quality assurance and technical assistance to counties. However, the number of staff allocation is not sufficient. In HTC services, there is only one program officer deployed. This one person is not sufficient to monitor current status, or even support the scale up of quality HTC activities.

HTC service provision is now mandated to county governments as health service delivery is a devolved function specified in Schedule 4 of the Constitution of Kenya. The County Departments of Health Services are headed by a County Executive Committee (CEC) Member in charge of health, supported by a Chief Officer of Health (COH) as the Accounting Officer. The County Health Management Teams (CHMTs) are led by County Directors of Health (CDH) and manage the technical services. As members of the CHMT, County AIDS and STI Coordinators (CASCOs) are responsible for management of the HIV program activities at County level. Counties ensure availability of health staff with appropriate skills, commodities and tools for service provision. Counties have varied requirements for human resources for health depending on their local capacities and health needs. However, according to NASCOP the key management positions for disease control programs have the required staff establishment across counties.

<Technical Aspect>

NASCOP has qualified staff with sufficient experience in HIV program management. In terms of providing technical support, while there is still room for developing quality management tools, printing and disseminating these to the rest of the country, NASCOP implements Continuous Professional Development (CPD) programs with University of Maryland, USA, and holds regular Continuing Medical Education sessions (CMEs) for skills upgrade, professional development and accreditation of staff by relevant authorities..

On the part of county governments, they have departments of health technically led by Directors of Health Services. They are in-charge of preventive, promotive, clinical, and rehabilitative as well as community health services. In terms of management, there exist County Health Management Teams (CHMTs) with technical expertise across the health system.

<Financial Aspect>

Although NASCOP did not avail data on financing, HIV prevention, care and treatment still remains a high priority for the Government of Kenya. NASCOP is funded from the Exchequer to execute its mandate and also receives external technical and financial support from DPs

The counties are also funded from the Exchequer to provide health services as one of the priority devolved functions.

Overall, there are still significant contributions by DPs particularly USG, GFTAM among others.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency, such as insufficient number of personnel, limited capacity to provide technical support, and dependence on support from DPs. Therefore, the sustainability of the effectiveness of interventions through the project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose at the time of project completion, as the indicator, “the proportion of facilities achieving the National HTC standards.” was attained. Although some data were not obtained, the provision of quality services in accordance with the national quality standards is continued after the project completion. The Overall Goal is mostly achieved as the

number of Kenyans who tested for HIV significantly increased.

As for sustainability, although slight problems have been observed in terms of institutional, technical and financial aspects, no problem has been observed in terms of policy aspect.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

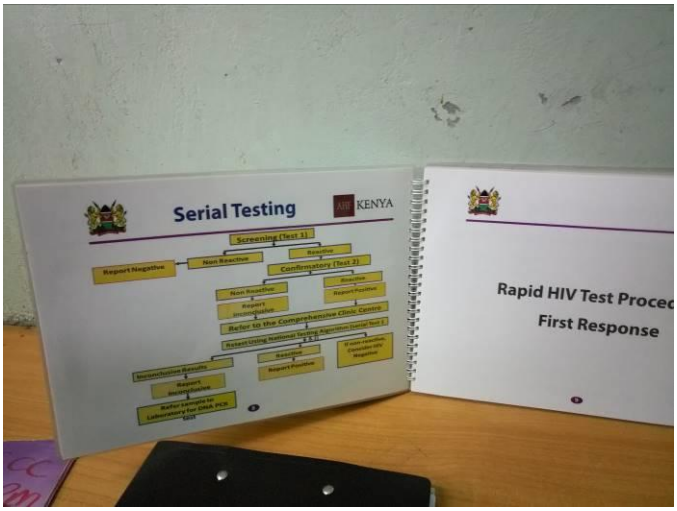
NASCOP is recommended to:

- review and update of guidelines, SOPs, job aids by accelerating the work of Thematic Technical Working Groups (TWGs) at NASCOP
- conduct training of HTC managers and service providers (conduct CPD and CME activities at NASCOP and County Departments)
- activate and roll out the Proficiency Testing (PT) program for HTC service providers nationally.
- strengthen management of strategic information, and monitoring and evaluation (M&E)
- conduct mentorship and support supervision to counties
- conduct technical support to HTC model sites, and
- develop and implement strategies to increase domestic financing for HIV response by advocating for increased Exchequer financing for HIV services and by mobilizing resources from the private sector

County Department of Health is recommended to increase domestic financing for HIV response by advocating for increased Exchequer financing for HIV services and by mobilizing resources from the private sector.

Lessons Learned for JICA:

- It was difficult to collect data at the ex-post evaluation stage. At the project planning and monitoring stage, it is important to set indicators which data can be collected on routine basis for monitoring and also during the post project implementation stage.
- Where routine M&E data sets are not sufficient for monitoring of the post project implementation stage, data management activities such as re-designing or modification of databases and data quality audits could be included as part of project outputs



SOPs at HTC Service Point at Model Site (July 2017)

HTC Service Trolley supplied in Phase 2 (July 2017)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Niger Office: November 2017

Country Name	**Malaria Control Project**
Republic of Niger	

I. Project Outline

Background	Niger was one of the lowest health situation in the world, as seen in under five mortality rate; 259 per 1,000 live births (2005) and maternal mortality ratio; 1,600 per100,000 live births (2005). The main causes of the under five deaths were malaria, pneumonia, and diarrhea. In particular, falciparum malaria causes high fatality and it was an urgent issue for the Government of Niger. In Boboye District in Dosso Region, the average malaria morbidity rate was 86% (2005), higher than the national and regional average.		
Objectives of the Project	Through capacity development of the health personnel and village committee members and development of the guide on malaria control, the project aimed at establishing an effective community-based malaria control model in the Health District of Boboye, thereby contributing to reduction of malaria morbidity and mortality. Overall Goal: Malaria morbidity and mortality in the Health District of Boboye are reduced. Project Purpose: An effective community-based malaria control model is established to strengthen malaria control in the Health District of Boboye.		
Activities of the Project	1. Project site: Boboye District of Dosso Region 2. Main activities: i) Capacity building of village health committees (COSANs), the Integrated Health Centers (CSIs)/Health Posts (CS) COSANS and DS Boboye regarding operation and management of malaria control measures, ii) training of the health workers on malaria treatment, iii) development of the guides and manuals on malaria control, iv) dissemination of the model to non-pilot areas, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 9 persons 2) Trainees Received: 3 persons 3) Equipment: Vehicles, motorcycles, PCs, office equipment, etc. 4) Operation cost Niger Side 1) Staff Allocated: 27 persons 2) Operation cost		
Project Period	November 2007 to November 2010	Project Cost	(ex-ante) 260 million yen, (actual) 233 million yen
Implementing Agency	National Program of Malaria Control (PNLP)		
Cooperation Agency in Japan	None.		

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation >

- [Definition of the community-based malaria control measures model] The model includes the following elements: community-based activities such as awareness-raising and village cleanup activities implemented with their own initiatives; collaboration with school management committees (COGES) in activity implementation; monitoring and support from CSIs and CS; appropriate malaria treatment provided by the health workers at CSI/CS, etc.

1 Relevance

<Consistency with the Development Policy of Niger at the Time of Ex-ante and Project Completion>

The project has been consistent with the development policy of Niger, as the decrease in morbidity and mortality rates of malaria was prioritized in the "Strategic Orientations for the Health Development in the First Decade in the 21st Century (2002-2011 and the 4th National Health Development Plan" (2005-2010).

<Consistency with the Development Needs of Niger at the Time of Ex-ante and Project Completion >

Niger had the highest under five and maternal mortality rate in the world and the biggest cause of death was malaria. In Boboye District in Dosso Region, the average malaria morbidity rate was higher than the national average at the time of the ex-ante evaluation. There were still great needs for decreasing the malaria morbidity and mortality rates at the project completion.

<Consistency with Japan's ODA Policy at the Time of Ex-ante Evaluation>

It was considered important to provide support in the basic livelihood area in accordance with the implementation process of the Poverty Reduction Strategy paper of Niger. In particular, the priority areas were education, health, water supply and rural development,[1] and these were in accordance with the Japan's ODA principle for Niger at the time of the ex-ante evaluation.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. CSIs, CS and village COSANs were selected as planned (Indicator 1) and community based activities were implemented. The number of the households who participated in the malaria control activities increased (Indicator 2). The guide and modules for the community-based malaria control were developed (Indicator 3). As a result, more households in the pilot area were equipped with long lasting insecticidal nets (LLINs) than those in the non-pilot area (Indicator 4), and more persons visited health facilities on the day when the onset occurred in the pilot areas than those in the non-pilot areas did (Indicator

[1] Ministry of Foreign Affairs of Japan (2007). "ODA Databook 2006".

5). Thus, it can be said that the effective community-based model was established to strengthen malaria control in the pilot areas of the Health District of Boboye.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have partially continued. CSI, CS, village COSANs and households who participated in the project activities in the target areas have continued the community-based malaria control such as use of LLINs and sanitation and hygiene activities. Though the accurate data were not available, the households both in the pilot areas and non-pilot areas have used LLINs, as they have received support from donors including World Vision, Plan Niger and UNICEF, and LLINs are available at a low price in the market. The community-based malaria control guide including training modules and modules for establishing village COSANs have not been used widely because they were not printed for distribution due the financial constraints of the Regional Direction of Public Health of Dosso (DRSP). Another reason is that some CSI personnel took them away when they left the workplace.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has not been achieved. Malaria cases have increased in the District of Boboye. The reason is assumed that mosquitos grew more than before due to the much rainfall. Despite partial continuation of malaria control activities, malaria death cases have been on an increasing trend, too, because it is thought that more people have visited the health facility and therefore more malaria cases and death cases have been detected. However, death rates have not changed much both in the pilot and non-pilot areas.

<Other Impacts at the time of Ex-post Evaluation>

Firstly, some CSIs could benefit from the results-based financing[2] (FBR) program implemented in the Boboye District, as their chief and COGES members improved capacity of planning and financial management from the project activities, according to FBR focal point officer in the district. Secondly, some village have constructed or rehabilitated health centers with donation from the villagers themselves as they were sensitized by awareness raising activities of village COSANs. There was no land acquisition and resettlement in the project. There has been no negative natural or social impact.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved by the project completion, but the effects have partially continued. The Overall Goal has not been achieved, but some other positive impacts have been confirmed. Therefore, the effectiveness/impact of the project is fair.

Achievement of the Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) An effective community-based malaria control model is established to strengthen malaria control in the Health District of Boboye	1. Number of CSI, CS and village COSAN in the target area where the model is introduced increases.	Status of the Achievement: Achieved (Continued) (Project Completion) - The number of CSI, CS and village COSANs in the target areas where the model was introduced increased from 0 to 5 CSIs, 13 CSs and 42 village COSANs, respectively. (Ex-post Evaluation) - All of 5 CSIs, 13 CSs and 42 village COSANs have continued activities such as use of LLINs and sanitation activities.
	2. Number of households who participate in malaria control activities increases.	Status of the Achievement: Achieved (Continued) (Project Completion) - The percentage of the households who participated in malaria control activities increased from 0 to 91.2%. (Ex-post Evaluation) - The number of the participating households was not available, but based on the percentages estimated by DS Boboye, it is presumed that the households who participate in malaria control activities increased: 95% (2011), 94% (2012), 96% (2013), 98% (2014) and 99% (2015).
	3. The effective and practical community-based malaria control guide is developed.	Status of the Achievement: Achieved (Not continued) (Project Completion) - The community-based malaria control guide including training modules and modules for establishing village COSANs was developed and submitted to the Ministry of Public Health (MSP). (Ex-post Evaluation) - The community-based malaria control guide including training modules and modules for establishing village COSANs have not much been used at CSIs.
	4. Number of LLINs per household in the pilot areas exceeds that of the non-pilot areas.	Status of the Achievement: Achieved (Not verified) (Project Completion) - The number of LLINs per household in the pilot areas was 1.75 and it exceeds that of the non-pilot areas (0.97). (Ex-post Evaluation) - It is estimated that the average number of LLINs per household in the pilot areas have been more than that of the non-pilot areas.

	2011	2012	2013	2014	2015
Pilot area (5 CSIs)	2	3	4	5	6
Non pilot-area (5 CSIs)	1.5	2	3	4	5

Note: The figures were estimated by the District Health Office (DS) of Boboye.

[2] It an instrument that links financing to pre-determined results, with payment made only upon verification that the agreed-upon results have actually been delivered. http://siteresources.worldbank.org/INTAFRICA/Resources/AHF-results-based-financing.pdf.

<table>
<tr>
<td></td>
<td>5. Malaria-like symptoms induced treatment seeking behavior of people in the pilot areas is better than that of the non-pilot areas.</td>
<td>Status of the Achievement: Achieved (Not verified)
(Project Completion)
- The percentage of the children under five who visited a health facility on the day when the onset occurred in the pilot areas was 94.1% and it exceeds that of the mon-pilot areas (88.6%).
- The consultation cases of malaria increased from 5,185 in 2007 to 10,105 in 2009 (103% compared to 2007) in the pilot areas. The percentage was 56% (28,045 in 2007 to 43,781 in 2009) in the non-pilot areas.
(Ex-post Evaluation)
- It is estimated that there have not been a big change in the percentage of the children under five who visited a health facility on the day when the onset occurred in the pilot areas.
<table>
<tr><th></th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>Pilot area (5 CSIs)</td><td>105%</td><td>142%</td><td>115%</td><td>99%</td><td>100%</td></tr>
<tr><td>Non pilot-area (5 CSIs)</td><td>96%</td><td>117%</td><td>129%</td><td>152%</td><td>113%</td></tr>
</table>
Note: The percentage was calculated by dividing the number of the children under five in the pilot areas who visited the health facility on the day when the onset by the number of the total number of the under five in the pilot areas. Some percentages exceed 100%, from the following reasons: 1) The number of children under five was determined by the District Office based on the projection and estimation, 2) Some patients possibly came from other areas, and 3) Some patients possible visited the facility more than once.
- It is estimated that the consultation cases of malaria increased by 107% in 2015 from 2011 in the pilot areas. The percentage was 119% in the non-pilot areas. The consultation cases have increased in both areas.
<table>
<tr><th></th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>Pilot area (5 CSIs)</td><td>15,575</td><td>20,732</td><td>17,065</td><td>18,887</td><td>16,624</td></tr>
<tr><td>Non pilot-area (5 CSIs)</td><td>22,050</td><td>26,581</td><td>27,834</td><td>29,222</td><td>26,299</td></tr>
</table>
Note: The figures were estimated by DS Boboye.</td>
</tr>
<tr>
<td>(Overall goal)
Malaria morbidity and mortality in the Health District of Boboye are reduced.</td>
<td>1. Malaria cases in the District of Boboye decrease.</td>
<td>Status of the Achievement: Not achieved.
(Ex-post Evaluation)
- The malaria cases have increased in the District of Boboye including the pilot area. According to DRSP officer, the increase of the rainfall is one of the factors, and no other concrete reasons could be identified.
<table>
<tr><th></th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>Boboye District (26 CSIs in total)</td><td>93,218</td><td>126,356</td><td>118,777</td><td>124,441</td><td>111,953</td></tr>
<tr><td>Pilot-area (5 CSIs)</td><td>15,575</td><td>20,732</td><td>17,065</td><td>18,887</td><td>16,624</td></tr>
</table>
Note: Figures of malaria cases are the same as those of malaria consultations, as people visit health facilities when their malaria symptoms worsen.</td>
</tr>
<tr>
<td></td>
<td>2. Malaria death in the District of Boboye decreases.</td>
<td>Status of the Achievement: Not achieved.
(Ex-post Evaluation)
- The malaria death cases has been on an increasing trend. The death rates have remained mostly same.
<table>
<tr><th></th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>Death cases</td><td>67</td><td>80</td><td>70</td><td>65</td><td>83</td></tr>
<tr><td>Death rates (malaria case/death case)</td><td>0.07%</td><td>0.06%</td><td>0.06%</td><td>0.05%</td><td>0.07%</td></tr>
</table>
</td>
</tr>
</table>

Source: Terminal Evaluation Survey Report, interview with DS Boboye, DRSP and village COSAN members.

3 Efficiency

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

4 Sustainability

<Policy Aspect>

Reduction of malaria morbidity and mortality through the community-based malaria control measures are prioritized in the Health Development Plan (2017-2021) and PNLP which is still effective at the time of the ex-post evaluation. Community participation is emphasized also in the "National Strategy of Community Participation in Health" (2016-2020). Furthermore, MSP issued a decree on capacity development and strengthening of CSI with FBR in 2016

<Institutional Aspect>

The health administration structure for implementation and extension of the community-based malaria control activities has been the same as that during the project period: PNLP of MSP is responsible for policy development, seeking funding for research and training, financing research and monitoring. DRSP is in charge of policy implementation and coordination for malaria control activities. Actual activities are implemented at each of DS Boboye, CSIs, CS, and the village levels. At DS Boboye, 2 personnel (communicator and epidemiologist) are assigned in the section related to community-based malaria control, but the number is not sufficient to cover the

whole district, according to DS Boboye. At CSIs, on average, 3 personnel (chief, nurse, midwife, etc.) is assigned at each, and the number is sufficient for fulfilling responsibilities including preparation of the integrated plan of community-based malaria control. On the other hand, only 1 health worker is assigned at each CS, and it is not sufficient. At village COSANs, 4 members (president, vice president, secretary and treasurer) are assigned, but the number is not sufficient to conduct all needed malaria control activities. However, they can somehow operate their activities in collaboration with school COGES.

<Technical Aspect>

The personnel of DS Boboye have sufficient knowledge and skills to give training on the model developed by the project, plan and monitor malaria control activities, because they have continuously received basic training from DRSP and some of them had worked in the project. Also, the health workers of CSIs and CS have sufficient knowledge and skills on malaria treatment, as most of them were trained by the project and still receive on-the-job training at their work place, according to the personnel of DS Boboye, DRSP and village COSAN members. On the other hand, members of village COSANs and COGES do not have sufficient knowledge and skills on planning and implementation of malaria control measures, due to the lack of training follow-up from DS, according to CSI COSAN members. As mentioned earlier, the guide on the community-based malaria control is not used as it was during the project period.

<Financial Aspect>

Financial data of DRSP were not available at the ex-post evaluation, but according to DRSP, the budget for malaria control including distribution of LLINs, domestic spraying and treatment of larval habitats has not been sufficient. No financial data were available from DS Boboye, either. DS Boboye answered that the budget related to the community-based malaria control has not been sufficient. As for CSIs and CS, their budget sources are allocation from DS Boboye, patients' payment for medical charges, and donation from the villagers. Their budget has not been sufficient as they do not earn much medical charges as the antenatal care and care of children under five are free of charge. However, DS Boboye and CSI expect this problem will be solved when FBR is widely introduced. At the village level, village COSANs do not manage their own fund except the cost for preparing meals during the general assembly. Instead, members bring materials such as brooms and rakes to conduct malaria control activities.

<Evaluation Result>

In light of the above, several problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project activities, the guide and modules for the community-based malaria control were developed, and households were equipped with LLINs and more people in the pilot area came to visit health facilities on the day when the onset occurred than before. Since the project completion, the guide has not been distributed to other areas due to the financial constraints. Although reported cases of malaria morbidity and death increased probably due to the increase of the people who visited health facilities, the malaria death rate has not much changed. Regarding the sustainability, the number of the health personnel and technical level for malaria control are not sufficient, but village COSANs can manage the activities in collaboration with school COGESs.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations to the implementing agency:

- It is recommended to DRSP to secure budget or financial support from donors to print the malaria control guide which was prepared by the project. While it is difficult to assign additional personnel to DS Boboye and CS, distribution and guidance with use of the guide would be much help for diffusion of the project experience to non-target areas.
- It is recommended to MSP to apply FBR so that financial resources would be allocated to CSIs and CS based on their service improvement. It is expected that this will be a motivation for them to provide quality services for malaria control.

Lessons learned for JICA:

- Community-based malaria control activities have been sustained in the target areas, even though the implementing agency including health facilities has not secured personnel and financial resources since the project completion. This has been realized through the project intervention for awareness raising and malaria control activities with direct participation of the households and village committees, such as contests of songs and dramas, radio programs, training for school committees, etc. In countries where institutional and financial sustainability are not easily expected, it is necessary to conduct direct intervention in the beneficiaries' awareness and behavior changes so that the project effects would be entrenched within them.

Interview with village COSAN members during the ex-post evaluation survey at Yeni Village

Cleaning and sanitation session at Kara Village

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Malaysia Office: June 2017

Country Name	**Program for Bornean Biodiversity and Ecosystems Conservation (BBEC) Phase 2**
Malaysia	

I. Project Outline

Background	Globally-recognized diverse ecosystems and biota are found in Borneo island where Sabah State, Malaysia is located, including Mt. Kinabalu that is the highest peak in Southeast Asia, lowland tropical forests where Asian elephants inhabit, and mangrove forests in brackish waters. However, the tropical forests in Borneo have been decreased rapidly by timber harvesting and plantation development and endangered species have increased along with the decrease in forests in recent years. JICA conducted the "Bornean Biodiversity and Ecosystems Conservation Program (BBEC)" from 2002 to 2007 for the purpose of consolidating systems and methods for biodiversity and ecosystem conservation activities and developing human resources in Sabah State, which consisted of four components: research and education; park management; wildlife habitat management; and environmental awareness building. In response to the request from the Sabah State government, the Phase 2 (BBEC II) was conducted along the lines with the proposal of further strengthening the system of biodiversity and ecosystem conservation in Sabah.				
Objectives of the Project	Through capacity enhancement of environment-related agencies of Sabah State government, the project aimed at strengthening a system for biodiversity and ecosystem conservation in Sabah State with extending knowledge and skills on biodiversity conservation to other states of Malaysia and foreign countries, thereby contributing to a promotion of biodiversity and ecosystem conservation in Sabah as well as an acquisition of international recognition of Sabah's efforts. 1. Overall Goal: Biodiversity and ecosystem conservation in Sabah is strengthened and internationally recognized. 2. Project Purpose: A system for biodiversity and ecosystem conservation in Sabah is strengthened and Sabah State becomes capable of extending knowledge and skills on biodiversity conservation to other states of Malaysia and foreign countries.				
Activities of the project	1. Project site: Sabah State 2. Main activities: 1) Establishment and organization reinforcement of Sabah Biodiversity Centre; 2) Capacity enhancement of Sabah State agencies to implement biodiversity and ecosystem conservation activities for protected areas such as state parks, wildlife conservation areas and forest reserves; 3) Implementation of the Third Country Training Program 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 15 persons 2. Trainees received: 84 persons 3. Equipment: GIS map, vehicles, digital camera, office equipment, etc. Malaysian Side 1. Staff allocated: 71 persons 2. Facilities: Project office				
Ex-Ante Evaluation	2007	Project Period	October 2007 – September 2012	Project Cost	(ex-ante) 480 million yen (actual) 412 million yen
Implementing Agency	Sabah State agencies such as Natural Resources Office (NRO), Sabah Biodiversity Centre (SaBC), Sabah Parks (SP), Sabah Wildlife Department (SWD), Sabah Forestry Department (SFD), etc., Universiti Malaysia Sabah (UMS), etc.				
Cooperation Agency in Japan	Ministry of Environment				

II. Result of the Evaluation

<Constraints on evaluation>

- It was not possible to visit some of the project sites (Lower Kinabatangan and Segama Wetlands in the eastern part of Sabah) for the field survey of ex-post evaluation due to security reasons, so there was a limitation in collecting exact information on the current situations in these areas.

< Special perspectives considered in the ex-post evaluation >

- Subsequently to BBEC II, "the Project on Sustainable Development for Biodiversity and Ecosystems Conservation in Sabah (SDBEC)" (2013-2017) was implemented in Sabah State, and the implementing agencies and their personnel of BBEC II have been continuously engaged in SDBEC. The influences of SDBEC on the impact and sustainability of BBEC II should be considered in this ex-post evaluation as the Overall Goal of BBEC II is closely linked with the Project Purpose of SDBEC in order to promote biodiversity and ecosystem conservation in Sabah based on the experiences of BBEC II.

1 Relevance

<Consistency with the Development Policy of Malaysia at the time of ex-ante evaluation and project completion>

The project was consistent with the Malaysian national development plan, the 9th Malaysia Plan (2006-2010) which placed biodiversity conservation as one of the priority issues as well as the Sabah Biodiversity Enactment (2000) which stipulated provisions to form the basis of policies on biodiversity conservation in Sabah State. The 10th Malaysia Plan (2011-2015) continuously supported the biodiversity conservation and the Sabah Biodiversity Enactment was continuously effective at the time of project completion.

<Consistency with the Development Needs of Malaysia at the time of ex-ante evaluation and project completion >

Under the Sabah Biodiversity Enactment, the Sabah State government needed to strengthen the inter-agency coordination among various related agencies with biodiversity and ecosystem conservation activities throughout the project period.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Country Assistance Policy for Malaysia (2002) which placed assistance for environmental conservation and sustainable development as one of the four priority areas.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved by the end of the project. The Indicator 1 was achieved since the portion related to biodiversity in the Sabah Conservation Strategy formulated in 1992 was updated and prepared as the "Sabah Biodiversity Conservation Strategy" in June 2012. The Indicator 2 was partially achieved since the Lower Kinabatangan and Segama Wetlands (LKSW) in the eastern part of Sabah was inscribed as a registered wetlands under the "Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)" in October 2008, but another site of Croker Range Park in the western part of Sabah was not inscribed as a registered site under the "Man and Biosphere Programme (MAB)" of UNESCO by the end of the project. Although the Croker Range Park was applied for MAB and planned to be registered in 2013, it took more time in the screening process than expected. The Indicator 3 was achieved since they participated in 17 national and international events (seminars/workshops) as speakers/lecturers during the project period.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have continued since the project completion. Regarding the Indicator 1 of the Project Purpose, the Sabah Biodiversity Conservation Strategy was approved as the "Sabah Biodiversity Strategy (SBS)" by the Cabinet of Sabah State government in December 2014 and officially launched in October 2016. SDBEC has contributed to the launch of SBS. In addition, most departments in the Sabah State government used the respective plans of SBS in their planning for the 11th Malaysia Plan. As for the Indicator 2, the Croker Range Park was finally approved as the Croker Range Biosphere Reserve of MAB sites in April 2014. As for the Indicator 3, the project-related personnel have still participated in various national and international events such as the National Seminar on SBS held in Kuala Lumpur, the Asian Conference on Bio-Cultural Diversity held in Japan, the World Parks Congress held in Australia, the UN South-South Cooperation Conference held in Kenya, etc. after the project completion.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved at the time of ex-post evaluation. Regarding the Indicator 1 for Overall Goal, some activities planned in SBS have been implemented without fail after the project completion while they have been implemented behind the original schedule since the official approval as well as launch of SBS was delayed. Regarding the Indicator 2, the Kota Kinabalu Wetlands was newly registered for as one of the Ramsar sites, by the Ramsar Secretariat. Namely, the Indicator 2. Since the two indicators of the Project Purpose for SDBEC are linked to the Indicator 2 of the Overall Goal for BBEC II, SDBEC has partly contributed to the current achievement of the Overall Goal for BBEC II.

<Other Impacts at the time of Ex-post Evaluation>

According to the Natural Resources Office (NRO), the registration of protected areas in Sabah State into the international conventional programs has contributed to enhancing local people's awareness of the importance of these areas. Also, NRO indicates that the stakeholders irrespective of government sectors, NGOs or communities within and outside of Sabah State have a common goal or platform to work together through the project activities. On another front, no negative impact by the project has been observed in terms of the environmental and social aspects.

<Evaluation Result>

In light of the above, the project mostly achieved the Project Purpose of strengthening the biodiversity and ecosystem conservation system in Sabah through updating the strategy of the Sabah State and applying to registration for the international initiatives and capacity of the Sabah State to extend knowledge and skills on biodiversity conservation to other states in Malaysia and other countries. Through the continuation of the project effects, including the launch of SBS and continuation of the activities introduced by the project, the Overall Goal has been achieved. The current achievement of the Overall Goal is partly attributed to SDBEC. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) A system for biodiversity and ecosystem conservation in Sabah is strengthened and Sabah State becomes capable of extending knowledge and skills on biodiversity conservation to other states of Malaysia and foreign countries.	1. Biodiversity related issues in Sabah Conservation Strategy are updated.	Status of the achievement: achieved (continued) (Project Completion) The portion related to biodiversity in the Sabah Conservation Strategy which was formulated in 1992 was updated and prepared as the "Sabah Biodiversity Conservation Strategy" in June 2012. (Ex-post Evaluation) The Sabah Biodiversity Conservation Strategy was approved as the "Sabah Biodiversity Strategy (SBS)" by the Cabinet of Sabah State government in December 2014 and officially launched in October 11, 2016. Also, most of departments in the Sabah State government used the respective plans of SBS in their planning for the 11th Malaysia Plan.
	2. At least 2 sites are registered under international initiatives on biodiversity conservation.	Status of the achievement: partially achieved (continued) (Project completion) The Lower Kinabatangan and Segama Wetlands (LKSW) in the eastern part of Sabah was inscribed as a registered wetlands under the "Convention on Wetlands of International Importance especially as Waterfowl Habitat

		(Ramsar Convention)" in October 2008. In addition, the Croker Range Park in the western part of Sabah was applied for a registration under the "Man and Biosphere Programme (MAB)" of UNESCO and planned to be registered in 2013. (Ex-post Evaluation) The Croker Range Park was finally approved as the Croker Range Biosphere Reserve of MAB sites in April 2014.
	3. BBEC II related personnel are invited as trainers/resource persons by other states in Malaysia and/or foreign countries at least 15 times.	Status of the achievement: achieved (continued) (Project completion) The BBEC II related personnel participated in 17 national and international events (seminars/workshops) as speakers/lecturers during the project period. (Ex-post Evaluation) The BBEC II related personnel have still participated in various national and international events (at least 11 events by the time of December 2016) such as the National Seminar on SBS held in Kuala Lumpur, the Asian Conference on Bio-Cultural Diversity held in Japan, the World Parks Congress held in Australia, the UN South-South Cooperation Conference held in Kenya, etc.
(Overall Goal) Biodiversity and ecosystem conservation in Sabah is strengthened and internationally recognized.	1. Parts of updated Sabah Conservation Strategy related to biodiversity are implemented.	(Ex-post Evaluation) Achieved According to the report developed by SDBEC "Sabah Biodiversity Strategy: A Review of the First Implementation Phase and Way Forward" (May 2016), some of planned activities of SBS have been implemented behind the original schedule due to the delayed official approval of SBS. During the Phase 1 of SBS from 2013 to 2015, 2 of 48 planned activities were almost completed while others are still on-going. The Phase 2 begins 2016 and a total of 35 activities have been actually launched, with 3 activities completed and 11 activities in good progress. Out of the activities completed/being implemented, a few activities have been supported by SDBEC and others have been implemented at the initiative of Sabah State agencies.
	2. At least 1 additional site is registered under international initiatives on biodiversity conservation and/or existing site(s) is expanded.	(Ex-post Evaluation) Achieved The Kota Kinabalu Wetlands was registered as the site of the Ramsar Convention on October, 22,2016.

Source：JICA internal documents, Interviews with Sabah State agencies

3 Efficiency

Both of the project cost and the project period were within the plan (ratios against the plan: 86% and 100% respectively). Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The biodiversity and ecosystem conservation has been supported by both the Malaysia federal government and the Sabah State government. The 11th Malaysia Plan (2016-2020) prioritizes the conservation of biodiversity and ecosystem as one of six strategic plans, which is 'Pursuing Green Growth for Sustainability and Resilience." Also, the Sabah Long Term Strategic Action Plan (2016-2035) adapts environmental conservation as one of pillars in order for Sabah State to become a developed state by 2035.

<Institutional Aspect>

While the Sabah Biodiversity Center (SaBC) was initially designated as the Secretariat for SBS during the project period, NRO has newly become the key agency to coordinate, facilitate, communicate, review and monitor the implementation of SBS, based on the decision by the Cabinet in 2014 when the SBS was approved. Many stakeholders involved in SBS respect the roles of NRO which has already been designated clearly as a facilitator for the SBS management and NRO has coordinated inter-governmental cooperation for SBS activities periodically by using established channels such as the management committee. The agencies related to biodiversity and ecosystem conservation have opportunities to gather for the Project Steering Committee and Project Management Committee held in the subsequent project, SDBEC. NRO has chaired these committee meetings and facilitated inter-departmental coordination and the issues concerned have been shared among the players. On the other hand, according to NRO, the number of staff is not enough due to the current policy of downsizing the number of staff in the Sabah State government, and the relevant agencies are preoccupied to run their routine management with limited manpower. To address this, NRO has been making a request for additional staff posting to the State government.

<Technical Aspect>

The relevant agencies keep utilizing and applying the knowledge, skills and experiences on promotion of biodiversity and ecosystem conservation acquired through the project. SDBEC has played an important role in further upgrade and embeddedness of their knowledge and skills, where they have updated their knowledge through the experts of SDBEC, training in Japan and participation in the national/international events. The Third Country Training Program (TCTP) has been still managed and implemented by the Institute for Tropical Biology and Conservation (ITBC), Universiti Malaysia Sabah (UMS) (Table 1). In addition, ITBC-UMS organized the third country phase of one of the training courses of JICA's Knowledge Co-Creation Program "Sustainable Natural Resource Management through Collaborative Management of Protected Areas" conducted in Malaysia in 2016 and 5 participants from Honduras, Malawi, Myanmar and Costa-Rica joined the course. Namely, skills and knowledge related to the activities based on the experience of BBEC II are expected to be sustained and to be improved further by the support of SDBEC.

Table 1 Number of participants in TCTP

2012	2013	2014	2015	2016
20	13	19	17	20

<Financial Aspect>

The budgets for biodiversity and ecosystem conservation as well as SBS implementation have been allocated by the Sabah State and federal governments to the related agencies and NGOs in Sabah State, but the budget amount is limited due to lack of diversity of funding sources and mechanisms to raise and manage funds. Reflecting the recent economic situation, the sufficient budget allocation for biodiversity and ecosystem conservation is not guaranteed. While the federal government does not have specific budget lines for environmental conservation, funds are sometimes provided through development funds where the bulk of costs on conservation-related expenditure are sourced from. In addition, some funds are provided on an ad-hoc basis depending on identified needs or requirements. For example, a special budget of RM 10,000 for awareness program activity was allocated by the Sabah State government in 2016 as well as RM 7 million for protection of endangered species was allocated by the federal government. Both Ramsar and MAB sites are required to meet specific management requirements and the State and federal governments pledged RM 1.25 million in total (RM 500,000 from the State and RM 750,000 from the federal) for the Kota Kinabalu Wetlands. Some agencies (e.g. Forestry Department) have external funding to implement SBS activities in addition to the governmental budget. The State is now taking proactive role in developing sustainable financing not only for the agencies under NRO but for other agencies such as Sabah Parks, Wildlife and Environment Protection Department. Synergizing other development activities with biodiversity conservation is also an approach taken by NRO.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agencies. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project mostly achieved its purpose and a system for biodiversity and ecosystem conservation in Sabah was strengthened with a capability of extending knowledge and skills on biodiversity conservation to other states of Malaysia and foreign countries. The project effects have continued after the project completion and biodiversity and ecosystem conservation in Sabah has been continuously strengthened and internationally recognized. While there is no problem in the sustainability of policy and technical aspects of implementing agencies, they need more manpower and external financial resources in order to implement various and extensive activities on biodiversity and ecosystem conservation in Sabah.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

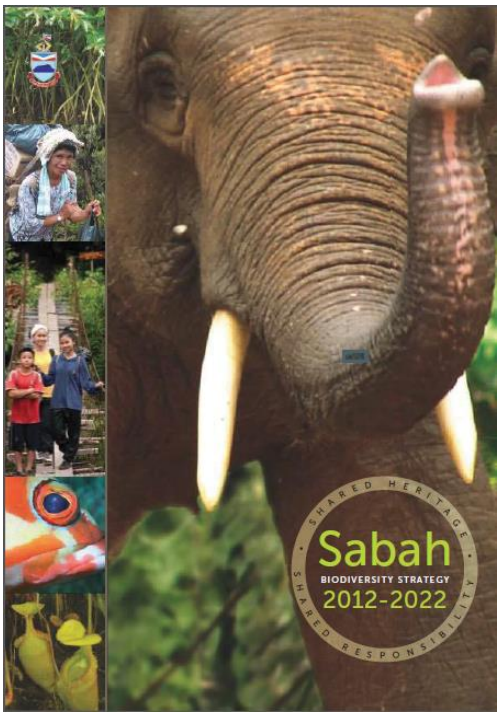
Recommendations for Implementing agency:

- It is expected for the implementing agencies to be continuously engaged in the conservation of biodiversity and ecosystems in Sabah State to disseminate and share their knowledge, skills and experiences nationally and internationally as well as to continuously make efforts to mobilize external financial resources rather than relying only on the state/federal government budgets for sustainable financing.

Lessons learned for JICA:

- SBS which had been prepared by the project became a foundation of biodiversity conservation activities in Sabah State. The direction and strategy of the project, that is to support capacity development of relevant agencies for biodiversity and ecosystem conservation, have been well aligned with the policies of the State and Federal governments and their priorities. This leads to the current situation that the effects and outputs of the project have been sustained and kept updated even after the project completion. Thus it is important for sustainability of project effect that a strategy and direction of project should align and be consistent with policies and priorities of a recipient government at the planning stage of the project.
- The subsequent project of BBEC II, SDBEC has highly contributed to the sustainability of effects and impact of BBEC II, through continuous technical assistances by experts and training in Japan. Capacity development requires time to get rooted and continuous supports for post project can be effective to realize sustainable institutional capacity development. It is essential to carefully assess attainment of the project for capacity development before project completion and to carefully consider necessity of follow-up support to ensure sustainability of capacity development aimed at the project, including appropriate scheme and scope of technical cooperation as well as clearly stated goal with a concrete exit strategy.
- The indicator 2 for the Project Purpose (registration of 2 sites for international initiatives on biodiversity) and the indicator 2 for the Overall Goal (registration of additional sites for international initiatives on biodiversity and/or expansion of the existing site) seem overlapping. However, the indicator 2 for the Project Purpose may not be an appropriate indicator to verify capacity enhancement for biodiversity conservation but is rather an indicator to verify a result of capacity enhancement as an expected impact of the project. At the planning stage or the implementation stage, in case where the Project Purpose is related to capacity building, it is essential to consider more appropriate verifiable indicators to assess achievement level of capacity enhancement, such as a checklist for necessary capacity to be obtained and to be practiced, and to set indicators to assess results of capacity enhancement for the Overall Goal as an expected impact.

The Croker Range Biosphere Reserve



"Sabah Biodiversity Strategy 2012-2022" which was officially launched in October 2016

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Madagascar Office: September 2017

Country Name	**The HIV Prevention Strengthening Project**
Republic of Madagascar	

I. Project Outline

Background	The estimated HIV positivity rate in Madagascar remained 0.5% (2006), which was low compared with other Sub Saharan countries, according to the Joint United Nations Programme on HIV/AIDS (UNAIDS). However, there were concerns about expansion of HIV prevalence in the country due to the high infection rates of sexual transmitted diseases such as syphilis. In addition, there were other risks of HIV prevalence through increasing mobility of the population stimulated by the economic development under the promotion by the government, including tourism development and mining development as well as through the increase in the number of migrating labors. Under the situation where the HIV control was a key issue for the country, the government of Madagascar established the National Committee of Fight against AIDS (CNLS: Comité National de Lutte Contre le SIDA) under the President Office in order to prevent expansion of HIV/AIDS prevalence. On the other hand, there were issues of limited public awareness for HIV control and limited capacity of counseling for preventive education at public health institutions, etc. Under those situations, the government of Madagascar requested the technical cooperation project to strengthen a system to provide counseling and testing service on HIV in Madagascar.
Objectives of the Project	Through revision and/or development of national policy and guidelines on CT service and trainings for the persons on the CT services, the project aimed at strengthening capacity of the persons to be engaged in the CT services, thereby contributing to maintain the HIV prevalence at low level of less than 1% in Madagascar. 1. Overall Goal: HIV prevalence is maintained below 1% in Madagascar 2. Project Purpose: Capacity of providing quality HIV counseling and testing (CT) services is strengthened
Activities of the project	1. Project site: Whole country of Madagascar 2. Main activities: 1) revision and/or development of national policy and guidelines on CT services, 2) revision and review of training method, training curricula, manuals based on the national policy and guidelines, 3) delivery of trainings on logistics, data management and analysis including Monthly Activity Report (RMA), monitoring and supervision to the persons in charge of CT services, 4) monitoring of data, supervision and regular meetings at the pilot region and districts, 5) situation analysis of CT services and development of plans to improve the accessibility to the services 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 12 persons 2. Acceptance of trainees in Japan: 3 persons 3. Acceptance of trainees in overseas: 6 persons 4. Equipment: HIV test kits, PCs, Printers, Projectors, Vehicles, Centrifugal machine, Software, etc. Madagascar Side 1. Counterpart personnel: 4 persons 2. Land and Facilities: Office spaces for the project

Ex-Ante Evaluation	2008	Project Period	March, 2008 - March, 2013 (Extension: March, 2012 - March 2013)	Project Cost	(Ex-ante) 340 million yen (Actual) 376 million yen
Implementing Agency	Ministry of Public Health(MOH), General Direction of Health, National Program for the Fight against STDs/AIDS (PNLS, currently Directorate for the Fight against STIs and AIDS (DLIS))				
Cooperation Agency or Contract Agency in Japan	-				

II. Result of the Evaluation

< Special Perspectives considered in the ex-post evaluation >

Verifiable indicators for the Project Purpose

Verifiable indicators for the Project Purpose defined in the Project Design Matrix (PDM) do not set specific target value to assess achievement level of each indicator. Therefore, this ex-post evaluation verified achievement level of each indicator by the following target values according to the Project Completion Report

- Indicator1 (Number of CT sites which confirm to the national standards): Improvement of the number of health facilities with conformity with the national standard of more than 75% checked by the checklist distributed by the project for the health facilities providing HIV test service in 2010 (196 facilities responding) and 2012 (119 facilities responding to the end-line survey in 2012)
- Indicator 2 (Proportion of clients having HIV test among clients having pre-test counseling): Improvement of the proportion of the number of clients having the HIV test among clients having pre-test counseling from 2010 to 2012.
- Indicator 3 (Proportion clients having post-test counseling among clients having HIV test): Improvement of the proportion of clients having the post-test counseling among clients having the HIV test from 2010 to 2012.
- Indicator 4 (Number of new cases of PVVIH (Person Living With HIV) per year: increase in the number of new cases detecting HIV positives in order to verify hypothesis assuming the number of new cases detecting HIV positives by improved accessibility to the HIV test for the population and increase in the number of the HIV test. It is because that there had been a large gap between the estimated number of HIV infections and the actual number of HIV positives in Madagascar.

1 Relevance

<Consistency with the Development Policy of Madagascar at the time of ex-ante evaluation and project completion>

The project was consistent with the Madagascar's development policy of "Madagascar Action Plan (MAP) 2007-2012", "Health Sector Development Plan 2007-2011", and "Madagascar Action Plan for Effective Response to HIV/AIDS 2007-2012" as well as "National Strategic Plan to respond to STI/HIV/AIDS 2013-2017" prioritizing HIV/AIDS prevention.

<Consistency with the Development Needs of Madagascar at the time of ex-ante evaluation and project completion >

The project was consistent with the Madagascar's development needs of HIV prevention to cope with growing risk of HIV prevalence due to the increase in the traveling laborers and accelerating people's movement by the economic growth.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy based on the policy dialogue on economic cooperation between Japan and Madagascar (2006), prioritizing supporting maintenance of infrastructures and human resource development for agriculture and fishery industries/rural development including improvement of healthcare condition.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved by the project completion. The number of CT sites compliant with 75% to the national standards (Indicator 1) was 49 in 2012 decreased from 52 in 2010 but the proportion of CT sites compliant with 75% in the total number of CT did not exacerbated since the total number of CT sites also decreased from 196 in 2010 to 119 in 2012. The proportion of the number of clients having the HIV test among the ones receiving pre-test counseling (Indicator 2) improved from 77% in 2010 to 82% in 2012 though it decreased from 90% in 2011. It was because of promotion of pre-test counseling which was sustained by CT sites through the project period despite the lack of HIV test kits caused by supply shortages linked to complicated and time-consuming supply chain. The proportion of the number of clients having the post-test counseling among clients having the HIV test (Indicator 3) sustained at 97-98% from 2010 to 2012. The number of cases of HIV positive newly detected per year (Indicator 4) increased from 138 in 2008 to 409 in 2011 and decreased 277 in 2012 due to the lack of HIV test kits.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued since the project completion. MOH continuously monitored the conformity of the CT sites with the national standards but the number of CT sites monitored has been limited due to the lack of fund. While the number of CT sites examined by the checklist to assess conformity to the national standard has sustained at 80 since 2013, the number of CT sites confirming the national standards decreased from 32 in 2013 to 24 in 2016 and its proportion in the total number of CT sites examined by the checklist has been decreased from 40% to 30% for the same period. The proportion of the clients who took HIV test after pre-test counseling has sustained at 87% in 2013 and 83% in 2014. Also, the proportion of the clients having post-test counseling among the total number of clients having HIV test sustained at 99% in 2013 and 2014 but slightly decreased to 93% in 2015. The number of HIV positive newly detected per year has increased from 239 in 2013 to 613 in 2015 and it is recognized as the alarming trend for the increase despite of no concreate explanation about the reasons for the trend. As mentioned above, the changes in the number of HIV positive detected have been affected by the availability of HIV test kits.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. According to the Spectrum 2015[1], the HIV prevalence among adult (15-49 years) population is 0.4%. This leads to believe that HIV prevalence in Madagascar is still lower than 1% in the adult population.

However, there was a fear of concentrated epidemic among at-risk populations such as the men who have sex with Men (MSM) (prevalence of 14.8%), the injecting drug users (IDU) (prevalence of 7.1%), the sex worker (SW) (prevalence of 1, 2%), and the people living with sexual transmissible infection (STI) (prevalence of 6.14%), due to increased vulnerability and poverty.

The services of CT sites may have partly contributed to the sustained low level of the HIV prevalence in Madagascar through pre-test and post-test counseling services to provide essential information for HIV control, including prevention methods of HIV transmission.

<Other Impacts at the time of Ex-post Evaluation>

No negative and positive impact was observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the project mostly achieved the Project Purpose and the Overall Goal through capacity development for providing HIV CT services. While the number of the CT sites compliant with national standards decreased, the coverage of the CT services has sustained. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) Capacity of providing quality HIV counselling and testing (CT) services is strengthened.	(Indicator 1) Number of CT sites compliant with the national standards.	Status of the achievement: Partially achieved (Project Completion) ● The number of health facilities compliant with the national standards of 75% sustained at almost same level of 52 in 2010 (n=196, 27%) to 49 in 2012 (n=119, 41%) ● Although there was no agreement between the Ministry of Health and PNLS about the target value for the proportion of the number of HIV tests following the national standards in the total number of HIC tests, it was verified by the checklist whether each site gained over 75 % or not for confirming the national standards. And the indicator increased 14.2% in 2012 compared to 2010. (Ex-post evaluation) Limitedly continued. ● The number of CT sites compliant with the national standards and its proportion in the total number of CT sites examined by the checklist have been decreased.

[1] The Spectrum program is a software program which has been developed by UNAIDS to support national estimates and projection of HIV epidemic.

	2013	2014	2015	2016
No. of CT sites examined by the checklist of the national standards (a)	80	80	80	80
No. of CT sites confirming the national standards (b)	32	28	28	24
(b)/(a) (%)	40%	35%	35%	30%

(Indicator 2)
Proportion of clients having HIV test among clients receiving pre-test counseling*.

*Pre-test counseling provides information such as reasons why HIV test and counseling is recommended, available services and treatment, potential risks of the HIV-positive, and so on.

Status of the achievement: Achieved
(Project completion)
[Proportion of the number of clients having the HIV test among clients receiving pre-test counseling]

	No. of clients who took pre-test counseling	No. of clients who took HIV test	%. of clients who took HIV test after pre-test counseling
2010	233,452	179,387	77%
2011	551,956	498,290	90%
2012	306,365	251,850	82%

(Ex-post Evaluation) Continued

	No. of clients who took pre-test counseling	No. of clients who took HIV test	% of clients who took HIV test after pre-test counseling
2013	409,035	357,088	87%
2014	348,053	288,529	83%
2015	N.A.	310,047	N.A.

(Indicator 3)
Proportion clients having post-test counseling* among clients having HIV test

*Post-test counseling is an integral component of the HIV-testing process. There are two types of counseling. One is for HIV-negative persons providing information about explanation about the test results and basic advice on methods to prevent HIV transmission. Another one is for HIV-positive persons provides not only information about the test results and follow-up services and treatment and method to prevent HIV transmission as well as psychosocial support to cope with the emotional impact of the test results.

Status of the achievement: Achieved
(Project completion)
[Proportion of clients having the post-test counseling among clients having the HIV test from 2010 to 2012]

	No. of clients having HIV test	No. of clients post-test counseling	% of the clients having post-test counseling among the total no. of clients having HIV test
2010	179,387	173,610	97%
2011	498,290	484,580	97%
2012	251,850	246,695	98%

(Ex-post Evaluation) Continued

	No. of clients having HIV test	No. of clients post-test counseling	% of the clients having post-test counseling among the total no. of clients having HIV test
2013	357,088	353,147	99%
2014	288,529	284,670	99%
2015	310,047	289,695	93%

	(Indicator 4) Number of new cases of PLHIV (people living with HIV) per year.	Status of the achievement: Achieved (Project completion) [The number of new cases detecting HIV positives from 2006 to 2012]

Year	No. of HIV test	No. of necessary test for detecting ones new HIV positive	No. PLHIV newly detected
2008	428,285	3,104	138
2009	209,939	1,337	157
2010	234,163	984	238
2011	543,703	1,329	409
2012	265,392	958	277

(Ex-post Evaluation) Continued

	No. of HIV test	No. of necessary test for detecting ones new HIV positive	No. of PLHIV newly detected
2013	357,088	1,494	239
2014	288,529	792	364
2015	310,047	N.A.	613

(Overall goal) HIV prevalence is maintained below 1% in Madagascar	(Indicator 1) HIV prevalence in adult (15-49 years) population	Status of achievement: Achieved (Ex-post Evaluation) [HIV prevalence in adult (15-49 years) population]

2011	2012	2013	2014	2015	2016
0.4%	0.35%	0.3%	0.3%	0.4%	N.A.

Source : Project Completion Report, the Management of Sanitation Information (Gestion de l'Information Sanitaire: GESIS), the Directorate of fight against SITs and AIDS (DLIS), Biological and Behavioural Surveillance 2012, Spectrum

3 Efficiency

The project cost and period exceeded the plan (ratio against the plan: 112%, 125%, respectively) in order to additionally establish a model for improvement of data quality in one target region and to undertake capacity enhancement of the Health Statistics Unit, Regional Directorates of Public Health (DRSP) and District Offices of Public Health (SDSP) for dissemination of the model. Also, the political crisis in Madagascar in 2009, which was unexpected and uncontrollable factor for the project implementation, caused the delay of dispatch of Japanese experts and the project activities and resulted the extenuation of the project period. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The current policy documents, such as the Health Sector Development Plan (PDSS) (2015-2019), the National Health Policy (PNS), and the 2013-2017 National HIV/AIDS Strategic Plan in Madagascar, have prioritized the fight against HIV/AIDS, including the promotion of CT services. In particular, the priorities of HIV/AIDS interventions have been the promotion of voluntary testing among the population and the strengthening of prevention activities, particularly among risk groups

<Institutional Aspect>

[Administration]

There have been changes in the organizational structure for implementation of HIV control activities, including provision of the CT services. The National HIV/AIDS Program (PLNS) became the Directorate for the fight against STIs and AIDS (DLIS) in 2014 but no change in their responsibilities for technical leadership in the national HIV/AIDS interventions and monitoring of performance and standards with regard to quality of the CT service. DLIS has 32 staffs with the clear division of tasks and the number of staff has been sufficient to conduct their task. The Executive Secretariat of the National AIDS Committee (SE-CNLS) has been in charge of strategic coordination and multi-sectoral management of HIV/AIDS responses at the national level. The Regional Health Directorate (DRS) and the District Health Service have been responsible for coordination, capacity building, monitoring and supervision at the regional level and the district level. For each DRS, 1 HIV/AIDS officer has been deployed and there are 22 HIV/AIDS officers in total at the regional level. Also, for each SDSP, 1 HIV/AIDS officer has been deployed and there are 119 HIV/AIDS officers in total at the district level. However, the numbers of HIV/AIDS officers at regional and district levels have not been sufficient to conduct their multi-task related to the HIV control activities. In terms of health statistics for HIV control, only 2 officers have been assigned. Since they have other tasks and sometimes do not have capacity without any training, the number of officers for health statistics has not been sufficient at the national level. Also, one officer in charge of health statistics has been deployed for each DRS and for each SDSP and the numbers of officers for health statistics have not been sufficient for the same reason.

[Health Facilities]

The health facilities, such as the Basic Health Centers (CBS), the District Hospital Centers (CHD) and the Regional Hospital of Reference (CHRR), provide the CT service. Each health facility assigns one responsible staff for the HIV/AIDS related activities, including

the CT service. There are 1,760 staffs in charge of the HIV/AIDS related activities in total nationwide. Also, one staff is assigned for data collection for health statistics. However, in particular, since there are only one or two staffs in one CBS, the number of staffs has not been sufficient to conduct various activities related to HIV control.

<Technical Aspect>

[Administration]

The staffs of DLIS have sustained necessary skills and knowledge of data management, monitoring and supervision of CT services but they have no chance to strengthen their skills and knowledge. The staffs of DRS have also sustained their skills and knowledge about coordination, monitoring and supervision over the work at district level. Although there have been reshuffling or retirement of staffs, the newly assigned staffs have been transferred necessary skills and knowledge through the On-the Job- Training (OJT). The staffs of SDSP have sustained necessary skills and knowledge of supervision, coordination and technical support for the health facilities but the newly assigned staffs have not had opportunities to receive "the integrated training on HIV/AIDS and syphilis" jointly developed by the project and UNICEF. However, due to the initiative of SDSP, they have received one or two hours training covering the module of "the integrated training" developed by the project at the time of monthly review at CBS.

[Health Facilities]

The staffs of health facilities have sustained knowledge about the HIV CT service. Although the newly assigned staffs have not formally received "the integrated training on HIV/AIDS and syphilis", they have received one or two hours training covering the module of "the integrated training" developed by the project at the time of monthly review at CBS as well.

[Training Opportunity and Utilization of Manuals and Guidelines]

Since 2014, "the Integrated Training on HIV/AIDS and Syphilis" has been delivered once a year in the eight intervention regions including Analamanga, Anosy, Atsinanana, Atsimo Andrefana, Boeny, Diana, Melaky, Menabe, supported by the Global Fund. However, no formal training has been delivered in the 13 remaining regions in order to sustain the CT service due to the lack of fund.

The guidelines and manuals developed by the project, such as "the Standards and Procedures for HIV Counseling and Testing" and "the Management Documents of Inputs", have been utilized and applied in the health facilities.

<Financial Aspect>

The allocation of fund for the implementation of HIV related activities, including the promotion of CT services, from the government as well as the partners is very centralized. Concerning the fund from the government of Madagascar, they allocated their budget only for DLIS. The amount of budget allocated to DLIS has increased from 8,500 USD in 2014 to 10,750 USD in 2016 but the allocated amount has been limited. DILS has received support from the donors, including WHO, the World Bank, UNICEF and the Global Fund. The amount of funds allocated fluctuated year by year: 57,900 USD in 2013, 54,300 USD in 2014, 111,700 USD in 2015 and 48,800 USD in 2016. However, as for the public funds, these supports are specifically for the activities to be implemented for DLIS.(trainings, monitoring, and so on).

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional/technical/financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose mostly achieved and the Overall Goal for improve the CT services in order to maintain the HIV prevalence below 1%. As for sustainability, the numbers of staffs at the central, the regional, the district levels and the health facilities have not been sufficient. Also, in particular, the newly assigned staffs at any level have not had formal trainings on the CT service due to the lack of fund. The government of Madagascar has not allocated sufficient budget to DLIS though the donors have provided support for the HIV control activities. As for efficiency, the project cost and the project period exceed the plan due to the delay of the dispatch of Japanese experts and the project activities due to the political crisis in the country. Additionally, the project period was extended in order to disseminate the model of the CT service developed by the project.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

[For MOH]

- Although the CT service has continuously been conducted at the health centers and MOH has continuously monitored the health center to check the conformity of the national standards, the coverage of monitoring by MOH has been limited due to the budget constraint. In order to sustain or improve the quality of the CT service at the health centers, it is recommended to introduce complemental measures to check the quality of CT service, such as self-check of the conformity of the national standards by the health center using the checklist of MOH or simple questionnaire survey on satisfaction level of the users of the CT service at the health center.
- In Madagascar, the HIV prevalence still remains low due to the collaborative effort of all the stakeholders. However, there are concerns about future trends, especially the increasing number of newly detected HIV positive case and the deceasing number of the CT sites which confirm to the national standards. Therefore, the New National Strategic Plan 2018-2022 should also re-energize the whole program fighting against HIV/AIDS, especially in terms of securing the governmental budget for implementation of the CT service at the district and commune level as well as monitoring activities for checking the quality of the CT service by MOH.

Lessons learned for JICA

In order to mainstream the HIV indicators into health information system (GESIS), this project supported the update of GESIS, formatting the monthly activity report (Rapport Mensuel d'Activité: RMA), and delivery of trainings for its dissemination. As the result, the submission rate of RMA was significantly improved, and the information collection was strengthened. Although there are some challenges after the project completion for the data collection because of the personnel transfer and lack of supervision, it was relatively smooth to collect data for the indicators regarding effectiveness and impact for this ex-post evaluation. This project shows the good practice in that supporting their data collection as one project component, through various activities such as improvement and update of the GESIS and RMA, could enable the sustainable data collection and analysis to monitor effects of the health activities.

Responsible Person of AIDS SDSP, Antananarivo Antismondrano

Health Staff in charge of CT service at CSB 2 Itaosy

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Bolivia Office: October 2017

Country Name	**Project for Rural Development in Altiplano Central**
The Plurinational State of Bolivia	

I. Project Outline

Background	Altiplano Central Region, covering from Patacamaya (La Paz Department) to Tambo Quemado (Oruro Department), is plain sweeping away in the mountainous areas at altitude of 3,700 -4,500m. Around 40% of rural population in Bolivia inhabited in this region. However, since low land productivity had been induced by cold and sever climate condition with limited rainfall (250-400mm) and soil erosion caused by geographical condition and concentrated heavy rain in the rainy season, the rural poverty ratios in the two provinces were about 85% (the National Institute of Statistics (INE), 2001). After the construction of arterial road supported by JICA in the region, municipalities in the region had showed a strong desire of rural development under the cooperation of JICA. While necessary activities for rural development had been prioritized by the municipalities in the region, there were issues to be addressed including lack of technical skills of local technicians for construction of small scale irrigation facilities and lack of extension services for farming management utilizing irrigation system.				
Objectives of the Project	The project aimed at implementation of small irrigation agriculture in the target municipalities through construction of small scale irrigation system and enhancement of technical capacity of municipal technicians on soil management and cultivation techniques, thereby improvement of agricultural productivity and dissemination of activities introduced by the project to other areas of target provinces. The following project objectives were set forth in the project plan.				
	1. Overall Goal ： 1) Productivity of agriculture and livestock products identified is improved in the target area, 2) Similar activities are implemented in other areas of La Paz Department and Oruro Department. 2. Project Purpose：Small irrigation agriculture are implemented in the 10 target municipalities.				
Activities of the project	1. Project site: 10 municipalities (La Paz: Patacamaya, Umala, San Pedro de Curahuara, Chacarrilla, Santiago de Callapa, Charaña, Calacoto; Oruro: Curahuara de Carangas, Totora, Turco) 2. Main activities: 1) On the Job Training (OJT) for municipal civil engineers on construction of small scale irrigation system and development of manuals for design, supervision, and audit on small irrigation system construction, 2) Development of project management manual for construction of small scale irrigation system by the target municipalities, 3) Supporting irrigation system control committee by the municipal technicians, 4) Development of manuals for soil management and cultivation techniques and trainings for the municipal technicians, on-site guidance on soil management and cultivation techniques for farmers, 5) Establishment of commissions to make arrangement on construction of irrigation system among relevant organizations. 3. Inputs (to carry out above activities) Japanese Side （1） Dispatch of experts 4 experts （2） Acceptance of trainees in Japan: 1 person （3） Cost for local consultant （4） Cost for construction of pilot irrigation system Bolivian side （1） Counterpart personnel: 24 persons （2） Land and facilities: Office space for project （3） Local cost: Cost for construction of pilot irrigation system, personnel cost for driver, fuel cost, cost for project office, cost for trainings				
Ex-Ante Evaluation	2007	Project Period	January, 2008 to June, 2011 (Extension Period: January, 2011 to June, 2011)	Project Cost	(Ex-Ante) 137 million yen (Actual) 209 million yen
Implementing Agency	Regional Government of La Paz, Regional Government of Oruro, Municipality of Patacamaya, Municipality of Umala, Municipality of San Pedro de Curahuara, Municipality of Chacarrilla, Municipality of Santiago de Callapa, Municipality of Charaña, Municipality of Calacoto, Municipality of Curahuara de Carangas, Municipality of Totora, Municipality of Turco				
Cooperation Agency in Japan	None				

II. Result of the Evaluation

1 Relevance

<Consistency with Development Policy of Bolivian Government at the time of ex-ante evaluation and the project completion>

The project was consistent with the Bolivia's development policy of "expansion of irrigation" as set forth in the policy documents including the National Plan for Soil Utilization and Management (2003) and the National Plan of Irrigation Development (2007-2011).

<Consistency with Development Needs of Bolivia at the time of ex-ante evaluation and the project completion>

The project met the development needs of Bolivia to increase agricultural productivity through construction of small scale irrigation systems in Altiplano.

<Consistency with Japan's ODA Policy for Bolivia at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy toward Bolivia in 2006 prioritizing improvement of production capacity, including improvement of production and management skills and development economic infrastructure.

<Evaluation Results> In the light of above, the relevance of this project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of project completion>

The Project Purpose was partially achieved by the project completion. Although the project planned to construct small irrigation systems in the 10 target municipalities, only 8 irrigation system were functioning to irrigate 102.95 ha which was far below the target value of 250 ha. Out of the 8 irrigation systems, 5 systems were constructed by the project as pilot systems. Other 2 systems were funded by the Grant Assistance for Grass-Roots and Human Security Project (GGP)[1] and 1 system was funded by NGO Chacana[2]. On the other hand, 396 producers were trained to use the water of irrigation system and 250 producers out of them utilized the irrigation system by the end of the project: 139 producers for the 5 systems in the pilot sites, 63 producers for the systems constructed by GGP, 48 producers for the systems constructed by NGO Chacana[3].

<Continuation Status of the Project Effects at the time of ex-post evaluation>

After the project completion, 716 ha have been irrigated by 13 systems in the target municipalities at the time of ex-post evaluation as additional 5 systems in Municipalities of Patacamaya - Chusicani, Umala-Kellhuiri, Calacoto-Collana A, Charaña-Junuta Condoraca, Santiago de Callapa-Qolipaqanta were constructed by the target municipalities using the procedures introduced by the project with the support of the central government programs. 272 producers in the existing 8 irrigation system and 403 producers in the 5 newly constructed systems have been utilizing irrigation system.

In the target departments, besides the 5 system constructed after the project completion,11 irrigation systems in La Paz and 1 system in Oruro were constructed following the procedures introduced by the project. In addition, 21 systems in La Paz and 7 systems in Oruro were constructed by other typologies. The constructions of the irrigation system in La Paz and Oruro were financed by the program "*Mi Agua* (My Water)" (for 27 systems) and the National Irrigation Program with a Watershed Approach (PRONAREC) (for 1 system). Those programs are politically backed up with the strong commitment by the central government and more construction of new systems in the target departments will be expected by the end of 2025, the target year of "the 2025 Patriotic Agenda" (Agenda Patriótica 2025[4]). The manuals developed by the project have been used for not only the constructions of 12 irrigation system following the procedures introduced by the project but also other constructions conducted by Regional Government of Oruro (the Regional Office of Agriculture and Livestock). The contents of those technical manuals were also revised by the succeeding project of JICA with the National Office of Irrigation Service (SENARI) and the National Irrigation School (ENR) to meet the level of farmers and are applied in the course of training conducted by the Regional Offices of Irrigation Service (SEDERIs).

<Status of Achievement of the Overall Goal at the time of ex-post evaluation>

The Overall Goals have been partially achieved. In terms of the Overall Goal 1 of increases in agricultural production in the 10 target municipalities, data is available for only 6 municipalities of Patacamaya (marshes), Umala, San Pedro de Cuahuara, Chacarilla, Charaña, Totora and Turco. Production of alfalfa (for livestock) and vegetables, which had been promoted by the project, increased in those municipalities. In particular, production of alfalfa in Chacarilla considerably increased from 546 tons in 2012 to 2,184 tons in 2014. For the Overall Goal 2 of implementation of similar activities in other municipalities in La Paz and Oruro, the data is available for only Oruro. In Oruro, the technology of pumps called "Yaku" developed by the project has been replicated by the Departmental Service of Agriculture and Livestock of Oruro (SEDAG OR) to the Project of Ovine covering 12 municipalities and 144 constructed pumps.

<Other Positive and Negative Impacts>

Some positive impacts by the irrigation systems have been observed at the time of ex-post evaluation. In the target municipalities and the extended areas with the irrigation system, cultivation of agricultural products has been diversified. Cattle farmers in the target areas have increased cultivation of forages. In particular, at the time of ex-post evaluation, since falaris, which was a kind of forage introduced by the project in the municipalities of Totora and Turco, were highly appreciated because of its high drought resistance, this cultivation was extended to other communities. Also, in the 3 target municipalities in Oruro, variety of vegetables, such as parsley, radish, celery, tomato, cucumber, lettuce and strawberry have been cultivated in green houses. In other cases, the technique (forraje hidropónico) introduced by the project was applied by community Sarcota (Charaña) in a greenhouse and their good performance resulted in the construction of two additionally bigger greenhouses in the same community to cultivate vegetables and forages (barley and oat plants hydroponic). Furthermore, according to the 2 producers out of ones interviewed by the site visits in the target municipalities for this ex-post evaluation, there were 2 cases with improved profitability of farmers, such as cattle farmers and vegetable producers, by the improvement of access to water. On the other hand, some negative impacts have been observed at the time of ex-post evaluation. In some communities such as the municipalities of Umala in La Paz and Curahuara de Carangas (Chiscalla) in Oruro, conflicts over use of irrigation lands among users of the irrigation system have been observed because the demonstration sites were introduced in communities' lands in some cases but there was no case of land acquisition and resettlement induced by the project. In addition, in the community of Marka Marka (Municipality Curahuara de Carangas), since one of the wells has salty water, it has been sealed and abandoned by community by following the Rule NB512 Bolivian Norm (Quality Control of Water for Household Consumption)[5]. Nowadays the well has never been in use any more. No other negative impact by the project on natural environment was confirmed.

<Evaluation Results>

The Project Purpose and the Overall Goal were partially achieved through the construction of irrigation systems and the extension of the agricultural production using irrigation system in the 2 target departments. While some positive impacts of diversification of agricultural products, extension of falaris, application of technologies (hydroponic) and improvement of profitability of farming in the target municipalities have been observed, some negative impacts such as conflicts among users over use of the irrigated lands and issue of salty water had occurred. Therefore, effectiveness/Impact of the project is fair.

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[1] GGP assists NGOs and local public authorities by provision of grant aid.

[2] The community of Capunuta (Municipality Patacamaya)

[3] NGO Chakana is an international non-profit organization base on Netherland focusing on development for the indigenous peoples of the Andes Mountains in Bolivia and Peru.

[4] The 2025 Patriotic Agenda constitutes a comprehensive development programme for Bolivia in the framework of Living Well and respect for the rights of Mother Earth.

[5] NB512 Norma Boliviana (Control de la Calidad de Agua para el Consumo Humano)

Achievement of project purpose and overall goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Small irrigation agriculture is implemented in the 10 target municipalities.</td><td>Indicator 1:
The irrigated area increases to 250 ha.</td><td>Status of achievement: Not achieved.
(Project Completion)
➢ 102.95 ha were irrigated
・ 5 systems constructed by the project: 29.95 ha (Patacamaya, Umala, San Pedro de Totora, Curahuara de Carangas and Turco)
・ 2 systems constructed by GGP: 31 ha (Patacamaya-Patarani- and Umala-San Miguel de Copani)
・ 1 system constructed by NGO Chacana: 42 ha (Patacamaya-Capunuta)
(Ex-post Evaluation) Achieved.
➢ 716 ha were irrigated by 13 systems at the time of ex-post evaluation
・ 5 systems constructed by the project: 86 ha
・ 2 systems constructed by GGP: 55 ha
・ 1 system constructed by NGO Chacana: 500 ha
・ 5 systems newly constructed by the target municipalities: 75 ha (the investment project - fichas FIV- were formulated by technicians of municipalities (Patacamaya, Umala, Calacoto, Santiago de Callapa and Charaña) during the project, in which the four typologies were considered and financed by different sources after the project completion)</td></tr>
<tr><td></td><td>Indicator 2
The number of farmers who utilize irrigation increases to 300 in the 10 target municipalities.</td><td>Status of achievement: Partially achieved.
(Project Completion)
➢ During the project, 396 producers were trained to use the water of irrigation system.
➢ 250 producers were engaged in the 8 irrigation systems.
(Ex – Post Evaluation)Continued..
➢ 272 producers trained by the project have been using the existing 8 irrigation system.
➢ 403 producers additionally trained after the project completion have been using the 5 newly constructed irrigation systems in different communities of the target municipalities. The systems were built by central government programs such as Mi Agua, PRONAREC and Evo Cumple Bolivia Cambia.
[The number of farmers trained by the project using irrigation system]
<table>
<tr><th>Year / Type</th><th>2012</th><th>2013</th><th>2014</th><th>2015
As of ex-post evaluation</th></tr>
<tr><td>Livestock</td><td>126</td><td>192</td><td>250</td><td>250</td></tr>
<tr><td>Agriculture</td><td>22</td><td>22</td><td>22</td><td>22</td></tr>
<tr><td>Total</td><td>148</td><td>214</td><td>272</td><td>272</td></tr>
</table>
</td></tr>
<tr><td>(Overall goal)
1) Productivity of agriculture and livestock products identified is improved in the target area.</td><td>Indicator 1-1
The production volume in the area is identified, improvement compared with study implemented in 2007 is observed, and the increase is observed.
(Expansion of cultivated land in the newly developed irrigation land)</td><td>(Ex-post Evaluation) Partially achieved.
[Production Volume in the target municipalities]
<table>
<tr><th>Municipality</th><th>Products</th><th>2012</th><th>2013</th><th>2014</th></tr>
<tr><td>Umala</td><td>Carrots
White Onions</td><td>-</td><td>0.92ton</td><td>2.3 ton2.3ton</td></tr>
<tr><td>Chacarrilla</td><td>Alfalfa (4 cutting)</td><td>546 ton</td><td>1092 ton</td><td>2,184 ton</td></tr>
<tr><td>Charaña</td><td>Falaris
Alfa Alfa
Barley
Potato</td><td>-</td><td>

250 ton</td><td>-</td></tr>
<tr><td>Totora</td><td>Alfalfa</td><td>327 ton</td><td>2 ton</td><td>4 ton</td></tr>
<tr><td>Turco</td><td>Alfalfa
Falaris</td><td>109 ton
64 ton</td><td>163.8 ton</td><td>177 ton</td></tr>
</table>
(Reference) The average production volume (per 1 ha) in the demonstration farm in 2010 (at the time of terminal evaluation) are as follows:
- White Onion: 20 tons
- Carrots: 37 tons
- Falaris (dry): 12 tons
- Alfa-Alfa: 12.5 tons</td></tr>
<tr><td>2) Similar activities are implemented in other areas of La Paz Department and Oruro Department.</td><td>Indicator 2-1
Activities of farmers in other areas are initiated: more than 1 municipality in each department.</td><td>(Ex-post Evaluation) Partially achieved.
➢ No information available in La Paz though cultivation has been promoted in one target municipality (Charaña) during the project period.
➢ The technology of pumps called “Yaku” developed by the project has been replicated by SEDAG OR covering 12 municipalities.</td></tr>
</table>

Source : Terminal Evaluation Report, the reports of project activities (2008-2011), Interviews with technicians of the Regional Government, Municipalities and producers, and field visits

3 Efficiency

Although efficiency of the project was judged as "high" at the time of terminal evaluation, both of the project cost and the project period exceeded the plan (ratios against the plan: 152%, 117%) because commitments by the implementing agencies of the Bolivian side such as contracts with technicians for construction of irrigation system was delayed and the terminal evaluation mission recommended the extension of the project period. The delay of project activities required dispatch of additional Japanese experts to enhance the project implementation and additional inputs without increase in the outputs. Therefore, efficiency of the project is low.

4 Sustainability

<Policy Aspects>

After the project completion, the government of Bolivia changed their policies and strategies from decentralized irrigation development by regional level to centralized irrigation development at national level through the national programs such as *Mi Agua I, II, III*, financed by CAF (Corporación Andina de Fomento) and PRONAREC I, II financed by the Inter-American Development Bank (IDB). Also, "the Irrigation Decade 2015-2025", the law under "the Patriotic Agenda 2025", aims to change the dry land farming to the irrigated farming to 1 million ha nationwide and hence to increase in yield and diversify production. Those national programs and the law have endorsed promotion of the small irrigation system introduced by the project in the two Departments of La Paz and Oruro.

<Institutional Aspects>

The role of each organization to promote irrigation system, such as the Ministry of Environment and Water (MMAyA), the Ministry of Rural Development and Land (MDRyT), SENARI and SEDERIs, has not changed at all. Moreover, the strong commitment by the government of Bolivia under their political strategy has backed up the activities of those responsible organizations and the sufficient number of personnel for each organization.

On the other hand, changes in donors' policies and completion of their projects consequently weakened the implementation structure of SENARI, SEDERIs and municipality level. In addition, high rotation of authorities and technicians in community level can be an issue. However, ENR with support by "the Project of Capacity Development of Agriculture with irrigation" (2012-2016), the JICA's technical cooperation project, has implemented training for engineers and farmers, including ones in La Paz and Oruro, through SENARI and SEDERIs and still sustains to provide services of irrigation into municipalities by other budget sources. As a result, the qualification in irrigation of more than 700 producers of Oruro was recognized by the Ministry of Education and soon more than 1,000 producers in La Paz will be certified. It is also observed that in several municipalities, the Regional Governments and SEDERIs of La Paz and Oruro are engaged in some water projects financed by the Central Government, and the number of organizations involving in promoting the irrigation sector has been increased year by year. Under those frameworks, the number of stakeholders to be engaged in the irrigation sector has been steadily increasing year by year in despite of the fluctuated number of training opportunities by year. As a result, the promotion of irrigation sector by the existing organizations has been sustained.

<Technical Aspects>

As mentioned above, due to the reduction of cooperation by donors, the numbers of trainings in La Paz and Oruro have decreased. However, since it was confirmed by the field visits for this ex-post evaluation that the irrigation system had been developed in the target municipalities in accordance with the process introduced by the project, technicians of SEDERI LP and OR have sufficient technical knowledge to deliver trainings and technical support for municipal technicians and the municipal technicians have sufficient technical knowledge to promote construction of small irrigation system. SENARI delivers technical trainings to technicians and producers through ENR. Those trainings have been enhanced by the Technical Cooperation Project of JICA and the technical trainings have been delivered under the coordination with SENARI and SEDERI La Paz and Oruro For the period from 2013 to 2015, Oruro provided 6 series of training courses and La Paz provided 16 series of training courses. Universities with the support of donors, also perform upper education programs on irrigation for Civil Engineers and Agronomist. Also a Unity of UCP-CAF (a unit of MMAyA) was established in 2015 to provide technical assistance for effective use of irrigation systems to farmers. Consequently, it is expected that diversification of actors offering the training opportunity in the irrigation sector will contribute to development and refreshment of the technical skills in every level of the country.

Therefore, it can be judged that sustainability of the project effects have been sustained at a certain level of quality in the technical aspect because some of institutions have delivered training opportunities for various actors to be engaged in irrigation in accordance with their level.

<Financial Aspects>

Since the irrigation sector is one of the prioritized sectors in "the Patriotic Agenda 2025", there are several commitments to support the sector mainly by donors. The overall budget of MMAyA for the present fiscal year 2017 reach approximately120 million USD (34% oriented to administration and 66% to programs of cooperation). In the last months, two decrees were approved to finance two programs on irrigation "Mi Riego II" and "Construction of Dams". The Decree of "Mi Riego II" (August 2016) approved a credit of 158 million USD to support projects on development of irrigation systems in the rural areas of Bolivia. At the end of the same year, approximately 122 million USD (jointly financed by CAF and the OPEC (Organization of the Petroleum Exporting Countries) Fund for International Development -OFID) was approved to support the construction of small and medium dams with the aim to supply water to people in the rural areas. Both programs have components of construction of infrastructure and technical assistance. Also with the Decree 3026, "Harvesting Water-Cosecha de Agua" approved with an amount of 10 million USD financed by FONPLATA[6]. The focus of the program is provision of water for consumption and irrigation. The mentioned three programs show the strong commitment of central government to support the irrigation sector with development of infrastructure of the country.

Furthermore, there exist other bilateral donors´ commitments. The Cooperation of Argentine (FOAR) approved a Technical Cooperation to provide technical assistance in cultivation of products under irrigation in some departments of Bolivia such us Cochabamba, Santa Cruz, Beni and Tarija. This cooperation will execute with SENARI and ENR and start in March 2017 for the next two years. The cooperation aims to strengthen human resources of SEDERIs included La Paz and Oruro (the process considers training and business trip to Argentine). The Belgium Cooperation commit to develop the Center of Excellence that coordinates programs of training to staff of both Ministries (Agriculture and Water) by the end of 2017. German Cooperation (GIZ) put importance to the strengthening of human resources

[6] FONPLATA is an regional multilateral organization composed of the member countries in the La Plata River basin of Argentine, Brazil, Bolivia, Paraguay and Uruguay in order to promote sustainable economic development in the region.

and they concentrate to develop upper educational programs such as Diplomas Course and Masters with those Ministries related. This program provided approximately 80 training programs on irrigation until now and it will continue to the middle of 2017.

By those cooperation, it is expected that the irrigation sector will be strongly backed up and secured in terms of financial aspects.

<Evaluation Results>

In the light above, there had some problems observed but they were solved with the participation of other actors. Local human resources trained are also important actors for development of irrigation systems and socialization of knowledge to others. Therefore, there is no problem observed from the institutional, technical and financial aspects, sustainability of the project is high.

5 Summary of the Evaluation

Although the Project Purpose was partially achieved by the project completion, the project contributed to the extension of small irrigation systems in the target departments of La Paz and Oruro and the improvement of agricultural production as well as diversification of cultivation in the target municipalities after the project completion. As for sustainability, there is no problem from any aspects at the time of ex-post evaluation. As for efficiency, the project period and cost exceeded the plan in accordance with the recommendation by the terminal evaluation mission due to the delay of construction of small irrigation system.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

[MMAyA (VHRyR)、SENARI、ENR、SEDERIs]

The counterpart organizations for the project of JICA have important roll to disseminate the result of the project. These organizations ought to secure sufficient budget for their activities and are expected to develop human resources for the sector applying the knowledge gained by the project.

Lessons learned for JICA:

＜Setting indicators to verify various improvement by the project effects with introduction of irrigation system＞

In this project, improvement of productivity for agricultural products was set as one of the indicator to evaluate the achievement of overall goal. However, those targeted agricultural products were specified during the beginning of the project period. In general, farmers need their production management based on the demand and price of the target market and those targeted products are not necessarily measurable products that reflect an expected impact of the project achievement. In this kind of project, consideration is preferable to set indicators such as diversification of the products variety, sales volume per farmer, risk hedge against drop of production and so on.

＜Follow up activities after completion of the project in case where a regime or policy change affecting continuity of activities related to the project＞

After completion of the project, the government of Bolivia has formed several national programs to increase agricultural land with irrigation. Taking advantage of this political decision, JICA implemented new technical cooperation so that the project impact sustains and develops human resources more. However, even if political supports are unlikely to exist in the future, it is important to develop contents and tools for promotion and dissemination of the project effect and conduct promotion of the results of project during or after the period of the project in order to promote and utilize the result of the project for other various programs and projects together with counterpart organizations during the project period or post-project period. As a result, such efforts enable to create opportunities to use/reuse the results of project in the national programs. JICA should put more importance on the management of the result of the impact by the past projects.

(Pumped well in Curahuara de Carangas – community of Marka Marka)

(Irrigation Facility in Turco – community of Macaya)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Indonesia Office: October 2017

Country Name	**The Project for the Support on Forest Resources Management through Leveraging Satellite Image Information**
Republic of Indonesia	

I. Project Outline

Background	Indonesia's tropical and subtropical forests and wetlands covered the third largest area following Brazil and the Democratic Republic of Congo, and the forest areas of Indonesia was 88.5 million ha in 2005. Meanwhile, forest coverage area had been declining by 2% annually (FAO, 2005), and forest conservation and restoration became an urgent issue. Causes of deforestation were forest fires, illegal logging, timber processing and unplanned land conversion to agriculture. Behind those problems, there were following issues; (i) the limited accuracy of monitoring data on forest resources, low data reliability caused by non-integrated information about land use, (ii) lack of coordination among related government agencies on land use permits, (iii) legal and institutional turmoil due to the rapid decentralization. As effective measures to deal with issues above, it was necessary to obtain accurate and reliable forest resources information, to share such information among relevant organizations, and to develop and implement appropriate forest resource management plan. Under those circumstances, the government of Indonesia requested the government of Japan a technical cooperation project to enhance the forest resource monitoring system utilizing remote sensing techniques based on satellite image.				
Objectives of the Project	Through introduction of remote sensing technology using PALSAR (Phased Array type L-band Synthetic Aperture Radar)/MODIS (MODIS: Moderate Resolution Imaging Spectroradiometer) images, this project aimed at upgrading the capacity of the Directorate General of Forestry Planning (DJP) to conduct more reliable forest resources monitoring and assessment, thereby promoting the Sustainable Forest Management (SFM) in Indonesia.				
	1. Overall Goal: Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment 2. Project Purpose: DJP's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training				
Activities of the project	1. Project site: Jakarta and UPTs (Unit Pelaksana Teknis)* (BPKHs)** 2. Main activities: Introduction of remote sensing technology using PALSAR/MODIS images in DJP's forest resource monitoring and assessment system, and training on the forest resource monitoring and assessment for DJP officers. * UPT: Unit Pelaksana Teknis (Technical Implementation Unit) ** BPKHs: Balai Pemantapan Kawasan Hutan (Branch office of Ministry of Forest) 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 7 persons 2) Trainees received: 18 persons 3) Equipment: PC, software, GIS, projector and copy machine, image processor Indonesian Side 1) Staff allocated: 7 persons 2) Land and facilities: project office 3) Local cost: salaries to counterpart personnel, administration cost				
Ex-Ante Evaluation	2008	Project Period	September 2008 – September 2011	Project Cost	(Ex-Ante) 230 million yen (Actual) 223 million yen
Implementing Agency	Directorate General of Forestry Planning (DJP), Ministry of Environment and Forestry (MOEF) (former Forestry Planning Agency (BAPLAN))				
Cooperation Agency in Japan	Forest Agency				

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation >

[Termination of the Advanced Land Observation Satellite (ALOS)]

- The provision of PALSAR data from the Japan Aerospace Exploration Agency (JAXA) has been discontinued due to termination of ALOS[1] . The designed lifetime of ALOS which launched in January 2006, was 3 years, and JAXA considered that the expected lifetime was 5 years. During the project implementation in April, 2011, the communication of ALOS became impossible caused by power anomaly and the operation of ALOS was terminated in May, 2011. Since the availability of PALSAR data is an essential requirement for the project, the above event severally affected the effectiveness and sustainability of the project.

[Redefinition of the verifiable indicators for the Project Purpose and the Overall Goal at the time of terminal evaluation]

- In order to verify achievement level of the Project Purpose and the Overall Goal, the verifiable indicators for them in the Project Design Matrix (PDM) were redefined by the both Indonesian side and Japanese side at the time of terminal evaluation. This ex-post evaluation reviewed the redefined indicators for the verification and reorganized the indicators as mentioned below.

[Appropriateness of the verifiable indicators for the Project Purpose and the Overall Goal]

- According to the terminal evaluation, some of the verifiable indicators were considered as "inappropriate" for the Project Purpose or the Overall Goal. Therefore, this ex-post evaluation did not utilize three indicators for verification of achievement level of the Project Purpose and the Overall Goal. The reasons of inappropriateness for those indicators are as follows:
  - Indicator 3 for the Project Purpose (An estimating of a carbon amount in forest is tested.): Since estimation of carbon amount in forest was a part of the project activities to produce the Output 1 mainly focusing on capacity development for using PALSAR data to increase accuracy of

[1] ALOS was developed to contribute to the fields of mapping, precise regional land coverage observation, disaster monitoring, and resource surveying.

land cover maps, it merely represents one dimension of the monitoring and assessment capacity, and thus it should not have been a verifiable indicator for the Project Purpose.

- Indicator 2 for the Overall Goal (Utilization of land cover maps using PALSAR data for formulation of plans by the management unit level): Since the high resolution optical imaging, such as IKONOS, ENV1, ALOS PRISM, and ALOS/AVNIR, have been utilized for the forest management plans at the management unit level, information based on the land cover maps at national level using the PALSAR data (50m resolution) cannot be applied.
- Indicator 3 for the Overall Goal (Application of information based on the land cover maps using the PALSAR data to carbon accounting from forest and monitoring of illegal logging activities): Although the analysis of the PALSAR data enabled estimation of forest size at high accuracy through the project activities, carbon accounting from forest requires estimation of carbon cumulative dose per unit forest size which had not been included in the project scope. Also, the methodologies developed by the project were not applicable for monitoring illegal logging because suitable satellite images and sites were not appropriately selected in the project activities. Therefore, there is no causal relation between the indicator 3 and the project.

1 Relevance

<Consistency with Development Policy of Indonesian Government at the time of ex-ante evaluation and the project completion>

This project was consistent with Indonesia's development policy of "Improvement of natural resource management and environmental protection" as set forth in the policy documents including the Mid-term Development Plan (PRJMN) (2004-2009), PRJMN (2010-2014) and the National Development Vision and Mission (RPJPN) (2005-2025).

<Consistency with Development Needs of Indonesia at the time of ex-ante evaluation and the project completion>

This project met the development needs of Indonesia to introduce remote sensing techniques utilizing cloud-free satellite image in order to obtain reliable and precise forest resource data for proper forest resource management.

<Consistency with Japan's ODA Policy for Indonesia at the time of ex-ante evaluation>

The project was consistent with Japan's Country Assistance Program for Indonesia (2004) which stated the assistance for an appropriate natural resource management from the view point of environmental protection. In response to this, JICA considered the natural environmental protection was one of the cooperative program (2006).

<Appropriateness of project design>

The project was designed based on the premise that provision of PALSAR would be continued, even though the continuous operation of ALOS was not promised as mentioned above. The project should have considered alternatives in case of termination of ALOS, or the PDM should have been designed that the Project Purpose and the Overall Goal could have been achieved without PALSAR data at the time of project planning stage. Furthermore, there is a causal leap between the project inputs and the Overall Goal, which made difficult to verify the achievement of the Overall Goal.

<Evaluation Results>

In the light of above, the relevance of this project is fair.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of project completion>

The project purpose was partially achieved by the project completion. In terms of improvement of reliability of forest resource monitoring and assessment information (Indicator 1), it was expected that PALSAR data would be able to eliminate cloud cover appeared in the land cover map and accuracy of land cover maps would be improved. Through the implementation of the project, an interpretation manual for PALSAR data as well as a guideline for the use of PALSAR data for land cover mapping (as main satellite images) was prepared. Technically achievable accuracy based on the methods developed by the project (i.e. matching ration between the land cover types appeared on the sample land cover maps formulated based on the above manual/guideline, using only PALSAR 50-m Resolution Orthor Mosaic data, and the land cover types identified through field surveys) was more than 85%. However, the nation-wide land cover maps using PALSAR data was not created by the project completion because of (i) discontinuation of free-of-charge provision of PALSAR data by JAXA from 2010 due to change in a data provision policy of JAXA and (ii) termination of ALOS operation in May 2011. In order to cope with the above issue, the project made efforts to purchase the PALSAR data from JAXA after 2010 by the project budget until the termination of ALOS. As a result, PALSAR data were utilized in developing land cover maps based on optical sensor data as complement for the areas covered by clouds.

With regard to capacity development of UPTs/BPKHs (Indicator 2), according to the terminal evaluation, 11 officers participating in the advanced training courses, were supposed to be capacitated to formulate land cover maps using PALSAR data based on the manuals and guidelines developed by the project since they acquired practical knowledge and skills to use PALSAR data for preparation of land cover maps. However, they could not have opportunities to be engaged in the work for development of land cover maps using PALSAR data. On the other hand, 37 officers who participated only in the basic training courses at were not sufficiently capacitated since the basic training courses delivered just very basic knowledge and skills which were not a sufficient level to apply the work for preparation of land cover maps using PALSAR data.

<Continuation Status of the Project Effect at the time of ex-post evaluation>

MOEF is well aware of the limitation of reliability of LANDSAT images because the optical sensor used by LANDSAT is weak to image the areas covered by cloud. Therefore, PALSAR data were considered as one of the useful alternatives to scrutinize the accuracy of land cover maps using LANDSAT data. Although the land cover maps using PALSAR data were not created during the project period as well as after project completion, PALSAR images acquired during the project period have been continuously utilized for scrutinizing the accuracy of land cover maps for the areas covered by clouds which were made by using LANDSAT data.

JAXA launched ALOS-2 in May 2014 as a successor satellite of ALOS, and PALSAR-2 data were to be provided by ALOS-2. DJP has never received images of PALSAR-2 because DJP did not have cooperation with JAXA to purchase PALSAR-2 images after project completion. Until the time of this ex-post evaluation, DJP does not have a plan to initiate cooperation with JAXA in order to receive PALSAR-2.

<Status of Achievement of the Overall Goal at the time of ex-post evaluation>

The information acquired form land cover maps formulated by LANDSAT images supplemented by PALSAR images are used in the forest resource management continuously. However, it could not be confirmed how the PALSAR images acquired by the project has been

utilized in development of forestry sector policies and plans.
<Other Positive and Negative Impacts>
The project has a positive impact on human resource development in the area of PALSAR image utilization. Through involvement in the project activities, students and lecturers of the Faculty of Forestry, Bogor Agricultural University (IPB: Institut Pertanian Bogor) obtained the practical skills and knowledge of use of PALSAR data, in particular for utilization of radar system and interpretation of PALSAR images. No negative impact on natural environment was observed and no land acquisition and resettlement of people was implemented.

In light of the above, the Project Purpose was partially achieved which was attributed to the project design heavily relying on the utilization of PALSAR data. Since the failure of causal relation between the project activities and Overall Goal and the achievement level of Overall Goal cannot be fairly verified at the time of ex-post evaluation, the issue is evaluated as a part of "Relevance" from the aspect of appropriateness of the project approach. As a result, this ex-post evaluation focused on assessing the achievement level of the Project Purpose and continuation of the project effects. Therefore, the effectiveness/impact of the project is fair.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) BAPLAN's capacity to conduct more reliable forest resources monitoring and assessment is upgraded through transfer of technology and training	(Indicator 1) Reliability of forest resources monitoring and assessment information is improved. (Redefinition) Information acquired from the land cover maps of DJP using PALSAR data, such as forest size, size of deforestation, size of each land cover types, is referred to in official documents of the Government of Indonesia more often than pre-project period.	(Project Completion) partially achieved • Despite the termination of ALOS operation in May 2011, PALSAR data was utilized in developing land cover maps based on optical sensor data as complement for the areas covered by clouds. • No official document citing the information using PALSAR data was confirmed by the project completion because the redefined indicator heavily relies on the availability of PALSAR data. (Ex-post Evaluation) Partially continued. • No official document citing the information using PALSAR data was confirmed. • The PALSAR images provided by the project have been continuously used at DJP in order to complement LANDSAT images with clouds.
	(Indictor 2) Capacities of UPTs are enhanced. (Redefinition) Officers of BPKHs are capable of formulating land cover maps, using PALSAR data, based on the PALSAR interpretation manual & PALSAR data use guideline developed by the project.	(Project Completion) Partially achieved • 37 UPTs/BPKHs officers participated in the basic training courses giving basic knowledge and skills, but the level of their knowledge and skills were not sufficient to apply them to their work. According to the terminal evaluation report, it was supposed that they had not been able to formulate land cover maps using PALSAR data themselves. • 11 officers participated in the advanced training courses giving more practical knowledge and skills. According to the terminal evaluation, it was supposed that they had been capacitated to formulate land cover maps using PALSAR data based on the manuals and guidelines developed by the project. (Ex-post Evaluation) Partially continued • Even though UPTs/BPKHs officers are not able to formulate land cover maps using PALSAR data after project completion, they are capable to utilize e PALSAR images acquired during the project period for scrutinizing the accuracy of land cover maps for the areas covered by clouds which were made by using LANDSAT data.
	(Indicator 3) An estimating of a carbon amount in forest is tested.	(Project Completion) Not verified. • An estimating of a carbon amount in forest was already tested as one of the project activities during the project period. (Ex-post Evaluation) Not verified.
(Overall goal) Sustainable Forest Management (SFM) is promoted in Indonesia through the upgraded forest resources monitoring and assessment	(Indicator 1) Development of forest sector policies and plans by using forest resources monitoring and assessment information from the upgraded system is realized. (Redefinition) In three years after termination of the project, information acquired from land cover maps, using PALSAR data, is used in development of forestry sector policies and plans.	(Ex-post Evaluation) Not achieved • The ex-post evaluation could not confirm how the PALSAR images acquired by the project have been utilized in development of forestry sector policies and plans.
	(Indictor 2) Application of the upgraded forest resource monitoring and assessment information and the	(Ex-post Evaluation) Not verified

	management at the management unit level plans are realized. (Redefinition) In three years after termination of the project, information acquired from land cover maps, using PALSAR data, is used in formulation of management unit level plans.	
	(Indicator 3) Application of the upgraded forest resources monitoring and assessment information of the carbon accounting from forest monitoring of illegal activities is realized. (Redefinition) In three years after termination of the project, information acquired from land cover maps, using PALSAR data, is applied (i) to carbon accounting from forest and (ii) to monitoring of illegal logging activities.	(Ex-post Evaluation)Not verified.

Source: Terminal evaluation report and information provided by DJP.

3 Efficiency

Both project cost and project period were within the plan (97% and 100% respectively), therefore, efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The improvement of the natural resource and environmental management has been prioritized in the current RPJPN (2005-2025). The Indonesian government has continued dispatching training participants from relevant institutions, including MOEF, National Institute of Aeronautics and Space (LAPAN), Geospatial Information Agency (BIG[2]), IPB, to training programs on Synthetic Aperture Radar (SAR) technologies in Japan. This shows the Indonesian government's continuous support/interests for SAR technologies through dispatch of officers from the stakeholders to trainings in Japan in order to sustain their skills and knowledge in SAR technologies.

<Institutional Aspect>

DJP is responsible for making land cover maps based on satellite data. The project provided the advanced-level training to 11 officers and the basic-level training to 37 officers in UPTs/BPKHs under DJP. However, it was difficult to confirm whether the above trained DJP officers continued to work in DJP or not because DJP was unable to provide the information of each individual officer. MOEF explained that the officers who received the training have worked continuously in MOEF. Furthermore, each UPT/BPKH had one officer who joined the PALSAR training during the project period, but the number of officers who still maintain the practical skills and knowledge of the method using PALSAR at the time of ex-post evaluation is unknown. DJP has not been able to come up with a clear post-project strategy on the use of PALSAR data in land cover mapping including use of PALSAR-2 data with the cooperation of JAXA.

<Technical Aspect>

As stated earlier, DJP officers utilize PALSAR images for scrutinizing the accuracy of land cover maps for the areas covered by clouds which were made by using LANDSAT data by deploying the skills and knowledge gained through the project. However, none of them had an experience to formulating the nation-wide land cover maps using PALSAR data themselves at the time of ex-post evaluation. No systematic technical transfer among DJP officers took place due to discontinuation of PALSAR data provision and the subsequent budget decision, technical transfer has happened through day-to-day work in non-systematic ways. Meanwhile, the trainings on SAR technologies and land cover maps have been conducted by JICA, LAPAN and DJP as well as relevant institutions continuously dispatching their officers to these programs in order to maintain the skills and knowledge. The above JICA training included the Thematic Training "Satellite Remote Sensing Data Analysis Technology for Disaster/Environmental Monitoring" in 2011 and "Remote Sensing of Forest Resources" in 2012, 2013 and 2015. Due to the problems with availability of PALSAR data rather than technical issues, DJP does not utilize the manual and guidelines developed by the project such as (i) PALSAR data interpretation manual, (ii) Guideline for the use of PALSAR data for land cover mapping, and (iii) Training Guideline, but these materials are available for use.

<Financial Aspect>

DJP and BPKH have allocated budget on land cover mapping using satellite data though DJP has no plan to purchase PALSAR-2 images. LAPAN also allocates sufficient budget for any kind of satellite data for their data users, including DJP. <Evaluation Result>

In light of the above, some issues have been observed in terms of the institutional and technical aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The relevance of the project is fair because the project should have taken measures in case of the termination of ALOS. Furthermore, there is a causal leap between the project inputs and the Overall Goal.

The project has partially achieved the project purpose. The project introduced the remote sensing technology using PALSAR technology for forest resource monitoring and assessment system, established the related manuals and provided a technical training for DJP officers. As a result, the cloud cover appeared in the land cover maps was eliminated by using PALSAR data and the technically achievable accuracy based on the methods developed by the project became more than 85%. However, the land cover maps (covering the entire Indonesia) using PALSAR data were not created by the project completion because of the termination of ALOS operation in May 2011. With regard to capacity development of DJP, PALSAR images acquired during the project period have been utilized for scrutinizing the accuracy of land cover maps for the areas covered by clouds which were made by using LANDSAT data. However, updating of land cover map by utilizing

[2] Badan Informasi Geospasial.

PALSAR data became difficult due to unavailability of PALSAR data.

Regarding sustainability, some issues have been observed in terms of the institutional and technical aspect of the implementing agency because DJP does not have clear post-project strategy on the use of PALSAR data in land cover mapping; it is uncertain how many DJP officers trained by the project have continued to work for DJP. Nevertheless, institutionally accumulated technical knowledge and skills are expected to be utilized for current operation of monitoring systems and for future policy on a better monitoring methodology.

Considering all of the above points, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

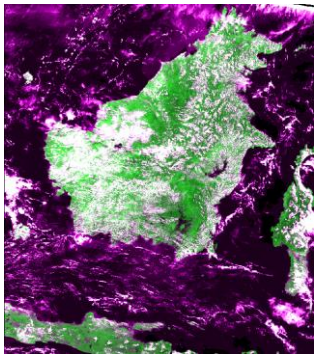
Recommendation to the Implementing Agency

JICA or JAXA will have trainings on advanced GIS technologies on a regular basis. Active participation from Indonesian stakeholders who play a part in analyzing and developing GIS information, satellite data in particular, would be highly appreciated.

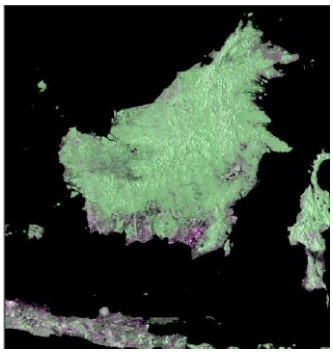
Lessons learned for JICA

(1) In this project, the achievement of Project Purpose was limited because of the project design heavily relying on the utilization of PALSAR data. The continuous provision of PALSAR data was a critical requirement for this project, it must have been carefully examined at the project planning stage about the possible availability of PALSAR data after the project completion as well as a countermeasure against the discontinuation of PALSAR data provision, taking into consideration of the designed lifetime of the satellite. Moreover, a measure for how to obtain and utilize PALSAR-2 data should have been proposed by the project before the termination of the project.

(2) The remote sensing technology using PALSAR/MODIS technology introduced by the project was a new methodology. Therefore, when introducing such new technologies to other countries, its applicability to the partner countries must be carefully examined in consideration with their capacities and type of cooperation schemes. For future projects, other cooperation schemes, such as development study or Science and Technology Research Partnership for Sustainable Development (SATREPS), which are more focused on verification of new technologies, should be also considered as an options ,although SATREPS was not available at the time of this project



(Image of Kalimantan developed by LANDSAT data)



(Image of Kalimantan developed by PALSAR data)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Zambia Office: February 2018

Country Name	The Project for the Capacity Development for Rural Electrification
Republic of Zambia	

I. Project Outline

Background	Zambia had aimed at improving the rural electrification rate from 3.1% at the time of ex-ante evaluation (2008) to 51% by 2030 and the urban electrification rate from 47% at the time of ex-ante evaluation to 90% by 2030. JICA conducted a development study, "The Study for Development of the Rural Electrification in Zambia (2006-2008)", and the Rural Electrification Master Plan (REMP) was formulated in 2008. The Rural Electrification Authority (REA), which was established in 2004, was tasked to promote rural electrification based on REMP. However, REA did not have sufficient experience and capacity to promote rural electrification. Thus, in order to implement rural electrification projects based on REMP, it was required to develop capacities of REA for planning and managing rural electrification projects, financial management, introducing solar power generation to areas where extension of power distribution networks is not suitable and properly updating REMP.		
Objectives of the Project	Through enhancing REA's planning capacities for rural electrification, technical capacities for distribution line extension, mini-hydro electrification and photovoltaic (PV) systems, and project management and financial management capacities, the project aimed at strengthening the capacities of REA for implementing and updating REMP, thereby increasing access to electricity in rural areas. 1. Overall Goal: Access to electricity in rural areas increases. 2. Project Purpose: The capacities of REA for implementing and updating the Rural Electrification Master Plan (REMP) are strengthened.		
Activities of the Project	1. Project Site: the whole country 2. Main Activities: (1) Prepare a manual for the formulation of five year rolling plan, conduct Rural Growth Center (RGC)[1] field survey, repackage RGCs[2], and prepare five year rolling plan and annual work plan; (2) Prepare a feasibility study (F/S) and detailed design (D/D) manual for grid extension electrification and conduct F/S and D/D in accordance with the manual; (3) Prepare a F/S manual for mini-hydro electrification and conduct F/S in accordance with the manual; (4) Prepare a manual for project management and tender documents related to F/S and D/D, material procurement and construction, carry out the contracting process, prepare a manual for supervision of grid extension electrification and supervise construction work; (5) Conduct basic training on PV systems for Department of Energy (DOE) and REA, develop the technical specifications of PV systems, prepare a plan for disseminating PV systems for rural electrification, human resource development plan, trainer's training text books and manuals and a manual for inspection and monitoring of PV systems, and conduct trainer's training; and (6) Effectively make transactions for financial management and prepare proper reports satisfactory to stakeholders, and improve the guidelines and manuals for accounting and financial management etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 17 persons (Japan: 14, the Philippines: 3) 2) Trainees Received: 5 persons 3) Equipment: vehicle, projector, AC/DC clamp meter, voltage logger, current meter, GIS software, GPS, and CAD software etc. 4) Operational expenditure Zambian Side 1. Staff Allocated: 15 persons 2. Project office and office furniture 3. Local cost		
Project Period	August 2009 – December 2013 (Extended Period: August 2012 – December 2013)	Project Cost	(ex-ante) 300 million yen, (actual) 376 million yen
Implementing Agency	The Rural Electrification Authority (REA)		
Cooperation Agency in Japan	CHUBU Electric Power Co.,Inc.		

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

・ Target Year for Indicator of Overall Goal: The target year for the indicator of Overall Goal stated in PDM is 2018. If it is confirmed in this ex-post evaluation that 80% of the target (target: 80% of the five year rolling plan) is highly likely to be implemented by the end of 2018, this indicator is evaluated as 'achieved'. In more concrete terms: (a) if 80% of the target, i.e., 80% x 80% = 64%, of the five year rolling plan is highly likely to be implemented by the end of 2018, this indicator is evaluated as 'achieved', (b) if 40% to 63% of the plan, which means 50-79% of the target, is likely to be implemented by the end of 2018, it is evaluated as 'partially achieved', and (c) if less than 40%, which means below 50% of the target, is likely to be implemented by the end of 2018, it is evaluated as 'not achieved'.

[1] Rural Growth Center (RGC) is a center of economic activities in rural areas in Zambia which functions as a place to exchange cash and goods, purchase daily essentials and access to public services etc.

[2] REMP packaged 1,217 non-electrified RGCs into 180 project packages and proposed electrification priorities and the most appropriate electrification mode for each RGC.

1 Relevance

<Consistency with the Development Policy of Zambia at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Zambia's development policy on 'achieving a stable supply of environmentally friendly and economical energies to the whole country' and 'promotion of rural electrification' etc. as set forth in the "Zambia Vision 2030", "Fifth National Development Plan 2006-2010", and "Sixth National Development Plan 2011-2015" at the time of both ex-ante evaluation and project completion.

<Consistency with the Development Needs of Zambia at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation, Zambia aimed at increasing electricity supply for establishment of stable and well balanced economic infrastructures and poverty reduction. At the time of project completion, the demand for rural electrification in Zambia was still very high, and REA was expected to implement more projects than ever and the number of their project was expected to be increased continuously.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy, as assistance for establishment of balanced economic structure was emphasized in the Country Assistance Program for Zambia (2002), in which infrastructure development as a basis to support economic activities was stated as one of development issues.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. REA completed electrification of 70 RGCs against the target of 54 RGCs by the time of terminal evaluation (Indicator 1). While at least 18 project packages mentioned in REMP were targeted to be listed in Annual Work Plans by December 2013, the scale of project packages listed in REMP was too large to implement as a single project (i.e. too large to put together as a single tender document). Therefore, the project packages were re-packaged as "lots". Regarding grid-extension projects, REA listed 22 lots in Annual Work Plan 2011, 2012 and 2013 that were re-packaged from the list in REMP (Indicator 2). All newly listed ten projects (100%) were contracted in FY2011 and 21 among 22 newly posted projects (95%) were contracted in FY2012 (Indicator 3).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been partially maintained since project completion. The number of RGCs electrified after project completion has been significantly less than the target number stated in the five year rolling plan except for 2014 (4% to 58% of target). The main reason for this is lack of funds, particularly, the exchange rate almost doubled in 2015 compared to that of 2013, which has reduced financial resource availability. Moreover, REA has embarked on mini-hydro electrification projects since 2015, which is much more expensive than distribution line extension projects and hence further reduced financial resource availability (Indicator 1). Annual work plans have been prepared from the five year rolling plan every year since project completion. While the number of project packages listed in these annual work plans were more or less the same as the target (18 project packages) from 2014 to 2016, the number was significantly reduced in 2017, due to the inadequate funding both from the government and various development partners and the fluctuation of exchange rates, which made it difficult for REA to plan for future projects[3] (Indicator 2). While more than 70% of the newly-posted projects in the annual budget were contracted in 2014 and 2015 (and 2017 (the number of the newly-posted projects in the annual budget was already very small in 2017)), this was not achieved in 2016, due to the same reasons as stated above (Indicator 3).

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was partially achieved at the time of ex-post evaluation. While the target number of RGCs to be electrified from 2014 to 2018 in the five year rolling plan is 244 RGCs in total, 130 RGCs have been actually electrified since project completion, which means 53% of the target has been achieved at the time of ex-post evaluation. Thus, it is unlikely that 80% of the five year rolling plan would be implemented by 2018. The main reason is due to the insufficient funds allocated to REA as stated above, and staff changes may have also affected the project, as strategically important people to this project such as the CEO and the Technical Director left REA in 2012.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural environment has been observed and no land acquisition and resettlement has been occurred under the project. In Mumbwa district, where the project directly supported to conduct F/S and D/D for grid extension, employment creation was observed, as REA enabled the provision of electricity to a huge agriculture business in Mumbwa which has employed more than 1,000 rural people. Moreover, according to observations during field visits and interviews with beneficiaries in rural communities and REA officials, the project has contributed to some positive impacts through capacity building of REA. For example, schools in RGCs that were electrified by REA have become able to conduct ICT lessons and evening classes, rural clinics in RGCs that were electrified by REA have become able to handle emergencies at night, shops in rural markets that were electrified by REA have become able to open for longer hours in evening, which has resulted in an increase of sales, and many women in RGCs that were electrified by REA have started small informal businesses such as saloons and shops.

<Evaluation Result>

In light of the above, through the project, targets set in indicators for Project Purpose were achieved by the time of project completion, the project effects have been partially maintained since project completion, and the Overall Goal was partially achieved at the time of ex-post evaluation. While electrification of the target number of RGCs in the five year rolling plan is unlikely to be achieved by the target year (2018), the project has contributed to activation of rural economy through employment creation and an increase in sales and improvement of social services such as education and medical services in RGCs electrified by REA. Therefore, the effectiveness/impact of the project is fair.

[3] While the project packages were re-packaged as "lots" and listed in annual work plans during project implementation as stated above, the numbers shown in the table below after 2014 are the numbers of "project packages". There was no answer from REA on why the numbers of "project packages" are listed in annual work plans since 2014 instead of "lots".

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
The capacities of REA for implementing and updating the Rural Electrification Master Plan (REMP) are strengthened.</td><td>1. At least 54 RGCs mentioned are electrified by Dec. 2013.</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion) REA already completed electrification of 70 RGCs by the time of terminal evaluation (May 2013).
(Ex-post Evaluation) The number of RGCs electrified after project completion has been significantly less than the target number stated in the five year rolling plan except for 2014.
<table>
<tr><th></th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th></tr>
<tr><td>The target number of RGCs to be electrified in five year rolling plan (including distribution line extension, mini-hydro and PV systems)[4]</td><td>42</td><td>71</td><td>47</td><td>35</td><td>49</td></tr>
<tr><td>The number of RGCs actually electrified by distribution line extension/grid extension</td><td>12</td><td>14</td><td>2</td><td>3</td><td>-</td></tr>
<tr><td>The number of RGCs actually electrified by mini-hydro</td><td>0</td><td>0</td><td>0</td><td>0</td><td>-</td></tr>
<tr><td>The number of RGCs actually electrified by PV systems</td><td>72</td><td>27</td><td>0</td><td>0</td><td>-</td></tr>
<tr><td>The total number of RGCs actually electrified</td><td>84</td><td>41</td><td>2</td><td>3</td><td>-</td></tr>
</table></td></tr>
<tr><td></td><td>2. At least 18 project packages mentioned in REMP are listed in Annual Work Plans by Dec. 2013.</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion) Regarding grid-extension projects, REA listed 22 lots in Annual Work Plan 2011, 2012 and 2013.
(Ex-post Evaluation) The number of project packages listed in annual work plans were more or less the same as the target (18) from 2014 to 2016, however, the number was significantly reduced in 2017 (While the project packages were re-packaged as “lots” and listed in annual work plans during project implementation, the numbers shown in the table below after 2014 are the numbers of “project packages”. There was no answer from REA on why the numbers of “project packages” are listed in annual work plans since 2014 instead of “lots”).
<table>
<tr><th></th><th>2014</th><th>2015</th><th>2016</th><th>2017</th></tr>
<tr><td>The number of project packages listed in annual work plan</td><td>17</td><td>15</td><td>15</td><td>3</td></tr>
</table></td></tr>
<tr><td></td><td>3. At least 70 % of the newly-posted projects in the annual budget (except carry-over projects) are contracted within each fiscal year.</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion) All newly listed ten projects were contracted in FY2011 and 21 among 22 newly posted projects were contracted in FY2012.
(Ex-post Evaluation) In 2016, less than 70% of the newly posted projects were contracted.
<table>
<tr><th></th><th>2014</th><th>2015</th><th>2016</th><th>2017</th></tr>
<tr><td>The total number of newly-posted projects in the annual budget in each fiscal year</td><td>17</td><td>15</td><td>15</td><td>3</td></tr>
<tr><td>The number of newly-posted projects in the annual budget that were contracted within each fiscal year</td><td>12</td><td>14</td><td>2</td><td>3</td></tr>
</table></td></tr>
<tr><td>(Overall Goal)
Access to electricity in rural areas increases.</td><td>At least 80% of five year rolling plan implemented by 2018.</td><td>(Ex-post Evaluation) partially achieved
According to the table in Indicator 1 of Project Purpose, the target number of RGCs to be electrified from 2014 to 2018 in the five year rolling plan is 244 RGCs in total. On the other hand, 130 RGCs have been actually electrified since</td></tr>
</table>

[4] The reason why the target number fluctuates largely is that the five year rolling plan is revised every year according to financial availability to reflect issues in a given year and targets not having achieved in a given year to the following year.

		project completion, which means 53% of the target has been achieved at the time of ex-post evaluation.

Source：Terminal Evaluation Report, questionnaire and interview surveys to REA

3 Efficiency

Both project cost and project period exceeded the plan (ratio against the plan: 125% and 147%, respectively). Project period was extended, as (1) significant technical transfer was not conducted during the first year until the engagement of the short-term expert team, (2) it became apparent that for project counterparts (C/Ps) to fully acquire knowledge and experience necessary to properly carry out mini-hydro electrification projects, the original duration of project (three years) was too short, and (3) while REA had only four engineers when the project started, REA continuously increased its technical staff, and additional training for new members was necessary. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

"Zambia Vision 2030" is still effective at the time of ex-post evaluation. This project is also consistent with the revised "Sixth National Development Plan 2013-2016", which targets at achieving the total national electricity generation capacity of 3,121 MW by 2016, and the revised "National Energy Policy 2008", which targets at increasing access to energy, particularly in rural areas.

<Institutional Aspect>

REA is still responsible for promoting rural electrification at the time of ex-post evaluation. The number of quota in the technical department, which is responsible for all technical works in the organization, in REA is 36 engineers[5]. While there were only six engineers in the department during the project implementation, there are 18 engineers in the department at the time of ex-post evaluation. However, the current number (18 engineers) is still not sufficient to promote rural electrification. There are two Certified Basic Trainers and two Certified Intermediate Trainers of solar PV systems, which is also not sufficient, as electrification by solar PV systems has been increasing. Moreover, as stated above, strategically important people to this project such as the CEO and the Technical Director left REA in 2012. Furthermore, while it is required for REA to establish its offices in provincial centers countrywide, only one office has been established in Samfya in Luapula Province due to inadequate operational funding.

<Technical Aspect>

At the time of ex-post evaluation, nine out of 15 C/Ps still work at REA. According to the technical department of REA, engineers' technical skills are generally sufficient to prepare five year rolling plans and annual work plans, conduct F/S and D/D for distribution line extension and F/S for mini-hydro electrification, prepare tender documents, supervise construction works, and carry out load assessment, design, cost estimation and inspection and monitoring of solar PV systems, as these tasks have been conducted properly. However, their skills to update REMP is not sufficient (REMP has not been updated since project completion), particularly, skills for calculating Financial Internal Rate of Return (FIRR) and Economic Internal Rate of Return (EIRR) etc. are not sufficient. TOTs on solar PV systems have been conducted twice since project completion; one was conducted in 2015 for eight REA staff, and the other was conducted in 2017 for two ZESCO (a state-owned company)[6] staff (TOTs for REA staff have not been conducted after 2015 due to lack of budget). Various manuals prepared under the project are utilized by REA officials. Equipment procured under the project such as a vehicle, projector, AC/DC clamp meter, voltage logger, current meter, GIS software, GPS and CAD software etc. are utilized and maintained by REA at the time of ex-post evaluation.

<Financial Aspect>

REA has been allocated a stable amount of budget as seen in the table. However, these amounts are not sufficient to update REMP, achieve targets stated in the five year rolling plan, and conduct TOTs on solar PV systems for REA staff. The excel database developed under the project for improvement of efficiency in financial management and sharing information on the same platform with other departments is not used at REA. REA has installed and used the pastel accounting system (a South African accounting software package developed by SoftLine Group) which serves as an integrated system that links various aspects for better accounting management.

Budget and Expenditure of REA (Unit: ZMW)

	2014	2015	2016
Total budget allocated (Actual)	174,274,499	141,057,089	160,541,410
Capital projects	162,075,284	120,494,812	136,665,876
Administrative	12,199,214	20,562,277	23,875,534
Total expenditure (Actual)	101,964,428	140,775,767	135,621,230
Capital projects	82,090,468	120,213,490	112,551,141
Administrative	19,873,960	20,562,277	23,070,089

Source: REA Finance Department

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project, targets set in indicators for Project Purpose were achieved by the time of project completion. The project effects have been partially maintained since project completion, and the Overall Goal was partially achieved at the time of ex-post evaluation. While electrification of the target number of RGCs in the five year rolling plan is unlikely to be achieved by the target year (2018), the project has contributed to activation of rural economy through employment creation and an increase in sales and improvement of social services such as education and medical services in RGCs electrified by REA. As for sustainability, some problems have been observed in terms of the institutional, technical and financial aspects. As for efficiency, both project cost and project period exceeded the plan.

Considering all of the above points, this project is evaluated to be partially satisfactory.

[5] These engineers are the core personnel in the organization.

[6] ZESCO is a state-owned joint stock electricity company, which implements construction works as a contractor based on plans prepared by REA and conducts O&M after construction works.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- As stated above, REMP has not been updated. To update REMP in accordance with the current realistic budgetary situation will enable REA to plan and meet their targets realistically.

Lessons Learned for JICA:

- As stated above, REMP has not been updated. In addition to Joint Coordination Committees, a project, which support implementation of rural electrification plans, should consider to include activities for advocacy/dissemination of a developed master plan and discussion and planning on how the master plan can be updated and implemented under budget constraints, cooperating with stakeholders including electric utility companies and other donors.

Rural people converge to watch TV at a teacher's house electrified by REA

Solar PV system installed in rural Samfya.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Egypt Office: September 2017

Country Name	The Project on the Promotion of School Health Services in Upper Egypt
Arab Republic of Egypt	

I. Project Outline

Background	In Egypt, in 1993, the Student Health Insurance Program for school children of primary, preparatory and secondary schools was introduced to expand the provision of healthcare insurance to all school students in the country under the Law 99 which was enacted in 1992. The "Manual of Student Health Insurance Act" stipulates that school doctors and school nurses working for the Health Insurance Organization (HIO) clinics should provide school health services such as: periodic health check-up; preventive inoculation; maintenance of school environment; and health education. Despite efforts to provide adequate and reliable health services for all school students, challenges concerning, accessibility, quality and other aspects were still persisted. Also, the health service activities at schools were insufficiently practiced because of deficient awareness to proactively implement the school health activities by the teachers and school children. Under those situations, the government of Egypt requested the government of Japan a technical cooperation project to establish a more efficient school health service implementation mechanism and to provide school health services involving doctors, nurses, teachers, students, parents and community members.
Objectives of the Project	Through development of monitoring and supervisory mechanism on school health at district level, designation of 20 Health Promotion Schools (HPSs) in Tammia district for promotion of school health, trainings on school health and strengthening of supporting activities by teachers and parents for Health Promotion Schools, the project aimed at improvement of quality of school health services in Tammia district as well as preparation of framework for dissemination of Health Promotion School in Upper Egypt, thereby contributing to promotion of school health through expansion of Health Promotion School and school health services in Upper Egypt. 1. Overall Goal: School health is promoted by expanding Health Promotion School and school health services in Upper Egypt. 2. Project Purpose: 1) The quality of school health services in Tammia district is improved through the dissemination of the concept of Health Promotion School. 2) The framework to disseminate Health Promotion School in Upper Egypt is prepared.
Activities of the Project	1. Project site: Upper Egypt (Pilot site: Tammia District in Fayoum Governorate) 2. Main activities: 1) Development of Guidelines of Monitoring and Supervision for School Health Services and conducting monitoring and supervision activities at the pilot schools, 2) delivery of school health services at the pilot site, 3) delivery of trainings for human resources to be engaged in school health activities and services, 4) implementation of school health activities with community participation 3. Inputs (to carry out above activities) Japanese Side 1. Experts: persons: 12 persons 2. Local consultant: 1 person 3. Acceptance of trainees in Japan: 3persons 4. Equipment: basic health tools, PCs, printers and vehicles, etc. 5. Local cost: cost for trainings etc. Egyptian Side 1. Staff allocated: 38 persons 2. Land and Facilities: project office spaces in the Ministry of Health and Population in Cairo and Fayoum and school clinics in the 20 pilot schools

Ex-Ante Evaluation	2008	Project Period	November, 2008 - November, 2012	Project Cost	(Ex-ante) 380 million yen (Actual) 390 million yen
Implementing Agency	Ministry of Health and Population (MOHP), Health Insurance Organization (HIO)				
Cooperation Agency or Contract Agency in Japan	System Science Consultants Inc. (SSC), Health and Development Service (HANDS)				

II. Result of the Evaluation

< Constraints in the Evaluation >

Constraints on data and information collection for Ex-post Evaluation

The number of samples to collect data and information and geographical coverage of the project sites was limited because the interview surveys could cover limited number of interviewees and sites to be surveyed within limited time for survey. Therefore, the evaluation survey mainly focused on information collection in Tammia District and Fayoum Governorate where the project had directly affected.

1 Relevance

<Consistency with the Development Policy of Egypt at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the Egypt's development policy of "Socioeconomic Development Five-Year Plan (2007-2010)" and "the Strategic Vision for improving Health Care Services and Nursing in Egypt (2012)", which aimed at "expansion of primary health care units in all governorates" and "improvement of children's health through school health service promotion activities.

<Consistency with the Development Needs of Egypt at the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with the Egypt's development needs of improvement of school health services in particular in rural areas and the enhancement of the capacity of human resource to provide the school health services, including school doctors and nurses.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with the Japan's ODA policy to Egypt (June 2008) to prioritize the three areas including poverty reduction and improvement of living standards, such as expansion and improvement of public services and improvement of social welfare.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the Time of Project Completion>

By the project completion, the Project Purpose 1 (improvement of quality of school health services in Tammia district) was partially achieved and the Project Purpose 2 (preparation of the framework to disseminate Health Promotion School in Upper Egypt) was achieved. As for satisfaction level of students, parents and teachers with school health services (Indicator 1-1), according to the end-line survey, 61% of primary school students and 48% of preparatory school students, and the majority of teachers and the Board of Trustees from the pilot schools considered that the school health services have improved in the 2 years before ending the project. In the same survey, most parents from the pilot schools claimed no improvement in school health services though limited communication between schools and parents and limited awareness among the parents of the progress in school health programs may have brought about their misperceptions. In terms of improvement of school health service (Indicator 1-2), according to the Internal School Health Committee (ISHC)[1] survey, all 114 respondents from 20 pilot schools reported that school health services at their schools had improved. The concept of Health Promotion School (Indicator 2-1) was agreed among all relevant organizations. Also, tools for dissemination of Health Promotion School (Indicator 2-2), such as "Implementation Manual for School Health Services and Guidelines of Monitoring and Supervision for School Health Services", DVD and CD on comprehensive medical examination and three leaflets on school health service promotion, were developed.

<Continuation Status of Project Effects at the Time of Ex-Post Evaluation>

The project effects have been partially continued since the project completion. In terms of division of responsibilities for the school health activities, while health education and health examination are the mandate of schools nurses under MOHP for rural areas or HIO for urban areas, other activities are the mandate of teachers under the Ministry of Education (MOE). Owing to differences in the organizational mission and mandates among the concerned parties of MOHP, HIO and MOE, perceptions on the status of school health service activities introduced by the project vary according to each party.

According to MOHP and HIO in Fayoum and Tammiya, health service activities based on the concept of the Health Promotion Schools have been sustained in the 20 pilot schools. In detail, all pilot schools have been conducting 5 out of 6 activities. As for the remaining activity of Health Examination Coverage, 4 out of 20 pilot schools have been providing health check-ups despite a lack of the number of doctors and health visitors in rural areas. However, some of the pilot schools are facing difficulties with community participation as well as water and sanitation. Despite difficulties of monitoring schools by representatives from ministries due to limited resources including staffs of the School Age Children Health Department (SACHD) of MOHP and infrastructure, MOHP irregularly visits the schools and HIO irregularly receives updates from the HIO Fayoum branch.

In the 2 pilot schools surveyed by the ex-post evaluation, it was confirmed that the school health activities introduced by the project have been continued since they still have the human resources who had been involved in the project activities during the project implementation. Also, it was confirmed that HIO and the Education Directorates in Fayoum and Tammiya as well as the 2 pilot schools surveyed by this ex-post evaluation recognized the improvement of the school health services provided by the pilot schools. On the other hand, due to reallocation of human resources and lack of sustainable trainings to teachers and health visitors in rural areas, the efficiency of the school health services has been getting lower.

In terms of the concept of the Health Promotion School, HIO has disseminated it to all schools in Tammiya and implemented the activities including all activities introduced by the project in almost all districts in Fayoum. Since the mandates of MOE (activities concerned with population, health education and environment) are functioning in all schools in Egypt (over 54,000 schools) but the concept of the Health Promotion School by this project has not been taken over by MOE because MOE is implementing those activities based on its protocol and mandate. In terms of the "Implementation Manual for School Health Services and Guidelines of Monitoring and Supervision for School Health Services", MOHP distributed 1,500 copies printed by the project team to doctors, nurses and community members in the occasion of trainings. HIO promotes health activities, which are related to the project activities, based on their own guidelines and materials. Providing the trainings in remote areas was not easy due to limited human and financial resources. HIO and the Education Directorates in Fayoum and Tamiya have at least one copy of the manual. In particular, according to HIO, they refer to it for getting proper knowledge about school health activities when they implement trainings to health visitors in urban areas (trainings for health visitors in rural areas are the mandates of MOHP). It was also confirmed that the 2 visited pilot schools utilize the manual. However, none of MOE, HIO and MOHP printed additional copies of the manual, so the manuals were not distributed to non-targeted organizations and schools because of the budget constraints.

The system for the dissemination of the activities related to the project was established through several ways such as initiating dissemination activities in nine governorates other than Fayoum and developing the guideline for dissemination in May 2012, and selecting trainers responsible for dissemination in each governorate at the workshop in June 2012.

<Status of Achievement for Overall Goal at the Time of Ex-Post Evaluation>

The Overall Goal has not been achieved at the time of ex-post evaluation. In order to verify achievement of the Overall Goal, the ex-post evaluation team visited the relevant organizations as well as some of the schools in Assiut governorate, one of the largest governorates in Upper Egypt. As for introduction of the Health Promotion School in Upper Egypt (Indicator 1), MOHP has not disseminated the activities introduced by the project to Upper Egypt in proper and sustainable manner based on the HPS model because of the limited financial resourced. As mentioned above, MOE has not extended in Upper Egypt the concept of the Health Promotion School despite their activities based on their mandate covering over 54,000 schools in the country. In terms of regular training on school health based on the activities introduced by the project (Indicator 2), MOHP has utilized the materials developed by the project such as a guideline for implementation of the trainings, therefore the training programs delivered by MOHP have been based on the guideline. HIO has provided trainings to all school doctors and nurses twice a year. The central government develops training plan and the 22 branches (governorates) are responsible for the implementation. The training topics were: Administration, Communicable Diseases and Health Checkup and trainings on any

[1] ISHC is one of the key components for the school health activities based on the HPS model introduced by the project.

emerging health issues. MOE has provided trainings for teachers who are members of SHC, but the details were not disclosed. According to HIO branches in Fayoum and Assiut as well as health visitors, HIO provided trainings to all health visitors in urban areas twice a year. However, due to limitation in the number of human resources and budget, the coverage of the trainings for health visitors in remote areas such as Tammia which is more than 1 hour away from the capital of the governorate is not sufficient. HIO was deemed to be more active to implement trainings compared to MOHP and MOE.

According to the Education Directorates in Fayoum and Assiut, MOE provided opportunities for annual meetings, however no trainings has been implemented. In terms of monitoring of health indicators based on the monitoring and supervision system developed by the project (Indicator 3), data for the indicators were not acquired from the central governments because these indicators have not been registered and those data have not been accumulated in the central governments. According to HIO branches in Fayoum and Assiut as well as schools surveyed by the ex-post evaluation, although the results of health checks have been recorded in paper at all schools and the schools have reported the result to HIO branches (in urban areas, in case in rural areas the results are reported to MOHP) and the HIO branches recorded the collected results in the database. It was confirmed that all schools had kept the records of the results of health check in paper, but the indicators to assess school health[2] were not recorded.

<Other Impacts at the Time of Ex-Post Evaluation>

Some positive impacts of the project have been observed at the time of ex-post evaluation. MOHP developed monitoring and supervisory mechanism on school health at district level and strengthened at governorate and central level. Also, MOE issued the ministerial decree 74 (2014) to establish School Health Committee (SHC) in school, district and directorate levels. Among the positive impacts by the project was also the utilization of the guidelines developed by the project for the development of MoE guidelines for the General Directory of Health, Population and Environmental Education. No negative impact was observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the project partially achieved the Project Purpose 1 and achieved the Project Purpose 2 and the health service activities based on the concept of Health Promotion School introduced by the project have been sustained at all the pilot schools. However, the Overall Goal to disseminate the concept of Health Promotion School in Upper Egypt has not been achieved. Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose 1) The quality of school health services in Tammia district is improved through the dissemination of the concept of Health Promotion School.	(Indicator 1-1) More than half of students, parents, and teachers are satisfied with the school health services.	Status of the Achievement: Partially achieved (Project Completion) ● According to the end-line survey, 61% of primary school students and 48% of preparatory school students, and the majority of teachers and the Board of Trustees from pilot schools considered that the school health services have improved in the 2 years before ending the project. ● In the same survey, most parents from pilot schools claimed no improvement in school health services due to limited communication with school and limited awareness among the parents of the progress in school health programs. (Ex-Post Evaluation) Partially continued. ● No data available. ● However, it was confirmed that HIO and Education Directorates in Fayoum and Tamiya as well as 2 pilot schools surveyed by this ex-post evaluation recognized the improvement of the school health services provided by the pilot schools.
	(Indicator 1-2) Internal School Health Committee Members at 20 pilot schools judge that the provision of school health services is improved.	Status of the achievement: Achieved (Project Completion) ● According to the ISHC survey, all 114 respondents from 20 pilot schools reported that school health services at their schools had improved. (Ex-Post Evaluation) Partially continued ● It was confirmed that HIO and Education Directorates in Fayoum and Tamiya as well as the 2 pilot schools surveyed by this ex-post evaluation recognized the improvement of the school health services provided by the pilot schools.
(Project Purpose 2) The framework to disseminate Health promotion School in Upper Egypt is prepared.	(Indicator 2-1) The concept of Health Promotion School is elaborated.	Status of the achievement: Achieved (Project Completion) ● The definition of the HPS concept was agreed upon among all relevant organizations. (Ex-Post Evaluation) Partially continued ● According to HIO, the HPS concept has been disseminated (all activities introduced by the project are implemented) to all schools in Tammia and almost all districts in Fayoum. ● According to MOE, concept of HPS introduced by this project has not been sustained.

[2] The proportion of students who always wash their hands before eating, the proportion of students who never eat breakfast before going to school, the proportion of students who reported that people smoke inside classrooms, the proportion of students who never got sick in the current school year, and the proportion of students who have ever received health check-ups by school doctor and/or school nurse.

<table>
<tr><td></td><td>(Indicator 2-2)
The tools for dissemination of Health Promotion School are developed.</td><td><u>Status of the achievement: Achieved</u>
(Project completion)
● The following dissemination tools were developed:
➢ “Implementation Manual for School Health Services and Guidelines of Monitoring and Supervision for School Health Services”
➢ DVD/CD on comprehensive medical examination
➢ Three leaflets on school health service promotion
(Ex-post Evaluation) Partially continued
● MOHP distributed 1,500 copies printed by the project to doctors, nurses and community members in the occasion of trainings.
● HIO does not utilize the guideline but they promote health activities with its own way with its own guidelines and material because School Health is one of the mandates of HIO, and HIO has its own way/measures to implement/promote its comprehensive activities. The approach depends on each branch and it is not standardized.
● MOE does not utilize the guideline directly because it is not applicable and useful for school teachers, but rather the relevant information from the manual were used in developing the MOE own guideline. Although MOE’s mandates are: Population, environment and health education, the guideline covers only health education and environment partially. Since MOE has its own way/measures to implement/promote its comprehensive activities, MOE developed its own guideline above mentioned which covers all those 3 sectors in 2012. The guideline is annually updated and the soft copy is provided to all teachers.</td></tr>
<tr><td rowspan="3">(Overall Goal)
School health is promoted by expanding Health Promotion School and school health services in Upper Egypt.</td><td>(Indicator 1)
Health promotion schools are introduced to more than 5 governorates in Upper Egypt.</td><td><u>Status of achievement: Not achieved.</u>
(Ex-post Evaluation)
● According to MOHP, the activities were not disseminated to Upper Egypt in proper and sustainable manner
● According to HIO, the concept of HPS has not been disseminated in other governorates in Upper Egypt.
● According to MOE, the concept of HPS defined by the project has not been transferred or sustained properly.
● According to HIO and Education Directorates in Fayoum and Assiut, the school health activities under the concept of the project are not properly disseminated in Upper Egypt and not practiced.</td></tr>
<tr><td>(Indicator 2)
SACHD* of MOHP is providing regular training on school health based on monitoring on pilot schools in Tammia.

*SACHD: School Aged Children Health Care Department</td><td><u>Status of the achievement: Partially achieved</u>
(Ex-post Evaluation)
<table><tr><th rowspan="2">Training target</th><th colspan="4">Target governorate</th><th colspan="4">Number of trainings</th></tr><tr><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr><tr><td>Nurses</td><td>6</td><td>20</td><td>18</td><td>10</td><td>18</td><td>10</td><td>8</td><td>19</td></tr><tr><td>Doctors</td><td>N.A.</td><td>20</td><td>18</td><td>10</td><td>N.A.</td><td>10</td><td>8</td><td>15</td></tr><tr><td>MOE</td><td>N.A.</td><td>20</td><td>18</td><td>N.A.</td><td>N.A.</td><td>10</td><td>15</td><td>N.A.</td></tr><tr><td>SHC</td><td>N.A.</td><td>N.A.</td><td>18</td><td>N.A.</td><td>N.A.</td><td>N.A.</td><td>12</td><td>N.A.</td></tr></table></td></tr>
<tr><td>(Indicator 3)
Some health indicators that are collected in the proposed monitoring mechanism are improved.</td><td><u>Status of the achievement: Not achieved</u>
(Ex-post Evaluation)
The data for the indicators defined in the proposed monitoring mechanism were not acquired from the central government because these has not been registered and accumulated in the central government.</td></tr>
</table>

Source：Terminal Evaluation Report, MOH, HIO, MOE, HIO in Fayoum and Assiut, Education Directorates in Fayoum and Assiut, 2 pilot schools and 8 non-pilot schools in Fayyoum and Assiut.

3 Efficiency

Although the project period was within the plan (ratio against the plan: 100%), the project cost slightly exceeded the plan (ratio against the plan: 102%). Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The school health activities have been endorsed by the laws: the Law 99 (1992) for Health Insurance which includes preventive, curative, rehabilitation and school health (MOHP, HIO) and the Ministerial Decree 74 (2014) to establish school health and environment committees at the strategic level and all executive levels of school, educational administration, and educational directorate in school level (MOE).

<Institutional Aspect>

[MOHP]

MOHP (SACHD:) is responsible for Training of health visitors and doctors in rural areas, supervision and monitoring, data analysis and report writing. Health data are recorded as electric data which can be accessed from MOHP. HIO is responsible for health checkup in urban area, comprehensive curative care, training of health visitors in urban areas, preventive health care measures. SACHD has 6 officers for the central supervisory team but the number of officers is not sufficient for covering all schools in rural areas. Typically, one doctor and one nurse are assigned for each primary health unit (PHU), which covers average 2,000 to 20,000 people in respective areas and provides Primary Health Care Services, and in some governorates one doctor can be responsible for 3 PHUs. These doctors and nurses are in charge

of primary health care (PHC), family planning, vaccination, preventive care, School Health etc.

[MOE]

MOE is responsible for school activities (the Internal School Health Committee, attainment of external and internal sanitary environment, health education and water sanitation) and training teachers for providing sufficient school activities. The General Directorate of Environmental, Population and Health Education launched a document for environmental, population and health education and implemented in 2013. The activities covered hygiene, prevention from infectious diseases, public health and reproductive health and so on and those activities contributed to consolidation of the concept of Health Promotion Schools through interaction for school students. MOE has 6 technical officials for school activities but the number of staffs is not sufficient. Due to the budget limitation, the number of staff decreased.

[District and Governorate Level]

Tammia district has 8 HIO officers, 3 education officers, 3 environment population and health education officers and 3 social workers/health supervisors. The organizational setting has been better due to the increase in the number of social workers/health supervisors deployed in the Education Directorate in district. HIO has deployed 5 members composed of 1 head, 1 doctor, 1 nurse, 1 social worker and 1 secretary for each team in all 22 branches but the number of staffs for the team is not sufficient considering that the mandate of those members are not only school health but they have other duties such as preventive and curative sector. MOHP deploys 1 doctor in each governorate (additional 1 nurse has been deployed in Beni Suef, Giza and Luxor) but it is not sufficient. These doctors and nurses belong to the Health Directorates. On average, 1 doctor takes care of 3 PHC Unit. No social workers or secretaries are deployed. These doctors and nurses are in charge of PHC, Family Planning, Vaccination, Preventive care and School Health. MOHP admits it is difficult to increase the human resource.

Fayoum Governorate has 10 HIO officers, 2 education officers and 2 environment, population and health education officers but the number of officers is not sufficient to cover all schools in the governorate.

For the pilot school, 1 health visitor, 1 environment officer, 1 social worker, 1 IT officer are assigned to almost all the Internal School Health Committees (ISHCs). The numbers of doctors and health visitors are not sufficient, in particular, in rural areas.

[School Health Committee (SHC)]

Based on the Ministerial Decree of MOHP, SHC has been institutionalized at governorate level. Each SHC is composed of 7 members from MOHP, HIO and MOE. SHC is responsible for following up of activities, supervision, tackling problems and implementation of Action Plan. SHC has periodical meetings, twice a year. However, according to MOE and HIO, SHC in central level has not been established, although it is preferable to be established for better coordination and collaboration among concerned parties in order to secure the sustainability of the activities, including proper and smooth planning, implementation and monitoring and evaluation of the activities. According to MOE, there has been a committee for other purpose, whose members are MOHP, HIO and MOE, but nothing concerning the activities related to this project has been discussed in that committee. The Ministerial Decree 74 from Ministry of Education does not state anything about SHC in central level, while it regulates the establishment of ISHC and SHC in governorate and district level. According to HIO, there is SHC in governorate level (without any legal background). Members of SHC at governorate level are heads of the Education Directorate, the Health Directorate and the HIO branch. Also, MOE and HIO admit there is lack of system to secure coordination, engagement and commitment of concerned ministries, which causes the weakness in sustainability of the project effects.

Based on the Ministerial Decree No. 74 of MOE issued in 2014, ISHC has been institutionalized. ISHC is composed of the Head of school (MOE), doctor and nurse (HIO or MOHP) and teachers in school level. ISHC is responsible for implementation of school health activities. It is confirmed that the school health activities such as environment assessment, health check and health education have been implemented in all schools since 1993 and ISHC were systematically structured since the enforcement of the ministerial decree from MOE in 2014. Although ISHC seems to be functioning well in urban areas where HIO and MOE make frequent follow up, some schools only regard ISHC as administrative works and ISHC are not functioning very well, in particular, this tendency seems to be high in rural areas.

<Technical Aspect>

The officers trained by the project, including the school health officers of MOHP (SACHD), the health officers of HIO, population, environment and health education technical personnel and the administrative and financial staffs, have sustained the necessary skills and knowledge for promotion of the school health activities based on the concept of Health Promotion School due to the continuous trainings. Also, the health officers, the population, environment and health education technical personnel and the administrative and financial staffs of the Tammia district and the Fayoum governorate have sustained the necessary skills and knowledge due to the continuous trainings. At school level, teachers who have been in pilot schools since the project implementation stage keep good level of skills and knowledge. However, teachers, doctors and health visitors in Tammia (rural areas) do not have enough opportunities for continuous trainings, because of the shortage of financial resources, human resources and capacity of the Health Directorate and the Education Directorate in Tammia district for conducting continuous trainings in the district. Therefore, those who assigned to pilot schools after the completion of the project did not have enough skills and knowledge which caused the increasing inefficiency of the school health activities in pilot schools.

<Financial Aspect>

[MOHP and HIO]

The budget source of MOHP comes from the central government. Use of budget is for trainings and supervisory visits for PHU and schools. The amount of annual budget is not fixed. SACHD applies for budget by submitting the annual plan for training every year. The budget source of HIO is premium from citizens who join the Health Insurance and some contribution from the Ministry of Finance. Use of budget is health and medical treatment for all members of the Health Insurance, school health activities, trainings for doctors and nurses.

[MOE]

The budget allocation for school health in MOE is only through a proportion of the school fees paid by students. 0.3 LE (=1.85 Yen)per student goes to school health related budget. The budget for 2016 is 6 million LE (0.3LE per student for 20 million students). Use of budget is monitoring and assessment of environment and school activities (mainly awareness raising activities).

The main challenge is deployment of sufficient numbers of doctors and health visitors in the schools because of the lack of necessary financial resources to assign them and to allocate sufficient financial compensation to doctors to be assigned in the outskirts of rural areas, in particular. Also, the additional printing of materials such as the Implementation Manual for School Health Services and Guidelines of Monitoring and Supervision for School Health Services developed in the project is hindered because of the financial resources limitations.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/technical aspects but the budget for implementing the School Health activities has been secured through the central government, the Health Insurance system and the Ministry of Finance. On the other hand, as slight problems have also been observed in terms of the financial aspects and there are issues of budget for the payment to doctors in remote areas and for the costs of additional printing guidelines and manuals, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose 1 for improvement of quality of school health services in Tammia district and achieved the Project Purpose 2 for the preparation of the concept of HPS to disseminate in Upper Egypt at the time of project completion. The introduction of the concept of HPS was partly achieved in the target area of Upper Egypt. As for sustainability, even with limits in resources and challenges of coordination among stakeholders from multiple sectors, efforts to disseminate the concept of HPS to more governorates in Upper Egypt have been made. To scale up the activities, issues of limited human and financial resources need to be solved.

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

III. Recommendations & Lessons Learned

Recommendations to Implementing Agency:

It is recommended that the HPS activities be expanded to other regions than Upper Egypt based on the outcome of the Project and according to the fact that the system for the dissemination of the activities related to the project was established through several ways such as initiating dissemination activities in nine governorates other than Fayoum and developing the guideline for dissemination in May 2012, and selecting trainers responsible for dissemination in each governorate at the workshop in June 2012. Those activities are recommended to be resumed.

School Clinic at “Tammia Girls Primary Schools”

Health Visitors of nurse and doctor and the social worker at “Tammiya Girls Primary Schools”

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Cambodia Office: March 2018

Country Name	**Legal and Judicial Development Project (Phase 3)**
Kingdom of Cambodia	

I. Project Outline

Background	In Cambodia, drafting and legislation of the Civil Code (CC) and the Code of Civil Procedure (CCP) had been supported by Japan since 1999. As a result, the CCP was promulgated in July 2006 and enforced in July 2007, and the CC was promulgated in December 2007. Through Phase 1 (1999-2003) and Phase 2 (2003-2008) of the Legal and Judicial Development Project, the core human resources were developed as the members of the Committee for the Civil Code and the Code of Civil Procedure ("the Committee") in the Ministry of Justice (MOJ). However, for the implementation of the both Codes (including consideration of the institutional set-ups and drafting of related laws) as well as the dissemination of them to legal profession, the organization reinforcement of the MOJ was needed with the future shift of the initiative from the Japanese side to the Cambodian side.		
Objectives of the Project	As Phase 3 of the Legal and Judicial Development Project, this project aimed that the MOJ can take measures necessary for the implementation of the Codes on its initiative through drafting of related laws, coordination with laws submitted by other ministries in the legislation stage, and dissemination of related knowledge to legal profession, thereby having the legal system function on civil matters in Cambodia. 1. Overall Goal: The legal system relevant to civil matters functions appropriately. 2. Project Purpose: The Ministry of Justice (MOJ) is able to take necessary measures to implement the Civil Code (CC) and the Code of Civil Procedure (CCP) appropriately.		
Activities of the Project	1. Project site: Phnom Penh 2. Main activities: Drafting/modification of laws by the drafting groups for each law created within the Committee; discussions on adjustment with laws by other ministries; establishing a system of- and holding of seminars for dissemination of CC, CCP and related laws, etc. 3. Inputs (to carry out above activities) *As of Terminal Evaluation in September 2011 Japanese Side 1) Experts: 21 persons 2) Trainees received: 22 persons 3) Advisory Group in Japan: 37 persons 4) Equipment: office equipment, etc. 5) Support funding for local activities Cambodian Side 1) Staff allocated: Project Director; Project Manager; 20 persons as the Committee members; 10 persons as the Sub-Committee members; 70 drafting group members; 19 Training for Trainers (TOT) members 2) Office and meeting space 3) Project operation cost		
Project Period	April 2008 to March 2012	Project Cost	(ex-ante) 390 million yen, (actual) 295 million yen
Implementing Agency	Ministry of Justice (MOJ)		
Cooperation Agency in Japan	Ministry of Justice, Supreme Court of Japan, Japan Federation of Bar Associations		

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Target (expected achievement level) for Project Purpose Indicators: All three Indicators of Project Purpose mention "the degree of involvement of the Japanese side," but the expected level is not defined. Based on the statement of the Ex-Ante Evaluation Sheet, "throughout the four-year project implementation, the project will mark the beginning of the self-sufficiency," "the degree of involvement" was judged as achieved if it was lower than the degree before the project, i.e., even if MOJ did not become able take measures for implementation of the Codes on its own, by the time of project completion.
- Contribution of other phases: The effectiveness of this project is partly based on the achievement of previous phases of "Legal and Judicial Development Project" (Phase 1 in 1999-2003 and Phase 2 in 2003-2008), and the observed statuses of continuation of project effects and achievement of Overall Goal include both outcomes/impacts of this project (Phase 3) and the following phase (Phase 4 in 2012-2017). It was difficult to separate outcomes/impacts of this project from those of other phases.

1 Relevance

<Consistency with Development Policy of Cambodia at the time of ex-ante evaluation and the project completion>

The project was consistent with the Cambodia's development policy such as the "Rectangular Strategy" (2004) and the "Second Rectangular Strategy" (2008), which position good governance in its center and legal and judicial reform as one of the most important issues for establishing good governance, as well as the "National Strategic Development Plan" (2006-2010), which positions the development of basic laws including the CC and the CCP as a priority policy issue.

<Consistency with Development Needs of Cambodia at the time of ex-ante evaluation and the project completion>

As mentioned in "Background" above, MOJ needed to develop its capacity for the implementation of the CC and the CCP and the dissemination of them to legal profession at the time of the ex-ante evaluation. The Terminal Evaluation Report for this project (2011) pointed out the continuing needs for capacity development to implement the Codes and the relevant laws on MOJ's own, as their understanding of the whole structure and practical function of those legal documents were not yet sufficient. As the CC was enforced in December 2011, the capacity development needs further increased.

<Consistency with Japan's ODA Policy for Cambodia at the time of ex-ante evaluation>

The area of the project was consistent with "strengthening of good governance" aimed in the Country Assistance Program (2002).

<Evaluation Results> In the light of the above, the relevance of this project is high.

2 Effectiveness/Impact

<Status of Achievement for Project Purpose at the time of project completion>

Project Purpose was achieved by the project completion. Continuing from the previous phase, MOJ steadily drafted laws, regulations and instructions related to the CC and the CCP, and discussed with other ministries that were drafting related laws. Cambodian counterpart officials have increasingly shown their commitment and initiative in activities of drafting laws and regulations in each Drafting Group, although advice from Japanese experts was still necessary (Indicators 1 and 2). MOJ also conducted seminars, alone or as part of the project activities, to disseminate the CC and the CCP to juridical personnel (Indicator 3).

<Continuation Status of Project Effects at the time of ex-post evaluation>

The project effects have been continued. After project completion, MOJ kept drafting/deliberating related laws and regulations on civil affairs. While most of them were jointly drafted with Japanese experts under Phase 4 project, some regulations were drafted by MOJ alone (also see "Technical Aspect" in "4. Sustainability" below). MOJ has also continued dissemination seminars on the CC and the CCP, sometimes without assistance from the Japanese side.

<Status of Achievement of Overall Goal at the time of ex-post evaluation>

Overall Goal has been achieved. The number of civil adjudications processed with application of the CCP rose from 2012 to 2014, and then slightly decreased in 2015, showing an overall increasing trend. No explanation was given by MOJ on the increase and decrease of the number, but it can be considered that the increase of complaints filed with courts means the better implementation of the CC and the CCP. It may be assumed that legal system relevant civil matters function appropriately. Regarding the procedure and quality of civil dispute resolutions, no issues are raised by judicial personnel in MOJ's annual meetings (Indicator 1). The number of inquiries on civil affairs (e.g., requests for instructional materials and questions) have increased, but complaints filed with MOJ have decreased while complaints filed with courts have increased. According to MOJ, people's criticisms on courts have decreased (Indicator 2). Also, independence of judicial institutions has been ensured since MOJ decided, following the implementation of the CC and the CCP, not to make any interpretation or instructions on civil matters in response to inquiries from judicial personnel as it used to, because it is within the jurisdiction of courts and Constitutional Council. This became possible by proper functioning of the legal system on civil affairs.

<Other Positive and Negative Impacts>

No negative impact on environment and other aspects has been observed. According to MOJ, the CC has a positive impact on the period for economic land concession by investment companies which is reduced from ninety-nine (99) years to fifty (50) years. Regarding a positive impact on gender, the CC has been drafted to ensure the equality of men and women. For example, Article 2 of the CC speculates, "this code gives concrete embodiment to the concepts of the dignity of the individual, the equality of the sexes and the guarantee of property rights provided in constitution."

<Evaluation Results>

The Project Purpose of appropriately implementing the CC and the CCP was achieved by the project completion, and it has continued up to the time of the ex-post evaluation. The Overall Goal of having the legal system on civil matters function appropriately was also achieved at the time of ex-post evaluation. Therefore, the effectiveness/impact of this project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The Ministry of Justice (MOJ) is able to take necessary measures to implement the Civil Code (CC) and the Code of Civil Procedure (CCP) appropriately.	(Indicator 1) The record of drafting laws, regulations and instructions by MOJ and the degree of involvement of the Japanese side in drafting law.	Status of achievement: Achieved (Continued) (Project Completion) 17 laws, regulations and instructions were drafted by MOJ during the project period (e.g. the Law on the Procedure of Litigation relating to Personal Status executed in June 2010). In general, steady progress has been seen in the drafting of laws and regulations. Drafting Group members have done their best to discuss and draft the laws independently especially in the last year of the project and then ask for advice from the Japanese experts. However, advice from Japanese experts was still necessary in many occasions because the knowledge and understanding of MOJ officials on the CC and the CCP is not sufficient. (Ex-post Evaluation) After this project MOJ issued six draft laws and regulations on civil affairs (e.g. Matrimonial Property Contract Registration Procedure, approved in September 2014). Among them, two regulations (e.g. Inter-Ministerial Ordinance on Registration Procedure pertaining to Preservative Relief and Confiscation of unregistered Property) were drafted without involvement of Japanese experts.
	(Indicator 2) The record of adjustment among laws related to the CC and the CCP by MOJ and the degree of involvement of the Japanese side in those adjustment process.	Status of achievement: Achieved (Continued) (Project Completion) The Cambodian side took initiative in discussing on adjustment of seven draft laws submitted by five other ministries (e.g., Law on Provision of Ownership Right of Private Portions of Co-owned Buildings to Foreigners, submitted by Ministry of Land management, Urban Planning and Construction) (Ex-post Evaluation) Two existing laws drafted by two other ministries are under the process of amendment to align the CC and the CCP (e.g. Law on Secured Transaction, submitted by Ministry of Commerce and executed in May 2007). MOJ has been involved in the process of the amendments to these special laws. The Cambodian counterparts took initiative in this process in consultation with the Japanese experts dispatched under Phase 4 project.

(Indicator 3)
The record of dissemination seminars on the CC and the CCP conducted by MOJ and the degree of involvement of the Japanese side in the seminars.

Status of achievement: Achieved (Continued)
(Project Completion)
Number of CC or CCP dissemination seminars or equivalent activities conducted by MOJ

	2008	2009	2010	2011	Remarks
On the CC and the CCP	7	6	1	N.A.	On MOJ's own budget
On related regulations to the CC and the CCP	0	0	1	2	Jointly with this project or other ministries

Japanese experts had acted as the lecturers in seminars in the early stage; later, the MOJ counterparts acted as the lecturers.
(Ex-post Evaluation)
Number of CC or CCP dissemination seminars or equivalent activities conducted by MOJ

	2012	2013	2014	2015	2016	2017
Total number	3	4	6	4	4	3
of which without involvement of the Japanese side	0	0	4	2	2	0

(Note: involvement of the Japanese side is under Phase 4 project)
Generally, workshops have been conducted in response to the submission of inquiries and civil dispute resolutions at provincial courts which are mostly related to hypothec, immovable property registration and preservative relief. MOJ has organized workshops based on the same topics and conducted the presentations in provinces with the participation of legal and judicial personnel.
Further, MOJ has its own TOT team to help explain various legal aspects of the CC and the CCP. The TOT Team has played an important role in strengthening and expanding the understanding of the judicial personnel.

(Overall goal)
The legal system relevant to civil matters functions appropriately.

(Indicator 1)
The procedure and quality of civil dispute resolutions after the application of the CC.

Status of achievement: Achieved
(Ex-post Evaluation)
Number of civil dispute resolutions (adjudications) processed with application of the CCP

2012	2013	2014	2015	2016
3,920	4,419	5,850	5,120	N.A.

MOJ considers that the procedure and quality of dispute resolution has been improved. According to the annual meeting report of MOJ, there are no big issues raised up by the judicial personnel at all.

(Indicator 2)
Prevailing awareness of the CC in the people's lives

Status of achievement: Achieved
(Ex-post Evaluation)
No. of inquiries (e.g. requests for instructional materials and questions) on the CC and the CCP

2012	2013	2014	2015	2016
137	131	117	183	258

Increased awareness of people is observed in the followings. Firstly, complaints filed with MOJ have decreased while complaints filed with courts have increased (people file complaints to MOJ if they are not satisfied with the court system). Secondly, people seldom criticize court compared to the past and now most of them have accepted court decisions.

Source：Terminal Evaluation Report, Interviews with MOJ at the time of ex-post evaluation

3 Efficiency

The project cost and period were within or as planned (ratio against the plan: 76% and 100%, respectively). Therefore, the efficiency of this project is high.

4 Sustainability

<Policy Aspect>

The "Rectangular Strategy Phase 3" (2013) and a number of sub-decrees and regulations (e.g., Sub-decree on Establishment of Committee for Legal and Judicial Reform, No. 491, dated 24 October 2013) support legal and judicial reform including the civil legal system at the time of ex-post evaluation.

<Institutional Aspect>

Pursuant to Sub-Decree, No. 240, dated 29 August 2014, on Organization and Functioning of MOJ, the concerned ministry has General Department of Civil Affairs under which the subordinate departments, namely, (1) Department of Legal Affairs and Civil Statistic (20 staff members with responsibilities: legislate bill and regulations in civil affairs; participate in dissemination and law training; and monitor and provide comments on draft laws of the concerned Ministry and other institutions) and (2) Department of Research, Dissemination, and Law Training on Civil Matters (10 staff members with responsibilities: organize to disseminate on laws in civil matters via media; research and evaluate situation of the need of dissemination; and law training in civil matters). With that Sub-Decree, MOJ only changed the names of departments but the personnel remain the same. No problem is reported on the number of personnel of the departments in pursuing their tasks on civil affairs.

<Technical Aspect>

Most of the counterpart personnel for this project still work in MOJ. Based on the interview with MOJ, most of the members of the working groups under this project, namely, Committee, drafting group and TOT members, are still working in their respective groups for Phase 4. However, many of them were moved to different departments where mandate is not relevant to civil matters, and are involved in civil matters only when they participate in the Phase 4 activities (once or twice a week). Since the working groups are not institutionalized in MOJ, there is a concern on sustainability of the technical level after termination of assistance from JICA in the future.

On some topics, mostly on immovable registration and hypothec, MOJ officials have capability to draft law at its own initiative. Other than that, MOJ and Japanese experts for Phase 4 are working in group to draft law. For dissemination of law, they are able to disseminate on their own initiative or cooperate with the Japanese experts. For example, MOJ has conducted various workshops in provinces on hypothec and other issues related to land for the judicial personnel.

According to MOJ, the materials on civil-related laws such as textbooks and commentaries prepared under Phase 2 are utilized at the time of ex-post evaluation. However, MOJ admits that it does not have sufficient capacity to update the materials when necessity arises.

<Financial Aspect>

Based on figures (see the table) and information given by MOJ, the gradual increase in the budget allocations is because of the policy of support to the judicial system. MOJ has the total actual expenditure a bit less than 100% of the total actual budget allocation. Despite such an increase and the fact that MOJ steadily draft laws, regulations, etc. and disseminate the CC and the CCP, MOJ considers the level of budget is still limited and not enough for fully disseminating the Codes.

MOJ budget allocation and expenditure

Unit: Million Riel

	2014	2015	2016
Total budget allocation			
Planned	55,031.9	66,631.0	96,162.9
Actual	47,038.0	57,564.5	N.A.
Total expenditure			
Actual	44,718.2	53,008.4	N.A.

Source: MOJ

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved its Project Purpose by the time of project completion: MOJ drafted laws, regulations, etc. and disseminated the CC and the CCP together with the Japanese experts but with increasing commitment and initiative by the Cambodian side. After project completion, MOJ continued those activities, some of which were undertaken solely by the Cambodian side even under the following phase of JICA technical cooperation. The Overall Goal has been achieved by the time of ex-post evaluation: improvement was observed in procedures and quality of civil dispute resolutions and people's awareness of the CC and the CCP. With respect to the sustainability, slight problems have been observed in terms of the technical and financial aspects of the implementing agency, while the policy support and the MOJ's organizational structure of for development of the civil-related legal system are secured.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Even though the people's awareness is increasing, the CC and the CCP are complicated to understand. Therefore, MOJ is recommended to further engage in dissemination of the CC and CCP via TV, radio, etc. to enhance understanding of the public people.

MOJ should assign, those who have been trained as trainers, to the institution where the mandate is relevant to civil matters.

These measures should be taken as soon as possible to enhance the sustainability of the project effects.

Lessons Learned for JICA:

In the planning stage of a project that is to form a new Working Group, JICA should pay careful attention to the implementing agency's arrangement to make sure the Working Group members function would be institutionalized as regular work of its members. Such institutionalization failed in the project, it would undermine the sustainability of the project effects.

Working Group Meeting on a related regulation (picture taken under Phase 3)

Seminar on Hypothec (picture taken under Phase 3)

Appendix

JICA Evaluation Department

On Views of Experts

In this ex-post evaluation, opinion of academia was invited to capture more specialized and diverse views for the projects, in addition to the perspectives of the DAC five evaluation criteria to be conducted by the evaluator (JICA overseas office). The Evaluation Department selected and enlisted the support of a leading figure in the field: Yoshiko Homma, professor of Law School of Soka University Law School. Prof. Homma, author of this report, used to be one of the experts dispatched to a technical cooperation project, "the Legal and Judicial Cooperation Project (Phase 1)," whose successive project is the project of this ex-post evaluation. She, at the time of ex-post evaluation, also makes advice to JICA as a member of the Advisory Committee on Evaluation. For these reasons, we asked her to conduct in depth analysis based on her expertise and experience.

Specifically, Prof. Homma depicted some positive impacts of a series of the projects for almost 20 years that were implemented in Cambodia by JICA in the field of legal and judicial system development: "the Legal and Judicial Cooperation Project" (Phase 1: 1999-2002; a follow-up project: 2002-2003; Phase 2: 2004-2008; and Phase 3: 2008-2012); "the Legal and Judicial Cooperation for the Bar Association of the Kingdom of Cambodia" (Phase 4 of the aforementioned project. 2007-2010), "Legal and Judicial Development Project" (Phase 5 of the aforementioned project. 2017-2022 (plan); and "the Project for Improvement of Training on Civil Matters at the Royal School for Judges and Prosecutors" (Phase 1: 2005-2008; and Phase 2: 2008-2012).

The result of the analysis was appended to the evaluation report as attachments.

Social Impact of Assistance with Legal and Judicial System Development

Expert: Yoshiko Homma (Professor, Law School of Soka University Law School)

A series of projects assisting with legal and judicial system development in Cambodia (the "Assistance Projects") has continued for as long as 20 years since 1999. Although some may criticize these unusually long projects, I have seen a visible positive impact of the Assistance Projects on Cambodia and its people.

The largest achievement of the Assistance Projects should be human resources development. I stayed in the country as a long-term expert from 2002 to 2004 (in the Legal and Judicial Development Project [Phase I]), during which time Cambodian judges in their 30s and 40s, as core members of the working group of the Cambodian side, worked with usme on drafting the Civil Code and the Code of Civil Procedure. They are now Secretaries of State or Assistant Secretaries of State of the Ministry of Justice, judges of the Supreme Court, the Chief Justice of the Appellate Court or other government officials, playing a major role in the nation's judicial reform. Another Cambodian, who worked as my assistant-interpreter, later earned Ph.D. at Nagoya University on a scholarship from JICA and is now legal manager of a major financial institution in Cambodia.

In the middle of the Legal and Judicial Development Project (Phase I), Cambodia held its first bar examination and opened the Royal School for Judges and Prosecutors and the Lawyers Training Center. With subsequent assistance from JICA, the two schools have annually sent graduates into the legal and judicial circles. With their worn-out books of the Civil Code and the Code of Civil Procedure, those graduates of the schools are working energetically and educating and training their fellow junior colleagues.

Human resources development is a time-consuming effort, but the energy spent on the effort is never wasted. Once a certain number of core legal professionals are produced, they play a leading role in educating the next generation of legal professionals. Then a stock of legal professionals, bearers of the rule of law, builds up gradually. Cambodia has seen this process over about 20 years from the start of the assistance.

Cambodian society has also changed steadily. In 2002, even roads in Phnom Penh were still unpaved and covered with red clay; people lived in poverty with quite a few children running around in bare feet in impoverished areas. Now in Cambodia, roads are paved, children go to school with shoes on, and high-rise buildings and Japanese major supermarket stores can be found. Although there are still some problems, as described in the ex-post evaluations of the Assistance Projects, Cambodian people try to settle disputes at court without resorting to violence and to protect their property rights by registering them. Cambodia has become remarkably prosperous in just 15 years. Although the whole progress cannot be credited to the Assistance Projects, I firmly believe that the Assistance Projects have made some impact because public expectations that individual rights are protected and disputes can be settled by law without the use of violence are the foundation of stable society.

JICA should assess the impact on the nation's society of the Assistance Projects not only individually, but also as a whole. When a similar project is expected to need long-term assistance, JICA should monitor the project for a long time by using expected long-term impacts as reference indicators. This is because the outcome of a series of projects as a social experiment will offer valuable implications for future cooperation on the Rule of Law promotion in other regions. Furthermore, such evaluation will also be of reference for discussing the future of the Rule of Law in Japan and other donor countries, as well as international harmonization of law. This is because the outcome of a series of projects as a social experiment is useful for assistance with legal and judicial system development in other regions as well as for Japan and other donor countries to discuss how legal and judicial system development and law should be harmonized internationally.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Saint Lucia Office: September 2017

Country Name	**Caribbean Disaster Management Project Phase 2**
Barbados	

I. Project Outline

Background	Greater Antilles and Lesser Antilles, located in eastern part of Caribbean Sea, are severely vulnerable regions to disasters including large scale hurricanes and floods. Since most Caribbean countries have difficulties to cope with those disasters due to their limited economic sizes, in 1991, the Caribbean Disaster Emergency Response Agency (CDERA) was established in Barbados. Under an agreement on cooperation by Japan for disaster management in the Caribbean region, the Caribbean Disaster Management Project (referred to as "the Phase 1") aiming at establishment of CDERA to be centered for disaster management system and capacity development for community-based disaster management in the pilot countries of Barbados, Trinidad and Tobago, and Saint Vincent, was implemented with support of the government of Japan for the period from 2002 to 2006. However, the Caribbean countries needed to enhance capacity for flood control and mitigation of damages because of expanded flood damages by large scale hurricanes, including Hurricane Ivan in 2004. Under those situations, the government of Barbados and the pilot states of Belize, Dominica, Grenada, Guyana, Saint Lucia and Caribbean Community (CARICOM) requested the government of Japan to support the Caribbean Disaster Management Project Phase 2 in order to further promote disaster management, in particular flood risk management, in other CDEMA states than the pilot countries for the Phase 1. In September, 2009, CDERA was transformed to the Caribbean Disaster Emergency Management Agency (CDEMA).
Objectives of the Project	Through preparation of Flood Hazard Maps (FHMs) and establishment of Flood Early Warning Systems (FEWSs) as well as promotion of Community-based Disaster Risk Management (CDRM) activities in the 5 pilot states including preparation of Community Based Disaster Management Plans (CBDMPs) and establishment of hydrological database in the Caribbean Institute of Meteorology and Hydrology s (CIMH), the project aimed at increase in capacity of CDEMA and the pilot states for managing the flood risk, thereby contributing to mitigation of disaster damages in the pilot states through enhancement of community resilience to flood hazard. 1. Overall Goal: Disaster damages in CDEMA participating States are mitigated through enhancement of community resilience to the flood hazard (Similar project is implemented in flood vulnerable areas other than pilot sites of CDEMA participating states). 2. Project Purpose: Capacity of CDEMA and five pilot states for managing the flood risk is increased (RT* has the capacity to establish FEWS in a flood vulnerable area with use of FHM and CBDMPs prepared by RT with the cooperation of NT**). *RT: RT was composed of the members from CDEMA, the University of West Indies (UWI), UG (University of Guyana) and CIMH. **NT: NT was composed of the members from a national disaster management organization and other stakeholders at community level in each pilot state.
Activities of the project	1. Project site: Barbados and the pilot states of Belize, Dominica, Grenada, Guyana and Saint Lucia 2. Main activities: 1) Flood and land survey and flood analysis for the pilot sites, 2) Compiling Geographic Information System (GIS) data and Preparation of FHMs for the pilot sites, 3) Installation of hydrological gauges for establishment of FEWS, preparation of FEWS manual and implementation of seminars on FEWS, 4) Promotion of CBDRM activities in the pilot sites, 5) GIS data preparation, trainings on GIS and establishment of hydrological database in CIMH Japanese Side 1. Experts: 7 persons 2. Acceptance of trainees in Japan: 9 persons 3. Trainings in Caribbean region: 20 persons 4. Equipment: PC, printer, GIS software, transceivers, hydrological gauges, etc. 5. Local cost: travel expenses, staff cost, etc. Barbados Side 1. Staff allocated: 7 persons and 15 NT members in each pilot state 2. Land and Facilities: Office spaces for the Japanese experts in CDEMA.

Ex-Ante Evaluation	2008	Project Period	January 2009 - June 2012 (Extension: January 2012 - June 2012)	Project Cost	(Ex-ante) 230 million yen (Actual) 325 million yen
Implementing Agency	Caribbean Disaster Emergency Management Agency (CDEMA), Civil Defense Commission (CDC, Guyana), National Disaster Management Agency (NaDMA, Grenada), National Emergency Management Organization (NEMO, Belize), National Emergency Management Organization (NEMO, Saint Lucia), and Office of Disaster Management (ODM, Dominica)				
Cooperation Agency or Contract Agency in Japan	IDEA Consultants, Inc., EARTH SYSTEM SCIENCE Co., Ltd.				

II. Result of the Evaluation

<Constraints in ex-post evaluation>

[Changes of personnel involved in the project after the project completion]

- In Belize, one of the pilot states of the project, the personnel involved in the project have been totally changed after the project. It seemed that the current staffs deployed at the time of ex-post evaluation did not have any knowledge on the project. The fact constrained data and information collection for this ex-post evaluation and assessment of effects and impacts of this project for the post-project period. According to the questionnaire and field survey similar situations have also surfaced in Grenada, Dominica and St. Lucia. In addition to changes in personnel involved in the project, proper succession and transfer of project information was not enforced.

[Limited coverage of questionnaire survey on the pilot states]

- Although ex-post evaluation team sent questionnaire to all the implementing agencies in the five pilot states, NEMO (Belize) and ODM (Dominica) did not respond to it. Hence, evaluation judgements were based on the information and data provided by CDEMA and the implementing agencies of the three pilot states, NEMO (Saint Lucia), NaDMA (Grenada) and CDC (Guyana).

[Verification of achievement level of the Overall Goal]

- The Overall Goal is "Disaster damages in CDEMA participating states are mitigated through enhancement of community resilience to flood hazards. Namely, similar projects are expected to be implemented in flood vulnerable areas other than pilot sites of CDEMA participating states. However, "the flood vulnerable areas in CDEMA participating states" is not clearly defined in the Project Design Matrix (PDM) and they have not been identified by CDEMA and the CDEMA participating states. Because a robust methodology for the identification of the flood vulnerable areas is being developed at the time of ex-post evaluation, timeframe did not allow this to be considered during the implementation of this project.
- While the Overall Goal is "mitigation of flood damages in CDEMA participating states", the indicators verify preparedness against flood hazard through preparation of FHMs and CBDMPs. Although this ex-post evaluation tried to assess it by cases of flood damages in the pilot states if any after the project completion, it was difficult to verify mitigation of flood damages due to the lack of data. The post-project situations of the pilot states are as follows:
  - Belize: flood on Oct. 2015 due to the tropical storm.
  - Dominica: flood on Dec. 2013 due to the heavy rain. And flood on Aug. 2015 due to the tropical storm which washed away the FEWS in the pilot site.
  - Grenada: No major damage
  - Guyana: No major damage
  - St. Lucia: flood on Dec. 2013 due to the heavy rain

1 Relevance

<Consistency with the Development Policy of Caribbean Region at the time of ex-ante evaluation and project completion>

The project was consistent with the development policy of Caribbean Region of "the Caribbean Community Regional Programme Framework 2005-2015" and a policy document of CDEMA, "the Comprehensive Disaster Management (CDM) Strategy and Programme Framework (2007-2012)", which aim at "enhancement of international support for CDM program implementation at national and regional level and enhancement of community resilience in CDEMA states/territories to mitigate and respond to the adverse effects of climate change and disasters".

<Consistency with the Development Needs of Caribbean Region at the time of ex-ante evaluation and project completion >

The project was consistent with the development needs of Caribbean Region for enhancement of flood preparedness and mitigation.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy for Caribbean Region. Under "A New Framework for Japan-CARICOM (the Caribbean Community) Cooperation for the Twenty-First Century (2000)", cooperation for economic and social development between Japan and CARICOM prioritized environment and disaster prevention, including strengthening the institutional capacity of the regional and national agencies concerned with disaster prevention, emergency response and management.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. All the pilot sites prepared FHMs and CBDMPs and FEWSs were prepared by RT with the cooperation of NT (Indicator 1). The "Sustainability Plan" for sustaining the technical capacity and organizational system after the project were prepared and approved by the Joint Coordination Committee (JCC) of the project, in which the key implementing agencies participated, in June 2012 (Indicator 2). Also, the proposed implementation schedule ("Action Plan") for preparation of FHMs and FEWs in other flood vulnerable areas was approved by JCC as a part of "the Sustainability Plan" as well (Indicator 3).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been partially continued since the project completion. Some of the key outputs and the key activities of the project have been continued. FHMs and CBDMPs developed by the project have been utilized in Granada, Guyana and Saint Lucia. Guyana has also continuously utilized the manuals developed by the project for flood hazard mapping, CDM planning and FEWSs establishment as a reference or guide when considering removal of the tool and its reinstallation to another community. On the other hand, FEWSs have not been functioning in three pilot states. In Grenada, although the National Water and Sewage Authority (NAWASA) is responsible for FEWS, FEWS has not been functioning more than one year due to lack of maintenance. CIMH is willing to deploy a team to support repairs as resources permit. In Guyana, since some of the equipment of FEWS was vandalized, the system has not been in use. CDC has made efforts to replace them in order to reactivate the system. In Saint Lucia, the Water Resource Management Agency (ARMA) is responsible for FEWS and it had been functioning until 2014. However, EFWS stopped to transmit the data in 2014. Although CIMH checked the system, the main cause has not been identified yet because of no problem on the sensor and the data logger, NEMO also tried

to fix the problem of data logger software but did not succeed. At the time of ex-post evaluation, they were waiting for an expert from the United Nations Development Programme (UNDP) to solve the problem.

According to NEMO (Saint Lucia), CDC (Guyana) an NaDMA (Grenada), CIMH has continuously provided technical support and necessary hydro-meteorological data. The hydrological database established by the project has been utilized by the CDEMA participating states. CIMH has invested in systems capturing data from stations in the CDEMA participating states through telemetry device[1]. This limits the need for web-based data collection. CIMH has been supporting the expansion of more sustainable networks throughout the Caribbean region through various interventions and are willing to integrate the stations installed by the project if requested and as resources permit.

Although no pilot state prepared its own sustainability plan nor action plan based on the "Sustainability Plan" in order to promote activities related to CBDMP, FHMs and FEWSs by the project completion, each pilot state prepared their own action plans and presented them at the workshop held by the follow-up cooperation for the project in May, 2017 in Jamaica.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was not able to be verified at the time of ex-post evaluation. The coverage of FHMs in each pilot state (Indicator 1) and the coverage of CBDMPs in each pilot state (Indicator 2) have not been verified because of insufficient data available. According to CDEMA, although identification of flood vulnerable areas in each pilot state is needed to assess the coverage of FHMs and CBDMPs, hydro meteorological analysis and identification have not been progressing even though the data has been collected in each state. CDEMA has just commenced to develop the Strategic Targeting Methodology to facilitate assessment and ranking of vulnerable communities under the partnership with the International Federation of Red Cross. At the time of ex-post evaluation, it was unclear whether flood damages in the pilot states had been mitigated through enhancement of community resilience to the flood hazard in the flood vulnerable areas though severe flood damages occurred in Saint Lucia in 2013, in Dominica in 2013 and 2015 and in Belize in 2015, as mentioned in the special perspective considered by the ex-post evaluation.

<Other Impacts at the time of Ex-post Evaluation>

Some positive impacts were confirmed at the time of ex-post evaluation. Since CIMH compiled experiences and knowledges obtained by the establishment of the FEWSs by the project, those experiences and knowledge have contributed to advancement of sustainable networks in the region commissioned by CIMH through various regional initiatives after the project completion. No negative impact was confirmed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose through preparation of FHMs, CBDMPs and FEWSs and the three pilot states of Granada, Guyana and Saint Lucia have continuously utilized FHMs and CBDMPs. However, the Overall Goal was not able to be verified because the flood vulnerable areas have not been identified yet in the CDEMA participating states and there was lack of data. Therefore, the effectiveness/impact of the project is fair.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) Capacity of CDEMA and five pilot states for managing the flood risk is increased (RT has the capacity to establish FEWSs in a flood vulnerable area with use of FHMs and CBDMPs prepared by RT with the cooperation of NT).	(Indicator 1) At more than half of the pilot sites FHMs and CBDMPs are prepared and FEWSs are prepared by RT with the cooperation of NT	Status of the achievement: Achieved (Project Completion) ● All the pilot sites prepared FHMs and CBDMPs. ● FEWSs were prepared by RT in all the pilot sites. (Ex-post evaluation) Partially continued. ● Three of the five pilot states (Granada, Guyana and Saint Lucia) have utilized FHMs and CBDMPs for managing the flood risks. ● FEWSs have not been functioning in the five pilot states. ● CIMH has continuously provided technical supports for three of the five pilot states (Granada, Guyana and Saint Lucia Granada, Guyana and Saint Lucia). ● Guyana has continuously utilized the manuals developed by the project for flood hazard mapping, CDM planning and FEWS establishment.
	(Indicator 2) Concrete sustainability plans* of RT and NT for maintaining the technical capacity and organizational system are prepared. *Sustainability plans aimed at promotion of activities related to CDMPs, FHMs and FEWSs in each CDEMA state.	Status of the achievement: Achieved (Project completion) ● Proposed "Sustainability Plan" was approved in JCC meeting in June 2012. (Ex-post Evaluation) Not continued ● The "Sustainability Plan" approved during the project implementation has been effective.

[1]Telemetry is an automated communications process by which measurements and other data are collected at remote or inaccessible points and transmitted to receiving equipment for monitoring. It uses fixed line or wireless communication.

	(Indicator 3) Action plan is prepared for preparation of FHM, CDMPs and FEWSs in flood vulnerable area other than the pilot sites.	Status of the achievement: Achieved (Project completion) ● Proposed implementation schedule (Action Plan) as a part of "Sustainability Plan" was approved in JCC meeting in June 2012. (Ex-post Evaluation) Continued ● Although no pilot state developed own action plan based on the "Sustainability Plan" developed by the project by the project completion, they prepared their own action plans and presented them at the workshop held by the follow-up cooperation in May, 2017
(Overall goal) Disaster damages in CDEMA participating States are mitigated through enhancement of community resilience to the flood hazard (Similar project is implemented in flood vulnerable areas other than pilot sites of CDEMA participating states).	(Indicator 1) Among the flood vulnerable areas in CDEMA participating states, FHMs are prepared for areas of more than 10%.	Status of achievement: Not verified (Ex-post Evaluation) ● The flood vulnerable areas in the CDEMA member states have not been clearly identified and the achievement level was not able to be verified. ● CDEMA has just started to develop the Strategic Targeting Methodology to facilitate assessment and ranking of vulnerable communities under the partnership with the International Federation of Red Cross.
	(Indicator 2) Among the flood vulnerable areas in CDEMA participating states, CBDMPs are prepared for areas of more than 10%.	Status of the achievement: Not verified (Ex-post Evaluation) ● The flood vulnerable areas in the CDEMA member states have not been clearly identified and the achievement level was not able to be verified. ● CDEMA has just started to develop the Strategic Targeting Methodology to facilitate assessment and ranking of vulnerable communities under the partnership with the International Federation of Red Cross.

Source：CDEMA, NEMO (Saint Lucia), NaDMA (Grenada), community of Balthazar (Grenada)

3 Efficiency

Both the project cost and the project period exceeded the plan (ratios against the plan: 141% and 117%, respectively) because the project period was extended to recover the delay of establishment of FEWSs caused by the delayed installation of hydrological gauges at the pilot sites in each pilot state. The main reason of the delays was the delayed procurement of equipment due to the relocation of manufacturer and the flood seasons in the pilot states. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

[CDEMA]

CDEMA has developed the Community Resilience Framework in 2015-2016 and this was accepted at the level of its Ministerial Council in June, 2016. CDEMA has established more clear policy framework to support the participating states in order to identify risk information including flood hazard and to enhance FEWSs.

[The Pilot State]

The three pilot states of Grenada, Guyana and Saint Lucia, which answered to the questionnaire survey conducted by the ex-post evaluation, had no policy change in disaster management. Saint Lucia has been preparing the National Disaster Risk Reduction Work Plan for 2017-2020 based on the CDEMA CDM Strategy and Sendai Framework which will contribute to enhancement of Disaster Risk Reduction (DRR). In Grenada, the community disaster management activities have been less prioritized compared with other areas of disaster management.

<Institutional Aspect>

[CDEMA and RT]

Mission of CDEMA includes standard setting of disaster management and capacity building of the participating states. In order to cover the broad area of disaster risk management, organizational restructuring was undertaken in September, 2015. Support to the areas of Disaster Risk Management has been provided in the form of a Specialist by support from a development partner as the Senior Programme Officer position which is assigned with the role of Disaster Risk Management Specialist has not been filled due to financial constraints. While CDEMA has focused on training of trainers, CIMH has incorporated the hydrological database developed by the project into its regional data management strategy. CIMH is recognized as a data archiving centre for its Member States. Therefore, the budget for monitoring networks and database management is supported through both internal and external resources. In the future, users will be able to update the database remotely whereas the CIMH will verify the records and provide quality assurance. In order to enhance capacity building activities, the GIS Specialist has supported trainings of flood hazard mapping by on-line course based on some training materials developed by the project. There was no organizational change in UWI.

RT has been composed of the sufficient number of the members from the related agencies in order to support the participating states: 2 staffs from CDEMA, 2 staffs from UWI, and 3 staffs from CIMH.

[The Pilot States]

At the national level, there was no organizational change in NaDMA of Grenada. NaDMA is responsible for enhancing communities and has 14 staff members, including 3 government permanent staffs. However, the number of staff is not sufficient to implement activities. Also, NAWASA, a responsible organization for FEWSs, does not have necessary staffs with expertise. CDC of Guyana has been restructured to deal with disaster risk management, including community based risk disaster management. Although CDC deploys 30 staffs for disaster management organizations (DMOs) but the limited funds do not allow hiring technical experts and highly qualified personnel. NEMO of Saint Lucia enhanced activities related to flood hazards. NEMO has 11 staffs including 5 technical officers. While the number of staffs is not sufficient, NEMO expanded systems introduce by the project with support by other donors including UNDP. Saint Lucia has launched a new NT including the existing NT members and has been expanding their activities after the project completion. No information

about NEMO (Belize) and ODM (Dominica) was obtained due to no response to the questionnaire for the ex-post evaluation.
<Technical Aspect>
[CDEMA and RT]
For supporting the participating states in preparation and revisions of CBDMPs, due to financial constraints, CDEMA has limited technical staff to support the pilot states in preparation and revision of CBDMPs. In order to compensate for limited technical staff, CDEMA has been delivering seven training courses, such as "Exercise Design, Incident Command System", "Damage Assessment and Needs Analysis", "EOC (Emergency Operation Center) Management", Proposal Writing, Regional Security System (RSS) Basic Course Disaster Management Module and the CARICOM Disaster Rescue Unit (CDRU) Training. In particular, several staffs of CIMH are well experienced in data collection and analysis and database management. The staffs of UWI have sufficient knowledge and skills about FHMs, CBDMPs and FEWSs.
[The Pilot States]
While the staffs of CDC and NEMO (Saint Lucia) have sufficient level of knowledge and skills for preparation and revisions of FHMs and CBDMPs but not sufficient knowledge and skills for operation and maintenance of the FEWSs. NaDMA (Grenada) recognizes that their skills and knowledge have not been sufficient. On the other hand, RT has not provided continuous technical support for the participating states. However, CDEMA and DMOs in the pilot states have been supported by ACP/EU project (ACP-EU Natural Disaster Risk Management Project）[2]in strengthening Disaster Risk Management capabilities. Also, CIMH offers the Flood Hazard Mapping online course and an introductory GIS courses as preparation for the flood hazard mapping course. No information for NEMO (Belize) and ODM (Dominica) was available due to no response to the questionnaire for the ex-post evaluation.
<Financial Aspect>
[CDEMA and RT]
CDEMA has not allocated specific budget for the activities related to enhancement of community resilience and preparedness by FHMs, CDMPs and FEWSs due to the lack of their own financial resource but is seeking financial support through donors. Since delivery of trainings is one of the core responsibilities of CIMH, resources are taken from the general operation budget as necessary. Also, CIMH has invested to establish an integrated database using telemetry and transferred the database developed by the project. The financial resources for database construction and management come from the existing regional initiatives. For example, CIMH is designated as a regional hub organization of the World Meteorological Organization (WMO), the budget for construction of database on the regional hydro meteorological observation network and obtained data input work has been provided by WMO. The cost for database management has been covered by CIMH since the database can be updated online by pilot states and CIMH only carries out the confirmation work of the data.
[The Pilot States]
According to the questionnaire survey to the DMOs of the pilot states conducted by the ex-post evaluation, for each DMO of the three pilot states, Grenada, Guyana and Saint Lucia, no specific budget has been allocated. As for NaDMA (Grenada), it is because community disaster management activities have not been prioritized compared with other areas since NAWASA has been in charge of maintenance and management of FEWS, and it has been unnecessary to allocate a lot of budgets to NaDMA. As for NEMO (Saint Lucia), it is because of financial constraints but maintenance cost for equipment provided by the project has been covered by the budget for general maintenance cost. NEMO (Belize) and ODM (Dominica) did not respond to the questionnaire.
<Evaluation Result>
In light of the above, problems have been observed in terms of the institutional/technical/financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and the project effects have been partially continued through preparation and continuous utilization of FHMs and CDMPs in the three pilot states under the support by CDEMA and CIMH. However, the Overall Goal for mitigation of disaster damages in the CDEMA participating states has not been verified since the flood vulnerable areas in the participating states have not been identified yet. As for sustainability, CDEMA and DMOs in the pilot states do not have sufficient resources including human resources with sufficient technical capacity and financial resources in order to promote enhancement of community resilience and preparedness against disaster in the participating states. As for efficiency, both the project cost and period exceeded the plan due to the delay of installation of hydrological gauges at the pilot sites in each pilot state.
In the light of above, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:
[DMOs in the pilot states]

- Utilization of other donors' financial support, could be used to offset the lack of funds for securing a budget. For example, CDC in Guyana and NEMO in Saint Lucia have utilized the funding support from UNDP in order to compensate for the lack of budget. In that regard, securing human resources with the skills and knowhow in preparing proposals might be necessary to apply for these funds. In order to tackle this point, CDEMA already has been providing the training for writing funding proposals. Therefore, DMOs need to participate in those trainings. The result of this ex-post evaluation indicated that DMOs face the lack of human resources with skill and knowledge on comprehensive disaster risk management including planning and implementation of national policy. CDEMA is aware this problem and will provide sustained and standardized training to support the development and maintenance of the capacity for comprehensive disaster risk management of member states by functionalizing the current regional training center (RTC). The functionalization of the training system is expected to resolve the gaps in capacity and benefit actors in participating states, staff of the RT member organizations. People in each community will also get the secondary benefit. As stated above, CDEMA are working on the functionalization of the training center for comprehensive disaster management. As stated above, CDEMA are working on the

[2] https://www.gfdrr.org/acp-eu

functionalization of the training center for comprehensive disaster management. A “training needs analysis” has also been conducted by UWI to identify the needs and problem in each member state, and based on the analysis, CDEMA is proceeding to the mid-term activities plan until 2020. CDEMA is required to implement the plan steadily financial resources permitting.

Lessons learned for JICA:

[Case of the project covering several countries to implement for implementing agencies in each target country]

- The project implemented activities in several target countries and there are a number of related organizations such as NTs, RTs, etc. and each of these participating stakeholders has their own problems such as financial aspects, technical aspects, and so on. At the time of planning stage, the management capacity, operation system, and fiscal situation of RT organizations including CDEMA should be identified. Also, strengthening the capacity of the executing agency should be also included as necessary and it is necessary to formulate a customized project design to cope with the problems of each institution to the upmost extent.

[Case of project aiming at capacity development on comprehensive disaster management, in particular flood risk management]

- Technical level, in particular in hydro-meteorological area related to flood risk management, of the responsible agencies in the pilot states, should have been properly assessed during the project implementation. Necessary capacity development should have been done in accordance with their technical level in order to enhance their understanding of important instructions on comprehensive disaster management or also that is to be considered when making a Sustainability Plan to be implemented after the project completion. In addition, in particular in case where the project plans to install monitoring equipment, it is preferable for counterpart organizations and other relevant agencies to address future sustainability of the project effects at the earlier stage of project implementation rather than the time close to the project completion in order to ensure more time for preparation and consideration feasible sustainability plan for each key organization in place. Also, to avoid halts in the key activities introduced by the project after the project completion and to sustain the project effects, seamless supports, including dispatching experts or implementing follow up cooperation in the early years after completion of the project are preferable.

[Setting of the verifiable indicators for the Overall Goal to ensure evaluability and to verify contribution of the project]

- In case where a project impact, such as “the proportion of flood vulnerable areas with FHM” is verified by an indicator for the Overall Goal, it is highly impossible to verify data of the indicator at the time of ex-post evaluation when the “flood vulnerable areas” are not clearly defined. Also, in case where “flood vulnerable areas” are not identified by results of hydrological data, it is not possible to identify target areas for development of FHM. It is necessary to clearly define the flood vulnerable areas to be surveyed by indicators during the project implementation. In addition, it is preferable to set the indicators to clearly verify linkage between the Overall Goal and the activities and or the systems introduced by the project, such as “Flood vulnerable areas to prepare FHM are identified by using the hydrological database established by the project.

[Abbreviation]

CBDMPs: Community Based Disaster Management Plans	NaDMA: National Disaster Management Agency (Grenada)
CDC: Civil Defense Commission (Guyana)	NAWASA: National Water and Sewage Authority (Grenada)
CDEMA: Caribbean Disaster Emergency Management Agency	NEMO: National Emergency Management Organization (Belize)
CDERA: Caribbean Disaster Emergency Response Agency	NEMO: National Emergency Management Organization (Saint Lucia)
CDM: Comprehensive Disaster Management	ODM: Office of Disaster Management (Dominica)
CDRM: Community-based Disaster Risk Management	NT: National Team
CIMH: Caribbean Institute of Meteorology and Hydrology	RT: Regional Team
FEWS: Flood Early Warning System	UNDP: United Nations Development Programme
FHMs: Flood Hazard Maps	UWI: University of West Indies
GIS: Geographic Information System	WMO: World Meteorological Organization
JCC: Joint Coordination Committee	

The project sign (above) and the warning sign by NaDMA(below)
(Balthazar Village, Grenada)

Flood Hazard Map developed by the project (Saint Lucia)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Brazil Office: February 2018

Country Name	**Jalapão Region Ecological Corridor Project**
Federative Republic of Brazil	

I. Project Outline

Background	The tropical savannah vegetation zone located in the mid-western part of Brazil, called *Cerrado*, is has abundant biodiversity, but it is considered as one of the most seriously endangered areas with loss of biodiversity. Jalapão Region is located in the transitional area among an ecosystem characterized by thorny shrubs open forest in a semi-arid area called *Caatinga*, Amazon tropical forest and *Cerrado*, where a highly diverse ecosystem has been widely seen across the region. Also, the region has been the source of major rivers such as Parnaiba River, San Francisco River and Tocantins River. On the other hand, since surrounding areas of the Jalapão Region, agricultural development and livestock farming have been expanding, ecosystem management over the whole region by introducing the Ecological Corridor has been required to preserve precious natural resources and river-head areas in the region. The government of Brazil set up three natural protected areas including the Serra Geral of Tocantins Ecological Station (EESGT) and the Upper Rio Parnaiba National Park (PNNRP) in order to protect natures in Jalapão Region. However, it was necessary to strengthen coordination among relevant organizations and establish and manage a council for the Ecological Corridor in Jalapão Region because a cross-regional management system covering the region had not been developed. Under the situation, the government of Brazil requested the government of Japan a technical cooperation project aiming at enhancing institutional capacity of the Institute of Chico Mendes of Biodiversity Conservation (ICMBio) through introduction and implementation of the Ecological Corridor in Jalapão Region.		
Objectives of the Project	Through collection and analysis of necessary information for introduction and implementation of the Jalapão Region Ecological Corridor* (JREC) including buffer zones of natural protected areas, strengthening of organizational coordination among relevant organizations, capacity building of personnel of ICMBio and other relevant organizations, strengthening of collaboration between relevant organizations and local populations and development of strategic plan/guidelines, the project aimed at enhancement of institutional capacity of ICMBio for introduction and implementation of the Ecological Corridor in the Jalapão region thereby enhancing the ecosystem conservation in the Jalapão region. *"Ecological Corridor" is an approach to manage and conserve ecosystems through extensively integrating several protected areas including the national parks to cover broader areas. 1. Overall Goal: The ecosystem conservation in Jalapão Region is promoted by introduction of the Ecological Corridor. 2. Project Purpose: A necessary mechanism in ICMBio is strengthened in order to introduce and implement the Ecological Corridor in Jalapão Region.		
Activities of the Project	1. Project Site: Jalapão Region (the area in between the Serra Geral of Tocantins Ecological Station[1] and the Upper Rio Parnaiba National Park) 2. Main Activities: 1) Establishment of GIS database for collecting and analysing related information and information sharing, 2) Establishment of a coordination mechanism by regular meetings among the relevant organizations at the federal, state and municipal level, 3) Delivery of capacity building trainings/seminars for personnel of ICMBio and the relevant organizations, 4) Delivery of trainings for local people and clarification of their roles, 5) Preparation of strategic document to clarify policies to be shared among the relevant organizations 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 7 persons 2) Trainees Received: 6 persons 3) Equipment: GIS data server, GIS software, remote sensing software, two vehicles, etc. Brazilian Side 1. Staff Allocated: 15 persons 2. Local Cost: Fuel expenses for vehicles and travels expenses, etc.		
Project Period	April 2010 – October 2013 (Extended Period: May 2013 – October 2013)	Project Cost	(ex-ante) 350 million yen, (actual) 349 million yen
Implementing Agency	Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio)		
Cooperation Agency in Japan	Nippon Koei Co., LTD.		

[1] A natural protected area categorized as "full protected areas", which has been designated by the presidential order issued on September, 2001. The category includes the Jalapão State Park, the Jalapão Natural Protected Area of, the Jalapão Cathedral Private Natural Protected Area in, the Rio Preto Environment Station, the Rio Preto Environment Protected Area, the Rio do Sono Valley Natural Monument across Tocantins State (municipalities of Almas, Ponte Alta do Tocantins, Rio da Conceição and Mateiros) and Bahia State (municipality of Rio Preto). The designated areas of the Ecological Station aim at environment conservation and implementation of scientific researches and activities for environment education are permitted within the areas but entry by tourists in the areas is prohibited.

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Brazil at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the Brazil's development policies such as "the Sustainable Cerrado Program" (2005), "the Action Plan for Prevention and Control of Deforestation and Forest Fires in Cerrado" (2010) and "the Environment Ministrial Order No.9" (2007), most prioritizing Jalapão Region and focusing on conservation of the Cerrado ecosystem. The development priorities of Brazil were confirmed at the time of ex-ante evaluation and project completion.

<Consistency with the Development Needs of Brazil at the Time of Ex-Ante Evaluation and Project Completion >

While the ecosystem conservation in the transition zone of the ecosystem has been threatened by the production areas for large-scale agriculture, a system to broadly manage Jalapão region had not been established yet. Therefore, the project was consistent with the Brazil's development needs of establishing the feasible mechanism for an effective ecosystem conservation through coordination of efforts for ecosystem by the relevant organizations including ICMBio

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy, focusing on the five priority sectors including environment, based on the top level agreement between the President of Brazil and the Prime Minister of Japan when the President Lula visited Japan in May, 2005.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. For agreement on "the strategic document" for introduction and implementation of JREC (Indicator 1), the document was agreed by the members of Jalapão Mosaic Council at the first Mosaic meeting[2] held in September 2013. For establishment of a mechanism to promote the biodiversity conservation in Jalapão Region (Indicator 2), all necessary activities were completed and coordination among the relevant organizations was promoted. As a result, "Jalapão Mosaic" was established by the project as a mechanism to introduce and implement an effective Ecological Corridor in Jalapão Region.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued since the project completion. "Jalapão Mosaic" was officially approved as an institution for introducing and implementing JREC by the Environment Ministerial Order No.434 issued in September 2016. At the time of ex-post evaluation, although "the Jalapão Mosaic" has been under institutionalization under the initiative of the Ministry of the Environment (MMA) and "the Jalapão Mosaic" has not started their official activities, including conservation actions such as illegal logging control and wildfire prevention, land use plan, and so on, yet, practical cooperation and activities for the introduction of JREC have been promoted by the relevant organizations of ICMBio, the Tocantins Institute of Nature (NATURATINS), the Bahia State Government Secretariat of Environment (SEMA), the Municipality of Sao Felix Environment office, the municipal governments in Bahia, educational institutions, NGO/social organization, various lobbies, the tourist sector and . private natural protected areas.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has mostly been achieved by the time of ex-post evaluation. As mentioned above, "Jalapão Mosaic" has still been under institutionalization and activities for introduction and implementation of JREC have been promoted by the relevant organizations and institutions which had been involved in the project. ICMBio and NATURATINS, as the main implementing bodies and the members of "Jalapão Mosaic", have been adopting the strategic documents/guidelines for introduction and implementation of JREC prepared by the project and have been facilitating ecological conservation in the region.

<Other Impacts at the time of Ex-post Evaluation>

There were positive impacts observed at the time of ex-post evaluation. Through the project, the reporting system among the federal, state and municipality governments was established and the coordination among the relevant organizations has been promoted. After the project completion, the function of the system has been further developed to exchange opinions on comprehensive environment issues. That is beyond the original objective of the project for the introduction and implementation of JREC. In addition, the enhanced coordination among the relevant organizations for connecting protected areas by the introduction of the Ecological Corridor enables to prepare more detailed and clear land use plans among the stakeholders. Furthermore, the environmental education and environmental protection activities carried out by the project have been referred by the governmental officers for their related activities in the target areas and contributed to capacity enhancement of the governmental officers on environmental education and environmental protection activities through implementation of replicated activities. Additionally, promotion of participation of local communities in the environmental activities by the project resulted development of handicraft and cottage industries using indigenous products of the communities and promotion of women's employment and increases in their income as key players of those local industries. No negative impact on natural and social environment by the project was observed.

<Evaluation Result>

In light of the above, the Project Purpose was achieved at the time of project completion, the project effect has mostly been continued and the Overall Goal has mostly been achieved. Furthermore, some positive impacts through the enhancement of coordination among the relevant organizations for introduction and implementation of JREC have been observed. Therefore, the effectiveness/impact of the project is high.

[2] "The Jalapão Mosaic Council" was established as an operational organization for "Jalapão Mosaic" established by the project.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) A necessary mechanism in ICMBio is strengthened in order to introduce and implement the Ecological Corridor in Jalapão Region.	(Indicator 1) Strategic documents/guidelines for introduction and implementation of the Jalapão Ecological Corridor are agreed by the relevant organizations through coordination by ICMBio.	Status of the Achievement: Achieved (Project Completion) ・ The revised strategic document of "Jalapão Mosaic" was agreed by the member of the Jalapão Mosaic Council at the 1st Mosaic meeting in September 2013. (Ex-post Evaluation) ・ To be verified for the level of achievement of the Overall Goal.
	(Indicator 2) Mechanism to promote biodiversity conservation in Jalapão Region is established through coordination by ICMBio.	Status of the Achievement: Achieved (Continued) (Project Completion) ・ Th mechanism aimed by the project was established as "the Jalapão Mosaic" as a result of completion of all the planned activities. (Ex-post Evaluation) ・ In September 2016, "Jalapão Mosaic" was officially approved by the Environment Ministerial Order No.434.
(Overall Goal) The ecosystem conservation in Jalapão Region is promoted by introduction of the Ecological Corridor.	(Indicator) Strategic documents/guidelines for introduction and implementation of the Jalapão Ecological Corridor are adopted.	(Ex-post Evaluation) Achieved ・ "Jalapão Mosaic" was officially approved as an implementing agency for the introduction of JREC and ICMBio and NATURATINS, the main member of "Jalapão Mosaic" have been applying the strategic documents/guidelines prepared by the project and facilitating activities for ecological conservation in the region

Source：Terminal Evaluation Report, Project Completion Report, Questionnaire and interviews with ICMBio Head Office

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), the project period exceeded the plan (ratio against the plan: 117%). The terminal evaluation, which was conducted in April of 2013, pointed out that there had remained concerns about sustainability of "the Municipal Council for Tourism and the Environment/State Council for the Environment" assisted by the project. The coordinating framework based on the "Cooperation Agreement" was expected to be transferred to "Jalapão Mosaic" after the project completion. As a result of discussion between JICA and ICMBio, the project period was extended and the additional activities were implemented. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

As mentioned above, for introducing and implementing JREC, "Jalapon Mosaic" was approved by the Environment Ministerial Order No.434 (2016), and "Jalapon Mosaic" was legislated as an implementation tool of the Law on the National Environment Protection Unit System (the Law 9.985/2000). Also, MMA has strengthened activities for EESGT leading the operation and management of "Jalapão Mosaic" based on a management plan of EESGT (the Decree No. 4340/2000).

<Institutional Aspect>

[Jalapão Mosaic]

In terms of the mechanism for introducing and implementing JREC, "Jalapão Mosaic" was legislated and institutionalization of "Jalapão Mosaic" has been taken place by MMA. In ICMBio, EESGT and PNNRP have taken responsibilities for the operation and management of JREC and 5 officers and 2 officers have been deployed to EESGT and PNNRP, respectively. There has no institutional change in "Jalapão Mosaic" consisting of the Jalapão State Park, the Jalapão Natural Protected Area, the Jalapão Cathedral Private Natural Protected Area in, the Rio Preto Environment Stattion, the Rio Preto Environment Protected Area, the Rio do Sono Valley Natural Monument. 5 officers for the Jalapão State Park and 1 officer for each of other protected areas have been deployed to be in charge of operation and management of JREC in each protected area. While necessary activities have been practically conducted, it is desirable to increase the number of officers in order to manage much broader areas.

[Jalapão Mosaic Council]

As mentioned above, the Jalapão Mosaic Council was officially approved in 2016 and coordination and activities have been promoted by ICMBio, NATURANTINS, SEMA, the Sao Felix Environment Offices, the municipal governments of Bahia, educational institutions, NGO/social organizations, various lobbies, the tourism sector and representatives of the Private Natural Protected Areas. It is expected that the official activities of the Council will start within 2017and their activities will continue.

<Technical Aspect>

The ICMBio officers in charge of the operation and management of JREC has disseminated the environmental education and sustained the necessary knowledge and skills for their activities. For maintenance of the GIS database installed by the project, the database was transferred to the Tocantins State Secretariat of Environment and Water Resources, and managed and utilized by them. Also, participatory environmental protection trainings have been delivered in EESGT and the Jalapão State Park, and, environmental education trainings have been jointly implemented in the Rio do Sono Valley National Monument and San Felix Private Environment Protected Area. Any officers have sustained the necessary knowledge and skills to deliver these trainings. The Jalapão Mosaic Council has implemented seminars to sustain knowledge and skills of the stakeholders.

<Financial Aspect>

[ICMBio]

The budget of ICMBio for management of protected areas in Jalapão region is allocated for each environment station based on the necessary amount for each station after assessing the total necessary amount covering costs of environmental education, wildfire

prevention, maintenance of equipment in total. The allocated budget for each station has been sufficient. While the budget of EESGT had decreased year by year from 690,000 reais in 2014 to 260,000 reais in 2017, the budget of PNNRP increased in 2016 and 2017 because of strategic decision to reinforce activities in PNNRP. The budget of PNNRP had decreased from 41,000 reais in 2014 to 39,000 reais in 2015, but it started to increase in 2016 and reached to 910,000 reais in 2017.

[Jalapon Mosaic Council]

As mentioned above, no budget has been allocated to the Jalapão Mosaic Council by the government of Brazil because the official activities of the Council have not been started yet. However, the introduction and implementation of JREC have been incorporated into the federal government's policy and the federal law so that its budget is expected to be sufficiently secured.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project has achieved the Project Purpose and mostly achieved the Overall Goal for strengthening necessary mechanism in ICMBio for introduction and implementation of JREC. As for sustainability, although "Jalapão Mosaic" for introduction and implementation of JREC was legislated by MMA and the activities have been practically promoted, the official activities have not been started yet and an increase in the number of officers in each organization has been desired to firmly carry out the activities covering broad areas. As for efficiency, the project period exceeded the plan while the project cost did not.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

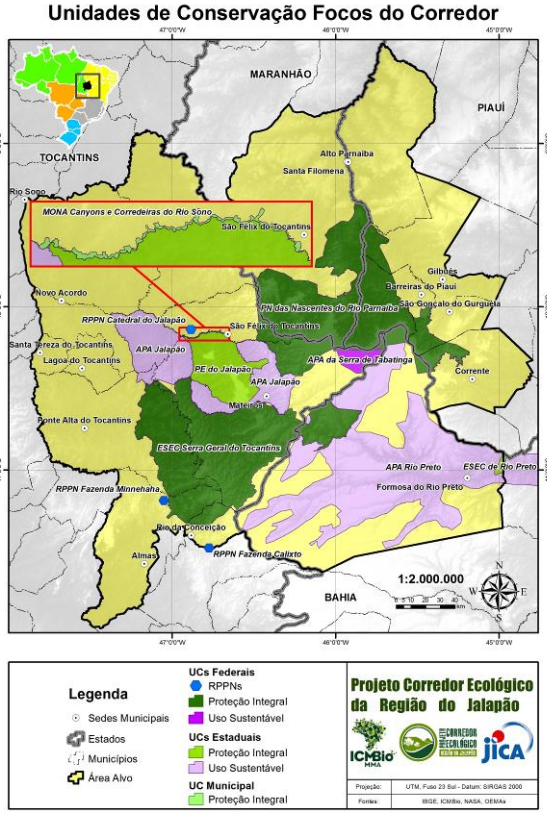
Recommendations for Implementing Agency:

According to the ICMBio Head Office, the key role of operation and management of natural protected areas, in particular Jalapão Mosaic has been in trend to shift to the Head Office MMA after the project completion. On the other hand, ICMBio has compiled specific know-how to operate and manage Jalapão Mosaic and know-how to coordinate target states, municipalities and private institutions. Therefore, it is desirable for MMA and ICMBio to have close coordination and to disseminate and extend the project effects through exercising their joint leadership.

Lessons Learned for JICA:

In case where a technical cooperation aiming at establishment of a system by an approach to promote ecosystem conservation in broad areas, such as the Ecological Corridor, there are various and many stakeholders including administrative organizations from the central to municipal level and private land owners. In this project, proactive contribution by ICMBio to coordination among those various organizations was a key success factor for establishment of Jalapão Mosaic as a mechanism to introduce and implement the Ecological Corridor. Therefore, for broad environment management covering different states in a country with federal system such as Brazil, it is essential to identify stakeholders and their roles in the target country and to set up provisional unit to play roles of coordinator and leader as well as to consider establishment of permanent implementation mechanism to enable broad area management. Also, it is important to consider a project design after clearly assess feasibility of establishment of such permanent implementation mechanism.

Technical Meetings by Stakeholders for Jalapão Mosaic Council



The Target Areas for JREC

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Colombia Office: October 2016

Country Name	**Project for Strengthening the Integral Rehabilitation System for Persons with Disabilities, Especially for Victims of Landmines**
Republic of Colombia	

I. Project Outline

Background	Colombia has been strewn with many landmines over four decades of civil war between illegal armed entities such as anti-government insurgent groups and the government forces. Ordinary people were frequently victimized by the landmines which was a major cause of disabilities. However, very few people had appropriate knowledge on the first aid to be conducted immediately after the landmine accidents, which caused many secondary disabilities. Personnel at the primary and secondary level hospitals did not understand the concept of rehabilitation and conducted surgery without consideration of reconstruction or function recovery, which hindered social reintegration of the victims. On the other hand, although tertiary or higher level hospitals, where the landmine victims underwent rehabilitation, had rehabilitation personnel of a certain level of quality and quantity such as physical therapists and occupational therapists, team rehabilitation had hardly been exercised. Under such circumstances, strengthening of the integral rehabilitation system for the persons with disabilities (PWDs) was needed.				
Objectives of the Project	Through the capacity development of the rehabilitation personnel and development of the related guidelines, the project aimed at improving the quality of the integral rehabilitation* for PWDs, especially landmine victims in Valle and Antioquia Departments, thereby contributing to inclusion of PWDs in the National Socio-Economic Policy Deliberation Council Document. *The integral rehabilitation is defined as “integration of the strategy, plan, program and activities for physical and psychological rehabilitation, from the legal, medical, psychological and social perspectives.” The project focused on first aid to prevent infection and secondary disability, functional rehabilitation services to increase the independence level of the activities of daily living (ADL) mainly of amputees and persons with visual impairment, improvement of the access to information on the rights and responsibilities of PWDs and landmine victims.				
	Overall Goal: Integral rehabilitation for persons with disabilities, especially for victims of landmines, is included in the CONPES (Consejo Nacional de Política Económica y Social) No. 80, that is, National Socio-Economic Policy Deliberation Council Document. Project Purpose: The quality of integral rehabilitation for persons with disabilities, especially landmine victims, in Valle and Antioquia Departments is improved.				
Activities of the project	1. Project site: Departments of Valle del Cauca and Antioquia 2. Main activities: Training of the professionals of the target institutions and other health providers on integral rehabilitation for PWDs including landmine victims, development of guidelines on amputation rehabilitation and visual impairment rehabilitation, implementation of the strategies on information, education and communication on the rights and responsibilities of PWDs including landmine victims, training of the personnel at the municipality and community levels on the guidebook of prehospital attention for landmine victims, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts:7 persons 2) Training in Japan: 26 persons 3) Training in the third country: 9 persons 4) Equipment: PCs, rehabilitation equipment, etc. 5) Operation cost for travel expenses, hiring national consultants, translation, etc.) Colombian Side 1) Staff allocated: 74 persons 2) Land and facilities: Office space and equipment, etc. 3) Operation cost for training implementation, etc.				
Ex-Ante Evaluation	2007	Project Period	August 2008 to August 2012	Project Cost	(ex-ante) 240 million yen (actual) 249 million yen
Implementing Agency	Directorate for Comprehensive Action against Antipersonnel Mines (DAICMA) (former Presidential Program for Comprehensive Action against Antipersonnel Mines (PAICMA)), Ministry of Health and Social Protection (MSPS) (former Ministry of Social Protection (MPS)), Department Secretariat of Health of Valle (SDSV), Sectional Direction of Health of Antioquia (DSSA)				
Cooperation Agency in Japan	National Rehabilitation Center for Person with Disabilities				

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of the Colombia at the time of ex-ante evaluation and project completion>

The project was consistent with Colombian development policies, as the promotion of the rehabilitation services for PWDs and their social participation were included in the National Plan of Public Health (2007-2010) at the time of the ex-ante evaluation and National Development Plan (2010-2014) at the time of the project completion.

<Consistency with the Development Needs of Colombia at the time of ex-ante evaluation and project completion >

Many people have become victims of land mine every year in Colombia (1,110 in 2005). In the places where mine accidents occurred,

it was very difficult to provide adequate first aid and health care services, and many of these victims also suffered from secondary disabilities. Though the number of the landmine victims decreased since the time of the ex-ante evaluation, as mentioned later, there were still great needs for improving rehabilitation and promoting social participation of PWDs at the time of the project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

Based on the policy dialogue between Colombia and Japan in 2006, peace building was selected as one of the four assistance priority areas, which includes support for socially vulnerable people[1].

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. Through the training of the rehabilitation personnel and development of the related guidelines, the four target institutions (Valle University Hospital (HUV), IDEAL Foundation (IDEAL), Saint Vicente Foundation of University Hospital (HUSVP), the Rehabilitation Committee (COMITE)) acquired knowledge and skills related to the integral rehabilitation and improved their services, as 97.4% of the patients showed satisfaction with the services, according to the survey conducted during the project period. These four institutions diffused their knowledge on team rehabilitation, ADL evaluation, rehabilitation for amputees and vision rehabilitation to 19 other health institutions in Valle and Antioquia Departments. Also, the trained personnel conducted activities for diffusion of their acquired knowledge on the rights and responsibilities of PWDs including landmine victims and pre-hospital attention. Thus, it can be said that the integral rehabilitation for PWDs including landmine victims from the early attention and their knowledge on the rights for social participation were strengthened.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The main target of the project was landmine victims. However, their number has been gradually decreasing since the peace process with the FARC[2] guerrilla started in 2011 with the initial conversation approaches. The negotiation table was set in Oslo in the 12th of October, 2012. As explained in this paragraph, the integral rehabilitation services have mostly continued but are provided to PWDs in general. Therefore, it is judged that the project effects have continued. All of the four institutions have continued their activities for diffusing the knowledge on integral rehabilitation acquired from the project. For example, IDEAL developed the Integral Rehabilitation Model "IDEAL" based on the project experience and conducted the international courses on the model in 2013 and 2015. HUV has shared the project experience in the functional rehabilitation, cooperative rehabilitation, etc. to the postgraduate and undergraduate students. HUV has also accepted intern professionals from IDEAL's projects for capacity development of the medical institutions in other departments. HUSVP organized training on the integral rehabilitation for the personnel of other hospitals and NGOs. COMITE shared the project experience in various symposiums and conferences. According to these four institutions, all of them have continued practicing techniques acquired from the project (team rehabilitation, ADL evaluation, rehabilitation for amputees and visual impairment), and all of the interviewed patients are satisfied with these services. Though the data of the percentage was not available, the personnel who received the training in the project have implemented their diffusion activities on the rights and responsibilities of PWDs. As for pre-hospital attention, diffusion activities have been conducted in Antioquia but not in Valle. This is because the needs have diminished as the number of the landmine victims has decreased since the project completion as shown in the table.

Table: Number of the landmine victims

	2012	2013	2014	2015	2016
Civilian	295	196	103	60	14
Armed force	294	222	187	158	26
Total	589	418	290	218	40

Source: Directorate for Comprehensive Action against Antipersonnel Mines.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. The integral rehabilitation for PWDs including land mine victims is included in the document of the National Council of Economic and Social Policy (CONPES) 166 of 2013. The Public Policy of Disabilities and Social Inclusion has five strategic pillars and one of them mentions the necessity of the integral rehabilitation, early detection and attention, etc. According to the Ministry of Health, the revision of this policy is attributed to the project experience.

<Other Impacts at the time of Ex-post Evaluation>

First, the project experience of the integral rehabilitation has been extended to other departments. For example, in the hospitals in the Departments of Bolívar, Chocó and Cauca, the concept of integral rehabilitation has been introduced by the Ministry of Health, with a focus on ADL and the concept of PWD's independence. Second, based on the project experience, functional rehabilitation for children with disabilities has been developed. Based on ADL evaluation strengthened by the project, IDEAL and COMITE have started specific activities of rehabilitation for children with disabilities including cognitive disabilities such as autism. As well, rehabilitation professionals of HUV have become able to carry out functional assessment of children with disabilities. Third, in HUSV the project contributed to the opening of an academic course by physicians specializing in general surgery. This course focuses on the amputation procedures as well as integral rehabilitation. For undergraduate students interested in completing their internship in physiatry, this hospital offers practice opportunities to them. Fourth, integral rehabilitation has brought some positive changes to the service users. According to the interviewed patients and families who use the services of the target institutions, they have improved the independency level in the daily life such as dressing, eating, moving by themselves. No negative impacts on the natural and social environment have been produced by the project.

<Evaluation Result>

In light of the above, through the project, the project purpose was achieved and the effects have continued. The Overall Goal has been achieved, and several positive impacts have been confirmed. Therefore, the effectiveness/impact of the project is high.

[1] Ministry of Foreign Affairs of Japan (2008). "ODA Databook 2007."

[2] It is an anti-government armed group named Fuerzas Armadas Revolucionarias de Colombia in Spanish.

Achievement of the Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) The quality of integral rehabilitation for persons with disabilities, especially landmine victims, in Valle and Antioquia Departments is improved.	Indicators: 1. The target health service institutions (HUV, Fundación IDEAL, HUSVP, Rehab Committee) have implemented activities for diffusing the knowledge on integral rehabilitation acquired from the project (team rehabilitation, ADL evaluation, rehabilitation for amputees, vision rehabilitation)	(Terminal Evaluation) Achieved. - 12 institutions in Valle and 7 institutions in Antioquia received the training and have implemented activities for diffusing the knowledge on integral rehabilitation from the four target institutions. 8 trainings were conducted in Valle, Antioquia and nationwide on ADL evaluation, rehabilitation for amputees, vision rehabilitation, etc. (Ex-post Evaluation) Continued. - All of the four target institutions have implemented activities for diffusing the knowledge on integral rehabilitation acquired from the project.
	2. There are positive answers in more than 80% of the items on functional rehabilitation in the satisfaction survey for PWDs, especially victims of MAP/MUSE/AEI, users in the target health service institutions. * MAP: antipersonnel mine, MUSE: unexploded ordnance, AEI: improvised explosive device.	(Terminal Evaluation) Achieved. - 97.4% of the patients answered that they are satisfied with the rehabilitation services. Almost 100% answered that they received sufficient explanation before the service, rehabilitation meets ADL needs, and the professionals have appropriate knowledge. (Sample size: 162) (Ex-post Evaluation) Continued. - According to the satisfaction survey conducted only by HUV, 97%, 92% and 93% of the patients were satisfied with the services in 2014, 2015 and 2016, respectively. (Sample size: not available) - All of the 11 patients interviewed at the ex-post evaluation survey answered that they are satisfied with the rehabilitation services they receive. - The information specifically from the landmine victims was not available at the ex-post evaluation survey.
	3. More than 50% of the persons who received training have implemented activities to diffuse the knowledge on the rights, responsibilities and mechanisms for PWDs to access services stipulated by the law.	(Terminal Evaluation) Achieved. - According to the project monitoring, 66.9% of the trained in Valle and 76.7% of the trained in Antioquia have implemented activities to diffuse the knowledge on the rights, responsibilities and mechanisms for PWDs to access services stipulated by the law. (Ex-post Evaluation) Partially continued. - Though the data of the trained persons who implemented diffusion activities could not be confirmed, they have continued the diffusion activities as follows. - IDEAL conducted 9 activities related to the rehabilitation and social participation of PWDs from 2013 to 2015. - HUV annually conducted more than 500 medicine and rehabilitation activities for the patients' orientation in their rights and responsibilities to access the services established by the law from 2013 to 2016. - DSSA every year conducted diffusion and training activities on PWDs support for the municipalities from 2013 to 2015. - COMITE conducted the training of the trainers on the rights and responsibilities of PWDs in 2012. The training target was the municipalities.
	4. More than 50% of the persons who received the training have implemented activities to diffuse the knowledge on pre - hospital attention.	(Terminal Evaluation) Achieved. - 75 of the 88 trained in Valle (85%) and 35 of the 60 trained in Antioquia (58%) have implemented activities to diffuse the knowledge on pre-hospital attention. (Ex-post Evaluation) Not continued. - In Antioquia, the data of the trained persons who implemented diffusion activities could not be confirmed. However, DSSA conducted the training for the community leaders on prehospital attention with emphasis on the antipersonnel mine in 2013 and 2014. - As for Valle, no diffusion activities related to prehospital attention have been conducted.
(Overall goal) Integral rehabilitation for persons with disabilities, especially for victims of landmines, is included in the CONPES (Consejo Nacional de Política Económica y Social) No. 80, that is, National Socio-Economic Policy Deliberation Council Document.	1. The institutions of the national system of disability realize and promote the national disability policy which has involved the integral rehabilitation for PWDs including victims of MAP/MUSE/AEI.	(Ex-post Evaluation) Achieved. - The idea of the integral rehabilitation for PWDs, especially land mine victims is included in the document CONPES 166 of 2013. - Health institutions including the target institutions provide the integral rehabilitation services and additivities for diffusion in accordance with the document CONPES 166 of 2013.

Source: xxx.

3 Efficiency

The project period was as planned, but the project cost slightly exceeded the plan (ratio against the plan: 100% and 104%, respectively). Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

Besides the document of CONPES 166 of 2013, integral rehabilitation has been prioritized in other two important public policies: Policy of Integral Action against Land Mines (2009-2019) and Policy for Integral Attention and Reparation for Armed Conflict Victims (2011-2021).

<Institutional Aspect>

MSPS is responsible for the rehabilitation services for PWDs. Particularly for the landmine victims, DAICMA has an important role for support for the victims, landmine elimination, promotion of the national action plan against the landmines, etc. In the target four institutions, the following number of the physicians and other rehabilitation personnel are assigned (16 and 94 at HUV, 6 and 115 at IDEAL, 7 and 16 at HUSVP and 6 and 27 at COMITE), and they are sufficient to provide integral rehabilitation and conduct training to other hospitals. All of them have their own database on provision of the rehabilitation services and follow-up of the patients and utilize the information for research activities. Regarding the information sharing among the related organizations, HUV exchanges information related to the integral rehabilitation with IDEAL and other hospitals in the municipalities where there are no rehabilitation physician. Dissemination activities to promote PWDs' access to the public services are coordinated by various actors including MSPS, the Ministry of Interior, organizations of PWDs and local governments. According to MSPS, most of the facilitators trained by the project have continued the activities for dissemination, and these activities heavily depend on support from the territorial authorities which have the strategy of community based rehabilitation. As long as the authorities sustain the strategy, there will be enough facilitators for dissemination of rights for PWD, according to DSSA. Dissemination activities on pre-hospital attention have been only partially conducted. This is because there is less necessity than before, as the number of the land mine victims has been decreasing since the peace process started.

<Technical Aspect>

It is judged that the rehabilitation personnel have sufficient knowledge and skills for the integral rehabilitation at all of the four target institutions. Concretely, trainings are conducted every year for the personnel including the newly joined personnel. Other evidences include the high satisfaction of the patients at HUV, integral rehabilitation model originally developed by IDEAL, strict selection and periodic review of the personnel at HUSVP, etc. The guides on visual impairment rehabilitation have been utilized at HUV and HUSVP. The guide on amputation rehabilitation has been utilized at all HUV, COMITE, HUSVP and COMITE. Facilitator of the dissemination activities on the rights and responsibilities of PWDs have sufficient skills as they underwent intensive training, according to MSPS and DAICMA.

<Financial Aspect>

The budget of MSPS which comes mainly from national budget has been increasing much (900 million Colombia peso (COP) in 2014 and 3,175 million COP in 2016). The budget sources of the department governments include the transfer from the national budget and own revenue such as collected tax. In case of Valle, the executed budget of SDSV has been increasing (348 million COP in 2013 to 713 million 2015), and it is sufficient to conduct training for the municipalities and also support HUV and IDEAL to disseminate the project experience to the neighbor departments, Nariño and Cauca. As for Antioquia, the executed budget of DSSA has been decreasing (1,350 million COP in 2013 to 450 million COP in 2016). However, it is sufficient to disseminate the knowledge acquired from the project to other municipalities, as the priority on the pre-hospital training has been diminished since the commencement of the peace negotiation. The executed budget of HUV has been on a moderate increasing trend (280 million COP in 2013 to 335 million COP in 2015), but HUV has faced a financial crisis. Being a public hospital, HUV has issues such as corruption and patronage and the government has recently intervened in the reform. This has affected the decrease of the personnel and less service of rehabilitation, though services are still provided to the extent of satisfying patients. However, the increase of the budget cannot be expected for the rehabilitation department until the financial situation is normalized. With regard to IDEAL, HUSVP and COMITE, the budget has been on an increasing trend[3], and it is sufficient to provide integral rehabilitation services. Expenses of the landmine victims for rehabilitation services are covered with various sources such as ECAT-FOSYGA (Catastrophic Event of Traffic Accidents-Solidarity and Guarantee Fund) subaccount, coverage of the Benefit Plan under the Capitation Payment Unit, and resources of the territorial governments for landmine victims who are not affiliated with the General System of Social Security..

<Evaluation Result>

In light of the above, no major problems have been observed in terms of the policy, institutional, technical and financial aspects of the target institutions. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The integral rehabilitation for PWDs from the early attention to social participation has been strengthened. The four target institutions acquired knowledge and skills related to the integral rehabilitation and improved their services, which satisfied almost all the patients. They also diffused the project experience to other health institutions. These effects have mostly continued. Regarding the sustainability, provision of the integral rehabilitation for PWDs has been propped up by relevant policies and health institutions including the target institutions, though a small issue was raised related to the financial crisis of HUV. As for the efficiency, the project cost slightly exceeded the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is recommended for the four target institutions to continue to utilize the project experience in the pre-hospital attention. Even though the landmine victims have decreased, it is still an important means to minimize the secondary disability and promote the social participation of

[3] The planned budget of IDEAL has increased from 213 million COP in 2013 to 1,030 million COP in 2016. The executed budget of HUSVP has moderately increased from 1,277 million COP in 2013 to 1,341 million COP in 2015. The executed budget of COMITE has increased from 5,752 million COP in 2013 to 7,600 million (projected) in 2016.

PWDs regardless their impairments.
- Even though HUV is in a financially difficult situation, it is suggested that HUV keep a necessary number of the personnel to provide rehabilitation services by using rehabilitation equipment by the project.

Lessons learned for JICA:
- The project was designed for improving the rehabilitation for PWDs, particularly the landmine victims, as indicated in the project title. On the other hand, by the time when the project started, the number of the landmine victims started to decrease as the negotiation for the peace agreement started between the government and the FARC guerilla. The project might have given an impression that it did not have much justification with regard to the target group. This was caused because it took two to three years from the assistance request to the project commencement as it does for most projects. However, the project was not only for the landmine victims and achievement of the objectives have not been affected, as the integral rehabilitation strengthened by the project is an effective approach for PWDs in general. Therefore, the project content did not have to be revised much except for the pre-hospital attention, but the objectives should have been described without the phrase “especially landmine victims” in order to correctly reflect the project orientation. When it takes a few years after the assistance request before the project commencement, it is necessary to examine whether there is any change in the situation surrounding the implementing agency and beneficiaries and revise the project description on the objectives or indicators at the time of the project commencement or even during the project period upon necessity.
- The project was successful in including the concept of the integral rehabilitation in CONPES 166 of 2013, which then adopted the Public Policy of Disabilities and Social Inclusion. Firstly, the project intervened in the policy formulation process in an appropriate timing. The Government of Colombia ratified the UN Convention on the Rights of Persons with Disabilities in 2011, and the momentum for social inclusion was increasing. Secondly, CONPES was being discussed and developed with participation from various sectors nationwide, and the concept of the project was easily reflected in the process. The concept of the integral rehabilitation which includes early detection and attention, team rehabilitation and ADL evaluation was exactly what was needed in that timing. Thus, for project formulation and implementation, it is important to deeply understand the international trend and national momentum and consider how the project could utilize them for achieving impacts at the policy level.

(Amputee patient receiving rehabilitation services at HUV)


(Amputee patient receiving rehabilitation services at HUV)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Indonesia Office: February 2018

Country Name	**Project for Standardization and Quality Control for Horticulture Products of Indonesia (Improvement of Thermal Treatment against Fruit Flies on Fresh Mango)**
Republic of Indonesia	

I. Project Outline

Background	Despite the great potential of mango as one of the major fruits for export from Indonesia, less than 0.1 percent of its total production (2.1 million tons) was actually exported in 2011. Although an export volume of mangoes from Indonesia had been increasing to markets in the Middle East and East Asian countries, they could access only to the countries that did not impose any quarantine requirements on fruits infested with those flies due to the existence of various types of fruit flies attacking mangoes produced in Indonesia. In order to address the issue and thereby further increase export of mangoes to overseas markets including Japan, the Government of Indonesia requested the Government of Japan a technical cooperation project aiming at disinfestation techniques by vapor heat treatment (VHT) against fruit flies on fresh mango.		
Objectives of the Project	Through strengthening the capacity of technical staff of the Directorate General of Horticulture (DGH) and the Pest Forecast Institute (PFI) on rearing test fruit flies in laboratory, disinfestation techniques by VHT and building data system which stores examination data and analysis results, the project aimed at the establishment of disinfestation technique by VHT against fruit flies on fresh mango, Gedong variety, thereby contributing to establishment of the disinfestation techniques by VHT against fruit flies on other tropical fruits. 1. Overall Goal: The disinfestation techniques by VHT against fruit flies on other tropical fruits are established. 2. Project Purpose: The disinfestation technique by VHT against fruit flies on fresh mango, Gedong variety, is established.		
Activities of the Project	1. Project Site: PFI in Jatisari District, Karawang Prefecture, West Java Province 2. Main Activities: 1) improvement of the capacity of counterparts to rear test fruit flies successively in laboratory, 2) improvement of the capacity of counterparts to disinfest test fruit flies by VHT, and 3) establishment of the data system which stores examination data and analysis results. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 14 persons 2) Trainees Received: 18 persons 3) Equipment: vehicle, incubator, VHT machine, Biotron and related equipment, etc. Indonesian Side 1. Staff Allocated: 15 persons 2. Land and Facilities: Office space, land for new VHT laboratory building 3. Local cost: Cost for utility (electricity, water and telephone charges), purchase of test mangoes, etc.		
Project Period	October 2009 – April 2013	Project Cost	(ex-ante) 280 million yen, (actual) 287 million yen
Implementing Agency	Directorate General of Horticulture (DGH), Ministry of Agriculture (MOA) Agency for Agricultural Quarantine (AAQ), MOA Pest Forecast Institute (PFI), Directorate of Food Crops, MOA		
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF)		

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Indonesia at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the development policies of Indonesia stated in the Horticulture Development Plan (2005-2009) at the time of ex-ante evaluation and the DGH Strategic Plan (2010-2014) at the time of project completion. Both of plans aimed at the improvement of quality of horticulture products and plant quarantine for export.

<Consistency with the Development Needs of Indonesia at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation, although an increasing volume of mangoes had been exported from Indonesia, due to the existence of various types of fruit flies attacking mangoes, they could access only to the countries that did not impose any quarantine requirements on the fruits infested with those flies. Therefore, in order to achieve the full potential of agribusiness as an exporting country, it was necessary to promote the capacity of DGH, AAQ and PFI who played major roles in plant quarantine and pest control in Indonesia. The situation was not significantly changed at the time of project completion. Therefore, the project was consistent with the development needs of Indonesia.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy for Indonesia since the "Country Assistance Program for the Republic of Indonesia (November 2004)" aiming at the development of agricultural and fishing industries by focusing its assistance on strengthening the operation of farmers/fishermen organizations, building and managing related infrastructure, improving productivity, and securing processing and distribution system.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. By the end of 2012, the VHT standard was established for complete disinfestation of test fruit flies without critical damage to test fruits, and large-scale mortality tests of more than 30,000 flies have been properly implemented for the most heat tolerant stage among all the target species. The data system for storing examination data and analysis results was completed by the end of the project.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been continued. PFI staff has continued VHT test standardized by the project with the institutional support from the DGH. The head of the Research and Development (R&D) Institute of DGH officially assigned a functional team in PFI as the VHT Team with the ongoing budget support.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was partially achieved by the time of the ex-post evaluation. VHT has been applied on Arumanis variety of mango and melon but limited to the preliminary test stages, i.e. the small-scale mortality and fruit injury tests leaving the large-scale tests and residue analysis undone. While further extension of the full-stage test to other export fruits is expected, it is not realized because the agreement among DGH, PFI, AAQ on the post-project action plan has not been achieved due to insufficient coordination among them, and insufficient budget for purchasing larger scale VHT machines to accommodate larger fruits. The decision making and administrative procedures of Indonesian Government for exporting tropical fruits were pointed out by the terminal evaluation in 2012 as the challenge for the Overall Goal's achievement. However, at the time of ex-post evaluation in 2017, the Government's negotiation with other countries are still ongoing and not yet settled.

<Other Impacts at the time of Ex-post Evaluation>

DGH conducted a socialization meeting for introducing VHT techniques in cooperation with PFI inviting provincial and municipal officials of MOA related organizations. Besides, PFI has been accepting students from vocational training schools and universities in internship programs and introducing them laboratory works including VHT disinfestation techniques and computer data management system established by the project. No negative impact on natural environment has been observed.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved at the time of project completion, positive effects by the project have mostly continued, and the Overall Goal was partially achieved at the time of the ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) The disinfestation technique by VHT against fruit flies on fresh mango, Gedong variety, is established.	The VHT standard for complete disinfestation of test fruit flies without critical damage to test fruits is established for the most heat tolerant stage among all the target species in large-scale mortality tests of more than 30,000 flies.	Status of the Achievement: Achieved. (Continued) (Project Completion) Large-scale mortality tests were conducted in 2012 for the most heat tolerant stage among all the target species. As a result, more than 30,000 flies were disinfested with the mortality rate of 100%. The VHT standard was thus established. (Ex-post Evaluation) PFI staff has continued VHT test standardized by the project with the institutional support from the DGH.
(Overall Goal) The disinfestation techniques by VHT against fruit flies on other tropical fruits are established.	Disinfestation technique(s) is (are) established at least for one tropical fruit other than mango.	(Ex-post Evaluation) Partially achieved. VHT has been applied on Arumanis variety of mango and melon but limited to the preliminary test stages, i.e. the mortality test and fruit injury test.

Source : Horticulture Development Plan (2005-2009), DGH Strategic Plan (2010-2014), Terminal Evaluation Report (2014), questionnaire survey to and interviews with DGH, AAQ and PFI

3 Efficiency

Although the project period was within the plan (the ratio against the plan: 100%), the project cost slightly exceeded the plan (the ratio against the plan: 103%). Therefore, efficiency of the project was fair.

4 Sustainability

<Policy Aspect>

The National Medium-Term Development Plan 2015-2019 (RPJMN[1] 2015-2019) and DGH Strategic Plan 2015-2019 listed several horticultural products including pineapple, orange, mango, mangosteen, snake fruit as national main commodities, and emphasized the importance of improvement of international cooperation and relationships for trading horticultural commodities. Since mango is included in the list, the disinfestation techniques using VHT established by the project is expected to be continuously utilized.

[1] RPJMN: Rencana Pembangunan Jangka Menengah Nasional

<Institutional Aspect>

While there were some changes in organizational structures in DGH, they didn't affect the operations of horticulture quarantine in AAQ and PFI. The official assignment of the VHT Team in PFI has been done in 2010 by DGH as stated above. The number of staff in charge of horticulture quarantine and VHT techniques has been almost constant or slightly decreasing in PFI (Table 1). According to the interviews in AAQ and PFI, the number of staff in charge of VHT techniques is sufficient for the current operations since disinfestations are not yet conducted in full-scale. However, PFI is carrying out maintenance of equipment with two outsource employees, and AAQ anticipates the shortage of staff once the export of mangoes and melons is initiated. The head of the Sub-directorate of Fruit Crop Protection of DGH mentioned that once the export of mangoes started, the number of staff and budget of PFI would be adjusted accordingly.

Table 1. Number of staff in charge of horticulture quarantine
(Number of staff in charge of VHT techniques)

	2012	2013	2014	2015	2016	2017*
DGH	54(5)	54(5)	52(5)	52(5)	51(4)	48(4)
AAQ	N/A (3)	829(3)	972(3)	1029(3)	1103(3)	1103(4)
PFI	46(6)	40(6)	40(5)	40(4)	43(4)	41(4)

* As of August 2017.

<Technical Aspect>

According to the interviews with PFI staff, while one of the counterparts was transferred to be promoted as a head of the other section in PFI, the staff members of PFI trained by the project sustained their knowledge and skills through the operations of disinfestation using VHT. In order to extend their operations to other horticulture commodities, further improvement of knowledge and skills of technical staff on phytosanitary[2] is needed. Although there was no stand-alone training for equipment maintenance but as a part of VHT training, most of the PFI staff trained by the project are currently engaged in maintenance of equipment. However, since they are not specialized in maintenance work and the budget for maintenance is in short, further technical and financial support is needed for equipment maintenance. Variety of manuals prepared by the project was sufficient and they are fully utilized. While the computer data system introduced by the project has been properly utilized, due to the insufficient security of the system, data could be changed by anybody, and the validation of data cannot be guaranteed. Besides, because the data system is not linked with other related agencies such as DGH and AAQ, the data are not fully utilized.

<Financial Aspect>

PFI is financially supported by DGH, but the annual budget for disinfestation, equipment maintenance and data system has been decreasing since the end of the project in 2013 (Table. 2). This was because the disinfestation of mangoes and melons has not been fully operationalized due to the idling of quarantine steps negotiations between Indonesia and importing countries. According to the interview with VHT coordinator of PFI, once the negotiation settled, DGH will increase the financial support accounting the needs of PFI. Also, according to the coordinator, the budget is sufficient for the standard laboratory operations including rearing and equipment maintenance. However, for raising the level of the standard operation, further budget support is expected for repairing Biotrons for insects rearing, a water softener, a fruit hardness tester and some other equipment, and for extending tests to other commodities other than mangoes and melons.

Table 2. Annual Budget for Laboratory Operations of PFI
unit: million IDR

Year	2013	2014	2015	2016	2017
Budget	500	475	300	150	90

<Evaluation Result>

In light of the above, slight problems have been observed in terms of technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved at the time of project completion. The project effects have mostly been continued while the Overall Goal was partially achieved by the time of the ex-post evaluation. As for sustainability, while the environment for continuing the disinfestation operations using VHT established by the project is secured, special staff and techniques for equip maintenance is expected together with the budget for that. Skills and knowledge for upgrading the security and connectivity of the data management system installed by the project is also waited in anticipation. As for efficiency, the project cost slightly exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Disinfestation techniques by VHT against fruit flies established by the project has not been extended to other tropical fruits (Overall Goal). One of the reasons for that is the agreement on the post-project action plan among DGH, AAQ and PFI has not been achieved. Therefore, it is recommended AAQ to take initiative to coordinate stakeholders including exporters to make an action plan for increasing the export of mangoes, melons and other tropical fruits.
- Since security and connectivity of the computer data system installed by the project is insufficient, additional training is needed for the staff of PFI. Therefore, it is recommended DGH to technically and financially assist PFI to update the computer data system.

Lessons Learned for JICA:

- The Overall Goal of the project has not been fully achieved because the agreement on the post-project action plan has not been achieved among the implementing agency, its umbrella agency and other agencies concerned. Also, the governments' quarantine steps negotiations have been idling, export of mangoes and melons are not initiated as of the ex-post evaluation in 2017. As a result, although the post-project action plan and the governments' negotiations were not the explicit scope of the project, they affected the full-fledged

[2] Measures for the control of plant diseases intrusion from other areas or countries.

manifestation of the project effects and its sustainability. Therefore, post-project scenario for the final target of the project should be specifically planned by the implementing agency and its umbrella agencies involving other related agencies at the planning stage and substantially executed during the project period, so that the achievements of projects' objectives could be higher, and continuation of the project effects could be ensured.

Cool storage for fruits storage in the Laboratory


Technical staff of laboratory in front of VHT machine

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Indonesia Office: September 2017

Country Name	**The Project for Development of Industry based on Local Resources in South Sulawesi Province**
Republic of Indonesia	

I. Project Outline

Background	The growth of manufacturing industries in South Sulawesi Province had been stagnant due to lack of market information, insufficient human resources and the level of technologies, insufficient cooperation between local provincial government and related industries, lack of functional legal systems and inexistence of an environment to create added value. In order to promote industries in the Province, it was necessary to grasp the needs of markets and clarify strategies and polices for the industrial development. Strengthening of links between the governmental agencies concerned and the producers in the region was also indispensable as well as efforts to promote processing of local resources and to improve the quality of products. Under these circumstances, the provincial government of South Sulawesi aimed to activate local economy development through the strengthening of industrial clusters, focusing especially on the promotion of agro-industry. Gerbang Emas, or the Community Economic Movement Program (2004-2007), was carried out under the initiative of the provincial government and identified eleven specialty products. The program was positively evaluated in its results during the program implementation, but there were still issues to be solved regarding the sustainability after the program was completed.
Objectives of the Project	Through improving the capacity of the Government of South Sulawesi Province to develop and improve the industrial development strategy and strengthening the training implementation system and the system and strategy for enhancement of clusters, the project aimed at establishing the system where the concerned stakeholders could collaborate for product/market development utilizing locally available resources, thereby contributing to acceleration of manufacturing of local resources and improvement of the value of the products. The project objectives set forth are as follows: 1. Overall Goal: Manufacturing of local resource is accelerated through strengthening of sectoral and regional linkage and the value of the products is improved. 2. Project Purpose: The system, where the concerned stakeholders could collaborate for product/market development utilizing locally available resources according to the needs of local industry producers, is established.
Activities of the project	1. Project site: South Sulawesi Province 2. Main activities: (1) Improve industrial development strategy of the Government of South Sulawesi Province and formulate rules and regulations on industrial development; (2) Conduct trainings related to finance, marketing, production and management and monitoring and feedback on trainings; and (3) Select groups for cluster development, formulate industry-university-local government linkages, strengthen collaboration of related organizations, conduct matching of market and products, marketing (PR) event and monitoring and evaluation for improving activities etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 10 persons 2) Trainees received: 11 persons 3) Provision of equipment (computers, printer and photocopy machine etc.) 4) Operational expenditure Indonesian Side 1. Staff allocated: 46 persons in Working Groups, 47 persons in Project Implementation Units 2. Office space and facilities 3. Operational expenditure

Ex-Ante Evaluation	2008	Project Period	March 2009 – February 2012	Project Cost	(ex-ante) 326 million yen (actual) 295 million yen
Implementing Agency	Industry and Trade Office of South Sulawesi Province, Regional Export Training and Promotion Center (RETPC)				
Cooperation Agency in Japan	KRI International Corporation				

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Indonesia at the time of ex-ante evaluation and project completion>

The project has been consistent with Indonesia's development policy on 'redressing regional disparity', 'strengthening of international competitiveness of Indonesian economy through cluster formation' and 'developing processing industry in Sulawesi area' etc. as set forth in "the National Long Term Development Plan (RPJPN)" (2005-2025), "the National Medium-Term Development Plan (RPJMN)" (2005-2009), "RPJMN" (2010-2014) and "the Medium-Term Development Plan of South Sulawesi Province (RPJMD)" (2008-2013).

<Consistency with the Development Needs of Indonesia at the time of ex-ante evaluation and project completion>

At the time of ex-ante evaluation, as the manufacturing industry had been underdeveloped and the economy of South Sulawesi Province had been dependent on production of raw materials, it was necessary to promote industries which utilize local resources and add values to their products in order to develop regional economy. Throughout the project period, there were no significant changes in the industrial structures in which producers in local industry took part. Thus, there were needs for local industrial development both at the time of ex-ante evaluation and project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with Japan's ODA policy, as stated in the Country Assistance Program for Indonesia (2004), which prioritized 'creation of a democratic and fair society'. 'Poverty reduction' was regarded important for 'creation of a democratic and fair society', and this project was consistent with the aim, as it was to support eastern Indonesia where poverty rate was high.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

Project Purpose was achieved by the time of project completion. The strategic plan, "Vision for Local Industry Facilitation in South Sulawesi", which indicated the idea of promotion of regional brand, establishment of product certification/accreditation system, organization of regional brand promotion institution and several action plans (including establishment of antenna shop), was prepared in early 2010. Following the vision in principle, the Regulation of Provincial Governor on Local Industry Development through Creation of South Sulawesi Brand was enacted in September 2011, in which establishment of a special team, formulation of technical guideline, and designing of original logo for local production were stipulated. The special team was organized for implementation of the strategic plan in November 2011, involving not only provincial government, but also private sector and academic etc. (Indicator 1). "Internal Training" courses for training institutions were conducted and five training institutions established the standard of demand based training, and an annual plan for implementing "External Training" courses for producers of local industry was prepared every year (Indicator 2). Five commodities (cacao, passion fruit, silk and marble craft as the priority commodities of this project, and seaweed as the additional commodity later identified by the initiative of the Indonesian side) were selected to improve product quality and to strengthen supply chain. The JICA experts reported that based on the result of External Training courses as well as marketing promotion activities by the project, the local producers became very active to enhance their business through improvement of their local specialty products (Indicator 3).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been partially maintained since project completion. Regarding the strategic plan (Indicator 1), South Sulawesi brand creation, initiated under the project as namely "I Love South Sulawesi Products", has continued until today. Coaching and facilitation for packaging and brands have been carried out by the central government and the province. The Regulation of Provincial Governor on Local Industry Development through Creation of South Sulawesi Brand has been effective, and the technical guideline which was required to be prepared in the Regulation has been finalized and utilized among stakeholders. The product certification/accreditation system was also established by the province. However, the special team is no longer functioning due to rotation and retirement of many members, and the duty assignment letter designated names/personal duties rather than institutional duties, which made the concerned organizations difficult to assign other staffs. The antenna shop established under the project was also closed in 2016 due to budget constraint. The regional government stopped the budget allocation in 2016 to use that budget for other purposes not related to this project, and there was no support budget from Central Government. Therefore, the regional government could not afford the rent of the antenna shop because revenues from sales of products could not match the cost of the antenna shop. Regarding trainings (Indicator 2), while "Forum Diklat South Sulawesi", which was initiated under the project for organizing trainings efficiently and effectively, is an informal network, communication and collaboration among member institutions[1] have continued, though the forum is not as efficient and effective as that of the beginning period, due to retirement and transfer of many key members. Nonetheless, an annual plan for implementing External Training courses has been prepared every year, and trainings on local product processing, labelling and packaging, export procedures and internet marketing etc. for local industries and small and medium enterprises were conducted for five times (350 participants) in 2015 and ten times (190 to 235 participants) in 2016. Training Needs Assessment (TNA) has also continuously been conducted by circulating a questionnaire to participants at the end of each training session, and results of the questionnaire survey is reflected in the next training. Regarding product improvement (Indicator 3), continuous improvements were observed in the targeted commodities (e.g., increase in size of cocoa industry, production of premium passion fruit juice, etc.)[2]. Moreover, Each Kabupaten (district) and/or Kota (city) in South Sulawesi Province currently has their own local products. For example, for passion fruits, Gowa and Toraja region have become the center of passion fruits production.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

Overall Goal has been achieved by the time of ex-post evaluation. Seaweed products such as syrup, nugget, candy, fried seaweed and bread and packaged sea products such as fish have become branded local commodities (they are qualified as "I Love South Sulawesi Products") besides the priority commodities of this project (Indicator 1). Moreover, Central Sulawesi Province has adopted the model of local industry development (i.e., system of training cycle management and provincial regulation) developed in South Sulawesi (Indicator 2). The model of the project encouraged the local government to explore more local products based on local resources and to engage in the training system (training cycle management) and the government regulation to enhance local products, as outputs of the project, which have supported development of other branded local products and contributed to the expansion of areas of local industry development.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural environment has been observed and no land acquisition and resettlement has been occurred under the project. As to other impacts, there are initiatives that are not directly connected to the JICA project but encouraged by the model of local industry promotion: the South Sulawesi Provincial Government is preparing a draft of new regional regulation for provincial industrial development plans, which will be issued in June 2017; and at around the same time, establishment of a new special team for local industry promotion is scheduled.

<Evaluation Result>

In light of the above, through the project, targets set in indicators for Project Purpose were achieved by the time of project completion, the project effects have been partially maintained since project completion, and the degree of achievement of Overall Goal is high at the

[1] Members of Forum Diklat South Sulawesi: RETPC, Education and Training Centre for Cooperative and SMEs (BDKUKM), Education and Training Centre for Industry (BDI), Education and Training Agency for Textile and Metal Products (BPTT), and Education and Training Agency for Industry and Agriculture Products (BPHIP)

[2] At the same time, the implementing agency commented that many of local industries in South Sulawesi are facing lack of supply of good raw material problem, for example, with passion fruits and chocolate industries, due to climate change.

time of ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The system, where the concerned stakeholders could collaborate for product/market development utilizing locally available resources according to the needs of local industry producers, is established.	1. Strategic plan is implemented under appropriate institutional arrangement.	Status of the achievement: achieved (partially continued) (Project Completion) "Vision for Local Industry Facilitation in South Sulawesi" was prepared in 2010. Following the vision in principle, the Regulation of Provincial Governor on Local Industry Development through Creation of South Sulawesi Brand was enacted in 2011. The special team for implementation of the strategic plan was organized in 2011. (Ex-post Evaluation) South Sulawesi brand creation has continued, and the Regulation of Provincial Governor on Local Industry Development through Creation of South Sulawesi Brand has been effective. However, the special team is no longer functioning and the antenna shop established under the project was closed.
	2. The Plan in line with the needs of producers is formulated in collaboration with relevant training institutional system.	Status of the achievement: achieved (continued) (Project Completion) As outputs of Internal Training, five training institutions established the standard of demand based training, and they formed a network, which was authorized as "Forum Diklat South Sulawesi" in 2012. Annual Plan for implementing External Training courses was prepared every year since 2009. (Ex-post Evaluation) Communication and collaboration among members of Forum Diklat South Sulawesi have continued. An annual plan for implementing External Training courses has been prepared every year, and various trainings for local industries and small and medium enterprises were conducted for five times in 2015 and ten times in 2016. TNA has also continuously been conducted.
	3. Marketable products are developed and continuously improved.	Status of the achievement: achieved (continued) (Project Completion) Five commodities (cacao, passion fruit, silk, marble craft as the priority commodities of this project, and seaweed as the additional commodity later identified by the initiative of the Indonesian side) were selected, and various training and marketing promotion activities were conducted. (Ex-post Evaluation) Continuous improvements were observed in all of the five targeted commodities.
(Overall goal) Manufacturing of local resource is accelerated through strengthening of sectoral and regional linkage and the value of the products is improved.	1. Branded local commodities expand besides the priority commodities of the Project.	(Ex-post Evaluation) achieved Seaweed products and packaged sea products such as fish have become branded local commodities.
	2. Area of local industry development expands besides the target areas of the Project.	(Ex-post Evaluation) achieved Central Sulawesi Province has adopted the model of local industry development as developed in South Sulawesi.

Source: Project Completion Report and interview with Industry Office, Bappeda and RETPC of South Sulawesi Province

3 Efficiency

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

4 Sustainability

<Policy Aspect>

RPJPN (2005-2025) is still effective. RPJMN (2015-2019) and RPJMD of South Sulawesi (2014-2019) state the needs for local industries development. The Government Regulation No. 14 of 2015 on National Master Plan on Industry Development also shows government support to enhance local industry.

<Institutional Aspect>

For planning and implementation of local industry promotion policies, Industry and Trade Office of South Sulawesi Province was separated into two independent offices; Trade Office and Industry Office, in January 2017, in order to promote local industry development as well as to be consistent with the central government structure. Regarding development and improvement of marketable products, as stated above, the special team, which was expected to perform the central role in branding promotion after project completion, is no longer functioning, and a new special team that is planned has not been in place at the time of ex-post evaluation. Accordingly, it is not clear whether there is sufficient number of personnel for promotion of local industry.

As for training services provision, five training institutions have belonged to "Forum Diklat South Sulawesi", which is sufficient as the number of members of the training network, as the Forum is consisted of all training institutions necessary for implementation of trainings related to development of local industry in the region.

<Technical Aspect>

At the time of ex-post evaluation, many C/Ps have retired, been transferred to other positions or moved to other provinces, and as stated above, the special team is no longer functioning. Thus, the technical skill level of implementing agencies for policy planning/implementation and support for commodity development/promotion could not be maximized. Regarding training services, on the other hand, skill level of members of "Forum Diklat South Sulawesi" is sufficient to implement External Training courses, as they evaluate the whole training activity based on participants' feedback in the end of each training program, and the result is always satisfactory, which in turn means that they meet participants' expectations. Internal trainings for members in the Forum are regularly and independently conducted by each institution in the Forum based on their necessities at least once a year. The skill level of local producers of four priority products (cacao, passion fruit, silk and marble craft), which were originally targeted by the project, is also sufficient to continue product

diversification and improvement at the time of ex-post evaluation, as good quality of products have been observed and diversifications have been made, which is reflected in increasing number of products sold.

<Financial Aspect>

Budget for the special team is no longer available, as the team is not functioning at the time of ex-post evaluation. On the other hand, budget allocated for training institutions is sufficient[3], as External Training courses have been implemented with sufficient quality meeting participants' expectations.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the implementing agencies. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project, targets set in indicators for Project Purpose were achieved by the time of project completion. Although some of the achievements of the project have not been fully maintained since project completion, majority of the achievements have continued, and the degree of achievement of the Overall Goal is high at the time of ex-post evaluation. As for sustainability, some problems have been observed in terms of the institutional, technical and financial aspects, however, it was confirmed that the system, technical skills and budget allocated for implementation of External Training courses are sufficient. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

1) In order to expand sales channel of developed products, alternative options to operating antenna shop, such as renting a part of space in existing shops, should be considered. To increase revenue, on-line shopping should also be considered.
2) Industry Office should encourage producers to utilize raw material in efficient and effective manner so that the effects of the climate change are minimized.

Lessons learned for JICA:

1) When a project is to create a team (working unit) and expects it to keep functioning after project completion, in order to avoid problem of weakening of performance of the team due to rotation and retirement of members over time, JICA could suggest the implementing agency/agencies that the duty assignment letter shall appoint the members by their institutional duties, not by their names or personal duties, so that the concerned organizations can assign another staff in place of the initial member who is retiring.
2) In this project, the antenna shop was closed due to limited budget provided by central government, and the provincial government could not maintain the budget of the antenna shop for long time due to imbalance between income and rent cost. When a local industry development project assists sales expansion of products, it could be considered to involve the private sector to enhance financial sustainability. Also, on-line shopping can be considered to increase income.

Examples of high quality products of cacao / chocolate industries as result of JICA's Project Training

Examples of High Quality of Passion Fruits syrup as result of JICA's Project Training

[3] The amount of budget allocated to RETPC was 575 million IDR in 2013, 640 million IDR in 2014 and 488 million IDR in 2015. Budget data on other institutions was not available.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Indonesia Office: September 2017

Country Name	**Sulawesi Capacity Development Project**
Republic of Indonesia	

I. Project Outline

Background	Since 1999, Indonesian political system had been decentralized. Enactment of Laws No. 25 and No. 32 of 2004 regarding development planning system and regional autonomy respectively indicated that national development planning should be implemented by central, provincial, and district/city governments based on the roles and functions as prescribed in the aforesaid laws. In the above decentralization policy, the provincial governments were expected to play a role as a coordinator and intermediate policy channel in a new bottom-up policy process to district/city governments. While maintaining consistency with national development plan was required for provincial governments. For district/city governments, on the other hand, their role was to execute bottom-up regional development planning and implementation reflecting communities' needs. However, the capacity of local governments in preparation and implementation of development plans was not sufficient. Under such circumstances, 6 provincial governments of Sulawesi requested to JICA to support them to promote regional development based on local governments' initiative in 6 provinces in Sulawesi.
Objectives of the Project	Through trainings on regional development planning for policy makers, local government staffs and community facilitators*, supporting pilot activities and establishment of dissemination mechanism of the project outcomes, the project aimed at strengthening capacity of stakeholders for regional development in Sulawesi and development of mechanisms** of collaboration among stakeholders, thereby contributing to promotion of regional development in Sulawesi with local initiative under the collaboration of stakeholders. 1. Overall Goal: Regional developments in Sulawesi with local initiative under the collaboration of stakeholders are promoted. 2. Project Purpose: The capacity of stakeholders for regional development in Sulawesi is strengthened and the mechanisms of collaboration among stakeholders are developed. (Note) *"Community facilitators" are trained by the project in order to facilitate participatory planning for regional development with local initiative. **"Mechanism" means a process of provision and utilization of resources for regional development based on discussion and coordination among stakeholders.
Activities of the project	1. Project Sites: 29 districts/cities in 6 provinces in Sulawesi (South Sulawesi, Southeast Sulawesi, West Sulawesi, Central Sulawesi, Gorontalo, North Sulawesi) 2. Main activities: 1) training on regional development planning for policy makers, staff in planning section of local governments and community facilitators, 2) supporting pilot activities by collaboration among stakeholders, 3) sharing experience of good practices, 4) establishment of dissemination mechanism of the project outcomes, etc. 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 11 persons (Long-term expert: 4 persons, short-term expert: 7) 2. Trainees received: 59 persons 3. Equipment: 6 vehicles Indonesian Side 1. Counterpart personnel: 24 persons 2. Land and facilities: Project office 3. Local cost: Allocation of counterpart personnel

Ex-Ante Evaluation	2007	Project Period	September, 2007 – September, 2012 (Extension period: September, 2010-September, 2012)	Project Cost	(Ex-ante) 380 million yen (Actual) 690 million yen
Implementing Agency	Ministry of Home Affairs (Center for Management of Overseas Cooperation) BAPPENAS (National Development Planning Board), Directorate of Regional Development) BAPPEDA (Regional Development Planning Board) in 6 Provinces in Sulawesi				
Cooperation Agency in Japan	Nihon Fukushi University				

II. Result of the Evaluation

1 Relevance
<Consistency with the Development Policy of Indonesia at the time of ex-ante evaluation and project completion> The project was consistent with the Indonesia's development policy of "the Mid-Term National Development Plan (RPJMN 2005-2009) (RPJMN 2010-2014)" prioritizing reduction of regional disparities and involvement of communities in development process for inclusive and equitable development. <Consistency with the Development Needs of Indonesia at the time of ex-ante evaluation and project completion > The project was consistent with the Indonesia's development needs of district governments for bottom up development planning and implementation reflecting communities' needs under the decentralized system which had not changed from the time of ex-ante evaluation and to the project completion. <Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's Country Assistance Program for Indonesia (November 2004), prioritizing development of democratic and equitable society, as one of the 3 pillars.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. Seven districts/cities (Wakatobi, Takalar, Pohuwato, Parigi Moutong, Palu City, Mamuju, and North Minahasa) developed the collaboration mechanisms. Namely, more cases than the target value of 6 were developed. Takalar and Wakatobi instituted the Regent Decree in February 2011 and February 2012, respectively. Based on the implementation of pilot activities, training module for capacity development composed of 21 materials including a textbook of institutionalization of the collaboration mechanisms, was developed.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been continued since the project completion. After the project completion, fourteen new cases of the collaboration mechanisms were developed in the target 6 provinces. Several lessons learned identified through collaboration mechanism were confirmed by the field survey of the ex-post evaluation in despite of no documentation. In particular, the importance of function of the Community Facilitators (CFs) introduced by the project in the planning process has been recognized among the target sites. For example, because of the advanced knowledge and skills possessed by the CFs, the local governments in several districts such as Pohuwatu, Wakatobi, Mamuju, and Takalar have been partnering the CFs to assist the pre-Musrenbang and Musrenbang process at the village level[1]. A week before each Musrenbang, CFs provide guidance and awareness to the communities to explore and convey information about the potential, problems and needs based on the facts found in the village. CFs also verify the activities proposed by the community to ensure conformity with the facts found in the villages. CFs facilitate Musrenbang to proceed smoothly, efficiently and effectively. Such a process also creates positive impacts on the plans to be better catered to the needs of local communities.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. By the time of ex-post evaluation, 12 programs were implemented under collaboration among the stakeholders in the target provinces. For example, the Waste Management Program was implemented in Bunaken Island of North Sulawesi Province, won the Millennium Development Goal (MDG) Award by the government of Indonesia in 2013.

<Other Impacts at the time of Ex-post Evaluation>

Some positive impacts by the project have been observed at the time of the ex-post evaluation. CFs and the master facilitators (trainers for CFs) have trained new CFs in all the 6 targeted provinces and have cooperated with various parties such as universities, government, international donors and so on. Also, some CFs were recruited by government institutions and NGOs and have disseminated the approach of the project (the Capacity Development Project (CDP) approach). In addition, the project contributed not only to capacity development of stakeholders but also to enhancement of their confidence in problem solving and their commitment. Furthermore, a foundation entitled the "Community Initiative for Transformation (COMMIT)", a resource bank of master facilitators established by the project, provides services not only for 29 districts and cities in Sulawesi but also for outside of the country, including Afghanistan, Bhutan and Myanmar. No negative impact was observed.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose and the Overall Goal. In addition, the project contributed to enhancement of confidence in problem solving and commitment among the stakeholders and the CDP approach has been disseminated by CFs. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The capacity of stakeholders for regional development in Sulawesi is strengthened and the mechanisms of collaboration among stakeholders are developed.	(Indicator 1) Six (6) cases of mechanisms of collaboration among stakeholders are developed in the target area through implementation of project activities. (At least three (3) cases of the mechanisms of collaboration among stakeholders, which can be replicated/introduced for the entire district levels are established and documented. In other three (3) cases, lessons learned on the process and outcome of the established collaboration mechanisms through pilot activities are drawn and documented.)	<u>Status of the achievement: Achieved</u> (Project Completion) ● 7 districts/cities developed the collaboration mechanisms. ● 2 of them (Takalar district and Wakatobi district) instituted the Regent Decree in February 2011 and February 2012, respectively. ● Through implementation of pilot activities, capacity development module for the collaboration mechanism composed of 21 materials was developed. (Ex-post Evaluation) Continued ● 14 new cases of the collaboration mechanisms established were documented and disseminated among the CDP stakeholders. ➢ North Sulawesi: 3 cases ➢ Gorontalo: 3 cases ➢ Southeast Sulawesi: 2 cases ➢ West Sulawesi: 2 cases ➢ Central Sulawesi: 2 cases ➢ South Sulawesi: 2 cases

[1] Musrenbang (Musyawarah Perencanaan Pembangunan) is originally a concept to create democracy in planning through local participatory. Musrenbang briefly defined as a forum at a community or a village level, for every actor and stakeholder to formulate the development program. Pre-Musrenbang is a preparatory process before actual Musrenbang, including identification of needs of communities, dissemination of Musrenbang process to community people, and so on.

(Overall goal) Regional developments in Sulawesi with local initiative under the collaboration of stakeholders are promoted.	(Indicator 1) Number of regional development programs/projects planned and implemented under stakeholders' collaboration.	Status of achievement: Achieved. (Ex-post Evaluation) ● 12 programs were implemented under stakeholders' collaboration. ➢ SMART[2] Movement of Village Building in North Mamuju Regency ➢ Land improvements activities after landslides in Petapa Village, Parigi Moutong District of Central Sulawesi Province ➢ Klabat Lestari Program (program of environment conservation for Mt. Klabat) in Northern Minahasa ➢ A CF took an initiative to empower young people around the mines in Gunung Pani to institute and conduct awareness to the miners who allegedly damaged the environment in Pohuwatu District, Gorontalo Province ➢ Assistance to the Commission for Child Protection ➢ Preservation of mangrove ➢ Monitoring and evaluation of programs of social economy ➢ Waste Management Program in Bunaken Island, North Sulawesi Province ➢ Motika indigenous forest restoration ➢ Cacao industry development program, a collaboration among the Burung Indonesia, Gorontalo State University, the University of Gajah Mada, village authorities and the district government (BAPPEDA, Agricultural Extension Department, Animal Husbandry Department and the Department of Industry) ➢ Curriculum preparation for Local Environmental Program, collaboration among Burung Indonesia,[3] BAPPEDA, Chairman of BP Das Randangan (Management center of water catchment area of Randangan), Chairman of Community mangrove conservation group, Education Department of Pohuwatu, BKSDA (Office of Conservation and Natural Resources Agency of Pohuwatu) and Forestry Department of Pohuwatu ➢ Prevention of coastal erosion in Sombano Village of Kaledupa Island

Source : Terminal Evaluation Report (2102), Interviews and questionnaire survey for Ex-Post Evaluation (2016)

3 Efficiency

The project period and the project cost significantly exceeded the plan (ratio against the plan: 167% and 182%, respectively). The project period was extended since the terminal evaluation conducted in July 2010 pointed out the necessity of additional project period to achieve the Project Purpose, to organize human resources in order to sustain technical support provided by the project and to prepare for dissemination of the CDP approach to other areas than Sulawesi. As a result, additional activities were implemented with the additional inputs and the additional inputs produced additional outputs such as more master facilitators trained (from 13 to 58), more organizations established or strengthened through pilot activities (from 20 to 54), establishment of COMMIT and so on. The additional project period and cost were appropriate for producing the additional outputs to some extent. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The regional autonomy policy gives freedom to the provinces and districts/cities in creativity and innovation for regional development, including development of the capacity of stakeholders through education, training and study visits to other countries. (The Law No. 25 Year 2004 on the National Development Planning System and the Act No. 23 of 2014 on local governments).

Also, each provincial government stipulated the laws to establish collaboration mechanisms introduced by the project. There are following examples: a) the Gorontalo Province Governor Regulation No. 30 Year 2013 on the "Establishment of Organization and Procedure of Technical Implementation Unit of Development Agency of the Province of Gorontalo" for establishment of organization which is responsible for coordinating, facilitating, monitoring and evaluation of development cooperation with international, national, regional and local partners in Gorontalo Province, b) the Takalar Regent Regulation No. 05 Year 2011 on the collaboration mechanism for community development movement of coastal and small islands (GERBANG P2K) aiming at encouraging self-reliance of local communities to accelerate poverty alleviation in coastal areas and small islands, and c) the Wakatobi Regent Regulation No. 1 Year 2012 on collaboration mechanisms and systems of Regional Development Planning based on local community initiatives.

<Institutional Aspect>

[Provincial Level]

Only in Gorontalo, the provincial government formed the Technical Implementation Unit of Development Agency (UPTB) with the same function as the Provincial Implementation Committee (PIC). It was established through the Governor Regulation No. 30 Year 2013 on the Organization and Management of the Technical Implementation Unit of Development Agency (UPTB Kerjasama). The Head of UPTB is a former member of PIC and alumni of Training on Participatory Local Social Development in Japan with sufficient capacity as planner. UPTB is under the coordination of the Provincial BAPPEDA including its budget. Activities that have been implemented from 2013 to 2017 include (1) support for international development cooperation for international partner agencies/ donors, (2) development of regional cooperation plans. UTBP has 8 staffs but the number of staffs has not been sufficient because the posts of the Chairman, administration officer, head of development and training section, head of facilities and infrastructure section have not been filled yet.

In other 5 target provinces, no organization to undertake the function of PIC has been officially formed. Although almost all members of PICs were promoted to other positions, they are still active in planning and implementation of development projects/ programs by

[2] SMART stands for "Sejahtera, Mandiri, and Bermartabat (ekonomi kerakyatan)" or in English "Prosperity (welfare), Independent, and Dignity (based on people power economy). This is an initiative in North Mamuju Regency to alleviate disparity of development among villages/ regions.

[3] National NGO called Wildlife Association

replicating the CDP approach. The provincial BAPPEDAs have regarded the Regulation on Village Facilitation (3/2015) by the Ministry of Villages as provision of substitutes for CFs, thus for sustaining the CDP impacts. This regulation includes facilitation and assistance for villages in improving the capacity, effectiveness and accountability of village governance and development by promoting community initiatives, public awareness and participatory rural development.

[Training]

Trainings for stakeholders on the CDP approach have been conducted in cooperation with local governments to support collaboration mechanisms for regional development in accordance with the decentralization policy in Indonesia. There are 34 master facilitators and 302 training instructors in total in the 6 target provinces. They have continuously delivered trainings on request basis.

[Community Facilitator]

In 2014, the Village Law (UU Desa No.6/ 2014) was enacted, which gave villages political autonomy. Since the fiscal year 2015, the Village Fund was set up and has been allocated in total amount of Rp. 21 trillion to all villages with the aim to accelerate development of villages by financing governance and implementation of development projects. The Ministry of Villages also assigned the Village Facilitators to assist community development especially with effective use of the Village Fund. Due to the assignment of the Village Facilitators, their roles and responsibilities overlapped with CFs are no longer the domain of CFs in many villages. However, CFs still act as facilitators through a variety of national and regional programs in collaboration with universities, district, provincial and central government bodies including training in participatory planning and assisting government staff in development projects. They are still applying and spreading the CDP approach to be continuously implemented.

[COMMIT]

COMMIT with 73 members has supported governmental and non-governmental capacity building in the form of training in CDP approach. For the partners from central, provincial, and district government agencies in implementing “Strategy on replication and sustainability”, COMMIT provides; a) resource persons/ facilitators for training including training for new resource persons or facilitators; b) quality control for training implementation; c) supervision and assistance in implementation of “Strategy on replication and sustainability”; d) partners for central and provincial governments in replicating CDP approach. For other potential partners such as donor agencies, NGOs, CSR of private companies, it provides a) Training/ Seminar/ Workshop (Design, implementation, M&E); b) Planning designing and programing M&E; c) Study and documentation of “Good Practices”; d) Publication of lessons learned for community development.

<Technical Aspect>

In terms of provincial level, the staffs of UPTB of Gorontal do not have sufficient level of skills and knowledge about the CDP approach since most of them except the Head of UPTB were not trained through the project activities. The training participants in CDP delivered by the project as well as master facilitators and CFs have been playing an active role in assisting communities and training more CFs with the CDP module, especially in Wakatobi, Pohuwatu, Parigi Moutong, Palu, North Minahasa, Selayar, Mamuju, and Polman. By accumulating more hands-on experiences, their capacity has been further strengthened after the end of the project. The members of COMMIT have sufficient technical skills and knowledge and carried out capacity building and consultancy services for 8 provinces and the training activities in Afghanistan, Bhutan and Myanmar as well as collaboration with other JICA’s projects.

<Financial Aspect>

There is no data available for budget of UPTB and COMMIT. Since UPTB of Gorontalo is one of the agencies under the administration of BAPPEDA Gorontalo, the budget allocation for its operation is provided by BAPPEDA Gorontalo using the national budget (APBD) earmarked for UPTB. The funds for their activities are also given ad hoc basis.

In terms of budget for training related to the CDP approach, it depends on local governments. Some provincial and district governments, such as in Palu, Pohuwatu, Wakatobi, North Minahasa, Parigi Moutong and Selayar, have been funding organization of training for more facilitators and government officials. Some others are also currently planning to hold training to have more CFs like Gorontalo.

COMMIT carried out its activities based on requests. Funding sources are varied among local government, NGOs and Development Partners including JICA.

<Evaluation Result>

In light of the above, there are slight problems observed from the institutional, technical and financial aspects of the implementing agencies. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and the Overall Goal for promotion of regional development under the collaboration mechanisms introduced by the project through the capacity development of stakeholders. As for sustainability, although UPTB was organized as a successor of PIC after the project completion only in Gorontalo, the CDP approach has been sustained and disseminated by the former PIC members and CFs as well as COMMIT. However, neither the number nor the technical level of staffs for UPTB Gorontalo has been sufficient yet. On the other hand, a number of the ex-members of PIC, the community facilitators and the COMMIT members have been playing an active role in assisting the communities and delivering trainings for the government officers and facilitators in order to promote regional development under the collaboration mechanisms introduced by the project. As for efficiency, the project period and cost exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

1. The importance of collaboration mechanism in development planning has been realized by communities in the 29 target districts/ municipalities of the project. There is a need to accelerate dissemination of the CDP approach to other districts/ municipalities so that other areas can enjoy quality planning and shared prosperity, for which, the central and provincial governments have a responsibility and are required to act quickly by sharing the experiences based on the CDP approach at their meetings where government staffs of all the provinces/ districts gather, developing a brochure on the principles and benefits of CDP approach, and publicizing good practices of CDP approach on their websites, etc.

2. Institutionalization of the collaboration mechanisms at higher levels is recommended for accelerating dissemination of the CDP approach (village regulations, which were formulated through the CDP approach and should be reflected in upper level governance, should be upgraded to district regulations, district regulations to provincial governor regulations, and so on). Advocacy to this effect needs to be carried out by members of former PICs, CFs, master facilitators, COMMIT, and training participants of the project.
3. BAPPEDA, as official development planning entity at the provincial and district levels, should document all the processes of collaboration mechanisms that have been implemented. This documentation can be a useful reference of good practices and lessons learned for all stakeholders as guidance and PR tools for all planners in Indonesia as well as other countries. It can also serve to strengthen accountability to the public to ensure the quality of good planning. Such documentation can be shared on the websites of BAPPEDA, COMMIT, and/ or relevant ministries such as Ministry of Villages and Ministry of Home Affairs.
4. In order to promote effective use of the Village Funds, the CDP approach should be integrated into the training for Village Facilitators and consultants hired by the Ministry of Villages. Provincial BAPPEDAs should work together with COMMIT to promote the integration. At the district level, BAPPEDA should facilitate communication between CFs and Village Facilitators so as to exchange experiences and upgrade skills and knowledge, as already been carried out in Pohuwatu.

Lessons learned for JICA:

- Wakatobi has been recognized by all those engaged in the project as the most successful case. The project impacts have been highly sustainable since the CFs are officially positioned as part of the Musrenbang process and still are actively involved in community development planning. It was because the then-Bupati (district head) was selected and trained as master facilitator. Key players of project implementation should include influential persons in different capacities (political, traditional, cultural, religious leaders) in order for successful implementation and stronger sustainability of the projects. For project's stakeholders, it would be ideal if influential persons can be identified and involved from the detailed planning survey stage. However, as and when new influential ones are identified, the project team should make efforts to involve them as part of the key project players in consultation with JICA.
- The project team accelerated their efforts to advocate for legislation of the collaboration mechanisms or the CDP approach during the project period by drawing lessons from the experiences through implementation of the pilot activities. As a result, during the project period, 2 Regent Decrees were instituted in Takalar and Wakatobi. The two districts have continued to collaborate with CFs in community development projects until now. Integration of advocacy to institutionalize project outcomes into the project activities and indicators to verify such effects is crucial in securing sustainability of project effects.
- Out of the 6 target provinces, only 1 province set up a successor organization for PIC. Even the only province could not provide budget nor sufficiently staffed the successor organization. Setting up of a new organization is generally quite complicated, could become political and time-consuming task for governments. The establishment of a new organization for the sole purpose of sustaining a particular project's outcomes is challenging for the government in terms of financing, recruiting and retaining capable personnel. Projects should make use of existing organization structure to manage, supervise and promote its activities so that the same modality can continue without creating new challenges for those tasks even after the project completion.

Successfully revived 'sleeping' land by the Land Improvement Activities after the landslides in Petapa Village, Parigi Moutong District of Central Sulawesi Province

A plant pot made by local people using recycled materials after trained by the Waste Management Program in Bunaken Island, North Sulawesi Province

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Myanmar Office: January 2018

Country Name	**Small-scale Aquaculture Extension for Promotion of Livelihood of Rural Communities in Myanmar**
Republic of the Union of Myanmar	

I. Project Outline

Background	Fish was regarded as one of the most important diet for the Myanmar people since more than 70% of animal protein intake was from fishery products. Annual per capita fish consumption was approximately 44kg (the Fisheries Statistics 2006-2007). It had been reported, however, that people in the rural area suffered from a deficiency of animal protein due to insufficient supply of fish. Although small-scale aquaculture was considered as a potential measure to solve the protein deficiency, the extension services had not been delivered sufficiently due to various reasons such as insufficient number of extension personnel and limited budget.		
Objectives of the Project	Through (1) Study on necessary conditions and techniques on the small-scale agriculture promotion, (2) Extension of small-scale aquaculture, and (3) Practicing of "Farmer to farmer approach" for extension, the project aimed at increasing the number of farmers who implement small-scale aquaculture for livelihood improvement, and thereby contributing to disseminating the small-scale aquaculture. 1. Overall Goal: Small-scale aquaculture for improvement of livelihood is disseminated in Ayeyarwady and Bago Regions and Kayin State, and extended in other less developed areas. 2. Project Purpose: Number of the farmers who are implementing small-scale aquaculture for the improvement of their livelihood is increased in the target townships.		
Activities of the project	1. Project site: Five target townships from Ayeyarwady and Bago Regions and Kayin State (Yae Kyi and Kyaung Kone in Ayeyarwady Region, Letpandan and Pyay in Bago Region and Paan in Kayin State) 2. Main activities: (1) Study on necessary conditions and techniques on the small-scale agriculture promotion, (2) Extension of small-scale aquaculture, and (3) Practicing "Farmer to farmer approach" 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 7 persons 2) Trainees received: 17 persons 3) Equipment: Motorcycles, Tractors, Generator, Water Pump, Grass cutter, Air Compressor, Fish net for seed/ fish and others 4) Local Expenses: Daily operational costs, pond/paddy construction costs, training course, field surveys, , office equipment, etc Myanmar Side 1) Staff allocated: 8 persons 2) Provision of project office		
Project Period	June 8, 2009-June 7, 2013 (Extension period: June 8, 2012-June 7, 2013)	Project Cost	(ex-ante) Approximately 230million yen, (actual) 268 million yen
Implementing Agency	Department of Fisheries(DOF), Ministry of Livestock and Fisheries		
Cooperation Agency in Japan	FISHERIES & AQUACULTURE INTERNATIONAL CO., LTD.		

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Myanmar at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Myanmar's development policy. At the time of ex-ante evaluation, the 4th economic plan (2006-2010) prioritized expansion of aquaculture, improvement of socio economic conditions of rural (fishing) communities and others. At the time of project completion, the policy framework such as "The National Management Policies of Ministry of Livestock, Fisheries & Rural Development" (FY2013-FY2015) and "Rural Development and Poverty Alleviation Action Plan" (FY2011-FY2015) had guided to secure fish food production, to support the livelihood of the farmers and rural people, and to expand freshwater aquaculture.

<Consistency with the Development Needs of Myanmar at the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with Myanmar's development needs for small-scale aquaculture. At the time of ex-ante evaluation, more than 70% of animal protein intake was from fishery products for people of Myanmar, and therefore, fishery products were highly valuable protein sources for them. Per capita annual fish consumption was 44 kg at the ex-ante evaluation. At the time of project completion, it was reported that per capita annual fish consumption as of 2014 was 61kg, which was more than that of 2009. Therefore, fish continued to be an important animal protein sources for the people of Myanmar.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA Policy to Myanmar[1] at the time of ex-ante evaluation. Basic policy of ODA to Myanmar was "to implement projects which are urgently needed, and needed from the humanitarian aspect". The project was consistent with the humanitarian aspect as follows: (1) improvement of nutritious status and livelihood of small-scale farmers is consistent with the "humanitarian support", (2) Humanitarian support was needed for cyclone struck Ayeyarwady Region, and (3) Support for Kayin State is consistent with humanitarian support (ethnic minorities).

<Evaluation Result>

In light of the above, the relevance of the project is high

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The project purpose was achieved by the time of project completion as an indicator set to measure the achievement of the project

[1] ODA Data book 2008

purpose “Number of small-scale farmers/groups that newly started aquaculture through the project activity become more than 100.” (indicator 1) was attained.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the project was completed, the effects of the project have partially continued, although no clear data was available, since DOF does not owe responsibility to collect data on the number of farmers doing small-scale aquaculture. In Myanmar, a pond whose size is less than 0.25 acre, which is generally regarded as suitable for small-scale aquaculture, is not subject to registration by DOF and therefore DOF does not keep a record.

However, through interviews with the DOF township offices, core farmers and general farmers, it was confirmed that farmers still continue small-scale aquaculture in the target townships except for Yae Kyi and Kyaung Kone in Areyawarddy Region. Farmers who continue small-scale aquaculture mentioned that before the project, it was difficult for them to catch fish from natural pond or river/stream even in rainy season (e.g. for the reasons of (i) availability of fish in natural pond or river/stream and (ii) access to natural pond or river/stream), however, after the project, farmers can get fish regularly except for dry season. In case of Yae Kyi and Kyaung Kone, most of the farmers who had implemented small-scale aquaculture during the project stopped their activity. The farmers and DOF officials mentioned that there was little positive impact in doing small-scale aquaculture since farmers in the two townships were able to catch wild fish from natural pond or river/stream and eat or sell fish. Some farmers somehow continued activities in Yae Kyi and Kyaung Kone to explore more adequate method and technique for small-scale aquaculture which were envisaged as a potential measure to improve the livelihood through getting/producing more fish in the two townships.

As to the activities of the core farmers, although most of the core farmers do not keep proper record on seed production, they generally mentioned that they continued seed/ fingerlings (juvenile fish) production and sold them to general farmers (except in Yae Kyi and Kyanung Kone). Although they do not organize regular training courses, they provide ad-hoc technical advices for the general farmers when requested.

About the livelihood, based on interviews to both of core farmers and general farmers, it is observed that generally, there are positive effects on their household income and fish consumption after starting small-scale aquaculture (except in Yae Kyi and Kyanung Kone). According to interviews with two core farmers, they get additional 200-250 USD annual income after the project. 10 general farmers mentioned that they generally earned additional 50-300 USD annual income and which is equivalent to additional 5-20% increase on their annual household income. As to the nutritious condition, according to anecdotal interview to general farmers, on average, a household eat additional 8-16 kg of fish per month in harvesting period.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The overall goal is partially achieved. According to interview to DOF and the core farmers, it is likely that the more than 300 number of farmers are doing small-scale aquaculture. However, while there are many small-scale aquaculture farmers in Bago Region, the number of small-scale aquaculture farmers is limited in Ayeyawarddy Region. Also, it remained unknown whether the small-scale aquaculture is disseminated to other less developed areas or not. Therefore, although the indicator 1 for overall goal is achieved, it is not confirmed whether small-scale aquaculture is spread the target Regions/State as a whole, nationwide or not, as data of the indicator 2 was not obtained.

<Other Impacts at the time of Ex-post Evaluation>

Some villagers delivered positive comments for gender perspective. Specifically, women are now actively involved in cultivating fish and have big voice on fish; women can be involved in decision making on how many fish should be sold to market and how many should be consumed in house. After the training offered to not only men but also women during the project, women acquired knowledge and technique and therefore became to play a key role for small scale aquaculture. It is observed that, since small-scale aquaculture is not feasible without women, women became to get more involved in decision making.

No land acquisition and resettlement occurred under this project, and no negative impacts on natural environment were observed.

<Evaluation Result>

In light of the above, through the project, the project purpose was achieved at the time of project completion, the project effects partially continued, and overall goal is partially achieved. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Number of the farmers who are implementing small-scale aquaculture for the improvement of their livelihood is increased in the target townships.</td><td>Indicator 1: Number of small-scale farmers/groups that newly started aquaculture through the project activity become more than 100.</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion)
[The number of pilot and encouraged farmers in five townships]
<table>
<tr><th>Township</th><th>Individual farmers</th><th>Farmer groups</th><th>Total</th></tr>
<tr><td>Yae Kyi (Ayeyarwady Region)</td><td>5</td><td>3</td><td>8</td></tr>
<tr><td>Kyaung Kone (Ayeyarwady Region)</td><td>6</td><td>0</td><td>6</td></tr>
<tr><td>Letpandan (Bago Region)</td><td>90</td><td>6</td><td>96</td></tr>
<tr><td>Pyay (Bago Region)</td><td>31</td><td>2</td><td>33</td></tr>
<tr><td>Paan (Kayin State)</td><td>16</td><td>6</td><td>22</td></tr>
<tr><td>Total</td><td>148</td><td>17</td><td>165</td></tr>
</table>
(Ex-post Evaluation)
Clear data was not available, and there is difference among townships. In Yae Kyi and Kyaung Kone in Ayeyawarddy Region, most of farmers who had implemented small-scale aquaculture during the project stopped their activity. It was observed that farmers still continued small scale aquaculture in other area although clear data was not available.</td></tr>
<tr><td>(Overall Goal)
Small-scale aquaculture for improvement of</td><td>Indicator 1: Number of farmers who are implementing small-scale aquaculture in the target areas become more than 300 farmers.</td><td>Status of the Achievement: achieved
(Ex-post Evaluation)</td></tr>
</table>

livelihood is disseminated in Ayeyarwady and Bago Regions and Kayin State, and extended in other less developed areas.		[Total (cumulative) number of farmers implementing small-scale aquaculture]

Township	2013 (Project completion)	2014	2015	2016
Yae Kyi	8	N/A	N/A	2
Kyaung Kone	6	0	0	0
Letpandan	96	N/A	N/A	200-250
Pyay	33	N/A	N/A	More than 100
Paan	22	N/A	N/A	17
Total	165	N/A	N/A	Around 350

Indicator 2: Farmers in the other townships adjacent to the target townships start implementing small-scale aquaculture.	Status of the Achievement: not achieved (not verified) (Ex-post Evaluation) No data is available.

Source : JICA internal documents, questionnaire and interviews with DOF in the targeted 5 townships, interviews with 3 core farmers and 10 plus general farmers

3 Efficiency

Both the project cost and the project period exceeded the plan (ratio against the plan: 117%, 133%). The project period was extended one year to strengthen the capacity of the core farmers. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The latest government policies as of ex-post evaluation such as "the Second Short Term Five Year Agriculture Policies (FY2016-FY2020)" and "the DOF's vision" (set in October 2016) continuously specify the necessity and importance of extension of small-scale aquaculture for rural development and therefore small-scale aquaculture will be continuously highlighted by the government policy.

<Institutional Aspect>

DOF has the "Aquaculture Department", but there is no particular department/office/staff specialized in small-scale aquaculture, however, the know-how of small-scale aquaculture has been complied in Aquaculture Division, and it has been delivered through responsible staff members who are trained at DOF training institutes. While Region/ State and township offices have officers who owe responsibility for small-scale aquaculture (not specialized only for small-scale aquaculture, though), whether the Aquaculture Department in the central level has a concrete plan to extend/maintain small-scale aquaculture needs to be confirmed.

<Technical Aspect>

According to the interviews with DOF township officers, those who conduct training for farmers on small-scale aquaculture receive prior trainings in DOF Region/ State offices. As to training to farmers, DOF provides support for farmers, specifically technical training, aquaculture manuals and fingerlings (juvenile fish). Since there is an established internal training system, it is observed that DOF has technical capacity for small-scale aquaculture. It was confirmed from all five DOF township that DOF officials utilize the manual for the occasion of (a) trainings to village people and (b) internal training. And based on manuals supported by the project, DOF updates and/or makes new manuals on, for example, conservation of natural environmental for sustainable small-scale aquaculture which were not included in the manual developed under the project.

<Financial Aspect>

DOF did not have specific figures for small-scale aquaculture budget. DOF mentioned that at least 300 million Myanmar Kyat in FY2014 and at least 600 million Myanmar Kyat in FY2015 were respectively approved and spent for small-scale aquaculture. There are rooms for improvement on financial conditions. First, there is no specific budgeting for small-scale aquaculture, and DOF allocates money for small-scale aquaculture when the budget is available. Second, DOF does not clearly grasp the total budget outstanding/necessity for small-scale aquaculture since Region/ State Government (i.e. local government), not central government, often allocate budget for local DOF offices for promotion of small-scale aquaculture. Nevertheless, although the budget is not classified for small-scale aquaculture, DOF has been allocating aquaculture budget annually, and necessary parts are executed for project targeted areas and other potential areas.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agency, such as no clear institutional and financial arrangement for small-scale aquaculture. Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

The project purpose was achieved at the time of project completion, as the number of small-scale farmers/groups that newly started aquaculture through the project achieved the target of "more than 100". The project effects partially continued, as it was observed that the farmers continued small-scale aquaculture except for the target townships in Areyawarddy. The overall goal is partially achieved, as the number of small-scale farmers who started small-scale aquaculture increased. As for the sustainability, there are slight problems in the institutional the financial aspects, though strengths are found in the policy and technical aspects. For the efficiency, both the project cost and the project period exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

DOF, especially Township Offices are recommended to promote data collection and analysis on small-scale aquaculture farmers, for example, the number of small-scale aquaculture farmers, volume of fish production and the revenue/expenditure on small-scale aquaculture. One of the main issues on extension of small-scale aquaculture is that DOF does not grasp ground situations on small-scale

aquaculture since officials of DOF are not instructed to do so. Without knowing ground situations, DOF will not be able to (i) make an effective policy, (ii) allocate adequate budget and (iii) evaluate impacts for/on small-scale aquaculture extension. It may be needed that DOF Township Offices, which are close to individual farmers, are authorized and appointed to collect data on small-scale aquaculture extension.

Lessons Learned for JICA:

When deciding indicators for project evaluation, the indicators should be tangible ones. Specifically, if collecting data is not institutionalized by the project implementing agency, the data will become uncollectable when project experts leave the project. It is necessary to set indicators which could be collectable by the existing institutional structure before starting the project. Also, during the project implementation, if it is found that the collecting the data by the project implementing agency is not institutionalized, the project should provide sufficient support for data collection so that the project implementing agency could collect data by itself.

[A general farmer implementing small-scale aquaculture (In Yaekyi Township, Ayeyawarddy Region)]

A general farmer who received training under the project has now two small ponds for small scale aquaculture. The farmer mentioned that they sell the cultivated fish to local market and their annual net income improved by approx. 10% after starting small-scale aquaculture. The farmer is satisfied with the improved income situation since the farmer can now buy more textbooks, stationaries and other study aids for their children.

[A core farmer engaging in fingerling production (In Pyay Township, Bago Region)]

A core farmer who received training under the project continuously cultivates and sells fingerling (juvenile fish) to general farmers for small-scale aquaculture. The core farmer says the number of farmers for small-scale aquaculture has been increasing in Pyay Township since fish is good source of income and nutrition to farmers. The core farmer continued that volume of fish sales has been rising year by year since the fingerling cultivated in his pond does not easily die thanks to the training under the Project and his fish acquired good reputation in his community.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Viet Nam Office: October 2017

Country Name	**Urban Planning Formulation and Management Capacity Development**
Socialist Republic of Viet Nam	

I. Project Outline

Background	The major cities in Viet Nam had been rapidly urbanizing and rapid population increase by immigration from rural areas caused overt urban issues. In order to attend to the issues generated by urbanization, JICA had provided technical assistance to Viet Nam through a series of urban planning projects. Vietnamese side had much interest in the process and outputs of these studies, and recognized the necessity of introduction of scientific tools and methodologies for urban planning formulation based on the actual data. Thus, Ministry of Construction (MOC) requested Japan a technical cooperation project to strengthen the capacity of officers of local government in charge of urban planning by developing practical manuals and establishing training courses for them. Vietnam Institute for Architecture, Urban and Rural Planning (VIAP) was nominated as the counterpart of the project.				
Objectives of the Project	1. Overall Goal: With the support of the Vietnam Urban Planning Training Center, local government officers of major medium-sized cities acquire knowledge on new urban planning formulation methodology. 2. Project Purpose: The Vietnam Urban Planning Training Center under VIAP is capable to conduct training courses for urban planning method.				
Activities of the project	1. Project site: Hanoi 2. Activities: (1) The project develops urban planning formulation manuals, (2) The project formulates urban master plans for a selected city as a case study to be used to give feedback to manual development, (3) The project develops trainers, (4) The project establishes training courses, (5) The project develops new urban plan management tools, and (6) The project establishes the Vietnam Urban Planning Training Center (VUPTC) 3. Inputs (to carry out above activities) Japanese Side 1. Experts: (1) Long-term expert: 1 person (2) Short-term expert:105.2MM 2.Training in Japan: 33 persons, The Third country training: 1 person 3. Equipment: US$163,917 (office and training equipment) 4. Local cost: 65 million yen Vietnamese Side 1.Staff allocated: 58 persons 2. Land and facility: Office 3. Local cost: unknown 4. Others: Preparation of the training room				
Ex-Ante Evaluation	2008	Project Period	March 2009 to May 2012	Project Cost (Actual)	520 million yen
Implementing Agency	Ministry of Construction (MOC), Vietnam Institute for Architecture, Urban and Rural Planning (VIAP, Currently, Vietnam Institute of Urban and Rural Planning, VIUP)				
Cooperation Agency in Japan	Ministry of Land, Infrastructure, Transport and Tourism, ALMEC CORPORATION				

II. Result of the Evaluation

< Special perspectives considered in the ex-post evaluation >

Although the project planned to establish VUPTC, it was not established, and an existing institution within VIAP (VIUP after the project completion) has been functional to sustain the project effects in lieu of VUPTC. However, this change was not reflected in the PDM. In this context, Effectiveness/Impact is judged by incorporating the degree of achievement of PDM. For sustainability, institutional aspect is judged from a perspective of VIUP's institutional setup considering the fact that VIUP is functional and provides training for local government officials.

1 Relevance

<Consistency with the Development Policy of Viet Nam at the time of ex-ante evaluation and project completion>

The project was consistent with development policy of Viet Nam both at the time of ex-ante evaluation and project completion. At the time of ex-ante evaluation, the 8th Socio Economic Development Plan (SEDP) (2006-2010) aimed at developing socio economic development level in all regions. Formulation and implementation of proper urban planning was deemed the foundation to achieve the objective. At the time of project completion, in the draft of the 9th SEDP (2011-2015), urban development, traffic network construction and infrastructure system development necessary for modern society were positioned to be one of the focus areas.

<Consistency with the Development Needs of Viet Nam at the time of ex-ante evaluation and project completion >

The project was consistent with the needs for urban development in Viet Nam both at the time of ex-ante evaluation and project completion. At the time of ex-ante evaluation, Viet Nam was developing urban planning system, and the modernization of the urban planning management tools so the capacity development met the demands of Viet Nam. At the time of project completion, trend of rapid urbanization and expansion of medium size local cities in Viet Nam remained the same or rather accelerated.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with Japan's ODA policy as urban development was one of the priority areas of the Country Assistance Program to Viet Nam (2004).

<Appropriateness of project design/approach>
Although the project planned to establish VUPTC, it was not established[1], and an existing institution within VIAP (VIUP after the project completion) has been functional in lieu of VUPTC and has sustained the project effects. However, the change of this direction should have been reflected in PDM.
<Evaluation Result>
In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>
The project purpose was partially achieved by the time of project completion. The project aimed at establishing and strengthening the capacity of the VUPTC in order to enhance the capacity of local government officials who are in charge of urban planning in various cities. However, MOC did not approve the establishment of VUPTC, partly because MOC was considering sorting out the demarcation of VIAP and other departments in charge of training under MOC. Instead, VIAP reorganized the existing Center for Training & International Cooperation to Urban Planning Training Center within VIAP to carry out the function of VUPTC envisaged in the project. At the time of project completion, VIAP did not develop an execution plan including budgetary plan in a detailed manner (Indicator 1). As for indicator 2, preparation training room was completed with necessary equipment installation. However, preparation of training materials and development of training course was on going, and it was deemed necessary for VIAP to make the contents of plan of training center clearer in early occasion.
<Continuation Status of Project Effects at the time of Ex-post Evaluation>
After the project was completed, MOC separated the department of architecture from VIAP and turned VIAP into VIUP. MOC thinks that the establishment of a new training center is not relevant for newly- restructured VIUP, both in terms of human resource, finance, and management, as the Urban Planning Training Center is functional. Moreover, the Urban Planning Training Center in particular and VIUP in general have a mission to provide training on urban planning and development for various kinds of trainees, including stakeholders from central, local governments, research institutes, regional officers, designers, consulting service companies.
After the project was completed, VIUP was able to continuously conduct training. The training courses have been conducted every year with the budget of MOC and VIUP itself as well as the financial contribution from participants. The frequency of those training courses is based on the actual demands from stakeholders in urban planning sector, such as local governments, consulting companies, research institutes. Many of the project's outputs have been utilized in formulating the above mentioned training courses. Training materials have been frequently updated, to formulate the most relevant material, properly reflecting the updated problems and suitable to trainees' demands. Further, VIUP has also applied outputs of the project when conducting researches and consulting services. Noticeable is the master plan for the cities of Bac Giang, Phu Ly and Thai Nguyen. All equipment and facilities supplied under the project have been fully used and maintained for training and workshop purposes as well as for the field trips and surveys by VIUP.
The project formulated the master plan for Hai Duong City for case study. After the project was completed, the master plan has been utilized in enhancement of capabilities for staff, experts in urban planning, and urban management of Hai Duong City itself. The methodology of master planning has been also applied to formulate the short term, medium term and long term plans of Hai Duong City in urban design, especially in urban management.
<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>
The overall goal was achieved. Together with training courses implemented during the project period, until May 2016, VIUP has conducted training courses and provided certificates to about 383 batches of trainees, exceeding the original plan of 150 batches of trainees (a trainee can participate in many training courses as long as they are eligible. Each time of participation is counted as one batch.). Approximately 70% of those 383 batches of trainees are from local governments, according to VIUP. Local provinces and cities assign proper staff, experts to participate in training courses.
<Other Impacts at the time of Ex-post Evaluation>
No land acquisition and resettlement occurred under this project, and no negative impacts on natural environment were observed.
<Evaluation Result>
In light of the above, the project purpose was partially achieved at the time of project completion as training capacity was enhanced to some extent, though in the different institutional arrangement from the one originally envisaged. Overall goal was achieved as more than planned trainees were awarded certificate. Therefore, the effectiveness/impact of the project is fair.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The Vietnam Urban Planning Training Center under VIAP is capable to conduct training courses for urban planning method.	Indicator1: An implementation plan on training courses with necessary budget allocation	Status of the achievement: partially achieved (partially continued) (Project completion) VIAP reorganized the Center for Training & International Cooperation to Urban Planning Training Center within VIAP. VIAP still needed to develop an execution plan including budgetary plan in more detail. (Ex-post Evaluation) - The frequency of those training courses is based on the actual demands from stakeholders in urban planning - VIUP's Urban Planning Training Center is in charge of training. In this regard, Training Implementation Plan has been established and formulated by State budget.

[1] There are many factors which prevent VUPTC from being established. Especially, under MOC, there is a training school for construction which had operated for quite a long time. Therefore, the direction of MOC was changed to utilize the existing organization. In addition, there seems to have been a communication gap among Japanese side and Vietnamese side. Whereas Vietnamese side changed their direction to utilize the existing Urban Planning Training Center, Japanese side waited VUPTC to be established. That is why the PDM was not revised appropriately

<table>
<tr><td></td><td>Indicator 2: Establishment of a training system with proper trainers, training rooms with necessary facilities/equipment, and materials for training courses</td><td>Status of the achievement: partially achieved (partially continued)
(Project completion)
Preparation training room was completed with necessary equipment installation. Preparation of training materials and development of training course was on going. It was necessary for VIAP to make the contents of the plan on the training center clearer in an early stage.
(Ex-post evaluation)
- All equipment and facilities supplied under the project have been fully used and maintained for training and workshop purposes as well as for the field trips and surveys by VIUP.
- Trainers who are equipped with new methods by the project apply their knowledge to their work.</td></tr>
<tr><td>(Overall goal)
With the support of the Vietnam Urban Planning Training Center, local government officers of major medium-sized cities acquire knowledge on new urban planning formulation methodology.</td><td>Indicator 1: More than 150 participants received certificate of training courses of Vietnam Urban Planning Training Center</td><td>Status of the achievement: mostly achieved
(Ex-post Evaluation)
VIUP has conducted training courses and provided certificates to about 383 batches of trainees.

Training courses conducted after the project completion
<table>
<tr><td></td><td>2012 (Project completion)</td><td>2013</td><td>2015</td><td>2016 (plan);</td></tr>
<tr><td>Number of training course</td><td>2</td><td>4</td><td>3</td><td>Already implemented: 1
Plan to be implemented: 2</td></tr>
<tr><td>Number of trainees</td><td>80</td><td>150</td><td>270</td><td>Already implemented: 113
Plan to be implemented: 200</td></tr>
<tr><td>Targeted trainees (management at middle level, technical level, senior engineer)</td><td colspan="4">Trainees are local government officials, experts on urban planning, urban design, urban management from research institutes, universities, consulting companies from all over Viet Nam.</td></tr>
<tr><td>Content</td><td colspan="4">Introduction of manuals of urban planning, the Project’s outputs. The specific contents are introduced such as urban design, landscape design, green area design etc.</td></tr>
</table></td></tr>
</table>

Source：JICA internal documents, questionnaires and interviews with VIUP

3 Efficiency

Both project period and project cost exceeded the plan (ratio against the plan: 106% and 130% respectively). There are several reasons for the delay and cost overrun including (i) Assignments of Vietnamese and Japanese experts were delayed as compared with the original schedule, and (ii) Administration procedure within the Vietnamese side and the Japanese side took much time.

Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Project's outputs have been integrated into socio-economic strategic planning. This is in line with mission and solution under Resolution Socio-Economic Development 2016- 2020, which is “Continuously promoting restructure of socio- economic mechanism; linking renovation with development.”

<Institutional Aspect>

The Decision No. 999/QD-BXD dated October 9, 2013 on the re-structure and the rename of VIAP to VIUP has regulated clearly the function, the management and the structure of VIUP. In line with State management on training by MOC, VIUP has the function to organize graduate training in urban planning, to do on-the-job training for local governments, research experts and experts at overall management, experts for consulting services in urban planning, urban design, and urban management. The number of staff of VIUP is 550 and the number of staff who are in charge of coordinating and organizing training courses assigned to Urban Planning Training Center is 7. VIUP has large organization structure, which include 3 main sections, i.e. Research Section, Independence Section, and Dependence Section. The Independence Section and Dependence Section have large number of experts and staff as they earn the income. Urban Planning Training Center (the Center) belongs to Research Section, which merely focus on research and general coordination. For each specific work, the Center will cooperate with related sections to implement the work. With such kind of structure, permanent number of 7 staff for the Center is allocated. Depending on each course’s content, relevant lecturers (mainly from VIUP) are invited. VIUP has been equipped with adequate elements both hardware and software to properly deal with the task of training for urban planning for the whole Viet Nam.

<Technical Aspect>

VIUP has a large number of professional experts in a variety of majors. Those experts have got systematic training and acquired in- depth experience. Notice should be made of the educational background of the staff, such as Associate Ph.D: 1 person, Ph.D: 3 persons, Master: 76 persons, and University graduate: 392 persons. VIUP’s lecturers are those with comprehensive and in-depth knowledge and practical experience for the whole process of urban planning. VIUP has sufficient capacity to manage the training as evidenced by the number of training courses which exceed the plan.

<Financial Aspect>

MOC provides budget for training for VIUP to organize seminars, workshops, and training courses Although information on the detailed budget allocation was not obtained, it is confirmed that VIUP has been able to sustain organizing necessary training courses for local government officials, as shown in Effectiveness/Impact, in accordance with their annual plan with budget provided by MOC and with VIUP's self-mobilized financial resources. Upon additional requests from local government, VIUP can organize more training based on finance contribution from the local governments.

<Evaluation Result>

In light of the above, no problems have been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The project purpose was partially achieved at the time of project completion. The training function of VIUP was strengthened, though in a fashion differently from the project envisaged, as VUPTC was not established. Overall goal was mostly achieved as the capacity of local government officials on urban planning has been strengthened. As for sustainability, no problems have been observed in terms of the policy, institutional, technical and financial aspects. For efficiency, both project period and project cost exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Lessons learned for JICA:

- Project Target/ goal, output: Output 6 for establishing VUPTC has not been realized. That was caused by many uncontrollable factors as above mentioned. On a positive side, the non-existence of this center did not seriously cause harm to the project's success. In replace of this center, VIUP's existing training center has received capacity development and benefits of the project outputs instead and been working very actively, during and after the project's completion to provide necessary trainings for local government officers to meet the original needs. During the project's implementation, the project team has accommodated the situation flexibly and secured project impact in the case that VUPTC may not be established due to external reasons. Hence, it can be said that it was possible to deliver results by a flexible action without adhering to framework of implementation decided before the project had started. However, during the project implementation, especially at the time of mid-term and terminal evaluation, a deep and overall evaluation of whether or not the remaining activities and whether not yet completed targets can be implemented, should be done. If not, whether countermeasures should be provided and when and how such countermeasures to be taken should be contemplated.

Training room equipment

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Ethiopia Office: February 2018

Country Name	**Ethiopian Water Technology Centre (EWTEC) Project Phase III**
Federal Republic of Ethiopia	

I. Project Outline

Background	In Ethiopia, the access ratio to the safe water was 22%, much lower than the Sub Saharan average (58%) (2002). Through the Groundwater Development and Water Supply Training Project (1998-2003) and the Ethiopia Water Technology Centre (EWTEC) Project (2005-2008), JICA supported establishment of EWTEC, operation of training courses and material development based on the research activities. EWTEC came to be known as the center of capacity building for the water resource development and decided to be upgraded to a public institute. Further support was needed for strengthening EWTEC to be a sustainable center which can meet various needs and provide quality training courses.		
Objectives of the Project	By strengthening the training monitoring and evaluation system, improving the capacity of EWTEC personnel for training provision and organizational management, the project aimed at strengthening the ccapacity of EWTEC as a core training center for water supply technicians and engineers, thereby contributing to the increase in the number of skilled human resources to be engaged in groundwater/water supply management for sustainable construction and maintenance of water supply facilities in Ethiopia.		
	1. Overall Goal: The number of skilled human resources who deal with groundwater/water supply management for sustainable water supply construction and maintenance in Ethiopia is increased. 2. Project Purpose: Capacity of EWTEC as a core training center for water supply technicians and engineers of Ethiopia is strengthened. Note: EWTEC was restructured to the Ethiopian Water Technology Institute (EWTI) during the project period.		
Activities of the project	1. Project site: Ethiopia 2. Main activities: Revising training curriculums and materials, conduct of the needs assessment and impact evaluation, developing final exam tests, instructors' database, training of the coordinators and instructors, development of the strategic plan, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts from Japan: 17 persons 2) Training in Japan: 11 persons 3) Equipment: vehicle, PCs, GPS equipment, etc. 4) Operation cost for hiring local consultants, travel expenses, etc. Ethiopian Side 1) Staff allocated: 25 persons 2) Land and facilities: Office space for JICA experts. 3) Operation cost.		
Project Period	January 2009 to December 2013	Project Cost	(ex-ante) 490 million yen, (actual) 687 million yen
Implementing Agency	Ministry of Water, Irrigation and Electricity (Restructured from the Ministry of Water Resources in 2010)		
Cooperation Agency in Japan	Kokusai Kogyo Co., Ltd.		

II. Result of the Evaluation

[Special perspectives of evaluation considered at the ex-post evaluation]

- In PDM, the Indicator 1 of the Overall Goal had been set as "Approximately 6,000 technicians and engineers and engineers among the Regional Water Bureau (RWB), Zonal Water Resource Development Office (ZWRO), Town Water Supply Service (TWSSO), Woreda Water Office (WWO), Government enterprises, Technical and Vocational Education and Training College (TVETC) instructors, private sector (consulting & drilling companies), and NGOs complete EWTEC training." On the other hand, EWTI's Mid-Term Strategic Plan (2013-2015) targeted 2,093 training participants. In the ex-post evaluation, training achievement was compared with the latter target figure. This target figure is considered appropriate from the following reasons: 1) EWTI's commitment shown in the Mid-Term Strategic Plan, and 2) expectation for the strengthened capacity of EWTI on training management based on the project achievement (1,581 training participants during the project period).
- In PDM, the Indicator 2 of the Overall Goal had been set as "Knowledge and skills acquired by trainees are transferred to other colleagues in training participating organizations." However, it is one of the effects which would be brought by the training participants of EWTEC training (Overall Goal), and furthermore, it was expected difficult to collect and examine this information in terms of the quantity and objectiveness. Therefore, this information was interpreted as not the Overall Goal but an expected impact. However, no relevant information could not be collected from the training participants, as it was difficult to contact each of them individually.

1 Relevance

<Consistency with the Development Policy of Ethiopia at the time of ex-ante evaluation and project completion>

The water sector was prioritized in "Ethiopia: Building on Progress – A Plan for Accelerated and Sustained Development to End Poverty" (2005-2009) and "Growth and Transformation Plan (GTP)" (2010-2014). And, increasing the water supply ratio in the rural areas and training the personnel for water supply were targeted in the "Universal Access Programme", which was effective during the project period. Thus, the project was relevant with the development policy of Ethiopia at the time of the ex-ante evaluation and project completion.

<Consistency with the Development Needs of Ethiopia at the time of ex-ante evaluation and project completion >

In Ethiopia, the access ratio to the safe water was as low as 22%, much lower than the Sub Saharan average. Though the Government of Ethiopia implemented programs for water resource development and water supply, there were not sufficient skilled personnel of both public and private sectors. There were needs for capacity building of EWTI at both the time of the ex-ante evaluation and project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

In the Country Assistance Program for Ethiopia (2008), one of the priority areas was "water." Related to this, it was described that two different approaches would be taken for the purpose of securing drinking water for rural villages: development of facilities for water-supply with easy maintenance and building capacity of people to maintain water-supplying facilities. Thus, the project was relevant with Japan's ODA policy at the time of the ex-ante evaluation.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved by the project completion. Through the project activities, EWTEC officers acquired sufficient capacity for training management, though it varied among them (Indicator 2). Certificates issued by EWTEC were well acknowledged in the water sector (Indicator 1), especially that of the drilling technology course, as they became advantageous for getting jobs. In August 2013, EWTEC was officially approved by the prime minister's office and become a public training institute as EWTI, and it started to function as an Assessment Center in the water sector to conduct assessment of candidates for certification of the Ethiopian Occupational Standard (EOS). The draft of the Mid-Term Strategic Plan (2013-2015) was developed and shared with related organizations and donors (Indicator 3). After becoming EWTI, it presented the budget plan to the Ministry of Finance and Economic Development (MFED) (Indicator 4).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have partially continued. EWTI has sustained its position as an official training institute (WASH[1] Training Center of Excellence) and Assessment Center in the waster sector. The Mid-Term Strategic Plan (2013-2015) which was drafted during the project period was officially approved in 2014. When the top management was changed in 2015, the Business Process Reengineering (BPR) was developed for renovating the organizational structure and work process, which was officially approved in 2016. Furthermore, training plans were newly developed in accordance with the GTP II. The training management process was developed based on BPR, from the training needs survey, curriculum revision and design, recruitment of trainees, implementation, to the assessment. Thus, EWTI has provided short-term training courses on groundwater investigation, drilling technology, well rehabilitation and diagnosis, drilling machinery maintenance, among others, for the water sector professionals, instructors and students of TVETCs. It has not conducted long-term courses, because, according to the training needs assessment conducted by EWTI in early 2017, majority of the organizations of the trainees have demanded short-term training courses not long-term courses. Another reason is that the curriculum not only needs to satisfy some criteria such as accordance with EOS and appropriate proportion of the theoretical and practical parts, but also depends much on other organizations' preparation and coordination[2].

Besides, EWTI has started the post-graduate diploma course on meteorology since 2015 and conducted 7 international courses on ground water investigation in 2016.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has not been achieved. Against the target set forth in the Mid-Term Strategic Plan by 2015 (2,093), a total of 656 completed training courses, much less than planned. The reason is, first, that EWTI lacked concrete plans for implementing training courses due to the week managerial structure, even though it had the Mid-Term Strategic Plan. Second, EWTI did not secure skilled instructors and training materials. Third, the recruitment process was delayed and EWTI could not set a sufficient application period. Fourth, there were some organizations which hesitated to send its staff during the work time. No course was conducted in 2013, but since 2014 the number of the training participants has almost doubled each year. One of the promoting factors is that restructured EWTI has developed clearer work process. Another factor is that the facility was expanded to provide training in 7 rooms and receive 240 trainees at the dormitory with EWTI's own budget.

<Other Impacts at the time of Ex-post Evaluation>

It could not be confirmed if the training participants have shared the gained knowledge and skills with their colleagues in the workplace. No other particular impact has been confirmed at the ex-post evaluation.

<Evaluation Result>

In light of the above, the project purpose was mostly achieved and the effects have partially continued. The Overall Goal has not been achieved. However, provision of training courses has been shown an increasing trend after BPR. Therefore, the effectiveness/impact of the project is fair.

Achievement of the Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) Capacity of EWTEC as a core training center for water supply technicians and engineers of Ethiopia is strengthened.	1. EWTEC Certificates are well acknowledged as a technical certification in the water sector.	Status of achievement: Achieved (Continued). (Project Completion) - Certificates issued by EWTEC were well acknowledged in the water sector, as EWTEC become a public institute as EWTI. (Ex-post Evaluation) - EWTI has functioned as an Assessment Center in the water sector.
	2. EWTECs officers have sufficient knowledge to assess needs, plan, coordinate, conduct, and evaluate training activities	Status of achievement: Achieved (Continued). (Project Completion) - EWTEC acquired sufficient capacity to plan, coordinate and evaluate the courses, though, in conducting training; there were needs in capacity building of staff in some courses.

[1] WASH stands for "Water, Sanitation and Hygiene." WASH Program has been implemented nationwide with support of UNICEF and other donors for improving sanitation and hygiene.

[2] Training contents are developed by the related ministries in collaboration with and business sectors and decided by the Federal TVET Agency. Then, curriculum is developed by each training institute.

<table>
<tr><td></td><td></td><td>(Ex-post Evaluation)
- EWTI itself plans and conducts training needs assessment to evaluate current training programs. EWTI developed a training management system, modifying the training coordination system developed by the project. EWTI has introduced new approaches such as the Trainees Record Book, Progress Chart and Evaluation before and after the delivery of training.
- The training management process was renewed based on BPR.</td></tr>
<tr><td></td><td>3. Mid- to Long-term Strategy of EWTEC is approved by MoWIE, and is acknowledged by training participating organizations and donors.</td><td>Status of achievement: Partially achieved (Partially continued).
(Project Completion)
- The draft of the Mid-Term Strategic Plan was developed.
- EWTI was described as a WASH Training Center of Excellence in the final program document of the One WASH National Program launched in September 2013. Responsibilities and strategies were shared with related organizations and donors.
(Ex-post Evaluation)
- EWTI has implemented its activities based on the Mid-Term Strategic Plan which was approved in August 2014 by MoWIE, but training was not conducted as planned. EWTI's BPR including organizational structure, work process and guidelines was approved by the Prime Minister's Office in January 2016.
- EWTI has been positioned as a WASH Training Center of Excellence of the national program.</td></tr>
<tr><td></td><td>4. Financial plan to implement the operational plan of the Strategy is endorsed by MoWIE</td><td>Status of achievement: Partially achieved (Continued).
(Project Completion)
- Under the provisionally appointed director general, an operational plan was prepared and based on this a lump sum budget for 2014/15 was notified to MFED as of November 2013.
(Ex-post Evaluation)
- EWTI's financial plan was approved by MoWIE in 2015.</td></tr>
<tr><td>(Overall goal)
The number of skilled human resources who deal with groundwater/water supply management for sustainable water supply construction and maintenance in Ethiopia is increased.</td><td>1. Approximately 6,000 technicians and engineers among RWB, ZWRO, TWSSO, WWO, Government enterprises, TVETC instructors, private sector (consulting & Drilling companies), and NGOs complete EWTEC training.

Note: The target number of the training participants was 2,093 in the Mid-Term Strategic Plan.</td><td>Status of achievement: Not achieved.
(Ex-post Evaluation)
- The Mid-Term Strategic Plan (2013-2015) targeted 2,093 training participants (1,787 for short-term courses and 306 for long-tern courses). By 2015, there were 656 participants for the short-term courses (following table) but no participants for the long-term training courses.
<table>
<tr><td></td><td></td><td>2013</td><td>2014</td><td>2015</td><td>Total (-2015)</td><td>2016</td></tr>
<tr><td>Number of water sector professionals</td><td>Plan</td><td>52</td><td>305</td><td>610</td><td>967</td><td>NA</td></tr>
<tr><td></td><td>Actual</td><td>0</td><td>153</td><td>207</td><td>360</td><td>452</td></tr>
<tr><td>Number of water TVETC trainees (at regional TVETCs)</td><td>Plan</td><td>120</td><td>200</td><td>320</td><td>640</td><td>NA</td></tr>
<tr><td></td><td>Actual</td><td>0</td><td>50</td><td>228</td><td>278</td><td>268</td></tr>
<tr><td>Number of water TVETC lecturers</td><td>Plan</td><td>18</td><td>54</td><td>108</td><td>180</td><td>NA</td></tr>
<tr><td></td><td>Actual</td><td>0</td><td>18</td><td>0</td><td>18</td><td>72</td></tr>
<tr><td>Total</td><td>Plan</td><td>190</td><td>559</td><td>1,038</td><td>1,787</td><td>925</td></tr>
<tr><td></td><td>Actual</td><td>0</td><td>221</td><td>435</td><td>656</td><td>792</td></tr>
</table>
Note: Target figures for 2016 are based on EWTI GTP II.</td></tr>
<tr><td></td><td>2. Knowledge and skills acquired by trainees are transferred to other colleagues in training participating organizations.</td><td>Status of achievement: To be verified as other impacts.
(Ex-post Evaluation)
- (Thought it was planned to be verified as other expected impact,) it could not be confirmed if the training participants have shared the gained knowledge and skills with their colleagues in the workplace.</td></tr>
</table>

Source: Project Completion Report, Detailed Design Survey Report of the Project for Strengthening Capacity for Training Operation and Management for Ethiopian Water Technology Institute, questionnaire and interview survey with EWTI.

3 Efficiency

Outputs were produced as planned. The project period was as planned (ratio against the plan: 100%), but the project cost exceeded the plan (ratio against the plan: 140%), because JICA experts were dispatched for a longer period than planned in order to support organizational transition of EWTEC to EWTI. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

Water supply is prioritized in the national development plan GTP II which is effective up to 2020. Objectives include increases in the water supply coverage in both rural and urban areas. GTP II also prioritizes capacity building of the personnel in the water sector.

<Institutional Aspect>

At EWTI, under the General Directorate Office, there are 8 Directorates and offices of planning and information management and registration. Among 324 positions, 165 are filled at the time of the ex-post evaluation. EWTI plans to fill vacant posts gradually. According to EWTI, the number of the training instructors is not sufficient in terms of quantity and expertise, and therefore EWTI invites professionals from the private sector and ex-personnel as provisional instructors. And, EWTI makes efforts to prevent the staff turnover, such as providing its personnel with scholarship for their master's or doctor's degree on conditions that they will continue working after the study at least for the same period as the scholarship. BRP defines four core work process of EWTI and one of them is the training. Another core process is related to the support of TVETC and EOS. EWTI's works are evaluated by the federal parliament, Ministry of Finance and Economic Cooperation and MoWIE, since it is an official training institute.

<Technical Aspect>

According to EWTI, its training coordinators and instructors do not have sufficient knowledge and skills to perform their

responsibilities, as they have difficulties in conducting training courses which meet the changing market needs. Training materials developed by the project have been used but need to be revised to match the current training contents. Training equipment and materials are sufficient for some courses, but not for other new courses such as that on water utility management, solid waste management, irrigation, and so on, due to the budget limitations. To solve this issue, EWTI collaborates with TVETCs, private companies and other organizations for using their facility and equipment for the training purposes. The database of the external instructors developed by the project is not used, but the reason was not verified at the ex-post evaluation. For further capacity development, EWTI and JICA have implemented the Project for Strengthening Capacity for Training Operation and Management for Ethiopian Water Technology Institute to strengthen EWTI's capacity for training management and implementation including training of the lecturers (2017-2020).

<Financial Aspect>

The budget source of EWTI is the allocation from the federal government. The budget has been increasing (15 million ETB in 2015, 30 million ETB in 2016 and 55 million planned in 2017), and it has been sufficient for conducting most training courses, as EWTI has collaboration with TVETC and private companies, according to EWTI. On the other hand, some training courses lack sufficient equipment and materials due to the budget shortage. Besides the budget from the government, EWTI has got financial support from the King of Morocco Foundation for construction of the water quality laboratory.

<Evaluation Result>

In light of the above, problems have been observed in terms of the institutional, technical and financial aspects of the related organizations. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project activities, EWTEC strengthened its capacity as a training center for technicians and engineers in the water sector. It was upgraded to EWTI, an official training institute, and has sustained its functions. EWTI has conducted training courses, but not to the extent targeted in the plan by 2015 developed during the project period. Regarding the sustainability, EWTI faces issues of shortage of the budget and personnel including instructors. However, since the change of the top management, EWTI has renovated the organizations structure and work process and the number of the conducted trainings has been on an increasing trend. As for the efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be partially satisfactory.

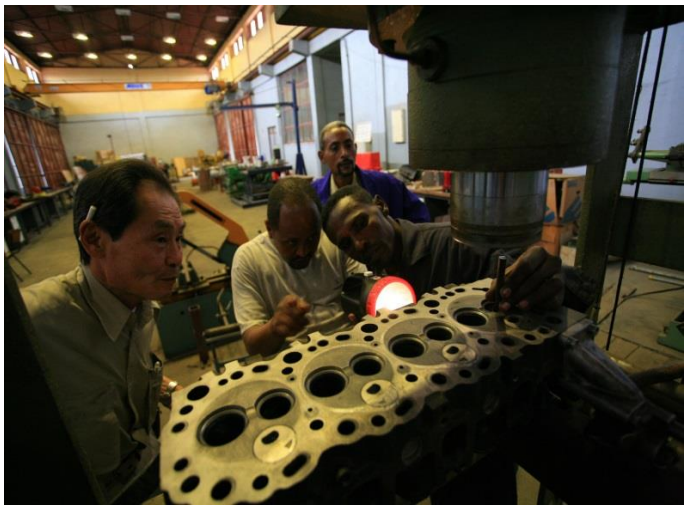
III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

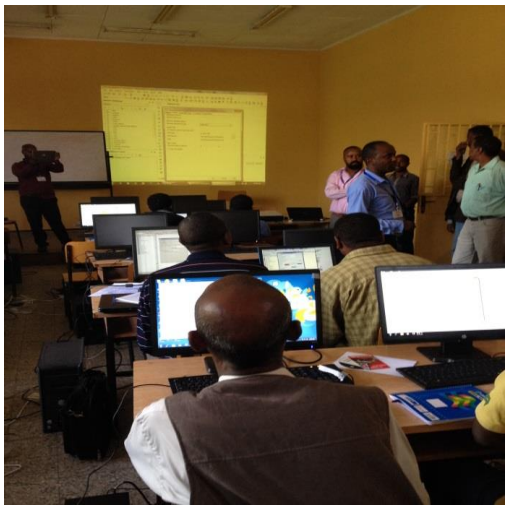
-It is recommended to EWTI to assess the market needs to revise the training curriculum as an activity of the ongoing project.

Lessons learned for JICA:

- After EWTEC was grown to EWTI, the draft of the Mid-Term Strategic Plan was prepared in alignment with GTP by the project completion (2013). The draft was approved after the project completion (2014), but most of the planned trainings were not implemented, mainly due to week top management and high staff turnover. After that (2015), GTP was revised to GTP II and the top management of EWTI was changed, which was followed by the revision of training plans as a fresh start. In case the project is completed right before the preparation of the succeeding national development plan, the project should collect information on the future direction of the succeeding national development plan with the implementing agency and even higher up ministries on the possible revision of the national policies and the implementing agency's strategy from the early timing so that they could be reflected in the plan of the implementing agency for its sustainable use.



Trainee's at EWTI workshop (Practical session)



Trainee's at EWTI class room (Theoretical session)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Cuba Office: December 2017

Country Name	**The Project for Capacity Development on Groundwater Development and Management for Climate Change Adaptation** **(El Proyecto de Mejoramiento de la Capacidad de Desarrollo y Manejo del Agua Subterránea para le Adaptación al Cambio Climático)**
Republic of Cuba	

I. Project Outline

Background	In Cuba, annual rainfall was 1,375mm., the total annual available water volume, including surface water and groundwater, was 24.0km^3 (data in 2001 by the National Institute of Water Resources (INRH: Instituto Nacional de Recursos Hidáulicos) and the annual available amount of water per person was 2,239m^3 (the Water Supply and Swage Corporation (GEARH: Group Empresarial de Acueductos y Alcantanrillados)). According to the INRH's data, the actual water consumption per person in 2000 was 1,295m^3 and 64% of the water consumption came from surface-water. However, the annual rainfall has been less than the average over the years and the lowest annual rainfall was recorded in 2004 for the first time since the rainfall observation started in 1931. In particular, in 5 provinces in the eastern region, the water supply capacity became seriously deteriorated: water supply by water tank trucks and water supply restrictions became normalized due to the limited annual rainfalls lower than the average for the several consecutive year and the lowered total water storage in dams to 36% of the capacity. For the 5 provinces, there was another reason: the proportion depending on surface water was high as 90% because aquifers in shallow layers were limited. In response to the situation, INRH was considering expansion of groundwater utilization from deep layers. However, since INRH did not have sufficient knowhow about geophysical exploration techniques and potential groundwater assessments to properly develop, manage and preserve groundwater in deep layers (under 200m), the government of Cuba requested the government of Japan a technical cooperation project on enhancement of capacities of maximizing geophysical exploration techniques and the exploration's results as well as groundwater management using numerical models.
Objectives of the Project	Through delivery of trainings on geophysical exploration, groundwater models and the Geographic Information System (GIS) as well as conducting various surveys including geophysical exploration in the model sites, the project aimed at enhancing INRH's capacity for groundwater development and management, thereby contributing to proper utilization of groundwater in the eastern region. 1. Overall Goal: Groundwater is properly used for water resources utilization in the eastern region. 2. Project Purpose: INRH (including GEIPI and GEARH)'s capacity of groundwater development and management are improved. *GEIPI (Grupo Empresarial de Investigaciones, Proyectos e Ingenieria): the Investigation, Planning and Engineering Corporation, GEARH (Grupo Empresarial de Aprovechamiento de Recrusos Hidráulicos): the Water Supply and Swage Corporation
Activities of the project	1. Project site: (Model Site) Sola area in Camaguey province, (Site for establishment of GIS) Provinces of Holguin, Las Tunas and Camaguey 2. Main activities: 1) Development of a training plan for core instructors and preparation of training materials on each training (geophysical exploration, groundwater models and GIS), 2) Implementation of geophysical exploration, hydro-meteorological investigation, ground-surface/hydrogeological investigation and others in model sites, 3) Delivery of On-the-Job trainings (OJT) for GIS design on water resources, delivery of trainings for staffs of GEARH and the Directorates Watershed Management and the Directorate of Water Supply Works of INRH on geophysical exploitation and groundwater assessments and management based on groundwater models, 4) Delivery of trainings on geophysical exploration, groundwater models and GIS by the core instructors trained by the project. 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 11 persons 2. Acceptance of trainees in Japan: 5 persons 3. Equipment: Electromagnetic prospecting instruments, Well logging machines, Water quality checker, equipment for geophysical exploration and pumped water trials, GIS software, PC, vehicles, and so on. 4. Others: Cost for local consultants (test excavation) Cuban side 1. Staff allocated: 28 persons 2. Land and Facilities: Office space for the Japanese experts 3. Local Cost: Cost for drilling of observation wells, fuel cost and costs for trainings

Ex-Ante Evaluation	2008	Project Period	September 2008 – February 2012	Project Cost	(Ex-ante) 240 million yen (Actual) 245 million yen

Implementing Agency	the National Institute of Water Resources (INRH), the Investigation, Planning and Engineering Corporation (GEIPI), the Water Supply and Sewage Corporation (GEARH)
Cooperation Agency or Contract Agency in Japan	KOKUSAI KOGYO Co., Ltd.

II. Result of the Evaluation

<Special perspectives considered in the ex-post evaluation>

[Verifiable Indicators and Important Assumptions for the Overall Goal]

- In the Project Design Matrix (PDM) "Appropriate utilization of groundwater in the eastern region" was defined as "the Overall Goal" and "Regular and sustainable implementation of investigation on available groundwater in the eastern region" and "Reduction of proportion of the population with water supply by water tank trucks at the time of droughts" are set as verifiable indicators. Also, "Development and implementation of water supply plan based on groundwater management" was defined as one of the important assumptions to achieve the Overall Goal. However, in case where "development and implementation of water supply plan based on groundwater management" would not have been realized, the project cannot directly contribute to "Reduction of proportion of the population with water supply tank trucks at the time of droughts". In addition, "proper utilization of groundwater" and "development and implementation of water supply plan based on groundwater management" are closely linked each other. Therefore, in this ex-post evaluation "development and implementation of water supply plan based on groundwater management using the project outputs" was regarded as the important assumption and it was verified as supplemental information to assess achievement level of the Overall Goal.

[Continuation status of project effects (project purpose/output) after projection completion and the important assumption]

- Although "proper maintenance of equipment for groundwater exploration, the established groundwater models and the GIS database" was set as an important assumption for the Overall Goal, it was verified as continuation status of project effects at the time of ex-post evaluation.

1 Relevance

<Consistency with the Development Policy of Cuba at the time of ex-ante evaluation and project completion>

The project was consistent with Cuba's development policies of at the time of ex-ante evaluation, "the INRH Strategic Plan (2007-2009)", and "the National Development Plan (2010)"and "the National Economic and Social Development Plan (2011-2030)" at the time of project completion, prioritizing "water resources development".

<Consistency with the Development Needs of Cuba at the time of ex-ante evaluation and project completion >

The project was consistent with Cuba's development needs for acquirement of methods for proper groundwater management since INRH did not have so many practical experiences of groundwater development because available groundwater in 3 provinces in the eastern region was not so much compared to other provinces but demand for groundwater development was high as water supply resource at the time of droughts. The needs which were confirmed at the time of ex-ante evaluation did not change at the time of the project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy for Cuba, which was confirmed by the policy dialogue between Cuba and Japan in October, 2000, prioritizing support for agriculture and environment, including a technical cooperation project for groundwater exploration in the eastern provinces facing severe droughts as an assistance in the area of basic life.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was partially achieved by the project completion. In terms of publishing potentials and challenges of groundwater development in model sites (Indicator 1), presentations were made at a seminar on groundwater management in June 2011 and a seminar on groundwater development and management presenting the project outputs in December 2011. Regarding reflection of results of groundwater analysis and management GEARH by the groundwater models and the GIS database in annual reports (Indicator 2), according to the GEARH's responses at the time of the ex-post evaluation, GERAH did not included the project outputs in their annual report because the main actor of the project activities was GEIPI and the project outputs were produced by the core instructors of GEIPI trained by the project. However, GEARH distributed the project outputs to the provincial Hydraulic Investigation and Project Corporations (EIPHs) under GEARH as notice in order to share them. With regard to reflection of results of groundwater analysis and management by INRH using groundwater models and GIS database in annual reports (Indicator 3), according to the INRH's responses at the time of the ex-post evaluation, the results were reflected in INRH's annual reports before the project completion.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued since the project completion.

[The Groundwater Models]

The groundwater models developed by the project have utilized by INRH and GEIPI. INRH has disseminated advanced techniques and utilized techniques on the groundwater models as one of advanced techniques. Also, in Sola area, the models have been applied to investigations at new sites. The software for groundwater management has been utilized not only in the target provinces but also for works related to groundwater management, groundwater resources exploration and water quality investigations. The results of groundwater resource exploration and groundwater analyses by GEIPI were reflected in annual reports of INRH and GEIPI, respectively. Although GEARH has not included those results in their annual reports because GEARH is responsible for management of water supply plans prepared by each EIPH at the national level, they have promoted to share those results with EIPHs through distribution of notices or reports in order to enable EIPHs to utilize them for preparation of their water supply plans.

[GIS Database in 3 provinces in the eastern region]

INRH has used the GIS database as a tool for supporting to ensure quality of planned projects in the 3 target provinces and implement

them. GEIPI has also utilized the GIS database. GEARH has utilized the GIS database through trainings from the GEIPI's core instructors to other officers.

[Exploration and investigation using the equipment for groundwater exploration]

The equipment for groundwater exploration installed by the project are managed by GEIPI and the exploration and investigation activities have been continued by using those equipment. By using electromagnetic exploration instruments, hydrogeological investigation have been conducted for securement of water in Manzanillo city (Granma province) and for exploration for new water sources in provinces including Granma and Santiago de Cuba provinces and other activities in addition to the 3 target provinces.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved at the time of the ex-post evaluation. After the project completion, groundwater availability investigation is undertaken every year in each site of the eastern region including the target provinces, especially in a branch office of INRH located in a special zone of Isle of Youth (Indicator 1). GEIPI mentioned that the investigation period varied from 3 months to 2 years. In terms of changes in proportion of population with water supply by water tank trucks in case of droughts in the eastern region (Indicator 2), the proportions have not decreased in any of the provinces at the time of the ex-post evaluation compared to the baseline data in 2007. On the other hand, water supply plans based on the project outputs have been developed and implemented in the 3 target provinces. In all the three provinces including Holguin and Las Tunas, the Camaguey EIPH, which is responsible for the provinces of Holguin and Las Tunas,implements the water supply plans based on data provided by EIPH and DPRH in January, April, July, August, September and October every year. Based on the water consumption balance by users in each province, EIPH is responsible for measures such as control of well drilling, water supply restrictions, and suspension of cultivation of crops requiring large volume of water consumption. The Camaguey EIPH has appropriately conducted those operations and GEARH has been conducting overall supervisions. However, according to GEIPI, droughts had become severer since 2007 even during the project implementation. In particular, the deteriorating trend of droughts has become more serious since 2014, and then, the severity of the droughts became further tense in 2016 due to El Niño phenomenon so that many watersheds have been dried up. Under this situation, it is difficult to clearly judge whether the unchanged proportion of the population with water supply by water tank trucks has been attributed to any problems of water supply planning or the higher severity of the droughts than the prediction.

<Other Impacts at the time of Ex-post Evaluation>

Some positive impacts have been observed at the time of the ex-post evaluation. According to the Camaguey Basic Corporation Unit (UEB: Unidad Empresarial de Base), better actions for proper underground water management and utilization of water resources have been taken through utilization of the geophysical exploration equipment introduced by this project in other provinces besides the target provinces. The hydro-geophysical maps prepared by the project have been used by GEIPI and the other related agencies for other purpose of underground water exploitation and management., They have been also utilized in Sola area for planning proper water of water to users in terms of water use of economic water flows including other areas. Furthermore, the maps have been used for countermeasures against salinization problems such as prevention of sea water intrusion by artificial lagoon of La Siguanea.

In addition, according to core-instructors of the groundwater models trained by the project and the Holguin UEB, results from the groundwater models and the geophysical exploration conducted in Cuentas Claras and Cayo Redondo of Manzanillo area contributed to development of younger researchers through utilization of them in dissertations written by a student of the University of Havana and a Cuban student studying at the University of Magdeburg (Germany). Furthermore, the core instructors have contributed to human resource development through continuation of trainings for junior core instructors, who are mainly university graduates, and technicians. No negative impact was confirmed.

<Evaluation Result>

In light of the above, the project partially achieved the Project Purpose and the Overall Goal and contributed to improvement of groundwater management by implementation of groundwater analysis and geophysical exploration for groundwater management and water resources development in other sites besides the target provinces through utilization of the groundwater models, GIS database and equipment for groundwater exploration introduced by the project. Therefore, the effectiveness/impact of the project is fair.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) INRH (including GEIPI and GEARH)'s capacity for groundwater development and management are improved.	(Indicator 1) Potentials and challenges of groundwater development in model sites (such as hydrogeology, groundwater availability, water quality and future forecasts by groundwater models) are compiled and released.	Status of the achievement: Achieved (Project Completion) ● Seminar for groundwater management in June 2011(in Camaguey province): potentials and challenges of groundwater development in a model site (Sola area) were presented by the core instructors of GEIPI trained by the project ● Seminar on groundwater development and management as well as the project results in December 2011 (in Havana city): analytical results with higher-precision including potentials and challenges of groundwater development (issues to be considered for development of groundwater) were presented by the core instructors of GEIPI trained by the project. (Ex-post evaluation) Continued ● The first-year technical seminar in June 2013 (in Havana city): Presentation on extended cases of groundwater development after the project completion (groundwater models presented by the engineer of Havana EIPH, achievements presented by the core engineer of Camaguey /Holguin EIPH and groundwater management presented by the engineer of Grandma/Holguin EAH and Japanese expert)

		● The second-year technical seminar in June 2014 (in Havana city): Presentation on cases of spreading groundwater development after the project completion (geophysical exploration presented by the engineers of EIPHH, progress in technical transfers presented by the core engineer of Camaguey/Holguin EIPH, hydrogeological investigation presented by the engineers of GEIPI and EIPHH)
	(Indicator 2) Results of groundwater analysis and management based on groundwater models and GIS database are reflected on GEARH's annual reports.	Status of the achievement: Not achieved (Project completion) ● The project mainly targeted GEIPI technicians so that results of groundwater analysis and management based on groundwater models and GIS database were produced by the core instructors of GEIPI trained by the project. Therefore, those results were not reported in the annual reports. However, those results were distributed to each EIPH as a notice for utilization of the project outputs. (Ex-post Evaluation) Partially continued. ● Since underground water analyses are conducted by the core instructors of GEIPI, the results have not reported in the annual reports of GEARH. However, same as the project implementation those results have been sent to each EIPH as notice or report and the analysis and results have been shared and utilized.
	(Indicator 3) Results of groundwater analysis and management based on groundwater models and GIS database are reflected on INRH's annual reports.	Status of the achievement: Achieved (Project completion) ● The results of groundwater analysis and management based on groundwater models and GIS database were reported in the annual reports. (Ex-post Evaluation) Continued ● The results have been reflected in monthly reports every two months as an article of the projects implemented by EIPHs and the INRH has compiled them in their annual reports.
(Overall goal) Groundwater is appropriately used in utilization of water resources in the eastern region.	(Indicator 1) Groundwater availability investigations are regularly and sustainably implemented in the eastern region (at least 3 provinces).	Status of achievement: Achieved (Ex-post Evaluation) ● The investigations have been conducted in the eastern region, especially a branch office of INRH located in a special zone of Isle of Youth. For 2013, Camaguey HIPH conducted hydro-geological survey, groundwater model survey and GIS survey, and Holguin EIPH conducted hydro-geological survey, and GIS survey. For 2014, Camaguey HIPH conducted geophysical exploration and Holguin EIPH conducted hydro-geological survey and GIS survey. No EIPH exist in Las Tunas.
	(Indicator 2) Alternative water resources are ensured for droughts in the eastern region (in at least 3 provinces, the proportion of population with water supply by water tank trucks in 2007 decreases).	Status of achievement: Not achieved (Ex-post Evaluation) ● Droughts had become severer since 2007 and its seriousness has been larger since 2014, in particular. The severity of the droughts became deeper because of El Niño phenomenon in 2016 so that the watersheds have been dried up. Under the situation, although the exploration to utilize groundwater continues, because of the dried up watersheds by the extremely severe droughts. As a result, frequency of water supply by water tank trucks has not reduce and the population with water supply by water tank trucks have not decreased.

Source：the Completion Report, responses to questionnaires for GEARH, INRH and GEIPI, core instructors (5 in total) for geophysical explorations and GIS trained by this project

3 Efficiency

Although the project cost was slightly exceeded the plan (ratio against the plan: 102%), the project period was within the plan (ratio against the plan: 100%). Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Hydrological management has been constantly prioritized in national strategies including "the National Economic and Social Development Plan (2011-2030)", and the importance of groundwater management and development has been sustained. While a JICA technical cooperation project, "the Project for Capacity Enhancement of Groundwater and Seawater Intrusion Management (2013-2017)", was implemented (completed in February, 2017), a groundwater management plan prepared by this technical cooperation project has been approved by INRH. The plan aims at better implementation of groundwater management. The National Water Policy has already been approved by INRH and was likely to be enacted as a new law during 2017. In the policy, there are 4 pillars and one of them is "water management." In this context, groundwater exploration and analysis must become key techniques.

<Institutional Aspect>

There has been no change in role and organizational structure of INRH as a policy decision agency for groundwater development and utilization. In spite of no disclosed data on personnel, the Directorate of Watershed Management and the Directorate of Hydraulic Works of INRH have continued the activities of groundwater exploration, analytical works, and groundwater management. INRH has deployed the

necessary number of personnel and does not have plan of reshuffle or retirement. In case of the reshuffle or retirement, the new personnel has been deployed and no problem has been observed. There have been improvements of the data management through cases such as data sharing between EIPH and EAH and presentation on cases with establishments of data system after the project completion and they have policy to promote data sharing further.

Also in GEIPI, there has been no change in organization for geophysical exploration for groundwater, utilization and sustaining the groundwater models, maintenance of the GIS database and maintenance of equipment for groundwater exploration installed by the project in spite of no disclosed data on personnel. Although some staffs were reshuffled, new staffs have been assigned and no problem has been observed in conducting geophysical exploration, investigations on groundwater management and so on. On the other hand, most of the equipment provided by the project have been mostly maintained in proper manner though some of them have been less functioning due to the lack of spare parts.

For the provincial level, the Camaguey EIPH has deployed 5 staffs for geophysical exploration, 3 for the groundwater models and 4 for the GIS database. The Holguin EIPH has deployed 2 staffs for geophysical exploration, 6 for the groundwater models and 6 for the GIS database. There is no EIPH in Las Tunas province but there is the Las Tunas UEB within the Holguin EIPH. Since the instructors in Camaguey support geophysical exploration in Holguin and Las Tunas provinces, the number of staffs for geophysical exploration in Holguin and Las Tunas provinces is 1, respectively. Also, with regard to the groundwater models, the 2 engineers of the Holguin EIPH cover 3 provinces of Holguin, Las Tunas and Granma. GEARH submit INRH two kinds for data sets composed of the water demand to be required for productive activities in each province for next year based on compiled volume of water utilization requested by clients of water users and the available water supply for each province in the next year based on calculation by each EAH. GEARH has aimed at operation of a more effective "water balance" system by utilization of calculation techniques for available water supply with higher precision and more rigorous identification of actual volume of water use acquired through the project supported by Japan's ODA.

<Technical Aspect>

The GEIPI engineers acquired sufficient skills and knowledge on geophysical exploration, utilization of the groundwater models and the GIS database and have sustained those skills and knowledge after the project completion. In addition, during the period between 2012 and 2015, the core instructors GEIPI trained by the project have delivered technical trainings and guidance for university graduates on geophysical exploration (10 participants), groundwater models (9) and database (9) and have contributed to development of junior engineers and to ensuring human resource for future. On the other hand, the engineers of the Directorate of Watershed Management and the Directorate of Water Supply and Construction of INRH as well as GEARH have sufficient skills and knowledge to conduct groundwater assessment and management using analytical results from geophysical exploration, the groundwater models and the GIS database implemented by GEIPI. Levels of knowledge and skills acquired by the participants have been confirmed by comprehensive test at the time of training completion. INRH used to deliver trainings for engineers of INRH and GEARH twice a year for the period from 2012 to 2014. Trainings for the engineers of GEIPI and GEARH on geophysical exploration, pumping test, hydrological information system, groundwater numerical model and groundwater management plan as compilation of the two projects. are planned to be delivered by the core instructors trained by this project and the successive project of "The Project for Capacity Enhancement of Groundwater and Seawater Intrusion Management (2013-2017)" .

<Financial Aspect>

The budgets of the related authorities of Cuba have not been disclosed even to the public and were not available for the ex-post evaluation. However, since INRH, GEIPI and GEARH have continuously undertaken the activities related to groundwater exploration through technical transfer by the project, maintained the underground water models, the GIS database and the equipment of groundwater exploration, and deployed necessary personnel. It can be judged that they have secured sufficient budgets so far. For GEIPI, although the maintenance budget for the groundwater models has been suspended 2 years after the project completion, budgetary actions are planned to be taken in 2017. According to them, it is expected that they will be able to ensure the necessary budgets in future. The budget sources of GEIPI are the Directorate of Investment of INRH and the provincial governments. One of the budget sources of GEARH is charges for agricultural and industrial water. While the necessary budget has been ensured, they define work contents and coverages in accordance with the budget sizes.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the project effects through the project is high.

5 Summary of the Evaluation

The project partially achieved the Project Purpose and the Overall Goal for appropriate groundwater utilization through improvement of groundwater management based on groundwater exploration and analytical results by INRH, GEIPI and GEARH. Also, groundwater exploration has been undertaken in non-targeted areas by using groundwater models, GIS database and equipment for groundwater investigation introduced by this project. As for sustainability, no problem has been observed in terms of the policy, institutional, technical and financial aspects. As for efficiency, the project cost exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended for the implementing agencies to ensure sufficient budget allocation for scheduled procurement of spare parts which are necessary for maintenance, or replacement of equipment and purchase of new equipment when necessary in order to continuously utilize the equipment for groundwater exploration provided by the project further.
- GEIPI, as an actual implementer of the project activities, needs to attain results based on application of the techniques transferred by the project, and is desired to continuously deliver trainings in order to aim at human resource development and capacity development of the engineers through further utilization of the techniques acquired. On the other hand, it is required to sustain well information sharing and collaboration in the Cuban side for future since support of INRH and GEARH as relevant agencies are also essential.

Lessons learned for JICA:

- Among the equipment of underground water exploration provided by the project, major ones have been continuously utilized after the project completion and the activities for groundwater exploration have been continued. i On the other hand, functions of some equipment are less functioning due to the lack of spare parts. In cases where important equipment for works and activities and maintenance of those equipment is essential from the aspect of sustainability of project effect, support for preparation of maintenance plan for the equipment, including procurement system including procurement of spare parts for the equipment is important.

Observation point installed by the project

Opinion exchange between the EIPH officers and the workers of plantation in front of a pivot irrigation

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by China Office: December 2017

Country Name	**Sustainable Agricultural Technology Research and Development Phase 2**
People's Republic of China	

I. Project Outline

Background	China enjoyed dynamic economic development since the Reform and he Open-Door Policy. On the other hand, rapid industrial development resulted in rapid environmental disruption and pollution. In the agriculture sector, massive increase of agricultural inputs such as chemical fertilizer, pesticides, and agricultural film, that led to contamination of water system e.g. rivers and swamps and soil. The Chinese government took countermeasures to improve legal systems for reducing application of pesticides and chemical fertilizer and for emission standards, but the effect was limited because the research necessary for the countermeasures, including monitoring of contamination and identification of contamination sources, was just started. In the meantime, the eco-friendly agricultural technologies for production and management, which was developed through JICA's technical cooperation project "Sustainable Agricultural Technology Research and Development Project" (2002-2007) (Phase 1 of this project), saw a certain level of success at the research level. In order for the government to utilize the positive outputs of the research and development for countermeasures against environmental contamination, it was required to implement and encourage promotion of eco-friendly cultivation technologies according to the local conditions.		
Objectives of the Project	The project aimed at systematization of eco-friendly agricultural technologies in the Model Areas in China through establishment of implementation system for continuous monitoring and evaluation of water quality and soil, development of eco-friendly agriculture technologies (technologies reducing soil and water contamination) and verification through multidisciplinary research, and identification of measures to promote extension of the proven technologies, thereby having prevention and improvement measures for water and soil contamination promoted as extension projects. 1. Overall Goal: Water and soil contamination attributed to agriculture is prevented or improved with a focus upon Model Areas. 2. Project Purpose: Eco-friendly agricultural technologies are systematized in the Model Areas.		
Activities of the Project	1. Project Site: Beijing, Model Areas (Hunan Province, Ningxia Hui Autonomous Region (NHAR), and Shandong Province) 2. Main Activities: - Establishment of monitoring techniques and evaluation system of water and soil in the Model Areas, research and establishment of water and soil pollution control index, strengthening research capacity of Academy of Agricultural Science. - Development and demonstration of agricultural environment conservation technology (sustainable agricultural technology and technology for restoration of polluted soil and water) in the Model Areas, compilation of technologies. - Trainings for water and soil monitoring staff in local areas (i.e. the Model Areas), agricultural technology extension workers, and administrative officials in the central and local governments (i.e. the Model Areas) on the developed and demonstrated technologies etc., establishment of a platform to share information related to research and extension. - Establishment of extension system and mechanism for the developed and demonstrated technologies, development of guidelines (countermeasure proposals), training for the model farmers and extension activities for the farmers in the Model Areas. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: (long-term) 6 persons, (short-term) 32 persons 2) Training Received: 70 persons 3) Equipment: vehicles, office equipment, equipment for water quality and soil monitoring, agricultural equipment for fertilization 4) Local cost Chinese Side 1) Staff Allocated: 80 persons (Institute of Environment and Sustainable Development in Agriculture (IEDA) /Chinese Academy of Agricultural Sciences (CAAS), Academies of Agricultural Science (AASs) in the Model Areas, Ministry of Agriculture (MOA), and headquarters of CAAS)) 2) Land and Facility: project office, land for construction of facilities for demonstration and warehouse, fields in the model sites etc. 3) Local cost		
Project Period	April 2009 - March 2014	Project Cost	(ex-ante) 389million yen, (actual) 416 million yen
Implementing Agency	Responsible Agency: Ministry of Agriculture (MOA) Implementing Agency: Chinese Academy of Agricultural Sciences (CAAS)		
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries		

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of China at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with China's development policy of prevention of agricultural contamination as set forth in the "11th Five Year Plan for National Economic and Social Development of the Republic of China" (2006-2010) and the "12th Five Year Plan" (2011-2015).

<Consistency with the Development Needs of China at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation, Hunan Province, NHAR and Shandong Province (the Model Areas) were representative agricultural production areas of North China Plain, Yangtze River Middle Region, and Northwest Arid Region respectively, facing typical agricultural contamination problems in the areas. At the time of terminal evaluation, farmers regarded the soaring input costs as an issue in agricultural implementation. The project was consistent with the needs of these farmers in that it aimed to develop technologies to reduce fertilizer and labor while maintaining the yield.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with one of the main develop agenda of the Economic Cooperation Plan for China (2001), "realizing sustainable development" and one of its priority areas, "cooperation for dealing with global issues such as environmental problems".

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. At each Model Area, at least one proposal (report), which described the contents and dissemination measures of an eco-friendly agricultural technology developed and verified by the project, was submitted to its respective guidance committee[1] (proposals on five technologies submitted in total).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The achievement status of the project is continued. After the project completion, the proposals for two technologies were submitted to the local government in a Model Area. Of the seven technologies proposed through this project, six technologies were considered as extension projects. Meanwhile, IESA/CAAS and AASs in the Model Areas have been utilizing the knowledge accumulated in the project to conduct research and development of eco-friendly agricultural technologies.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was achieved by the time of ex-post evaluation. Among the eco-friendly agricultural technologies developed and demonstrated by the project, at least two (to be precise, six in total) were already approved as extension projects in the provinces/ autonomous region in the Model Areas and several other provinces (Indicator 1). According to the Implementing Agency, monitoring and evaluation of water and soil is implemented based on the manuals developed by the project in the Model Areas: officers in charge were editors of the manuals so that they select the necessary items for the monitoring and evaluation according to the local conditions (Indicator 2).

<Other Impacts at the time of Ex-post Evaluation>

Negative impacts on the natural and social environment by the project have not occurred. Other positive impacts of the project include dissemination of the eco-friendly agricultural technologies approved as extension projects in the Model Areas. For example, 37 farmers in 7 prefectures and cities have already applied the technology of side dressing rice farming in NHAR, and 140 farmers in 3 cities have applied the technology of drip fertilization in Shandong province. In addition, the manuals for eco-friendly agricultural technologies, developed by the project, are utilized in extension projects and training of farmers, rural technicians, staff of agricultural technology extension stations, etc.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved at the time of project completion, the project effect is continued at the time of ex-post evaluation, and the Overall Goal was achieved at the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicator	Results
(Project Purpose) Eco-friendly agricultural technology is systematized in the Model Areas.	Reports covering the information necessary for adopting eco-friendly agricultural technologies as extension projects are submitted to the guidance committees (At least one per Model Area).	Status of the Achievement: achieved (continued) (Project Completion) At least one proposal (report) was submitted to the guidance commission in each Model Area. (Ex-post Evaluation) -Out of the seven technologies for which the proposals were submitted, six were considered as extension projects.

[1] The roles of the committee were to provide advice for promoting the project implementation as well as to evaluate the project outputs and to recommend the project to disseminate outputs to higher level. Related departments of MOA participated in the committee.

<Submission of recommendation paper on eco-friendly agricultural technologies>

Model Area	At the time of project completion	After project completion
Hunan Province	-Side dressing rice farming -Zero-emission pig raising	-
NHAR	-Side dressing rice farming	-Border irrigation -Recycling technology of straw *
山東省 Shandong Province	-Drip fertilization -Utilization technology of slow-release fertilizer in protected cultivation	-

*Although the proposal was submitted, recycling technology of straw in NHAR was not considered as an extension project because it did not meet the needs of local farmers who earn cash income by selling rice straw.

(Overall Goal)
Water and soil contamination attributed to agriculture is prevented or improved with a focus upon Model Areas.

(Indicator 1) Eco-friendly agricultural technologies developed and demonstrated in the project are approved as extension projects (at least 2).

(Ex-post Evaluation) achieved
-Five out of the six eco-friendly agricultural technologies developed and demonstrated in the project were already approved as extension projects.

<Approval status of extension projects of eco-friendly agricultural technologies developed and demonstrated under this project (as of June 2017)>

Approved technologies	Model Areas	Outside Model Areas
Zero-emission pig farming	*1	Sichuan Province, Hebei Province
Side dressing rice farming	NHAR	Heilongjiang Province, Liaoning Province, Anhui Province Jiangsu Province
Border irrigation	NHAR	-
Drip fertilization	Shandong Province	-
Utilization technology of slow-release fertilizer in protected cultivation	Shandong Province	-

* 1 Extension project is being considered in Hunan Province.

-Regarding side dressing rice farming technology in Hunan Province, the proposal was considered but not approved because it was judged that further technical improvement was necessary for dissemination in large area

(Indicator 2) Monitoring and evaluation on water and soil are carried out.

(Ex-post Evaluation) mostly achieved-
-Through activities of the project, monitoring manuals for groundwater and irrigation water were prepared. Monitoring manual for soil was not finalized before the project completion due to lack of necessary data. The manual was finalized after the project completion, but it was decided to utilize the electronic version without printing and bookbinding since high cost of printing and book binding exceeded the budget of the Chinese side,
-In the Model Areas, systematic monitoring and evaluation of water and soil, using the manuals, is carried out by selecting the necessary items based on the local conditions. The officers in charge of the above monitoring in each Model Area was the editors of the relevant manuals and implements monitoring according to the manuals. For example, in NHAR, Ningxia Agriculture and Forestry Science Academy conducts monitoring of relatively large ditches for drainage at least six times a year based on the monitoring manual on irrigation water. Also, CAAS conducts monitoring and evaluation of groundwater (every quarter) and nitrate in soil (on periodical basis) in Shunyi, Beijing. (It should be noted that some of the Model Areas only answered that monitoring is conducted according to the manuals, and specific information could not be obtained.)
-Equipment for water and soil monitoring provided by the project is also used for monitoring in the Model Areas as described later.

Source: Project Completion Report, questionnaire survey to IEDA/CAAS

3 Efficiency

While the project cost slightly exceeded the plan (ratio against the plan: 107%), the project period was within the plan. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Ecosystem conservation continues to be an important issue in the "13th Five Year Plan National Economy and Social Development of the National People's Republic of China" (2016-2020). In addition, the institutional support for eco-friendly agriculture is being developed, such as enactment of "Green Eco Oriented Agricultural Subsidy System Reform Plan" (2016-2020) in 2016.

<Institutional Aspect>

IEDA/CAAS was established with the aim of presenting the grounds for the government to develop important policies on agricultural technologies, and its role and structure have not been changed since the project completion. The quota and actual number of staff at CAAS and ASSs in the Model Areas is not available. The staff necessary for research and development of eco-friendly agricultural technology, however, is presumed to be secured both in the headquarters and the Model Areas, considering that the research is carried out continuously and, according to the Implementing Agency, temporary staff is employed when the number of regular staff is insufficient.

<Technical Aspects>

Almost all the counterpart personnel of IEDA/CAAS and ASSs in the Model Areas continue to work in their respective organizations and utilize the knowledge accumulated through the project to conduct research and development of eco-friendly agricultural technologies. As for the provided equipment, including the one for water and soil monitoring, equipment managers are assigned. Maintenance is properly carried out, and the equipment is utilized for research and development of eco-friendly agricultural technologies according to the Implementing Agency.

<Financial Aspects>

Research and development budget for eco-friendly agricultural technologies at CASS and ASSs in the Model Areas is not available. However, it is presumed that at least the basic budget is secured since the research is carried out continuously by these organizations and the provided equipment is managed properly.

<Evaluation Result>

In light of the above, information that is sufficient for judgment in terms of financial aspects was not available. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose (i.e. systematization of eco-friendly agricultural technologies in the Model Areas). The effect of the project is continued and the Overall Goal (i.e. improvement of water and soil contamination attributed to agriculture with a focus on the Model Areas) has been achieved. Regarding the sustainability, slight problem has been observed in terms of financial aspect (i.e. difficulty with obtaining the budget data), but no problem has been observed in terms of the policy/institutional/technical aspects to maintain the project effects. As for the efficiency, the project cost slightly exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

-It is recommended that IEDA/CASS as well as ASS in Hunan Province improve and verify the techniques for side dressing rice farming technology, including adjustment of implant density and development of slow-release fertilizer according to the local conditions, as early as possible. If the effect is proven, it should be introduced to local farmers to promote dissemination of the side dressing rice farming

Lessons Learned for JICA:

-Regarding the recycling technology of straw at farmland in NHAR, which was demonstrated in the project, the recommendation paper was submitted after the project completion. However, the technology was not considered as an extension project on the ground that it did not meet the needs of local farmers, who were earning cash income from sales of rice straw. There has been a situation that, as also observed at the time of ex-post evaluation, the rice straw was taken out from the farmland immediately after harvest by buyers because of high demand mainly as curtain for greenhouse (for warming), stimulated by rapid development of facility agriculture in the areas. When demonstrating a new technology, testing the technical adaptability on the farm is not enough, but it is necessary to examine, from perspectives of farm management, possible conflicts in the use of materials between for the concerned technology and for other purposes.

A model site for rice cultivation with side line fertilization technology in NHAR visited by the ex-post evaluator for a field survey

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Thailand Office: August 2017

Country Name	**The Project of Human Resource Development through Utilizing the Information Technology for Rural Community Vitalization**
Kingdom of Thailand	

I. Project Outline

Background	Thailand had promoted to build a knowledge-based economy and society to become a medium-level IT (information technology) nation in international terms and emphasized on the utilization of basic information technology, development of IT human resources and construction of information and telecommunications infrastructure. On the other hand, construction of the information and telecommunications infrastructure in rural areas was slow: rural areas still did not have access to telephones, the internet and other information and telecommunications infrastructure. As a result, a digital divide between urban and rural areas emerged, and this was seen to be contributing especially to other disparities in terms of economy, education and quality of life in recent years. Rectification of the digital divide thus became one of the priority development issues facing Thailand. Under that situation, in 2005, the government of Thailand submitted a request to the government of Japan for technical cooperation concerning model development and demonstration of testing technology for a wireless communications system in provincial areas.				
Objectives of the Project	The project is aiming to develop the rural wireless communication system (RWCS) through demonstration of testing RWCS in the model sites and development of curriculums and contents, thereby applying the established RWCS model to other provinces.				
	1. Overall Goal: Rural wireless communication system is applied for rural communities' vitalization. 2. Project Purpose: To strengthen the capability of the National Electronics and Computer Technology Canter (NECTEC) in developing the effective rural wireless communication system in the Kingdom of Thailand.				
Activities of the project	1. Project site: NECTEC at Science Park (Pathumthani Province) and three districts (Pai district, Mae Hong Son district, and Mae Sariang district) in Mae Hong Son Province 2. Main activities: (i) testing and demonstration of RWCS model in the pilot sites using WiMAX[1], (ii) provision of on-the-job training (OJT) for counterpart staff, training for local instructors and facilitation of training for local users by local instructors in the target provinces, (iii) development of curriculums and contents, and (iv) promotion of the applications of the curriculums in other areas in Thailand based on the lessons learned from the project. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 5 persons 2) Trainees received: 4 persons 3) Equipment: Equipment and materials for Trial Test and software for WiMAX Site Planning Thai Side 1) Counterpart personnel: 23 persons 2) Land and facilities: Project office 3) Local cost: Costs for Trial Test and domestic training of counterpart personnel				
Ex-Ante Evaluation	2008	Project Period	April 2009 – March 2012 (Extension Period: May 2011 – March 2012)	Project Cost	(Ex-Ante) 322 million yen (Actual) 569 million yen
Implementing Agency	National Electronics and Computer Technology Center (NECTEC)				
Cooperation Agency in Japan	Japan Development Service Co., Ltd. (JDS)				

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Thailand at the time of ex-ante evaluation and project completion>

This project was consistent with Thailand's development policy "to promote a knowledge-based economy and society to become a medium-level IT nation in international terms" as set forth in the policy documents, including *the 10th Economic and Social Development Plan* (2007-2011), *the Thailand Information Technology Policy Framework* (2001-2010) (IT2010), *the 11th Economic and Social Development Plan* (2012-2016) and *the Thailand Information and Communication Technology Policy Framework* (2011-2020) (ICT2020).

<Consistency with the Development Needs of Thailand at the time of ex-ante evaluation and project completion>

This project met the development needs of Thailand to promote the community development and mitigation of regional disparity between urban and rural areas through application of wireless communication system.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

This project was consistent with Japan's Country Assistance Program for Thailand (2008) to prioritize on strengthening competitiveness for sustainable growth as one of the four priority areas, which included infrastructure development for industrial promotion (human resource development and institutional building).

<Evaluation Result>

In light of the above, the relevance of the project is high.

[1] WiMAX (Worldwide Interoperability for Microwave Access): It is one of the radio communication technology standards which enable to provide connections in areas with difficulties to install high-speed communication lines (optical or metal lines) or DSL (digital subscriber line). It was used for ensuring communication environment in the pilot sites with limited information communication infrastructure.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The project purpose was achieved by the project completion. The project was able to establish the RWCS model using WiMAX after testing the model in the pilot sites in the three districts in Mae Hong Son Province, and the model was proposed to the National Broadcasting and Telecommunications Commission (NBTC). Also, NECTEC's knowledge and skills about technologies of Wireless Communication System were enhanced and the number of local trainers who have capacities for training and system operation increased as a result of technical transfer and provision of training by the project. It was confirmed that the level of the end users' satisfaction on the RWCS developed by the project was generally higher than at the start of the project because of better and more hardware (improved network such as more Wi-Fi access points and more PCs to be used) and more e-Learning contents provided as a result of the project. On the other hand, there was a room for improvement such as more stability of WiMAX service, internet access through WiMAX network, quick restoration from the system problems, and so on.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Based on the recommendation by the terminal evaluation in 2012, NECTEC established a sustainability plan for operation and maintenance (O&M) of WiMAX system by dividing the WiMAX system into three subsystems: (i) WiMAX Base-station (4 base sites in three district areas), (ii) WiMAX Client including the computer system (in 45 client sites in stalled by the project during the project period), and (iii) Core Network Service. Each subsystem was assigned to the responsible organization for O&M. Meanwhile, the WiMAX frequency provided for the project was only for their test signal and available only for the project period[2]. For this reason, the sustainability plan has been implemented only for the computer system at project sites and core network service at the time of ex-post evaluation.

The RWCS has been maintained in the target three districts continuously by using other wireless internet services provided by the private companies and Ministry of Education under this circumstance. At the time of ex-post evaluation, the RWCS has been utilized in the 4 Base sites and the 46 client sites. The number of client sites increased by 1 site in Mae Hong Son after the project completion. Therefore, although WiMAX is not available in the model sites after the project completion, the project effects have been maintained at the time of ex-post evaluation.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The overall goal has been achieved. The RWCS model developed by the project was modified and updated by NECTEC in order to be suitable for other provinces. At the time of ex-post evaluation, five provinces such as Chiangmai Province, Tak Province, Kanchanaburi Province, Petchaburi Province and Prachuap Khiri Khan Province have newly introduced the RWCS model in addition to Mae Hong Son Province. For example, in these five provinces, the following services such as e-Health[3] and e-Learning were introduced by the RWCS with 2,000 users.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural environment and no land acquisition and resettlement by the project were confirmed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, through the project, the project purpose was achieved, the project effect has been continued, and the overall goal was achieved. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="2">(Project Purpose)
To strengthen the capability of NECTEC in developing the effective rural wireless communication system in the Kingdom of Thailand.</td><td>(Indicator 1) Development of the Rural Wireless Communication System Model which was examined by Trial Test.</td><td><u>Status of the achievement:</u>
(Project completion) achieved.
• The RWCS Model was completed in February 2012.
(Ex-post Evaluation) continued.
<table><tr><th></th><th>Mae Hong Son</th><th>Mae Sariang</th><th>Pai</th></tr><tr><td>No. of pilot sites using RWCS*</td><td>1Base site
20 client sites</td><td>2 Base sites
16 client sites</td><td>1 Base site
10 client sites</td></tr></table>* The Pilot Sites are composed of the Base site and the Client sites with PCs to use services.</td></tr>
<tr><td>(Indicator 2) Enhancement of knowledge and skills of NECTEC about technologies of Wireless Communication System.</td><td><u>Status of the achievement:</u>
(Project completion) achieved.
• NECTEC acquired necessary knowledge and skills about technologies of Wireless Communications System, including wireless technology, contents development, and remote class, by technology transfer from the Japanese experts.
(Ex-post Evaluation) continued
• NECTEC staffs modified and updated the RWCS model to be suitable for other provinces.
• NECTEC staffs have been using the knowledge of RWCS to apply for other provinces such as Chaingmai, Mae Hong Son, Tak, Kanchanaburi, Petchaburi and Prachuap Khiri Khan.</td></tr>
</table>

[2] NBTC has no clear policy about the WiMAX frequency spectrum and they have not renewed the frequency license to NECTEC after the project completion.

[3] Remote out-patient system at local hospital, such as videoconference system and remote physical examination.

<table>
<tr><td></td><td>(Indicator 3) Increase of local trainers who have capacities for training and system operation.</td><td>Status of the achievement:
(Project completion) achieved.
• According to the impact survey conducted by the National Science and Technology Development Agency (NSTDA) team, the number of local training instructors was increased to 25 and their skills in wireless communication system were improved.
(Ex-post Evaluation) Partially continued
• 15 local training instructors have been engaged in trainings on system administration, wireless system and e-learning system and system operation of RWCS continuously.</td></tr>
<tr><td></td><td>(Indicator 4) Enhancement of skills and knowledge of Field Trial Testing.</td><td>Status of the achievement:
(Project completion) achieved.
• According to the evaluation study report of RWCS Field Trial Testing by NECTEC, it was well designed and successfully conducted. Namely, through the project activities, skills and knowledge of the NECTEC staffs for the Field Trial Testing were enhanced.
(Ex-post Evaluation) continued
• NECTEC staffs have been using the knowledge of RWCS to apply for other provinces such as Chaingmai, Mae Hong Son, Tak, Kanchanaburi, Petchaburi and Prachuap Khiri Khan.</td></tr>
<tr><td></td><td>(Indicator 5) Proposal and Recommendation to NBTC about proposed RWCS Model.</td><td>Status of the achievement:
(Project completion) achieved.
• The RWCS Development Model was proposed to NBTC at the final seminar in March 2012.
(Ex-post Evaluation) continued
• RWCS model was modified and updated by NECTEC in order to be suitable for other provinces. The updated RWCS model has been applied to the marginalized area in other provinces such as Chiangmai, Mae Hong Son. Tak, Kanchanaburi, Petchaburi and Prachuap Khiri Khan.</td></tr>
<tr><td></td><td>(Indicator 6) Satisfaction of model users in model site.</td><td>Status of the achievement:
(Project completion) Partially achieved
• According to the impact survey conducted by NSTDA, the questionnaire, the interviews, and the level of the end users' satisfaction was generally higher than at the start of the project because of better and more hardware (improved network, more Wi-Fi access points, more PCs) and more e-Learning contents provided as a result of the project.
• However, there were still demands and requests from the end users such as more stability of WiMAX service, internet access through WiMAX network, quick restoration from the system problems, and so on. These demands and requests were not necessarily stemmed from negative impacts of the project, but from being able to use WiMAX service more effectively and efficiently.
(Ex-post Evaluation) continued
• The RWCS model has been utilized in the model sites continuously by using other wireless internet services and the users have been satisfied with the service.</td></tr>
<tr><td>(Overall goal)
Rural wireless communication system is applied for rural communities' vitalization.</td><td>(Indicator 1) Provinces introducing the Rural Wireless Communication System.</td><td>Status of the achievement: achieved
(Ex-post Evaluation)
• Six provinces (Chiangmai, Mae Hong Son, Tak, Kanchanaburi, Petchaburi and Prachuap Khiri Khan) introduced by RWCS.</td></tr>
<tr><td></td><td>(Indicator 2) Types and scale of users in the provinces introducing Rural Wireless Communication System.</td><td>Status of the achievement: achieved
(Ex-post Evaluation)
<table>
<tr><th></th><th>Mae Hong Province</th><th>Other five provinces</th></tr>
<tr><td>New types of uses and services introduced by RWCS</td><td>Remote court, videoconference</td><td>e-Health (), e-Learning</td></tr>
<tr><td>Number of new users introduced by RWCS</td><td>20 users</td><td>2,000 users (Estimated around 400 users in each province)</td></tr>
</table>
Note: Other five provinces are Chiangmai Province, Tak Province, Kanchanaburi Province, Petchaburi Province, and Prachuap Khiri Khan Province.</td></tr>
</table>

Source: NECTEC

3 Efficiency

Both the project cost and project period significantly exceeded the plan (ratio against the plan: 177% and 144% respectively). The reason for the cost overrun was that the plan on equipment procurement was changed from procurement in Thailand to procurement in Japan, which required additional procurement cost. The reasons for delay were (i) the delay in procurement of equipment, and (ii) interruption of the project implementation due to the flood. Therefore, the efficiency of the project is low.

4 Sustainability

<Policy Aspect>

The community development and mitigation of regional disparity through application of wireless communication system has been promoted by the Thai government continuously. For example, *the Thailand Digital Economy and Society Development Plan 2016* states that the government of Thailand promotes the access to broadband and free Wi-Fi by at least 10,000 locations, including formal/non-formal schools.

<Institutional Aspect>

NECTEC is responsible for continuation of the project activities and O&M of RWCS including (i) modification and dissemination of RWCS development model; (ii) system operation and maintenance for Learning Management System (LMS) server; (iii) development of e-Learning contents; and (iv) training of related knowledge and skills. In particular, the Wireless Information and Security Research Unit (WISRU) of NECTEC is in charge of technical support for the WiMAX system to Mae Hong Son organization and the system administration for Core Network Service. Eighteen NECTEC staffs including five WISRU staffs received technical transfer through the project and they have been working at NECTEC continuously except one person who left for a new job. NECTEC considers that they can handle the above O&M works with the current number of staff.

<Technical Aspect>

The NECTEC staffs have maintained the knowledge and skills for continuation of project activities and O&M of the RWCS. For example, NECTEC staffs have been supporting Mae Hong Son Province to continue the project activities through providing the training about the LMS for e-Learning and video conference server to Mae Hong Son organization, conducting e-Learning contents training to the Mae Hong Son schools, etc. Also, NECTEC has organized a training program on the network administration for WISRU staff twice a year to maintain and upgrade their knowledge and skills transferred by the project. The guidelines and manuals developed by the project such as system operation guideline have been utilized by NECTEC continuously.

In terms of the current status of the equipment provided by the project, the WiMAX system has been well maintained and ready for use despite the fact that it has not been in use due to the issue of frequency license. On the other hand, the WiMAX Client (including computer system) at the 45 Client sites[4] and the Core Network Service such as Videoconference Service have been maintained as well since they have been able to use other wireless internet providers instead of the WiMAX.

<Financial Aspect>

NECTEC has received 500,000 Baht every year during 2013-2015 for the budget for the continuation of project activities and O&M of RWCS as mentioned above. According to NECTEC, the allocated budgets are sufficient. Since the government of Thailand currently has policy to expand more ICT in the rural area including Mae Hong Son, the budget for providing ICT in rural areas can be expected to be sufficiently allocated for the new area including the existing area.

<Evaluation Result>

In light of the above, No problem has been observed in terms of the policy, institutional, technical and financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The project has achieved the project purpose and overall goal. The project was able to establish the RWCS Development Model using WiMAX in the pilot sites successfully and to enhanced knowledge and skills about technologies of Wireless Communication System of NECTEC and local trainers by the project completion. By the end of project completion, a sustainability plan for O&M of WiMAX system was established by NECTEC. The RWCS has been maintained in the target three districts continuously by using other wireless internet services after WiMAX became not available in the target three districts. After modification and updating of the RWCS model by NECTEC, the RWCS model was further introduced to other five provinces with introduction of new types of services such as e-Health. Regarding sustainability, no problem has been observed in terms of the policy, institutional, technical and financial aspects. For efficiency, both the project cost and project period significantly exceeded the plan due to change in the procurement plan and interruption of the project implementation due to the flood.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- As it is uncertain whether the renewed WiMAX frequency license will be provided to NBTC by NECTEC or not at present, it is recommended that NECTEC should clarify the policy and operational framework for WiMAX network system considering two scenarios of approval and non-approval of the license.
- It is likely that NECTEC keeps the technical knowledge and skills based on the O&M works with the current number of staff and training program twice a year. Further improvement is recommended for the issues of staff turnover within NECTEC.

Lessons learned for JICA:

(1) Effectiveness of Local Participatory Approach for Pilot Projects

- Although this project was focused on a technology transfer to NECTEC, the project was able to solve various issues and challenges associated with utilization of the high-speed wireless network with the local users as a result of demonstrating pilot projects. This

[4] The Client sites such as schools and community college, government offices, and communities equipped by the project were as follows: 19 sites in Mae Hong Son, 16 sites in Mae Sariang and 10 sites in Pai. After the project completion, 1 Client site was added in Mae Hong Son.

promoted the understanding of users on the network management, which led to smooth network operation. Therefore, at the planning stage, it is necessary to consider an effective participatory approach and demonstration effects of pilot projects with participation of local people and communities to promote IT in the remote areas isolated from the state-of-the-art technology.

(2) Importance of Open System for Modification/Upgrading

- The project established the RWCS model by using WiMAX frequency provided for only the project period. After the project completion, the RWCS model was modified and updated by NECTEC in order to be suitable for other provinces by other types of wireless communication services. For this reason, the modified/updated RWCS model was further disseminated to other provinces. Thus, the fact implies that versatility of RWCS model should be carefully considered at the time of project planning and examined at the time of project implementation in order to ensure sustainable service provision as well as dissemination of the model nationwide.

The antenna in the middle is the one which was provided during this project.

TV meeting room at Mae Hong Son Provincial Police Operations Center. They are using the system which was provided during this project period (The system has been updated after the project).

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by China Office: November 2017

Country Name	**Capacity Development Project for Management Plan of Dam in China**
People's Republic of China	

I. Project Outline

Background	In China, dams had been constructed throughout the country to secure water resources to meet the population growth and economic development, and there were 85,160 dams in 2005. Many of them had been constructed from the 1950s to 1970s, and some dams had such problems as not being able to deliver sufficient water supply to the downstream areas due to failure to store water to the designed water level and causing serious damage to the downstream areas by overflow and dam break by flood. Since 3,486 dams overflowed and/or broke between 1954 and 2005 in China, the government was working on rehabilitation and reinforcement of the dams that did not have adequate strength against flood ("dangerous dams"). However, China did not have sufficient technologies related to the safety operation and risk management of dams. Therefore, dissemination of technologies related to the proper dam management was urgently needed.		
Objectives of the Project	The project aimed at developing capacity of operation managers of large and medium-sized dams in China who participated in the training through understanding of Japanese dam management methods, development of the draft dam management manual, compilation of the recommendations for revision of the manual, and implementation of training in China using the draft manual, thereby disseminating the dam manual throughout China and improving dam management level.		
	1. Overall Goal: Dam management manual is disseminated throughout China and dam management level is improved. 2. Project Purpose: Capacity of operation managers of large and medium-sized dams[1] in China who participated the training is developed.		
Activities of the Project	1. Project Site: China 2. Main Activities: 1) establishment of the committee and working group for development of dam management manual, clarification of the present condition and issues of dam management in China, understanding of Japanese dam management methods, and development of draft manual; 2) trials of Japanese dam management method, review of trial results and practicality of the draft manual, and recommendation for revision of the draft manual at the four Model Dams[2]; 3) development of training curriculum by Human Resource Development Center/Ministry of Water Resource by utilizing the manual, training of lecturers, development of training materials by the lecturers and training for dam managers, and development of teaching materials for on-line education of "China Water Use Education Training Net" based on the manual 3. Inputs (to carry out above activities) Japanese Side (at the time of project completion) 1) Experts: (long-term) 4 persons, (short-term) 18 persons 2) Training Received: 104 persons 3) Equipment: equipment and vehicles for trails of Japanese management methods at Model Dams, vehicles. 4) Local Cost Chinese Side (at the time of terminal evaluation) 1) Staff Allocated: 260 persons 2) Land and Facilities: office for experts 3) Local Cost		
Project Period	September 2009-December 2013 (Extension period: September -December 2013)	Project Cost	(ex-ante) 390million yen, (actual) 539 million yen
Implementing Agency	Human Resource Development Centre (HRDC)/Ministry of Water Resource (MWR)		
Cooperation Agency in Japan	Incorporated Administrative Agency Japan Water Agency, Sanyu Consultants Inc.		

II. Result of the Evaluation

<Constraints on Evaluation>

(1) Evaluation judgment was made by analyzing the information/data collected by questionnaire. Site surveys were not conducted because the timing of the ex-post evaluation coincided with the busy time, the flood season, and it was difficult for the relevant officials to spare time for the evaluation mission.

< Special Perspectives Considered in the Ex-Post Evaluation >

(1) Interpretation of Indicators for the Project Purpose: In the terminal evaluation, achievement status of the two Indicators (i.e. setting of operational improvement targets of the dams by the training participants (Indicator 1-1) and improvement of at least one dam management work item (Indicator 1-2))

[1] Dams targeted by the project are large dams with water storage volume of 100 million m^3 or more and medium-size dams with 10 million to less than 100 million m^3.

[2] Panjiakou Dam in Hebei Province, Lushui Dam in Hubei Province, Lubu Dam in Zhejiang Province, and Liuduzhai Dam in Hunan Province.

was confirmed from the following three viewpoints: (i) setting of operational improvement targets at each Model Dam (Indicator 1-1 for the Model Dams), (ii) improvement of at least one management work item at each Model Dams (Indicators 1-2 for the Model Dams), and (iii) selection and implementation of management work item(s) from the dam management manual by the training participants (except for those from the Model Dams) for themselves or staff of the dams they belong to (Indicators 1-1 and 1-2 for the dams except for the Model Dams). Regarding (iii) above, the Indicators of the Project Purpose were interpreted in a broader sense taking into account that the participants were not necessarily in a position to decide the operational management targets. This ex-post evaluation followed the approach of the terminal evaluation, which is judged to be appropriate, and confirmed the achievement and continuation status of the Project Purpose using the above three viewpoints.

(2) Target year of the Overall Goal: Although the target year of the Overall Goal is not stated in the PDM, there is description in the Joint-Terminal Evaluation Report "(The Overall Goal is) the goal to be achieved three to five years after the project completion". In this ex-post evaluation, therefore, target year of the Overall Goal was set as 2018 (to be more precise, December 2018).

(3) Target dams for the Overall Goal: Although the type of the target dams for Overall Goal is not stated in the PDM, it is assumed to be the same as that of the Project Purpose: large and medium-sized dam. Since the dam management manual developed through the project can be referred to in the small dams, a ripple effect on them was noted as reference information.

(4) Target value of Indicators for the Overall Goal: According to the ex-ante evaluation sheet, specific target value was to be set by the time of mid-term evaluation, but it was not set during the cooperation period. Therefore, regarding Indicator 1 (“Number of dams where dam management manual was deployed (dissemination rate of manual)”), whether the actual number is considered sufficient for dissemination of the manual throughout China as stated in the Overall Goal was checked with reasons for judgment. As for Indicator 2 (“Number of dams to which the dam operations managers who participated in training in China belong”), achievement status of the training plan of HRDC/MWR was assessed. Since the target number of dams was not set in the plan, the number of trainees was used as an alternative indicator. Indicator 2 was considered practically achieved if the actual number of trainees reached the target in the plan.

1 Relevance

<Consistency with the Development Policy of China at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with China’s development policy of flood control as set forth in the "11th Five Year Plan for National Economic and Social Development of the People’s Republic of China" (2006 - 2010) and the “12th Five Year Plan" (2011-2015).

<Consistency with the Development Needs of China at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation, soft aspect of dam management was recognized as an important matter it was recognized as an important matter through enforcement of the "The Food Prevention Law of the People’s Republic of China" (1997), etc. but concrete management method was not developed. It was therefore urgent to develop a dam management manual and capacity of the relevant staff. At the time of project completion, maintaining the effect of risk elimination at the large and medium-sized dams was a major activity in "Decision No. 1 on accelerating water conservancy reform and development” of the Communist Party of China (CPC) Central Committee and the State Council announced in 2011. For risk elimination and life extension, it was essential to properly operate the dams and to establish a risk management method in addition to reinforcement of facilities.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan’s ODA policy on "cooperation for dealing with global problems such as environmental problems" under the main development agenda of "realizing sustainable development" in the Economic Cooperation Plan for China (2001).

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. At the time of terminal evaluation, at the four Model Dams, at least one operational improvement target was set through the trials of the dam management manual developed by the project (Indicator 1-1), and at least one management work item was improved (Indicator 1-2). As for the dams except for the Model Dams, 83% of the participants in domestic training conducted by HRDC selected the management work items from the dam management manual and implemented them for themselves or the staff of the dams they belonged to (Indicators 1-1 and 1-2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Achievement status of the Project Purpose is continued. At the Model Dams, the number of achieved operational improvement targets has been maintained or increased since the project completion. As for the dams except for the Model Dams, 87% of domestic training participants still utilize the dam management manual in their duties. Further, HRDC conducts training and on-line training utilizing the results of the project, including the dam management manual, on a continuous and regular basis based on its training plan.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was achieved by the time of ex-post evaluation. The dam management manual was approved and issued as an official instruction document (provisional edition) of MWR during the project, and, as of August 2016, the manual has been deployed at 3,108 dams by HRDC, which accounts for 77% of the large and medium-sized dams in China. The manual has also been distributed in the training by Dam Safety Management Centre, etc., which may suggest that the actual dissemination rate may be higher than 77% at the time of ex-post evaluation. From this, the level of achievement of this indicator is considered to be mostly sufficient in the context of the Overall Goal of disseminating the manual throughout China. The dissemination rate is expected to increase further by December 2018 through distribution of the manual at the time of training etc. (Indicator 1). The number of participants in the dam management training at HRDC is 3,213 persons (as of December 2016), which is slightly higher than planned (3,180 persons). The number of large and medium-sized dams, to which the training participants from the start of the project to December 2016 belong, is 89. According to the Implementing Agency, the dam management training will be held continuously because MWR places importance on it. It is therefore expected that the number of dams to which the training participants belong will be further increased by December 2018 (Indicator 2).

< Other Impacts at the time of Ex-post Evaluation>

There are no negative impacts on the natural and social environment caused by the project. According to the Implementing Agency, positive impacts are observed, including the followings. Since 2013, Dam Safety Management Center /MWR, which provided technical support for preparing the dam management manual, has conducted training using the results of the project such as the dam management manual etc. (total of 3,108 people attended the training). The Center also utilized the knowledge acquired from Training in Japan (i.e. warning for downstream areas, reservoir management, annual report, cost guarantee, coordination and adjustment of cascade reservoirs, and prevention of deposition of dam sediment) in revising "Dam Safety Management Regulations", and the related items and regulations were newly included in the proposed revision. In addition, according to the questionnaire survey to 32 participants in the project's domestic training, there was a case where a participant made appropriate water adjustment during drought and flood season to protect agricultural water in the downstream irrigation areas by utilizing the training results, and thus annual adjustment target was achieved. Further, according to a Japanese expert dispatched to another JICA technical cooperation project titled the Project for Development of the Capacity on Water Environmental Management in Heihejinpen Dam River Basin (2012-2015), the project team referred to descriptions of the dam management manual regarding laws, regulations and technical standards related to dams in China as well as the list of references when they prepared a technical manual on dam operation.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved at the time of project completion and the project effect is continued at the time of ex-post evaluation. The Overall Goal is achieved at the time of ex-post evaluation, and many other positive impacts are revealed. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="2">(Project Purpose)

Capacity of operations managers of large and medium-sized dams in China who participated the training is developed</td><td>(Indicator 1-1)
Operational improvement targets of the dams are set by the dam operations managers who participated in the training</td><td>Status of the Achievement: mostly achieved
(Terminal Evaluation*)
-Model Dam: At least one operational improvement targets were set for each dam (see the table of Indicator 1-2 for the target number).
-Except for Model Dam: 83% of the 381 trainees who responded to the questionnaire conducted by the project answered that they practiced the contents of the manual to improve their work.
*The achievement status was assessed based on the information at the time of terminal evaluation because the status at the time of project completion could not be confirmed. Regarding Liuduzhai Dam, at least one operational improvement target should have been set as the Terminal Evaluation Report states that at least one target was achieved. However, available documents do not mention the number of targets set, and the officers in charge at the time of ex-post evaluation do not have the information on how many targets were set at the time of project completion.
*By nature of this indicator, confirmation of continuation status is not applicable. See Indicator 1-2 for the state of achievement of the operational improvement targets and utilization of the contents of the manual.</td></tr>
<tr><td>(Indicator 1-2) At least one dam management work item is improved.</td><td>Status of the Achievement: achieved (continued)
(Terminal Evaluation)
-Model Dam: At least one improvement target was achieved at each dam.
-Except for Model Dam: (see the results of Indicator 1-1).

(Ex-post Evaluation)
-Model Dam: achievement status of operational improvement targets is maintained or improved.
-Except for Model Dam: 87% of the trainees to which the questionnaire was sent for the ex-post evaluation replied that they utilize the contents of the manual in dam management work.

<Achievement status of operational improvement targets in the Model Dams at the time of terminal evaluation and ex-post evaluation >
<table><tr><th></th><th>Panjiakou</th><th>Lushui</th><th>Lubu</th><th>Liuduzhai</th></tr><tr><td>Number of targets set through the project</td><td>24</td><td>5</td><td>4</td><td>N/A</td></tr><tr><td>Number of achieved targets at the time of terminal evaluation</td><td>18</td><td>5</td><td>3</td><td>1</td></tr><tr><td>Number of achieved targets at the time of ex-post evaluation</td><td>24</td><td>5</td><td>3</td><td>2</td></tr></table></td></tr>
<tr><td>(Overall Goal)

Dam management manual is disseminated throughout China and dam</td><td>(Indicator 1) Number of dams where dam management manual was deployed (dissemination rate of manual)</td><td>(Ex-post Evaluation) mostly achieved
-Manual is deployed at 77% of large and medium-sized dams (i.e., 3,108 out of 4,033) nationwide by post and distribution in the training by HRDC (It is also deployed at 1,300 small dams). The manual has been also distributed in the training by Dam Safety Management Centre, etc. (number not available).</td></tr>
</table>

management level is improved	(Indicator 2) Number of dams to which the dam operations managers who participated in training in China belong (Alternative Indicator) The number of participants reaches the target number set in the training plan of HRDC.	(Ex-post Evaluation) achieved -The number of trainees at HRDC slightly exceeded the target number. The number of large and medium-sized dams, to which the participants in the training after the start of the project belong, is 89. <Number of participants in training in China and number of dams to which the participants belong to> (as of December 2016)

Timing	Type of training	Target number of trainees	Actual number of trainees	Gross number of dams to which trainees belong
During the project	Training at HRDC	480	480	94
After the project (2014-2016)	Training at HRDC	900	931	163
	On-line training	1,800	1,802	134
Total (Gross)		3,180	3,213	391
Total (Net)		N.A.	N.A.	224 of which, large and medium: 89 small: 135

Source: Terminal Evaluation Report, Project Completion Report, questionnaire survey to HRDC/MWR, Model Dams, and Dam Safety Management Centre, and questionnaire survey by MWR to the participants of the project's domestic training (32 persons).

3 Efficiency

The project cost exceeded the plan (ratio against the plan: 138%), and the project period slightly exceeded the plan (ratio against the plan: 108%) since it took time to pilot the management technologies for some dams. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Dam management continues to be an important issue in the "13th Five Year Plan for National Economic and Social Development of the People's Republic of China" (2016-2020). The Communist Party of China promulgated "Opinions on Promoting River Chief System" in December 2016, which stressed the enhancement of water resource management and protection, including the importance of management and protection of water resources of dam reservoirs. The legal environment is also being strengthened. For example, revision of "Dam Reservoir Safety Management Ordinance", which makes use of the knowledge acquired through the project, is ongoing.

<Institutional Aspect>

There is no change in the dam management structure of MWR, HRDC/MWR, and the Model Dams. Four people are assigned to Department of Dam Management /MWR to provide policy guidance on dam safety management, and 10 staff members are assigned to dam management training at HRDC. The number of personnel is sufficient since it meets the quota set by MWR. As for the Model Dams, there are 130 staff members at Panjiakou, 290 at Lushui, 30 at Lubu, and 140 at Liuduzhai. According to the Implementing Agency, the personnel necessary for appropriate dam management is secured at the Model Dams because the number of staff of each dam has reached the quota standard[3] of MWR.

<Technical Aspect>

Almost all the counterpart personnel at HRDC and the Model Dams continue to work in their respective organizations and utilize the knowledge and deliverables accumulated through the project in their duties. According to the Implementing Agency, dam management status of the Model Dams is appreciated by the central and local water resource management authorities; therefore, the Model Dams have sufficient technical capacity for management based on the dam management manual. As for the equipment and vehicles for warning provided to Lushui Dam, an equipment manager is assigned, and the maintenance is properly carried out. The warning system for downstream areas introduced and tested by the project is in operation.

<Financial Aspect>

An annual budget of 400,000 yuan was allocated to the dam management training of HRDC from fiscal year (FY) 2014 to 2016. The budget was considered sufficient because, during the period, the training was implemented as planned and the expenditure was within the budget. According to HRDC, the necessary budget is expected to be secured in future since MWR places importance on dam management. With respect to the Model Dams, the allocated budget in FY 2016 was 11.8 million yuan at Panjiakou, 7.64 million yuan at Lubu, 7.35 million yuan at Liuduzhai, and 4.65 million yuan at Lushui. For three years from FY 2014, the budget amount at Panjiakou, Lubu and Liuduzhai is gradually increasing and is maintained at Lushui. The necessary budget is considered to have been secured at the Model Dams because the expenditure was within the budget range and their dam management is regarded as appropriate. The budget is likely to be secured in future judging from the past record. According to the Implementing Agency, for large dams, the budget for safety management is basically secured because its financial sources and expense items are made clear by the government.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy/institutional/technical/financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

[3] The number of staff of some dams is less than the quota. According the Implementing Agency, the quota was determined based on the technical level in the past, but the number of the necessary personnel (i.e. quota standard) is reduced in recent years due to increased automation of the management system. (For example, personnel for patrol becomes unnecessary because of installation of surveillance cameras, etc.)

5 Summary of Evaluation

The project achieved the Project Purpose (i.e. capacity development of operations managers of large and medium-sized dams in China who participated in the training). The effect of the project is continued and the Overall Goal (i.e. dissemination of dam management manual throughout China and improvement of dam management level) has been achieved. Regarding the sustainability, no problem has been observed in terms of the policy/institutional/technical/financial aspects to maintain the project effects. As for the efficiency, both the project cost and period exceeded the plan. Considering all of the above points, this project is evaluated to be highly satisfactory.

Recommendations & Lessons Learned

Lessons learned for JICA:
-A deliverable of the project (i.e. dam management manual) is continuously used after the project completion because it was approved as a formal instruction document (provisional edition) of the government of China. Setting the goals according to the needs of the Chinese side and achieving satisfactory results can be referred to as a good practice of securing dissemination of the project deliverable by prompt formalization.

Panjiakou Dam

Electronic billboard for warning at Lushui Dam

Warning system at Lushui Dam

Model Dams and the equipment provided by the project (photoes provided by the Implementing Agency)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Mongolia Office: January 2018

Country Name	Capacity Development Project for Air Pollution Control in Ulaanbaatar City
Mongolia	

I. Project Outline

Background	As Mongolia is endowed with rich coal resources, the country is heavily reliant on coal for an energy source. At the time of ex-ante evaluation (2009), three thermal power plants, approximately 200 HOBs (Heat Only Boilers), approximately 1,000 smaller CFWHs (Coal Fired Water Heaters), and many of the home heating equipment in the Ger areas in Ulaanbaatar City were all coal burning facilities, and particulate matters emitted from these heating facilities and power plants were accumulated in high concentration. Air pollution was particularly severe in winter seasons when much coal is burned for heating, which seriously affected public health. Under such situation, the Ulaanbaatar City government established the Air Quality Division under the Nature Environmental Protection Department of the Capital City in 2007 for environmental assessment, awareness-raising, lawmaking and policymaking etc. This was upgraded in February 2009 to the "Air Quality Department of the Capital City (AQDCC)", which was under the direct control of the city mayor. However, the staff of AQDCC had inadequate knowledge and experience in this field. Moreover, the administrative jurisdiction over air pollution monitoring and control of pollution sources etc. was held by various organizations, which required cooperation among them. However, effective cooperation was not carried out.		
Objectives of the Project	Through developing capabilities of the Air Pollution Reducing Department (APRD)[1] and the other relevant agencies to evaluate emission inventory and impacts on air quality, continuously implementing stack gas measurements, strengthening emission regulatory capacity of APRD, enhancing emission reduction measures to major emission sources and disseminating the project outcomes in Ulaanbaatar City, the project aimed to strengthen the city's capacity for air pollution control, thereby strengthening measures for emission reduction of air pollutants. 1. Overall Goal: Measures for emission reduction of air pollutants will be strengthened in Ulaanbaatar City. 2. Project Purpose: Capacity for air pollution control in Ulaanbaatar City is strengthened, paying special attention to the human resource development of the Municipality of Ulaanbaatar and other relevant agencies among other aspects of the capacity development.		
Activities of the Project	1. Project Site: Ulaanbaatar City 2. Main Activities: (1) Design and establish the emission source inventory system and develop the simulation model by APRD, National Air Quality Office (NAQO), National Agency for Meteorology and Environment Monitoring (NAMEM) and Central Laboratory of Environment and Metrology (CLEM); (2) Prepare guidelines for and implement stack gas measurements by APRD, NAQO, CLEM and National University of Mongolia (NUM); (3) Design and develop the boiler registration system by APRD, NAQO, CLEM, Engineering Facilities Department of the Ulaanbaatar City (EFDUC), Heating Stoves Regulatory Authority (HSRA), Urban Development Policy Department of the Mayor's Office of Capital City (UDPDMOCC) and the thermal power plants No.2, 3 and 4; and (4) Conduct seminars and lectures on the boiler registration system and air pollution control etc. and diagnose major emission sources and propose air pollution control measures by APRD, NAQO, CLEM, EFDUC, HSRA, UDPDMOCC and the thermal power plants No.2, 3 and 4 etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 14 persons 2) Trainees Received: 25 persons 3) Equipment: Stack Gas Analyzer, Automated Dust Sampling Device, Portable Stack Gas Analyzer etc. 4) Local operation cost Mongolian Side 1. Staff Allocated: 41 persons 2. Storage and office space 3. Local operation cost		
Project Period	March 2010 – March 2013	Project Cost	(ex-ante) 400 million yen, (actual) 442 million yen
Implementing Agency	The Air Pollution Reducing Department (APRD), Counterpart Working Group (C/P-WG)[2]		
Cooperation Agency in Japan	Suuri-Keikaku Co., Ltd.		

[1] The Air Quality Department of the Capital City (AQDCC) became the Air Pollution Reducing Department (APRD) in 2016 due to the organizational change.

[2] The Counterpart Working Group (C/P-WG) consists of 19 organizations which conduct project activities with APRD officials (Ministry of Energy (ME), Ministry of Environment and Tourism (MET), National Air Quality Office (NAQO), National Inspection Agency (NIA), Central Laboratory of Environment and Metrology (CLEM), Petroleum Authority of Mongolia (PAM), the Thermal Power Plants No.2, 3 and 4, National University of Mongolia (NUM), Mongolian University of Science and Technology, Urban Development Policy Department of the Mayor's Office of Capital City (UDPDMOCC), Road Department of the Capital City (RDCC), Public Transportation Department of the Capital City (PTDCC), Inspection Agency of the Capital City (IACC), Engineering Facilities Department of the Ulaanbaatar City (EFDUC), Traffic Police Department (TPD), Heating Stoves Regulatory Authority (HSRA) and Environment Pollution and Waste Management Department (EPWMD)).

II. Result of the Evaluation

<Constraints on Evaluation>

- The indicator for Overall Goals is "Most of major stationary emission sources such as 150 to 200 HOBs and 3 power plants in Ulaanbaatar City will be under control to comply with emission standards". There are 170 HOB facilities in total in the city (as of 2016), and APRD implements stack gas measurements at HOBs during winter. However, the number of HOB facilities for which APRD has implemented stack gas measurements by the time of ex-post evaluation is 85 facilities (in other words, the number of HOB facilities for which data is available is 85), and thus surveys were conducted for these 85 facilities in this ex-post evaluation.

<Special Perspectives Considered in the Ex-Post Evaluation>

- In this ex-post evaluation, the indicator for Overall Goal is not evaluated to be "achieved", if emission standards are complied in these 85 facilities only. It is evaluated taking into account whether all HOBs and power plants in the city are under control to comply with emission standards.

1 Relevance

<Consistency with the Development Policy of Mongolia at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Mongolian development policy on 'reducing air pollution' as set forth in the "the Government Action Plan (2008-2012)", "the Mayor's Action Plan in Ulaanbaatar City (2008-2012)" and "the New Development Medium-Term Target Program (2010-2016)" etc.

<Consistency with the Development Needs of Mongolia at the Time of Ex-Ante Evaluation and Project Completion >

The total population of Ulaanbaatar City exceeded one million in the official announcement in April 2007, and in addition, there were unregistered migrants coming into the city. The air pollution problem accompanying population growth became evident at the time of ex-ante evaluation. At the time of project completion, Phase 2 of this project was determined to be implemented, as it was necessary to strengthen technical capacities of Mongolian counterparts (C/Ps) to consider and implement measures independently and develop a mechanism or system for promoting specific measures in order to promote effective air pollution control. The needs for reduction of air pollution were continuously confirmed in the preparatory survey for the Phase 2 project.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy, as it is stated in the Country Assistance Program (2004) that Japan would support environmental conservation for sustainable economic growth which is compatible with environmental protection, and in particular, assistance for environmental measures of Ulaanbaatar City including air pollution control measures is stated.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose had been mostly achieved by the time of project completion. The First Annual Report encompassing the emission source inventory and the results of air quality evaluation and stack gas measurements in 2010 was released in June 2012, and the Second Annual Report for 2011 was released in December 2012 (Indicator 1). JICA experts put together a total of 11 recommendations concerning air pollution countermeasures, and all of them were included in annual reports. Moreover, APRD explained and recommended air pollution countermeasures to the vice mayor and stakeholders based on annual reports, among which three of them were approved by the city council and included in the project plan ((1) Removing HOBs in HOB-crowded eastern part and installing in their place large, high-efficiency HOBs; (2) Installing cyclones for HOBs that lack emission control measures; (3) Removing ger stoves and wall stoves in the northern Ger area in Chingeltei District and installing HOBs in proportion to the population)(Indicator 2). In addition, the APRD and JICA experts made reports at the Donor and Mongolian Joint Meetings organized by the National Committee on Air Pollution Reduction (on a total of three occasions in December 2011, June 2012, and October 2012), and C/Ps made presentations based on the project outcomes in October 2012 (Indicator 3). With respect to policy, regulatory, and institutional frameworks for air pollution control, the Mayor Order on the Boiler Registration Management System was issued in August 2011, and a memorandum on the use of measuring equipment for air pollution control and energy conservation diagnosis was exchanged in November 2012 between APRD and the Mongolian University of Science and Technology. As for the responsibilities, roles, and share of the work for each organization, promoting formal inter-organizational cooperation through such means as memorandums was being considered (Indicator 4).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Project effects have been mostly sustained since project completion. With respect to Indicator 1, audit certification studies on HOBs have been conducted annually between October and April of the following year based on the Hot Water Boiler Audit Certification rule, and the registration data in the boiler registration system developed under this project has been updated; HOBs with a rated capacity over 100kW in the six central districts in Ulaanbaatar City are designated to register, and all target facilities are registered at the time of ex-post evaluation. The emission source inventory database created under this project has also been updated annually, and modeling of air quality dispersion simulation and production of concentration distribution/diffusion diagrams have been carried out each year using revised results of the inventory emission rate calculation. There are three thermal power plants and 170 HOB facilities with a rated capacity over 100kW (a total of 321 boiler units) in the city as of 2016, and by the time of ex-post evaluation, stack gas measurement has been conducted for 100 percent, or 26, of the boiler units at thermal power plants and 50 percent, or 85, of the facilities[3] with HOBs. Staff at thermal power plants regularly conduct stack gas measurements themselves because the city's external agencies such as APRD are prohibited from entering power plants for conducting stack gas measurement as thermal power plants are considered critical national facilities under the jurisdiction of the Ministry of Energy (ME). As for HOBs, even though the implementation of stack gas measurement prioritizes the central area in the city where the effects on air pollution are significant, the measurement has been conducted only at half of all facilities due to reasons such as the shortage of personnel for measurement. An annual report consisting of emission source inventory data, emission rate calculation results, and stack gas measurement results etc. is assembled each year and published on the APRD homepage (emission source inventory

[3] Each HOB facility usually has two to four boilers in Ulaanbaatar City. Presently there are 170 HOB facilities and 321 boilers in the city, and stack gas measurement is normally conducted on one boiler to represent each facility, and stack gas measurement has so far taken place at half of the 170 facilities in the city (85 facilities).

and stack gas measurement results [the HOB certified study report] are each published individually, and the results of air quality evaluation and analysis are reflected in NAMEM's annual report). As for Indicator 2, progress has generally been observed in all areas covered by the 11 recommendations that were made at project completion. For example, heating service from heat stations began in Bayanzürkh District in 2015, shutting down several nearby boiler facilities. Moreover, cyclones and wet scrubbers have been installed in 67 percent of the city's HOBs with a rated capacity over 100kW, and regional heating service was developed, and ger stoves and wall stoves have been eliminated. Soil covering and tree planning have taken place on buried ash landfills for thermal power plants No. 2 and No. 3, reducing the dispersion of ash). In addition, recommendations have continuously been submitted to the vice mayor after project completion about air pollution control measures based on annual reports (during and after 2016, 15 recommendations have been made in Phase 2 of this project, and three recommendations were independently made by APRD). With respect to Indicator 3, APRD's work on air pollution control measures and outcomes have been continuously reported, once or twice each year since the completion of the project, at meetings on air pollution control measures co-organized by the Ministry of Environment and Tourism (MET), the National Committee on Air Pollution Reduction, APRD, NAMEM, CLEM, Inspection Agency of the Capital City (IACC), and private corporations etc. Concerning Indicator 4, efforts to develop regulatory and institutional frameworks have been made since project completion, as seen in such examples as the joint order issued by the Minister of Environment and Tourism and the mayor of Ulaanbaatar City on the approval and renewal of the "Implementation Rules in Air Pollution Improvement Areas," [4] and the creation of a letter of agreement between APRD and NAMEM concerning the division of their roles on operation of the Comprehensive Air Quality Monitoring Network.[5] A memorandum that was being considered at the time of project completion regarding the responsibility, role, and share of the work for each relevant organization was concluded in January 2013 by the Minister of Environment and Tourism and the mayor of Ulaanbaatar City, and the responsibilities, roles, and division of work among the concerned organizations that were involved in setting the policy of and implementing measures for air pollution reduction for the 2013-2016 period have been clarified. A memorandum on the policy and implementation of air pollution reduction countermeasures for the 2017-2020 period also has been created.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved by the time of ex-post evaluation. As stated above, at the time of ex-post evaluation, staff at thermal power plants conduct stack gas measurements themselves and control emission of air pollutants. As shown in the table below, while one to two units out of five units in total exceed the emission standard of the Mongolian National Standard (MNS) at the thermal power plant No. 2, the emission standard is almost complied at the thermal power plants No. 3 and 4[6]. On the other hand, regarding 85 HOB facilities which stack gas measurement has been conducted by the time of ex-post evaluation, almost half of them exceed the emission standard. Reasons for this are that many boilers operated in the city are foreign-made such as Chinese, and their technical specifications are not compatible with fuels used in Mongolia (Nalaiha charcoal and Baganuur charcoal etc.), that technical capacities of boiler operators are low and they cannot properly conduct operation management, and that the MNS emission standard is too strict[7], etc. In order to improve the situation, Ulaanbaatar City conducts audit and certification of HOBs for emission reduction, and based on its results, APRD provides technical guidance and advice on installation of emission gas treatment device for boiler operators and imposes administrative measures such as improvement orders and penalty charges. Moreover, awareness raising activities for citizens and boiler operators have been strengthened by introducing policies related to regulations on air pollution control and conducting explanatory meetings. In addition, under cooperation from concerned government ministries such as MET, ME and the Ministry of Road and Traffic Development, "National Air/Environment Pollution Reduction Program (2017-2025)" and "Ulaanbaatar City Air Pollution Reduction Special Plan (2017-)"[8], which are to enforce reduction of air pollutants, were approved in March 2017, and both short-term and long-term measures for air and environmental pollution reduction have been strengthened. The purpose of these program and plan is to mitigate population concentration into the capital through appropriate city and rural development and infrastructure improvement and establish measures and systems for air and environmental pollution reduction. As part of such efforts, environmentally friendly, efficient and clean technologies and innovations have been introduced, the use of raw coal has been prohibited gradually, development of regional infrastructures utilizing renewable energies and gas etc. has been promoted, a regulation system based on car plate numbers and electric cars have been introduced in Ulaanbaatar City, car fuels have been improved and the Ger areas redevelopment plan[9] has been implemented, which indicates that air pollution reduction measures in the city has been strengthened.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural and social environment has occurred under the project.

<Evaluation Result>

In light of the above, through the project, the Project Purpose had been mostly achieved by project completion, project effects have mostly sustained, and the Overall Goal has been partially achieved by the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

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[4] This rule, which was designed to divide the Ger District in Ulaanbaatar City where air pollution was severe into three areas, prohibit the use of raw coal in these areas, and provide improved stoves and improved fuel, expanded the target geography to four areas in January 2017 and specified for each area prohibited items as well as measures to be implemented (elimination of night-time electricity charge through the introduction of electric heaters, promotion of the distribution of improved fuel, introduction of energy-saving heating products, etc.).

[5] The Comprehensive Air Quality Monitoring Network is a network system to transfer and collect air quality measurements data via air quality automated measuring stations; at the time of ex-post evaluation, six stations controlled by the APRD and another six stations controlled by the NAMEM are implementing automated continuous measurement of air environment, and this network serves as a system to share these measurement data.

[6] The capacities of three thermal power plants differ as: No. 2 (22.5MW), No. 3 (136MW) and No.4(693MW)

[7] As a result that the World Bank conducted a survey on the emission standard, MNS for HOBs has been revised, and the revised MNS has been applied since April 2016.

[8] "Ulaanbaatar City Air Pollution Reduction Special Plan (commenced from 2017)" is a detailed plan related to the implementation of air pollution reduction measures among related organizations in the city. The progress and action results of the plan are reported to the city council every three months, and measures are added or updated as necessary. The reporting has been conducted twice by the time of ex-post evaluation.

[9] The Ger areas redevelopment plan is a plan to transform Ger areas, which are major sources of air pollution, into residences. It is planned to divide Ger areas into the suburb area, the city center and the middle area, and in the suburb area, regional infrastructures are to be developed such as constructing residences and providing heating with renewable energies, in the city center, high-rise residential buildings are to be constructed, and in the middle area, medium-rise residential buildings are to be constructed. 24 places in Ger areas are subject to the redevelopment plan at the time of ex-post evaluation.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Capacity for air pollution control in Ulaanbaatar City is strengthened, paying special attention to the human resource development of the Municipality of Ulaanbaatar and other relevant agencies among other aspects of the capacity development.</td><td>1. AQDCC publishes annual report on air pollution such as emission inventory summary, air quality evaluation results and emission measurement results etc. 2 times during the project period under the cooperation with the relevant agencies.</td><td>Status of the Achievement: achieved (partially continued)
(Project Completion) The First Annual Report was released in June 2012, and the Second Annual Report was released in December 2012.
(Ex-post Evaluation) The registration data in the boiler registration system developed under this project have been updated every year. The emission source inventory database created under this project has also been updated annually, and modeling of air quality dispersion simulation and production of concentration distribution/diffusion diagrams have been carried out each year. There are three thermal power plants and 170 HOB facilities with a rated capacity over 100kW (a total of 321 boiler units) in the city as of 2016, and the number of units for which stack gas measurement has been conducted by the time of ex-post evaluation is as below. The measurement has been conducted for 100 percent of the boiler units at thermal power plants and 50 percent of the HOB facilities.
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>Total</th></tr>
<tr><td>Thermal Power Plant (unit)</td><td>11</td><td>15</td><td>26</td><td>26</td><td>26</td><td>26</td></tr>
<tr><td>HOB (facility)</td><td>4</td><td>16</td><td>19</td><td>24</td><td>22</td><td>85</td></tr>
</table>
Based on the above, APRD has published an annual report on its homepage each year, in which emission source inventory data, emission rate calculation results, and stack gas measurement results etc. is assembled.</td></tr>
<tr><td></td><td>2. AQDCC makes at least 5 recommendations on air pollution control to vice-mayor of MUB based on the annual reports under the cooperation with the relevant agencies.</td><td>Status of the Achievement: achieved (continued)
(Project Completion) JICA experts put together a total of 11 recommendations concerning air pollution countermeasures, and all of them were included in annual reports. Moreover, APRD explained and recommended air pollution countermeasures to the vice mayor and stakeholders based on annual reports, three of which were approved by the city council and included in the project plan.
(Ex-post Evaluation) Progress has generally been observed in all areas covered by the 11 recommendations above since project completion. In addition, recommendations have continuously been submitted to the vice mayor after project completion about air pollution control measures based on annual reports.</td></tr>
<tr><td></td><td>3. AQDCC makes reports on the results obtained by the project to roundtable meetings and its equivalents held during the project period under the cooperation with the relevant agencies.</td><td>Status of the Achievement: achieved (continued)
(Project Completion) APRD and JICA experts made reports at the Donor and Mongolian Joint Meetings in total of three occasions, and C/Ps made presentations based on the project outcomes in October 2012.
(Ex-post Evaluation) APRD’s work on air pollution control measures and outcomes have been continuously reported, once or twice each year since the completion of the project, at meetings on air pollution control measures.</td></tr>
<tr><td></td><td>4. Policy, regulatory and institutional frameworks for air pollution control are improved through measures such as issuing of Mayor’s instructions and signing official documents between the AQDCC and concerned national/municipal government organizations.</td><td>Status of the Achievement: partially achieved (continued)
(Project Completion) The Mayor Order on the Boiler Registration Management System was issued in August 2011, and a memorandum on the use of measuring equipment for air pollution control and energy conservation diagnosis was exchanged in November 2012 between APRD and the Mongolian University of Science and Technology. The responsibilities, roles, and share of the work for each organization were being considered.
(Ex-post Evaluation) Efforts to develop regulatory and institutional frameworks have been made since project completion, as seen in such examples as the joint order issued by the Minister of Environment and Tourism and the mayor of Ulaanbaatar City on the approval and renewal of the “Implementation Rules in Air Pollution Improvement Areas,” and the creation of a letter of agreement between APRD and NAMEM concerning the division of their roles on operation of the Comprehensive Air Quality Monitoring Network.</td></tr>
<tr><td>(Overall Goal)
Measures for emission reduction of air pollutants will be strengthened in Ulaanbaatar City.</td><td>Most of major stationary emission sources like 150 to around 200 HOBs and 3 power plants in Ulaanbaatar City will be under control to comply with emission standards.</td><td>(Ex-post Evaluation) partially achieved
Results of stack gas measurement conducted by the time of ex-post evaluation are as below.
<table>
<tr><th rowspan="2">Measuring Object</th><th rowspan="2">Total</th><th colspan="5">Number of boiler units that exceed MNS</th></tr>
<tr><th>Dust</th><th>SO_2</th><th>NO_X</th><th>CO</th><th>PM_{10}</th></tr>
<tr><td>HOB</td><td>85</td><td>49</td><td>41</td><td>N/A</td><td>56</td><td>N/A</td></tr>
<tr><td>Thermal Power Plant No.2</td><td>5</td><td>N/A</td><td>N/A</td><td>1</td><td>2</td><td>N/A</td></tr>
<tr><td>Thermal Power Plant No.3</td><td>13</td><td>0</td><td>0</td><td>0</td><td>0</td><td>N/A</td></tr>
<tr><td>Thermal Power Plant No.4</td><td>8</td><td>0</td><td>8</td><td>0</td><td>0</td><td>N/A</td></tr>
</table></td></tr>
</table>

		Note: (1) As for HOBs, the table shows the data for 85 boiler units in 85 HOB facilities. (2) Time frame of acquisition of the above data: measurement data during 2013 to 2017 for HOBs and measurement data during 2015 to 2017 for thermal power plants.

Source : Project Completion Report, questionnaire survey for thermal power plants and APRD, APRD homepage, and APRD's stack gas measurement database

3 Efficiency

The project cost exceeded the plan, while the project period was within the plan (ratio against plan: 111%, 100%, respectively). Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Reducing air pollution is still positioned as an important issue in "the Government Action Plan (2016-2020)", "National Air/Environment Pollution Reduction Program (2017-2025)", "the Mayor's Action Plan in Ulaanbaatar City (2016-2020)" and "Ulaanbaatar City Air Pollution Reduction Special Plan (2017-)" etc., which are effective at the time of ex-post evaluation.

<Institutional Aspect>

At the time of ex-post evaluation, APRD, as a specialized organization for air quality management and monitoring, is in charge of updating the boiler registration system in Ulaanbaatar City and the emission source inventory database, conducting and evaluating air quality dispersion simulation, implementing stack gas measurements, organizing seminars and workshops for boiler operators etc. NAMEM under the MET is in charge of analysing and providing environmental information (meteorological information and air quality information etc.) to governmental organizations and the public (it does not manage or measure emission sources), and CLEM is in charge of observing and measuring meteorological phenomenon and environment (air, water and soil) for conservation of natural environment etc. At the time of ex-post evaluation, there are one division chief and seven staffs in the Air Quality Management division[10], and one division chief and five staffs in the Policy Coordination division in APRD. According to APRD, the number of staff required to sufficiently conduct stack gas measurements of fixed emission sources is three, however, only two staff are currently assigned, and stack gas measurements have not been conducted in all HOBs in the city. At the time of ex-post evaluation, there are one division chief and eight staff in the Environmental Analysis division of NAMEM, and there are two staff each in the air quality automated measuring stations of CLEM. According to NAMEM and CLEM, the number of staff is sufficient to conduct environmental monitoring, analysis and evaluation.

<Technical Aspect>

At the time of ex-post evaluation, few C/Ps of APRD remain in the same department that they worked during project implementation due to studying abroad, personnel transfers and disemployment etc. However, handover of assignments to successors are properly conducted. C/Ps of NAMEM and CLEM still work for these organizations. The technical level of staff in APRD, NAMEM and CLEM can be said sufficient to sustain project effects, as tasks in each organization stated above are properly conducted. At APRD, after project completion, trainings on technical procedures of stack gas measurements, processing of measured data, and maintenance of measuring equipment and the air quality automated measuring stations etc. have been conducted for 11 staff in total in Phase 2 of this project; however, internal trainings except for those provided by JICA projects are not conducted. Technical guidelines and manuals produced under the project are utilized for checking works at measuring sites, maintenance of measuring equipment and training successors (used as reference materials) etc., and technical transfers are conducted utilizing these guidelines and manuals at sites. Stack gas measuring equipment (Stack Gas Analyzer and Automated Dust Sampling Device etc.) provided under the project are well utilized for burning tests of improved fuels and stack gas measurements, regular inspections for these equipment are conducted before and after stack gas measurements and cleaning and repairs are conducted as needed. It has also been confirmed that there are enough spare parts for these equipment at the time of ex-post evaluation.

<Financial Aspect>

APRD has budget allocation from the national budget and the city's budget and operating revenues from fee-based stack gas measurements. It could not be sufficiently checked whether necessary amount of financial sources are secured for sustaining project effects, as detailed data on revenues and expenditures and allocation of maintenance budget in APRD at the time of ex-post evaluation could not be obtained due to lack of sufficient management of financial information within APRD. Nonetheless, as shown in the table on the right, APRD has a certain budget every year[11]. However, these budget amounts are not sufficient to employ necessary numbers of staff to conduct stack gas measurements in all HOBs in the city. While the budget amount allocated to NAMEM and CLEM is not available, budget allocation for air quality monitoring and maintenance of the air quality automated measuring stations is not sufficient in these organizations, and thus consumables and spare parts of measuring equipment[12] cannot be regularly replaced and sufficient spare parts cannot be secured, which has resulted in frequent breakdown of measuring equipment due to deterioration of equipment. Thus, coordination is being taken to receive financial assistance from donors

Breakdown of APRD's Budget

(Unit: 1,000MNT)

	2015	2016	2017
Implementation of Air Pollution Control Measures	203,124	50,000	2,900,000
Air Quality Monitoring, Maintenance, Stack Gas Measurements of Boilers, Certifying Activities etc.	118,349	100,000	300,000
Others	245,905	403,694	605,000
Total	567,378	553,694	3,805,000

Source: APRD

[10] The Air Quality Management division is in charge of managing the emission source inventory database, conducting and evaluating air quality dispersion simulation, and implementing stack gas measurements etc., and the Policy Coordination division is in charge of managing the boiler registration system, conducting seminars for boiler operators and dealing with air pollution problems in the Ger areas and pollution problems caused by transportation agencies etc.

[11] The reason for the budget for "Implementation of Air Pollution Control Measures" having largely increased in 2017 is because the budget for measures such as supplying improved fuels to Gel areas, introducing electric heaters, and installing emission gas treatment devices to HOBs in winter time of 2017 to 2018 has increased, as a result of a policy having been effective to put further efforts for implementation of air pollution control measures due to a change of the governmental administration and the mayor of Ulaanbaatar City in 2016.

[12] Not the equipment procured under the project but the equipment procured and owned independently by these organizations.

including international organizations at the time of ex-post evaluation.
<Evaluation Result>
In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

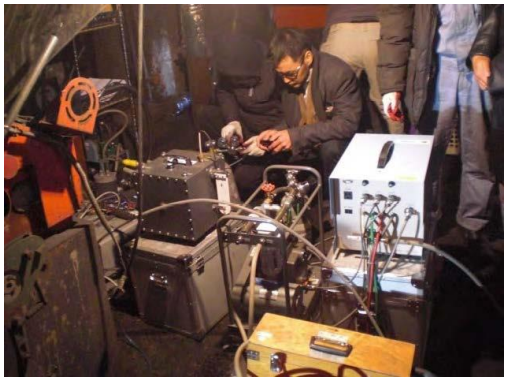
Through the project, the targets of indicators for Project Purpose had been mostly achieved by project completion. Project effects have mostly sustained, and the Overall Goal has been partially achieved by the time of ex-post evaluation. As for sustainability, some problems have been observed in terms of the institutional and financial aspects, and in particular, sufficient number of staff to conduct stack gas measurements are not secured and financial information is not clearly managed in APRD. However, it has been confirmed that there is no problem in policy and technical aspects. As for efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be high.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

As stated above, it could not be sufficiently checked whether necessary amounts of financial sources are secured for sustaining project effects, due to lack of proper management of financial information within APRD. It is important for APRD to clarify expenditures from annual budget by major purposes and properly manage financial information, which also could enhance sustainability of project effects.



Stack Gas Measurement at HOB

Training on Inventory/Simulation

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Bhutan Office: February 2018

Country Name	Strengthening of Quality of Vocational Education and Training Delivery
Kingdom of Bhutan	

I. Project Outline

Background	The Royal Government of Bhutan (RGOB) had introduced a policy encouraging employment in the private sector due to the limited growth of job opportunities in the public sector. However, the vocational training system in Bhutan had not fully reached enough quality to satisfy the needs of the private sector. Moreover, the youth population of Bhutan had been booming rapidly. It was urgently required that RGOB provide qualified vocational trainings for young Bhutanese in order to secure their employment.		
Objectives of the Project	Through strengthening planning, implementation, monitoring and evaluation system of Department of Human Resources (DHR) and capabilities of the electrical course of Khuruthang Institute of Electrical Engineering (KIEE) and electrical instructors of Technical Training Institutes (TTIs), the project aimed at producing human resources who have necessary knowledge and skills based on industrial needs in the electrical course of KIEE and accumulating know-how applicable to other TTIs, thereby expanding project effects to electrical courses of other TTIs. 1. Overall Goal: Electrical courses of TTIs produce human resources who have necessary knowledge and skills based on industrial needs. 2. Project Purpose: Electrical course of KIEE produces human resources who have necessary knowledge and skills based on industrial needs, and know-how which can be applied in the other TTIs is accumulated.		
Activities of the Project	1. Project Site: Thimphu, Khuruthang 2. Main Activities: (1) Conduct training needs assessment, develop guideline and workflow of training management and monitoring and evaluation (M&E) guideline, and hold workshop to promote the activities/outputs of the project; (2) Develop lesson plans to provide effective training, conduct pilot courses in electrical at KIEE, and develop resource (materials and equipment) management system (Inventory Management System (IMS)); and (3) Train TOT trainers in electrical courses, conduct cascade training by TOT trainers, and develop guidelines on training of instructors etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 4 persons 2) Trainees Received in Japan: 27 persons 3) Trainees in third countries (Thailand and the Philippines): 44 persons 4) Equipment for trainings for electrical course 5) Operational expenditure Bhutan's Side 1. Staff Allocated: 4 persons 2. Project office and office furniture		
Project Period	June 2009 – June 2013	Project Cost	(ex-ante) 280 million yen, (actual) 304 million yen
Implementing Agency	Department of Technical Education (DTE)[1] of Ministry of Labor and Human Resources (MoLHR), Technical Training Institute Khuruthang (TTI-K)[2], Technical Training Institute Ranjung (TTI-R), Technical Training Institute Sershong (TTI-Ser) and Technical Training Institute Chumey (TTI-C)		
Cooperation Agency in Japan	Ministry of Health, Labour and Welfare, Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers (JEED) and Overseas Vocational Training Association (OVTA)		

II. Result of the Evaluation

<Constraints on Evaluation>

- It was found out that the electrical course of TTI-Ser and TTI-C was discontinued in 2014. Based on domestic needs, TTI-Ser has been transformed from TTI to the newly established Jigme Wangchuk Power Training Institute that focuses on transmission and distribution, transformer maintenance and underground cable trenching etc., while TTI-C has focused on civil construction and furniture making courses. Thus, the survey for the ex-post evaluation was conducted for TTI-K and TTI-R only.
- Regarding the Indicator 2 of both Project Purpose and Overall Goal, while surveys on employment status of graduates have been conducted by TTIs, not all graduates have responded to the survey, and thus the employment status of all the graduates are not available. Therefore, in this ex-post evaluation, the achievement level of the Indicator 2 is assessed based on the ratio of the number of graduates who were employed within six months after graduation against the number of graduates who responded to the employment status survey.

1 Relevance

<Consistency with the Development Policy of Bhutan at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Bhutan's development policy on 'human resource development' and 'Technical and Vocational Education and Training (TVET)' etc. as set forth in the "Bhutan 2020, A Vision for Peace, Prosperity and Happiness (1999)", "The Ninth Five Year Plan (2002-2007)" and "The Tenth Five Year Plan (2008-2013)" at the time of both ex-ante evaluation and project completion.

<Consistency with the Development Needs of Bhutan at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation (2009), major industries in Bhutan were agriculture and exports of electricity from hydropower generation to India. The unemployment issue due to an increase of youth population was a social problem. The government established the Ministry of Labor and Human Resources (MoLHR) in 2003 and set up eight vocational training institutes under MoLHR (of which four

[1] The Department of Human Resources (DHR) has become the Department of Technical Education (DTE) from April 2017.

[2] Khuruthang Institute of Electrical Engineering (KIEE) is currently called Technical Training Institute Khuruthang (TTI-K).

institutes had electrical courses) to tackle this issue. However, they lack capabilities to prepare curricula and training materials reflecting industrial needs and training systems for instructors. At the time of project completion, Bhutan was planned to be fully electrified by 2013 and it was expected to increase the demand for electricians. Thus, there were still needs for vocational education and trainings in electrical courses.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, social development was emphasized as one of priority areas of assistance to Bhutan, in which human resource development for employment generation was included[3].

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose had been achieved by the time of project completion. Regarding the Indicator 1, the project conducted a survey by sending a questionnaire to employers of TTI-K graduates of 2012 batch[4] (graduated in June 2012) as the first batch of the project, and was able to collect answers from 13 companies. Eleven out of 13 companies had employed TTI-K graduates even before 2012, and 10 out of these 11 companies replied that TTI-K graduates of 2012 batch were more advanced than previous graduates. Among them, five companies evaluated skills of these graduates highly, eight companies evaluated their knowledge highly, and eight companies evaluated their motivation/attitude highly (however, there were comments from companies that it was difficult to make their performance evaluation, as only a short time passed since these companies employed these graduates). Regarding the Indicator 2, according to the result of employment status monitoring conducted for graduates of 2012 batch, 78% of 59 graduates were employed half year after their graduation (as of January 2013). Regarding the Indicator 3, the average score of satisfaction for the workshop conducted for representatives from DTE and Department of Occupational Skills Standard (DOS) and principals of TTIs in February 2012 was 3.9 in five-grade evaluation. The average satisfaction score of 126 participants (trainers and staff of TTIs) of M&E workshop was 3.86.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Project effects have been partially sustained since project completion. Regarding the Indicator 1, a survey on the expectation for TTI-K electrical graduates has not been conducted by MoLHR or TTI-K since project completion. Thus, a questionnaire survey was conducted to nine companies (employers of TTI-K electrical graduates) in this ex-post evaluation. All the companies replied that they are satisfied with technical skills and knowledge of graduates of TTI-K electrical courses, these graduates have met their expectations and they are perfectly capable of performing their tasks. Regarding the Indicator 2, TTI-K conducts a mobile telephone survey after six months of graduation to find out the employment status of the graduates. While the number of graduates fluctuates year to year[5], more than 80% of the target (70% of jobseekers are employed within six months after graduation) has been achieved, as shown in the table below. Regarding the Indicator 3, no workshop to promote the activities or outputs of the project has been conducted since project completion (the reason is unknown). However, M&E has been conducted based on M&E tools developed under the project, which were modified by DTE in 2015, at DTE, TTI-K and TTI-R, IMS has been utilized at TTI-K and TTI-R, TOT on pedagogy has been conducted by MoLHR twice a year and TOT on technical skills related to electricity such as switchgear and protection and transformer maintenance has been conducted by Bhutan Power Corporation (BPC) once a year since project completion, while the Industrial Advisory Body (IAB) meeting, which was established under the project to assess training needs, has not been organized since 2014, due to the lack of interests from other agencies and no guideline for IAB.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved by the time of ex-post evaluation. Regarding the Indicator 1, all of the nine companies (employers) replied in the questionnaire survey that graduates of electrical courses of all TTIs (TTI-K and TTI-R) are perfectly capable of performing their tasks. Regarding the Indicator 2, the employment status of graduates of TTI-K electrical courses is as stated above. As for the employment status of graduates of TTI-R electrical courses, more than 70% of graduates have been employed within six months after graduation since project completion, as shown in the table below.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural and social environment has occurred under the project. As other positive impacts, IMS and modified M&E tools developed under the project have become mandatory in all TTIs.

<Evaluation Result>

In light of the above, through the project, the Project Purpose had been achieved by project completion, project effects have partially sustained, and the Overall Goal has been achieved by the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) Electrical course of KIEE produces human resources who have necessary knowledge and skills based on industrial needs, and know-how which can be applied in the other TTIs is accumulated.	1. Average evaluation rate of employers to graduates of electrical course of KIEE exceeds average rate of expectation.	Status of the Achievement: partially achieved (continued) (Project Completion) Most companies replied in the questionnaire survey that TTI-K graduates of 2012 batch were more advanced than previous graduates, though there were also comments that it was difficult to make their performance evaluation as only a short time passed since these companies employed these graduates. (Ex-post Evaluation) All of the nine companies (employers) replied in the questionnaire survey that TTI-K electrical graduates have met their expectations and they are perfectly capable of performing their tasks.

[3] Source: ODA Country Data Book (2009)

[4] Project effects were expected to be observed in 2012 batch onwards.

[5] The reason for the number of graduates in 2014 being larger than other years is that the trainees from TTI-Ser and TTI-C were shifted to TTI-K for their final semester and graduated from TTI-K.

<table>
<tr><td></td><td>2. More than 70% of jobseekers among graduates of electrical course of KIEE are employed half year after their graduation.</td><td>Status of the Achievement: achieved (continued)
(Project Completion) 78% of graduates of 2012 batch were employed half year after their graduation (as of January 2013).
(Ex-post Evaluation) The number of graduates in TTI-K electrical course who were employed within six months after graduation since project completion is as below.
<table>
<tr><td></td><td>Graduation in 2013</td><td>Graduation in 2014</td><td>Graduation in 2015</td><td>Graduation in 2016</td></tr>
<tr><td>The number of graduates in total in electrical course of TTI-K</td><td>57</td><td>148</td><td>80</td><td>55</td></tr>
<tr><td>The number of graduates who responded to the employment status survey</td><td>N/A</td><td>105</td><td>72</td><td>55</td></tr>
<tr><td>The number of graduates who were employed within 6 months after graduation[6]</td><td>29 (N/A)</td><td>57(54%)</td><td>50(69%)</td><td>41(75%)</td></tr>
</table>
Note: The percentage within the bracket shows the rate of graduates who were employed within six months after graduation among the number of respondents to the survey.</td></tr>
<tr><td></td><td>3. Satisfaction of participants of workshops to promote the activities /outputs of the project exceeds 4 in five-grade evaluation.</td><td>Status of the Achievement: achieved (not continued)
(Project Completion) The average score of satisfaction among representatives from DTE and DOS and principals of TTIs was 3.9 in five-grade evaluation. The average score of 126 participants (trainers and staff of TTIs) of M&E workshop was 3.86.
(Ex-post Evaluation) No workshop to promote the activities or outputs of the project has been conducted since project completion.</td></tr>
<tr><td>(Overall Goal)
Electrical courses of TTIs produce human resources who have necessary knowledge and skills based on industrial needs.</td><td>1. 80% of employers find graduates of electrical course of TTIs can perform their jobs they are trained in.</td><td>(Ex-post Evaluation) achieved
All of the nine companies (employers) replied in the questionnaire survey that graduates of electrical courses of all TTIs (TTI-K and TTI-R) are perfectly capable of performing their tasks.</td></tr>
<tr><td></td><td>2. More than 70% of jobseekers among graduates of electrical course of TTIs are employed half year after their graduation.</td><td>(Ex-post Evaluation) achieved
For TTI-K, see the Indicator 2 of Project Purpose.
The number of graduates in TTI-R electrical course who were employed within six months after graduation since project completion is as below.
<table>
<tr><td></td><td>Graduation in 2013</td><td>Graduation in 2014</td><td>Graduation in 2015</td><td>Graduation in 2016</td></tr>
<tr><td>The number of graduates in total in electrical course of TTI-R</td><td>57</td><td>98</td><td>58</td><td>56</td></tr>
<tr><td>The number of graduates who responded to the employment status survey</td><td>N/A</td><td>56</td><td>48</td><td>33</td></tr>
<tr><td>The number of graduates who were employed within 6 months after graduation</td><td>N/A</td><td>41(73%)</td><td>48(100%)</td><td>26(79%)</td></tr>
</table>
Note: The percentage within the bracket shows the rate of graduates who were employed within six months after graduation among the number of respondents to the survey.</td></tr>
</table>

Source : JICA document, questionnaire survey to MoLHR, DTE, TTI-K, TTI-R and nine companies (Construction Development Company Ltd., Zimdra Industries, UDee Enterprise, Bhutan Ferro Alloys Limited., Tala Hydropower Plant, Department of Roads, Lamla Sales and Services, Computer City, and Bhutan Power Corporation)

3 Efficiency

The project cost exceeded the plan, while the project period was within the plan (ratio against plan: 109%, 100%, respectively). Therefore, the efficiency of the project is fair.

[6] The youth unemployment rate in Bhutan has continued to rise since project completion, which was 9.6% in 2013, 9.4% in 2014 and 10.7% in 2015 (Source: TVET Blueprint 2016-2026).

4 Sustainability

<Policy Aspect>

TVET is still regarded important in "the 11th Five Year Plan (2013-2018)", "TVET Blueprint (2016-2026)" and "National Workforce Plan (2016-2022)" etc., which are effective at the time of ex-post evaluation.

<Institutional Aspect>

As stated above, the electrical course of TTI-Ser and TTI-C has been discontinued since 2014. TTI-Ser has been reformed as Jigme Wangchuk Power Training Institute[7], and the first batch of enrollment has started from August 2017. TTI-C has focused on civil construction and furniture making courses since 2014. At the time of ex-post evaluation, DTE is comprised of three divisions, in which there are one chief and eight program officers in the TVET Professional Services Division, which is responsible for capacity building of instructors and trainers, reviewing and updating existing curricula, developing curricula for new training courses, and monitoring and supervising training delivery etc. There are six program officers in the TVET Promotion Division, which is responsible for facilitating and coordinating implementation of the national human resource development policy, conducting research on human resource development issues, and developing a human resource development master plan for private sector etc. There are one chief, one program officer and one supporting staff in the TVET Institute Support Division, which is responsible for supervising management and administration within DTE, and coordinating communication skills development programs, special skills development programs, apprenticeship programs etc. The number of staff within DTE is not sufficient, and thus staff are requisitioned from other institutions for conducting M&E of TTIs, curriculum development and TVET advocacy. However, at least three new professional staff are planned to be recruited shortly in the TVET Professional Services Division, and one professional staff will soon be assigned in the division after completing his studies abroad. There are nine instructors for electrical courses at TTI-K and seven instructors for electrical courses at TTI-R at the time of ex-post evaluation, and according to MoLHR, these numbers are sufficient, as it fulfills the criterion set by MoLHR, in which the ratio of instructors and trainees is set within 1:12. TOT trainers who were trained under the project are designated as lead trainers for TOT on industrial wiring, programmable logic controller (PLC) and power transformer testing, which is conducted when new instructors are recruited at TTIs. TOT on technical skills related to electricity such as switchgear and protection and transformer maintenance is conducted by professionals from BPC which has their own training institute called the Central Training and Maintenance Division. According to TTI-K, TTI-R and BPC, the number of trainers for these TOTs is sufficient at the time of ex-post evaluation, though the data on the number of trainers is not available.

<Technical Aspect>

At the time of ex-post evaluation, all the project counterparts (C/Ps) still work in DTE, TTI-K and TTI-R, except for one instructor at TTI-K, who has retired. The technical skills of staffs at DTE are sufficient to monitor and supervise TTIs, as M&E has been continuously conducted at TTI-K and TTI-R by DTE based on modified M&E tools developed under the project, as stated above. According to MoLHR, all the instructors at TTI-K and TTI-R have been sufficiently trained through the JICA project, in-house capacity development programs and TOT provided by MoLHR and BPC, and have adequate skills to deliver electrical courses for the National Certificate (NC)-2 and NC-3 levels[8]. Lead trainers for TOT on industrial wiring, PLC and power transformer testing have also been sufficiently trained through the JICA project and have adequate skills to conduct TOT for new instructors. BPC has the necessary training infrastructure and experienced staff, and the trainers for TOT on technical skills related to electricity such as switchgear and protection and transformer maintenance have necessary skills to conduct TOT. Modified M&E guideline and tools developed under the project are utilized at TTI-K and TTI-R. Equipment for electrical courses procured under the project are mostly utilized, however, five PCs and one photocopy machine at TTIs have no longer been functional and replaced. Other equipment are maintained by operation and maintenance (O&M) personnel at TTIs.

<Financial Aspect>

At the time of ex-post evaluation, certain amount of budget is allocated to DTE every year, as shown in the right. However, DTE faces general budget constraint, and these amounts are insufficient to employ necessary number of staff to monitor and supervise TTIs properly and to carry out curriculum development and TVET advocacy satisfactorily. According to DTE, in the next (12th) Five Year Plan (2018-2023), it is expected that budget allocation to DTE will increase by 102%. As for budget allocation to TTIs, according to the principals of TTI-K and TTI-R, the amount of budget allocation to TTI-K and TTI-R is sufficient to deliver electrical courses.

[Annual budget and expenditure of DTE]

(Unit: million Ngultrum)

	2014	2015	2016
Total budget allocated	135.62	328.70	225.96
Total expenditure	132.50	308.93	220.31

Source: Annual Report of MoLHR 2014-2015 and 2015-2016

[Budget allocation to TTI-K and TTI-R]

(Unit: million Ngultrum)

	2014	2015	2016
TTI-K	24.09	28.52	27.29
TTI-R	18.10	23.41	22.57

Source: Annual Report of MoLHR 2014-2015 and 2015-2016

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project, the targets of indicators for Project Purpose had been achieved by project completion. Project effects have partially

[7] The electrical courses of TTI-K and TTI-R focus on house wiring, commercial/industrial wiring, electric appliance repair and maintenance etc., while the power training courses of Jigme Wangchuk Power Training Institute focus on transmission and distribution, transformer maintenance and underground cable trenching etc.

[8] Levels (NC-2 and NC-3 etc.) are defined in the National Competency Standard (NCS). All the instructors are now certified to provide NC-3 level trainings. Trainees of the first batch of NC-3 level trainings in the electrical course of TTI-R were graduated in April 2017, and TTI-K will commence NC-3 level trainings in November 2017.

sustained, and the Overall Goal has been achieved by the time of ex-post evaluation. As for sustainability, some problems have been observed in terms of the institutional and financial aspects, and in particular, the number of staff and budget allocation in DTE are not sufficient. However, it has been confirmed that there is no problem in policy and technical aspects. As for efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Lessons Learned for JICA:

Bhutan has a huge hydropower generation potential, and there are needs for human resources in power transmission and maintenance. That is why TTI-Ser has been transformed to the Jigme Wanghcuk Power Training Institute. There are also growing needs for other vocational courses such as civil construction and furniture making, and that is why TTI-C has shifted its focus on these courses. As there are some cases in which government policies and strategies change in accordance with the labor market's needs, government policies and strategies should be carefully monitored, shared among stakeholders of a project and timely incorporated into the scope of the project as necessary.

TTI-K electrical course classroom

TTI-K electrical course practical session

Internal Ex-Post Evaluation for Technical Cooperation Project

JICA Nepal Office: November 2017

Country Name	Gender Mainstreaming and Social Inclusion Project
Federal Democratic Republic of Nepal	

I. Project Outline

Background	Nepal is a multi-cultural and multi-lingual and geographically diverse country with people belonging to different castes and ethnic groups. Gender discrimination and social exclusion were entrenched in the political, economic and social fabric of Nepal for years due to the discrimination on the ground of caste, gender, ethnicity, disability, religion and age. The Interim Constitution of Nepal (2007) and the Three-Year Interim Plan (2007/08-2009/2010) highlighted Gender Equality and Social Inclusion (GESI) as a priority agenda. Since then a number of policies and guidelines were developed and adopted at the central level in order to promote Gender Mainstreaming and Social Inclusion (GM/SI). However, their impact remained minimal particularly in local bodies because they were hardly implemented at the local levels due to lack of coordination among GESI-related stakeholders, lack of support for villages, insufficient knowledge of the related stakeholders on GESI, and inadequate functions of the existing mechanism.		
Objectives of the Project	Through capacity development of the personnel at the central and field level and implementation of pilot projects, the project aimed at implementing GM/SI responsive programs* at the national level and two target districts, thereby contributing to development and implementation of GM/SI responsive programs in Nepal. *GM/SI responsive program are those which are planned and implemented from viewpoints of gender mainstreaming and social inclusion and address needs of gender and social inclusion. GM/SI and GESI are used interchangeable, and in this report, GESI is used except for PDM and title of the project outputs.		
	Overall Goal: GM/SI responsive programs are developed and implemented in Nepal. Project Purpose: GM/SI responsive programs are implemented at the national level and two target districts (Syangja and Morang).		
Activities of the project	1. Project site: Kathmandu, Districts of Syangja and Morang. 2. Main activities: 1) training of the national and district officers on GM/SI, 2) training of the district and village officers on planning and monitoring and appraisal and audit of GM/SI responsive projects, 3) implementation of GM/SI responsive projects in target villages, etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 8 persons 2) Training in Japan: 16 persons 3) Equipment: vehicle, PCs, office equipment, etc. 4) Operation cost for pilot project block fund, office supplies, vehicles, etc. Nepali Side 1) Staff allocated: 37 persons 2) Land and facilities: Office space, etc.		
Project Period	February 2009 to January 2014	Project Cost	(ex-ante) 430 million yen, (actual) 590 million yen
Implementing Agency	Ministry of Federal Affairs and Local Development (MoFALD), Ministry of Women, Children and Social Welfare (MoWCSW), Department of Women and Children (DWC), District Development Committee (DDC) in Morang district and Syangja district, Women and Children Office (WCO) in Morang district and Syangja district; Municipalities (one in Morang district and two in Syangja district), and Village Development Committees (VDC) (11 in Morang district and 10 in Syangja district)		
Cooperation Agency in Japan	International Development Center of Japan Incorporated, International Development Associates Ltd.		

II. Result of the Evaluation

<Issues to be considered at the time of ex-post evaluation>

- Indicator 1 of the Project Purpose (number and concrete examples of recommendations made by the Project that were incorporated into the existing GM/SI-related policies and guidelines by the end of the Project) did not have a target figure. At the time of the terminal evaluation, one case was confirmed, and the Joint Terminal Evaluation judged it as partial achievement. At the ex-post evaluation, since it was confirmed that the situation of the achievement at the time of project completions remained the same, the achievement of this indicator was judged as partial according to the judgement of the terminal evaluation,.

<Constraints of evaluation>

- This report was prepared based on the information and data gathered in March 2017. The Government of Nepal restructured its local level on February 2017. Local elections were conducted in three phases on April 14, June 28 and September 18 2017. Also the Government of Nepal has planned to conduct central and provincial level election on November 26 and December 7 2017. In this process, some sub-national level government organizations including those strengthened by the project were going to be restructured according to the Constitution. Evaluation analysis and judgment were conducted based on the information and data gathered after the restructuring of the local level and earlier than the elections, so some part of the report may not correctly reflect the latest situation.

1 Relevance

<Consistency with the Development Policy of Nepal at the time of ex-ante evaluation and project completion>

The project was consistent with Nepali development policies, as “social inclusion and inclusive development” were included in “the Tree year Interim Plan (2007-2009, 2010-2012 and 2013-2015).

<Consistency with the Development Needs of Nepal at the time of ex-ante evaluation and project completion >

Nepal is a multi-geographic, multi-cultural and multi-lingual country with people belonging to different castes and ethnic groups. Discrimination on the ground of caste, sex, ethnicity, disability, religion and age were deeply entrenched at the time of both the ex-ante

evaluation and project completion. They had great needs for the access to the local development process.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

One of the three priority areas in the Japan's ODA policy for Nepal is democratization and peace building. From the viewpoint of prevention of conflict recurrence, development and strengthening of the administrative system was prioritized as support for the Government of Nepal which aimed at coordination and solution of social incoherence and disharmony considered. The project was consistent with this point[1].

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved. As per GESI Policy enforced in 2010, the GESI Implementation Committees (ICs) were established in the target districts (Indicator 2) and the existing Integrated Planning Committees[2] (IPCs) which had been established in VDCs were reformed (Indicator 3). Besides, GESI responsive institutional mechanism (Indicator 6) was adopted at the district and village level, such as GESI responsive appointment of IPC members and networking of women with disabilities and single women. Expenditures for empowerment and capacity building of women and excluded groups exceeded the target (35% of the total) (Indicator 4), though they varied among VDCs. Good practices of the project (Indicator 5) were compiled as anecdotes. And, based on the project experience, recommendations were presented to MoFALD, LGCDP and other institutions to make their policies and guidelines more GESI responsive, and one of the recommendations was reflected for a policy revision (Indicator 1). Thus, it can be said that GESI responsive policies and programs are implemented at the national level and targeted districts.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued. As shown in the following table, some of the recommendations prepared by the project have been incorporated in to GESI related policy and guidelines, and GESI responsive concepts and practices have been reflected in various policy documents. On the other hand, GESI responsive institutional mechanism developed by the project has partially continued. GESI ICs were not functioning. Firstly because local development officers (LDOs) are frequently transferred but new officers are not clearly aware of their role related to GESI responsiveness as their job description is not clearly stated. Secondly, LDOs are too busy to dedicate their time for GESI related duties. Thirdly, the fund is not sufficient to organize GESI IC meetings and monitoring visits. IPCs have been merged into the Municipalities but have been functioning in both pilot and non-pilot villages, because trained members of IPCs increased awareness on GESI and sustained GESI perspectives in the planning process. Good practices of the project have been referred in visited villages, such as reformation of the Ward Citizen Forum (WCF) and involvement of women and excluded groups in the development process.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved. GESI responsive institutional mechanism has been developed in the districts other than the target districts, as DDCs of all 75 districts have established the Social Development Section, Gender Focal Point and Gender Responsive Budgeting committees. Also, IPCs have been established as per the Social Mobilization Guideline. At the Municipality level, DDCs conducted GESI audit and prepared the action plan. GESI responsive programs have been implemented in all DDCs and Municipalities. These have been realized because the concept and process of GESI were incorporated in the national policies and guidelines.

<Other Impacts at the time of Ex-post Evaluation>

According to the interviewed members of the VDCs surveyed by the ex-post evaluation[3], the following improvements have been reported: i) Women and ethnic groups have become more aware of their rights and entitlements, ii) They received technical training and have earned economic benefits from activities such as candle making, sewing and cutting, goat raising, pig farming, etc., iii) Women dalits[4] and other excluded groups have opportunities to have their say through their participation in WCF, the VDC Implementation Planning Committee, and iv) Men have changed their attitude toward women and came to help women in household chores.

<Evaluation Result>

In light of the above, the Project Purpose was mostly achieved and the effects have continued. The Overall Goal has been achieved, and several positive impacts have been confirmed. Therefore, the effectiveness/impact of the project is high.

Achievement of the Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) GM/SI responsive programs are implemented at the national level and two targeted districts (Syangja and Morang).	1. The number and concrete examples of recommendations made by the Project that were incorporated into the existing GM/SI-related policies and guidelines by the end of the Project.	Status of achievement: Partially Achieved. (Continued.) (Project Completion) - Recommendations were presented by the project to six policies and guidelines. Recommendations on the Local Bodies Gender Budget Audit Guidance 2008 were reflected to revise it as the Gender and Social Inclusion Budget Audit Guideline 2010. (Ex-post Evaluation) - Some of the recommendations have been incorporated in to GESI related policy and guidelines such as inclusive composition of WCF and District Coordination Committees related to women and excluded groups including indigenous people, dalit, and persons with disability. - MoFALD has adopted following policy documents to reflect GESI responsive concepts and practices in the local governance systems:

[1] Ministry of Foreign Affairs (2009). ODA Databook 2008.

[2] IPC is responsible for project planning and budgeting of VDC.

[3] At the ex-post evaluation, interviews were conducted in the following 8 villages: Phedikhola, Krishna Gandaki, Jagratadevi and Biruwa Archale of Syangja District and Pokhariya, Madhumalla, Urlabari and Tetariya of Morang District.

[4] 'Dalit' is a schedule caste. The person belonging to this caste is mostly excluded in the development process. Further, in many places, they become victims of untouchability.

		1. Gender Responsive Budgeting Localization Strategy 2016 2. Social Mobilization Guideline 2015 3. Dalit District Coordination Committee Guideline 2016 4. Women District/Municipality Coordination Committee Guideline 2016
	2. GESI Implementation Committee is respectively established in the two targeted districts as per the GESI Policy.	Status of achievement: Achieved. (Not continued.) (Project Completion) - GESI Implementation Committee was established at each of the target districts as per GESI policy. (Ex-post Evaluation) - No meeting of GESI Implementation Committees has been conducted in both districts.
	3. Existing VDC Integrated Planning Committee is reformed as per the GESI Policy at least in one pilot VDC/municipality of each of the two targeted districts.	Status of achievement: Achieved. (Continued.) (Project Completion) - Existing VDC Integrated Planning Committees were reformed as per GESI policy in 9 VDCs of Syangja and 8 VDCs of Morang. (Ex-post Evaluation) - VDC Integrated Planning Committees in the target area have continued functioning, even though they have been merged into the municipalities.
	4. The proportion of real expenditure of subprojects that promote empowerment and capacity building of women and excluded groups reaches at least 35 percent of the total expenditure of sub-projects in each pilot VDC/Municipality by the end of the Project.	Status of achievement: Partially achieved. (Continued.) (Project Completion) - The average proportion of the expenditure of subprojects for promoting empowerment and capacity building of women and excluded groups reached 44% in Syangja and 36% in Morang. However, the proportion varies among VDCs. It reached 35% in 7 of 12 VDCs of Syangja and 4 of 12 VDCs of Morang. (Ex-post Evaluation) - The proportion of real expenditure of subprojects that promote empowerment and capacity building of women and excluded groups exceeds 35% in all of the pilot VDCs and Municipalities of Syangja and Morang districts.
	5. Good practices of GESI responsive subprojects are collected from each pilot VDC/municipality by the end of the Project.	Status of achievement: Achieved. (Mostly continued.) (Project Completion) - Good practices of GESI responsive sub-projects were collected from VDCs and municipalities as the collection of anecdotes. (Ex-post Evaluation) - Among the 8 visited pilot VDCs, 6 (Phedikhola, Biruwa Archale and Jagatadevi of Syangja, and Tetariya, Pokhariya and Urlabari of Morang) have applied the project good practices such as reforming a WCF and involvement of women and excluded groups in the project planning and implementation process.
	6. GESI responsive institutional mechanism is adopted in DDC and non-pilot VDCs of the two targeted districts in reference to the Project.	Status of achievement: Mostly achieved. (Partially continued.) (Project Completion) - The following seven cases were confirmed. 1. DDC facilitated 21 non-pilot VDCs to make IPC members GESI responsive in Syangja. 2. DDC organized network of the women with disabilities in 19 VDCs, network of the single women in 19 VDCs, female inter-political party network in all VDCs in Syangja. 3. DDC conducted training on GESI statistics for GESI implementation committees in Syangja. 4. DDC and WCO workshop on GM/SI appraisal and audit for the representatives of the political parties in Morang. 5. DDC and GESI Implementation Committee conducted gender training for socially excluded groups of 12 VDCs in Morang. 6. DDC and LGCDP training on social mobilization for LGCDP, DDC, municipality, VDC in Morang. 7. GESI Implementation Committee conducted training on GESI for 5 non-pilot VDCs in Morang. (Ex-post Evaluation). - Although GESI Implementation Committees have not been functioning, the Social Development Section and Gender Focal Person have been assigned to work on GESI issues in DDC and municipalities In pilot VDCs, IPCs were found in place as continuation of GESI responsive institutional mechanism with responsibilities of village-level development planning, implementation, monitoring and appraisal.
(Overall goal) GM/SI responsive programs are implemented in Nepal.	1. GESI responsive institutional mechanism developed in other districts.	(Ex-post Evaluation) Achieved. - DDCs of all 75 districts have established the Social Development Section and Gender Focal Point to deal with GESI issues and also the Gender Responsive Budgeting Committees. - IPCs are in place as guided by the Social Mobilization Guideline both at visited non pilot VDCs of Syangja and Morang.

Source: Terminal Evaluation Report, Project Completion Report and interview with MoFALD and VDCs.

3 Efficiency

The project period was as planned. Though the Outputs were produced as planned, the project cost exceeded the plan (ratio against the plan: 100% and 137%, respectively). Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The 14th Three Year Plan (2017/18-2019/20) gives priority to GESI as a cross-cutting issue, incorporating gender equality and empowerment of women with a vision to develop a dignified, safe and civilized nation and also mentioning the vision of social inclusion with participation of all citizens.

<Institutional Aspect>

As of March 2017, the mechanism for implementing GESI responsive programs has remained same as those during the project period, except VDCs being merged into Municipalities. Concretely, MoFALD and MoWCSW take responsibility in policy formulation, coordination, and monitoring and evaluation. Interviewed officials of MoFALD, MoWCSW and DWC told that there should be a stronger coordination among themselves to attain GESI goals. At the village/municipality level, WCFs prioritize proposals submitted by CBOs and other groups and IPCs prepare the village/municipality development plan and budget plan. WCFs and GESI ICs monitor and support village-level programs and report to DDC. MoFALD has 4 personnel in GESI section and 1 GESI focal persons, but they are not sufficient to supervise GESI policies all over the country. MoWCSW has 3 personnel in the Gender Mainstreaming Section. The number of the personnel is not sufficient to materialize policies as both cross-cutting and stand-alone agenda in the country. In Morang and Syanja, each DDC has 1 Social Development Officer who is responsible for GESI matters, which is not sufficient to cover the area. DDCs face an issue of frequent transfer of LDOs. The number of WCF members depends on each ward. More than 33% should be women and others are from CBOs related to forestry, cooperatives, agriculture, etc. A Social Mobilizer is assigned in all of the visited target and non-target villages. The percentage of female members of IPCs is more than 33% in most of the visited villages to reflect voices of women and socially excluded groups. However, there is a concern about continuity of IPCs, because it is not sure if new leaders to be elected in the local election in 2017 would decide to sustain functions of IPCs

<Technical Aspect>

The personnel of MoFALD and MoWCSW has sufficient knowledge on GESI as they annually receive training on GESI and GRB including the newly joined personnel. GM/SI Resource Book drafted by the project has not been utilized by MoFALD, but instead, it has prepared its own GESI Resource Book by incorporating GESI policy provisions for local development and resource mobilization. The reason is that GM/SI Resource Book was not finalized. The draft resource book on GM/SI was not well recognized, because only few personnel of MoFALD were involved in the discussion for the development of the resource book during the project period. DDC members do not have sufficient knowledge on management of GESI responsive projects. They are local government staff and have basic knowledge on project management but not on GESI appraisal and audit. Training on these topics have not been provided. Knowledge of members of WCFs and VDCs varies; Members who have worked since the project period answered that they have sustained sufficient understanding of management of GESI responsive projects, but new members do not. Since the project completion, trainings have not been provided to VDCs due to the budget constraints, though they have needs for sustaining their knowledge.

<Financial Aspect>

The budget sources of DDCs and VDCs are the allocation from the central government collected serviced charges for issuing documents and tax revenues. The budget of DDC of Syangja and Morang has increased (Syangja: 565 thousand NPR in 2014 to 1,841 thousand NPR in 2017; Morang: 905 million NPR in 2015 to 1,417 million NPR in 2017). The visited DDCs have allocated 35% of their budget for targeted groups' program as per the decisions of various coordination committee relating to women, children, senior citizens, person with disability, ethnic people, etc. However, DDCs' interviewed officials informed that they have very little resources for recurrent expenditure, which is not sufficient to organize GESI IC meetings and monitoring visits. In other words, DDCs could not put the GESI IC meeting in the top priority, and that is why they did not organize it. However, according to the visited 9 VDCs, 8 have increased the budget. They have allocated at least 35% of the budget for the target programs especially for women, children and socially excluded groups, as it is regulated by GESI Policy and the Local Bodies Resource Mobilizations and Management Guideline 2012. On the other hand, there are needs for more budget allocation.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional, technical and financial aspects of the related organizations. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was mostly achieved and the Overall Goal were achieved. GESI responsive institutional mechanism including related committees and personnel appointment was developed and minimum budgets were secured to implement GESI responsive programs in the target districts. One of the recommendations drawn by the project was reflected for revision of the Gender and Social Inclusion Budget Audit Guideline 2010. The mechanism has been extended to non-target districts. Regarding the sustainability of the project effects, the organizational structure for implementation of GESI responsive programs has been sustained, but several issues were raised, such as an insufficient number of the personnel at both national and district level and limited training opportunities for the district and village level personnel. As for the efficiency, the project cost exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- It is recommended to MoFALD to review GM/SI Resource Book developed by the project and revise it as a practical reference material to reflect GESI responsive planning, implementation and monitoring in the local development process for providing GESI related trainings to the newly elected representatives and personnel of the Rural and Urban Municipality. It is very important to make the local government GESI responsive.
- It is recommended to the Government of Nepal to replicate the project experiences in the local governance system with increased

budget for the capacity development of local governments targeting the elected representatives and officials so as to change their mind set.

Lessons learned for JICA:

- The project was found successful in the pilot districts in promoting participatory and democratic planning process at the village level and the effects have continued and been diffused in other villages, even despite of the limited human and financial resources at the national and district level. This is because the concept of GESI has been incorporated thoroughly in the development process in a consistent way, such as GESI responsive composition of members, GESI-specific budget allocation and audit, training related to GESI, etc. This consistent way has enabled DDCs and VDCs to plan and implement GESI responsive projects so as to be responsible for the results.
- It is important to involve maximum numbers of key position holders of the national level ministries and departments in the project activities in order to sustain effects of the conducted trainings and to use developed materials after the project completion. During the project period, the project team should have shared the project information not only with the personnel of GESI section, but also all other division chiefs and section chiefs of the ministries and departments among which personnel transfer possibly could occur. In countries like Nepal where personnel of the key posts in the ministries and departments may be frequently transferred, this point is critical to sustain the project effects. In addition to that, it is necessary to formulate the strategy for the institutionalization of the outputs of the project such as incorporation of the mechanism established by the project in the policies and guidelines and to realize it during the project period so that the project outputs could be sustained with new personnel after the administrative change or with other organizations.

A woman who started a tailor shop after receiving training from the project at Tetaria Village, Morang District

Interview during the ex-post evaluation survey at Biruwa Archale Village, Syangja District.

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Sri Lanka Office: November 2017

Country Name	**Small Scale Dairy Farming Improvement through Genetic and Feeding Management Improvement**
Democratic Socialist Republic of Sri Lanka	

I. Project Outline

Background	In Sri Lanka, the local milk production was only 33% (as of 2009) of the domestic demand, and milk and milk products valued at over 30 billion Sri Lankan Rupees (296 million US dollars) was imported in 2009. The Government of Sri Lanka intended to increase milk production since the total import value of milk and milk products was very high, which was 2.1% of Sri Lanka's food import. The government planned to be self-sufficient in milk production by year 2016. Nevertheless, the great majority of dairy farms, especially small scale farms which rear less than 10 cows and account for approximately 90% of the national herds (as of 2009), were facing a number of constraints such as low productivity, poor genetic merit of indigenous cattle and a lack of appropriate techniques due to an inadequate extension scheme for technology transfer.		
Objectives of the Project	Through developing suitable progeny testing method, confirming appropriate Artificial Insemination (AI) techniques related to progeny testing[1] and improving feeding and dairy management of dairy farmers, the project aimed at developing techniques and institutional set-up for small scale dairy farming improvement in the target areas, thereby increasing milk productivity, diffusing AI using the progeny tested bull's semen, and establishing Genetic Improvement scheme. 1. Overall Goal: (1) Feeding and dairy management appropriate for small scale dairy farming is improved and milk productivity is increased in the target areas. (2) Progeny tested bulls are available, and Artificial Insemination (AI) using the progeny tested bull's semen is diffused. (3) The Progeny testing program is sustained in Sri Lanka and Genetic Improvement scheme is established. 2. Project Purpose: The techniques and institutional set-up for small scale dairy farming improvement are developed through breeding and feeding & dairy management improvement in the target areas.		
Activities of the Project	1. Project Site: Kandy, Nuwara Eliya and Matale Districts in Central Province and Kurunegala District in North Western Province 2. Main Activities: (1) Improve data management and pedigree management at selected National Livestock Development Board (NLDB) farms, develop appropriate progeny testing method, and introduce a manual of progeny testing method; (2) Provide trainer's training of improved AI program to staff in AI Center and trainees (veterinary surgeons (VS) and AI technicians), and on-site training of improved AI program to field staff at field veterinary office and NLDB farms; and (3) Develop appropriate feeding and dairy management techniques, demonstrate such techniques to field officers and farmers through establishing model farms, prepare technical manuals for field officers and dairy farmers, and facilitate concerned organizations to implement extension activities to disseminate improved techniques etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 19 persons 2) Trainees Received in Japan: 12 persons 3) Trainees in third country (India): 24 persons 4) Equipment: vehicles, dung spreader, slurry tanker, bulk semen storage tank, liquid nitrogen transport tank, training cow model, milker etc. 5) Local operational expense (including facility improvement at AI Centers) Sri Lankan Side 1. Staff Allocated: 89 persons 2. Project office 3. Local cost		
Project Period	April 2009 – March 2014	Project Cost	(ex-ante) 360 million yen, (actual) 274 million yen
Implementing Agency	Department of Animal Production and Health (DAPH) and National Livestock Development Board (NLDB) of Ministry of Livestock and Rural Community Development (MLRCD)[2]		
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries, National Livestock Breeding Center		

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Target Year for Indicator 2 of Overall Goal (Progeny tested bull's semen is distributed over the country from AI Center.): All the candidate bulls used in the first and second progeny tests (conducted from 2009 to 2011) were culled because of Bovine Tuberculosis (TB). It is stated in the JICA document that it is possible to distribute progeny tested bulls' semen over the country from AI Center in 2018 onwards. Thus, in this ex-post evaluation, Indicator 2 is evaluated as 'achieved', if it is confirmed that progeny tested bulls' semen is highly likely to be distributed over the country from AI Center in 2018.

[1] Progeny testing is a method to evaluate genetic capacity of animals on the basis of their daughters' performance. While it is cows that produce milk, capacity of bulls largely influence the improvement of performance of dairy cows. Thus, in progeny testing of dairy cows, capacity of bulls is analyzed on the basis of their daughters' performance (milk yield and milk fat yield etc.) to maintain genetically excellent cows.

[2] In January 2015, MLRCD was abolished and the newly established Ministry of Rural Economy (MORE) took over the works related to livestock development, and DAPH and NLDB have been placed under MORE since then.

1 Relevance

<Consistency with the Development Policy of Sri Lanka at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Sri Lanka's development policy on 'breed improvement' and 'increasing self-sufficiency in domestic milk production' etc. as set forth in the "Ten Year Development Plan (2006-2016)" and "National Livestock Development Policy (2006)" at the time of both ex-ante evaluation and project completion.

<Consistency with the Development Needs of Sri Lanka at the Time of Ex-Ante Evaluation and Project Completion >

At the time of ex-ante evaluation (2008), approximately 95% of poverty group resided in farming and fishing villages and plantation farms, and in order to increase income for the poor and milk productivity to reduce the amount of milk imports, there were needs for breed improvement and improvement of feeding and dairy management techniques. At the time of project completion, MLRCD was implementing "Production System Based Smallholder Dairy Farms Development Program (2010-2015)", in which it aimed to produce 530 million liters of milk annually through providing assistance to small scale livestock farmers (120,000 households) which rear 690,000 cattle in total. Thus, the project was consistent with development needs of the country.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy, as assistance for livestock sector in Sri Lanka corresponds to 'poverty alleviation' in the Country Assistance Program (2004).

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. According to the report submitted by Japanese experts (JICA document), more than 80% of relevant officers and more than 90% of dairy farmers understood the concept of progeny testing and were eager for using the method (Indicator 1). According to the same report, more than 80% of dairy farmers applied more than 50% of improved techniques for feeding and dairy management which were introduced by the project (Indicator 2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly maintained since project completion. The progeny testing training module developed under the project has been implemented every year since project completion, particularly in Northern Province, North Central Province, North Western Province and Western Province, in which a total of 299 VSs, Livestock Development Instructors (LDIs) (extension workers) and Private Artificial Insemination Technicians (PAITs) have attended. While formal trainings for progeny test awareness-raising have not been conducted for dairy farmers, extension workers have conducted trainings and knowledge transfer during their routine fieldwork, utilizing materials on progeny testing training module developed under the project. As no survey has been conducted since project completion to check the level of understanding of the concept of progeny test and eagerness to use progeny tested bulls' semen, it is unknown what percentage of field officers and dairy farmers have understood the concept and been eager for using progeny tested bulls' semen since project completion. However, according to the estimate made by the Animal Breeding Division of DAPH through their experience and regular communications with field officers and dairy farmers, all field officers understand the concept of progeny testing and most of them are eager to use progeny tested bulls' semen, while many dairy farmers understand the concept and about half of them are eager to use progeny tested bulls' semen[3] (Indicator 1). Events called 'Farm Day' to disseminate improved techniques for feeding and dairy management to dairy farmers have been conducted every year since project completion, particularly in Central Province, North Central Province and North Western Province, in which a total of 944 dairy farmers, VSs and LDIs have attended. The improved techniques for feeding and dairy management introduced by the project are called '10 things to do before you complain about your cows', and according to Central Provincial DAPH, as of August 2017, 74% on average of model farmers targeted under the project in the province apply the techniques, and according to North Western Provincial DAPH, as of August 2017, 72% on average of model farmers targeted under the project in the province apply the techniques[4] (Indicator 2).

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was partially achieved at the time of ex-post evaluation. Data on milk production of dairy farmers in the project-targeted districts before and after project implementation was unavailable. However, according to the Livestock Statistical Bulletin (2013, 2014 and 2015) and the Livestock Statistics 2005-2014, the annual milk production in Central Province (Kandy, Nuwara Eliya and Matale Districts) in 2008 was 39,352,885 liters, which was increased to 112,142,451 liters in 2015 (185% of increase), and that in North Western Province (including Kurunegala District) in 2008 was 24,844,473 liters, which was increased to 56,055,111 liters in 2015 (126% of increase). On the other hand, according to the same statistics, the national milk production in 2008 was 172,442,406 liters, which was increased to 331,197,597 liters in 2015 (92% of increase), and the increase rate is higher in provinces where the project was implemented than the rate in the country as a whole. The improved techniques for feeding and dairy management introduced by the project have contributed to the above increase at least to a certain extent, however, some dairy development projects funded by the government and other donors were also implemented in the same geographical area, which also seems to have contributed to the increase (Indicator 1). Regarding progeny testing, TB infections were identified at NLDB Dayagama farm in 2015 and 2016 and at AI Centre Kundasale in 2016, and Foot and Mouth Disease (FMD) infections were identified at NLDB Andigama farm in 2014, 2016 and 2017, despite the fact that disease prevention measures such as vaccination and screening for diseases introduced under the project have been conducted. As the bulls used for progeny testing were infected with these diseases, the progeny testing cycle has not been completed and progeny-tested bulls' semen has not been

[3] No further detailed information was available.

[4] The breakdown of adoptability (the number of farmers who apply the improved technique out of the total number of model farmers (7 farmers in total in Central Province and 5 farmers in total in North Western Province)) of '10 things to do before you complain about your cows' is: (1) Give your cows what they need (71% in Central Province and 100% in North Western Province), (2) Use cut grass most efficiently (86% in Central Province and 80% in North Western Province), (3) Avoid tethering calves too tight (100% in both provinces), (4) Measure wither height (57% in Central Province and 0% in North Western Province), (5) Make a simple crush (43% in Central Province and 40% in North Western Province), (6) Wash your hands before milking (100% in both provinces), (7) Milk twice a day (86% in Central Province and 80% in North Western Province), (8) Check heat 4 times a day (57% in Central Province and 40% in North Western Province), (9) Check cows before selling and buying (100% in both provinces) and (10) Use a calendar for record keeping (43% in Central Province and 80% in North Western Province).

distributed over the country. DAPH is currently preparing to re-launch the progeny testing program in NLDB Ridiyagama farm, and expecting to complete the progeny testing cycle and produce progeny-tested bulls' semen by 2020 (Indicator 2). The implementation of progeny testing program using the manual (developed under the project) has not been accredited into the National Livestock Development Plan, as a new development plan has not been issued since project completion, due to a delay in a procedure in the Ministry of Rural Economy (MORE). The new policy/plan is expected to be issued in early 2018. On the other hand, the Animal Breeding Division of DAPH is responsible for progeny testing, in which there are six VSs, four LDIs and 40 supporting staff at the time of ex-post evaluation. All technical officers in the division were trained under the project and are ready to be mobilized once the progeny testing program is resumed in a full scale. The number of staff is sufficient, as one to two technical officers to conduct planned mating and another two to three officers for data analysis are required for progeny testing. Budget allocated to the division is also sufficient to conduct progeny testing, as all the necessary infrastructures and systems are already in place and thus a significant amount of budget is not required, and the division has a sufficient amount of budget to resume planned and test mating including fees for transportation, distribution of bulls' semen and staff overtime salary etc.[5] (Indicator 3).

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural environment has been observed and no land acquisition and resettlement has been occurred under the project.

<Evaluation Result>

In light of the above, through the project, targets set in indicators for Project Purpose were achieved by the time of project completion, the project effects have been mostly maintained since project completion, and the Overall Goal was partially achieved at the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="2">(Project Purpose)
The techniques and institutional set-up for small scale dairy farming improvement are developed through breeding and feeding & dairy management improvement in the target areas.</td><td>1. 80% of relevant field officers and dairy farmers understand the concept of progeny testing and are eager for using progeny tested bulls' semen.</td><td>Status of the Achievement: achieved (mostly continued)
(Project Completion) More than 80% of relevant officers and more than 90% of dairy farmers understood the concept of progeny testing and were eager for using the method.
(Ex-post Evaluation) According to the estimate made by the Animal Breeding Division of DAPH, all field officers understand the concept of progeny testing and most of them are eager to use progeny tested bulls' semen, while many dairy farmers understand the concept and about half of them are eager to use progeny tested bulls' semen.</td></tr>
<tr><td>2. 80% of dairy farmers in target areas apply more than 50% of improved techniques for feeding and dairy management which are introduced by the project.</td><td>Status of the Achievement: achieved (continued)
(Project Completion) More than 80% of dairy farmers applied more than 50% of improved techniques.
(Ex-post Evaluation) According to Provincial DAPHs, 74% on average of model farmers targeted under the project in Central Province apply the improved techniques, and 72% on average of model farmers targeted under the project in North Western Province apply the improved techniques, as of August 2017.</td></tr>
<tr><td rowspan="2">(Overall Goal)
1. Feeding and dairy management appropriate for small scale dairy farming is improved and milk productivity is increased in the target areas.</td><td>1. Milk production of dairy farmers is increased by 20% in the target areas.</td><td>(Ex-post Evaluation) achieved
The annual milk production in Central Province (Kandy, Nuwara Eliya and Matale Districts) and in North Western Province (including Kurunegala District) has increased by more than 20% after project implementation.
(Unit: liter)
<table>
<tr><th></th><th>Before Project (2008)</th><th>After Project (2015)</th><th>Increase Rate</th></tr>
<tr><td>Central Province</td><td>39,352,885</td><td>112,142,451</td><td>185%</td></tr>
<tr><td>North Western Province</td><td>24,844,473</td><td>56,055,111</td><td>126%</td></tr>
<tr><td>Country as a whole</td><td>172,442,406</td><td>331,197,597</td><td>92%</td></tr>
</table></td></tr>
<tr><td>2. Progeny tested bulls are available, and Artificial Insemination (AI) using the progeny tested bull's semen is diffused.</td><td>2. Progeny tested bull's semen is distributed over the country from AI Center.</td><td>(Ex-post Evaluation) not achieved
The bulls used for progeny testing were infected with TB and FMD, and thus the progeny testing cycle has not been completed and progeny-tested bulls' semen has not been distributed over the country.</td></tr>
<tr><td>3. The Progeny testing program is sustained in Sri Lanka and Genetic Improvement scheme is established.</td><td>3. The implementation of progeny testing program using the Manual is accredited into the National Livestock Development Plan, and budget and staff are continuously allocated.</td><td>(Ex-post Evaluation) partially achieved
The implementation of progeny testing program using the Manual has not been accredited into the National Livestock Development Plan, as a new development plan has not been issued since project completion. However, the Animal Breeding Division of DAPH has sufficient number of staff and budget for progeny testing.</td></tr>
</table>

Source : JICA internal document, questionnaire survey to DAPH, Provincial DAPHs and NLDB, the Livestock Statistical Bulletin, DAPH Annual Report (2013, 2014 and 2015), Livestock Statistics 2005-2014

[5] According to DAPH, the amount of budget allocated to the division was 165 million LKR in 2014, 170 million LKR in 2015 and 106 million LKR in 2016.

3 Efficiency

Both project cost and project period were within the plan (ratio against the plan: 76% and 100%, respectively). Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

According to MORE, the new development policy/plan, which is expected to be issued in early 2018, is likely to continuously support the needs of small-scale dairy development. Moreover, this project is consistent with the Food Production National Programme 2016-2018, which identifies dairy, especially fresh milk, as one of the priority products to increase food security of the country, and the Public Investment Programme 2017-2020, which aims at increasing nutritional security through development of livestock sector, especially in dairy production.

<Institutional Aspect>

At the time of ex-post evaluation, the Animal Breeding Division of DAPH is responsible for conducting progeny testing program, and Provincial DAPHs in Central Province and North Western Province are responsible for feeding and dairy management. As stated above, there is a sufficient number of staff in the Animal Breeding Division. There are one Provincial Director (PD), 65 VSs and 67 LDIs in Central Provincial DAPH, and there are one PD, 71 VSs and 131 LDIs in North Western Provincial DAPH. While North Western Provincial DAPH has a sufficient number of staff to continue extension and training works for improved cattle management, Central Provincial DAPH has the minimum required number of staffs, which is not quite sufficient to properly conduct above works. Thus, Provincial DAPHs are training and making use of PAITs to overcome the insufficiency of staffs. There are ten technical staff, 15 field workers and nine supporting staff in AI Center Kundasale, and there are four technical staff, 13 field workers and one supporting staff in AI Center Polonnaruwa, which is sufficient for current activities (production and distribution of bulls' semen and maintenance of the centers including bio-screening system). However, when progeny testing program is implemented in a full scale, a few more staff will be required for milk sample analysis and other data collection and analysis. There are 55 staff in NLDB Ridiyagama farm, 71 staff in NLDB Dayagama farm and 133 staff at NLDB Andigama farm, which is sufficient to manage AI, data collection and cattle herd management etc. properly. While it is stated above that DAPH is currently preparing to re-launch the progeny testing program in NLDB Ridiyagama farm, DAPH and NLDB have not yet agreed on the re-establishment of progeny testing program in the farm, and thus a further institutional arrangement between them needs to be established promptly.

<Technical Aspect>

At the time of ex-post evaluation, most counterparts (C/Ps) of the project still work in DAPH, NLDB and Provincial DAPHs. The follow up assistance for the project was conducted from September to November 2015, and two short term experts (one for progeny testing and the other for data analysis) were dispatched. The progeny testing expert was generally satisfied with the skill level of staff in the Animal Breeding Division. DAPH also hired one qualified officer specialized in data recording and statistical analysis in 2015, following the recommendation from the project, and thus the technical level of the division is sufficient. In both Central Provincial DAPH and North Western Provincial DAPH, all the VSs and LDIs have required academic degrees/diplomas in veterinary or animal science, and many VSs also have postgraduate degrees. All the current officers have sufficient work experience and received trainings under the project and/or other programs, and thus the technical level of these provincial DAPHs is sufficient. The skill level of staff in AI Center Kundasale and Polonnaruwa is also sufficient to produce deep frozen semen to supply for the field AI works and semen has been distributed nation-wide. The progeny testing expert dispatched for the follow up assistance visited the AI Center Kundasale and reported that semen production and distribution were functioning well. On the other hand, NLDB staff have been transferred among their farms in different locations. This staff transfer and discontinuation of the progeny testing program affected some of their skills and their skill level is not sufficient to manage cattle herd properly for progeny testing in NLDB Andigama Farm. However, DAPH and NLDB as a whole retain necessary knowledge and skills, as most of the staff trained during the project remain in these organizations. Therefore, it is expected that the appropriate practice will be resumed once progeny testing program starts again. As stated above, the progeny testing training module developed under the project and 'Farm Day' to disseminate improved techniques for feeding and dairy management to dairy farmers have been conducted every year. Various manuals developed under the project have been well utilized by field officers, and the manual "10 things to do before you complain about your cows" has been reprinted as part of the follow up assistance and is being utilized for dissemination activities. Equipment procured under the project have generally been well utilized and maintained at DAPH, AI Centers and NLDB farms.

<Financial Aspect>

As stated above, the Animal Breeding Division has a sufficient amount of budget to conduct progeny testing. The amount of budget allocated to Central Provincial DAPH is 50 million LKR in 2014, 44 million LKR in 2015 and 152 million LKR in 2016. The amount of budget allocated to North Western Provincial DAPH is 18 million LKR in 2014, 26 million LKR in 2015 and 97 million LKR in 2016 (the budget amount largely increased in 2016, as there were many new provincial projects planned in 2016). As extension and training works for improved cattle management are the primary roles of Provincial DAPHs, budget for these activities is secured as priority. Since both Provincial DAPHs have been able to maintain these activities since project completion, these budget amounts are judged to be sufficient to disseminate the improved cattle management techniques. The amount of budget allocated from the NLDB Headquarter to NLDB Andigama Farm is 17 million LKR in 2014, 20 million LKR in 2015 and 28 million LKR in 2016. The budget amount allocated to NLDB Dayagama Farm is 159 million LKR in 2014, 161 million LKR in 2015 and 142 million LKR in 2016[6]. These amounts are sufficient to manage AI, data collection and cattle herd management for progeny testing, as cows used for progeny testing are selected from the herd that NLDB already owns and manages, and thus a significant amount of budget is not required.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

Through the project, the Project Purpose of developing techniques and institutional set-up for small scale dairy farming improvement in the target areas was achieved by the time of project completion, the project effects have been mostly maintained since project completion,

[6] The budget amount of NLDB Ridiyagama farm was not available.

and the Overall Goal was partially achieved at the time of ex-post evaluation. As for sustainability, some problems have been observed in terms of the institutional aspect, while policy background and technical and financial aspects are secured.
Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- DAPH and NLDB must conclude an agreement for the use of NLDB Ridiyagama farm to re-launch the progeny testing program, and the Animal Breeding Division of DAPH must conduct planned mating with selected cows to complete one progeny testing cycle. Although trainings are continued and expanded, it will soon be difficult to retain knowledge without actual practice, especially after transfers and retirements of key C/Ps in the future.
- As stated above, as part of the follow up assistance, manuals developed under the project have been reprinted. To disseminate techniques for feeding and dairy management continuously, the budget allocation for printing out the technical manual for field officers and dairy farmers should be secured.

Lessons Learned for JICA:

- Breeding programs, especially progeny testing programs, require many years to complete one cycle and even longer for outcomes/impacts to appear. Such nature makes it difficult to measure impacts within the cycle of JICA's technical cooperation project. In addition, the processes must be restarted once all the target animals were culled due to epidemics. In this project, disease prevention measures were introduced and maintained very well, which should be followed in other projects as a good practice. It should have been better if the project placed target animals in several different farms in different locations, though this would have increased the cost and time required to conduct the program.

Cattle herd in NLDB Dayagama Farm

Laboratory equipment in AI Center Kundasale

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Fiji Office: January 2018

Country Name	**ICT for Human Development and Human Security Project**
Republic of Fiji	

I. Project Outline

Background	The University of the South Pacific (USP) has been a premier provider of tertiary education in the Pacific region since its establishment by the 12 member countries in 1968. USP not only accepts students from the member countries to the main campus in Suva, the capital of Fiji, but also provides distance education courses through its satellite communication system (USPNet) (Approximately 40% of the 20,000 students took distance education course, as of 2008). JICA assisted in facilitating the capacity development of USP in various ways. From 2002 to 2005, a technical cooperation project "Information and Communication Technologies Capacity Building at the University of the South Pacific" was implemented in order to assist the development of Computer Science (CS) and Information Systems (IS) education, Distance and Flexible Learning (DFL), and Information and Communication Technology ICT research and development. In 2010, the Japan-Pacific Information and Communication Technology Centre (ICTC), was constructed by a Japanese grant aid project, "the Project for Construction of Information and Communication Technology Center at the University of the South Pacific (Phase I) (2009-2010)", to improve the ICT-related facilities. Also, the multi-purpose lecture hall was upgraded by the Japanese grant aid project, "Project for Construction of Information and Communication Technology Center at the University of the South Pacific (Phase II)" (2010-2011). However, the increasing network traffic caused a problem of bandwidth capacity of USPNet which provides DFL services, and the measures to improve performance of USPNet were highly required. As only limited opportunities for face-to-face lectures were available at the USP regional campuses which are located in the member countries, it was necessary to develop learning support system for distance learning students, supported by mobile technology. While, the USP was required to provide more professional bachelor programs in CS/IS education and produce quality human resources anticipated by the industry in the region in response to the increasing demand for ICT human resources in the Pacific region.
Objectives of the Project	Through provision of new internationally acceptable bachelor programs of Net-centric Computing (BNC) and / Software Engineering (BSE), improvement of service delivery via more efficient use of USPNet, delivery of distance learnings with new ICTs as well as establishment of operation policies for ICT Centre, the project aims at serving attractive CS/IS programme across the Pacific region and enhancing USP's capacity to deliver ICT service, thereby contributing to ICT human resources development in the region. 1. Overall Goal: USP contributes to the ICT human resources development in the South Pacific region through its improved ICT environment. 2. Project Purpose: 1) Attractive CS/IS programmes are delivered across the region. 2) USP's capacity to deliver ICT service is enhanced.
Activities of the project	1. Project site: The University of the South Pacific (USP) main campus in Suva, Fiji 2. Main activities: 1) Provision of advice on (a) curriculum design of the BNC/BSE degree programmes, (b) establishment of the USP Network Operation Centre (NOC), (c) development of mid-and-long term strategy for leveraging USPNet, (d) improving reliability and performance of Moodle delivery systems[1]; and (e) operation policy to leverage the ICT Centre, 2) Implementation of the BNC/BSE bachelor programmes and review the course curricula, 3) Provision of training for ITS related staff in USP, 4) Holding seminars/workshop on distance learning pedagogy, 5) Provision of business/research incubation functions in the ICT Centre 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 25 persons 2. Trainees received: 10 persons 3. Equipment: Satellite related and USPNet equipment including Ku-band, computers and other equipment for the ICT Centre Fiji Side 1. Counterpart personnel: 21 persons 2. Land and facilities: Project office 3. Local cost: operation cost of ICT center, and satellite communications cost

Ex-Ante Evaluation	2009	Project Period	February, 2010 - January, 2013	Project Cost	(Ex-ante) 260 million yen (Actual) 382million yen
Implementing Agency	The University of the South Pacific (USP)				
Cooperation Agency or Contract Agency in Japan	Japan Computer Emergency Response Team/Coordination Center, Kumamoto University, PADECO				

[1] Moodle is an education support system providing online courses mainly for students on the regional campuses.

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Fiji at the time of ex-ante evaluation and project completion>

The project was consistent with Fiji's development policy of "A Regional University of Excellence: Weaving Past and Present for the Future, A Vision to the Year 2020" and "A Draft Strategic Plan for 2013-2018" which aimed at prioritizing ICT development and ICT education as central areas of the development policy.

<Consistency with the Development Needs of Fiji at the time of ex-ante evaluation and project completion >

The project was consistent with Fiji's development needs to develop learning support system for distance learning students and to improve performance of USPNet providing DFL under the situation of increasing network traffic.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's economic cooperation policy to Fiji and the pacific region (2009), "the Action Plan of the Leader's Declaration" adopted by the Fifth Pacific Island Leaders Meeting (PALM) including the importance of promoting sustainable development and human security by delivering social services including health and education with a view to achieving the Millennium Development Goals.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

By the project completion, both of the Project Purpose 1 (delivery of attractive CS/IS programmes across the region) and the Project Purpose 2 (enhancement of USP's capacity to deliver ICT Service) were achieved. The BNC/BSE bachelor programmes were provisionally accredited to the Australian Computer Society (ACS) in 2012 (Indicator 1-1). Also, 80% of the students were satisfied with the courses offered by the bachelor programmes of BNC/BSE (Indicator 1-2). Although the end-line survey was not conducted by this project, according to the follow-up survey conducted at the time of the detailed design study for the Phase II of this project in 2014, 78% of the USP students in the main and regional campuses reported that they were satisfied with ICT delivery of learning and teaching services environment at USP (Indicator 2-1). In addition, all of the stakeholders and users, such as the Faculty of Science, the Technology and Environment (FSTE), the Pacific Islands Telecommunication Association (PITA) and the Pacific Computer Emergency Response Team (PacCERT), interviewed by the follow up survey verbally expressed their satisfaction with the ICT center (Indicator 2-2).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been continued since the project completion. The BNC/BSE bachelor programmes successfully received full Professional Accreditation by the Australian Computer Society in January of 2016. According to the results of the questionnaire surveys for the ex-post evaluation, 88% of the students were satisfied with the BNC/BSE bachelor programmes. 83% of the students and 81% of the stakeholders and users, who responded the questionnaire survey for the ex-post evaluation, were satisfied with the facilities and services provided by the ICT Centre.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved by the time of ex-post evaluation. Improvement of ICT environment at USP and contribution of USP to the ICT human resource development in the Pacific Region were verified by achievement of each indicator for the Overall Goal. 80% of the employers were satisfied with the quality of USP graduates and some of them noted that the quality of USP graduates has been improving slowly (Indicator 1). 80% of the graduates surveyed for the ex-post evaluation were satisfied with the BNC/BSE bachelor degree programmes offered by USP (Indicator 2). The BNC/BSE bachelor programmes successfully received full Professional Accreditation by the ACS in January of 2016 as mentioned above (Indicator 3). The total enrolment in CS/IS programmes increased from 1,311 in 2010 to 1,460 in 2015 and was projected to be 1,435 in 2016. The student/computer ratio in USP (Indicator 5)[2] improved from 13.32 in 2013 to 11.91 in 2015, and might have increased to 12.94 in 2016 because of the increase in the number of student against the unchanged number of PCs. The number of students at regional campuses (Indicator 6) increased from 9,355 in 2010 to 13,491 in 2015 and was projected to be 14,542 in 2016. Based on the results of the questionnaire survey for in the ex-post evaluation, 95% of the students surveyed were satisfied with the overall delivery of learning and teaching services at USP.

<Other Impacts at the time of Ex-post Evaluation>

No positive and negative impact was confirmed at the time of the ex-post evaluation.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose 1 the Project Purpose 2 as well as Overall Goal. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose 1) Attractive CS/IS programmes are delivered across the region.	(Indicator 1-1) The fact that the BNC/BSE bachelor programmes are provisionally accredited by an international accreditation body.	Status of achievement: Achieved (Project Completion) • The BNC and BSE bachelor programmes were provisionally accredited to the ACS in 2012. (Ex-post Evaluation) Continued • The BNC and BSE bachelor programmes received full Professional Accreditation by the ACS in January of 2016.
	(Indicator 1-2) More than 80% of students are satisfied with course of the	Status of the achievement: Achieved (Project Completion) • 80.2% of the students (81 respondents out of the 383 students) were satisfied with

[2] According to the terminal evaluation report, achievement of this indicator cannot be directly attributed to the achievement of the Project Purpose but USP considered it as an important Key Performance Indicators (KPI) for USP and an indirect impact of the project.

<table>
<tr><td></td><td>BNC/BSE bachelor programmes.</td><td>course of the BNC/BSE bachelor programme.
(Ex-post Evaluation) Continued
• 88% of the students surveyed (60 respondents out of the 193 students enrolled) at ex-post evaluation were satisfied with the BNC/BSE bachelor programme.</td></tr>
<tr><td>(Project Purpose 2)
USP's capacity to deliver ICT Service is enhanced.</td><td>(Indicator 2-1)
More than 70% of students in both main and regional campuses are satisfied with ICT delivery of learning and teaching services</td><td><u>Status of achievement: Achieved</u>
(Project Completion)
• 77.8% in both main and regional campuses (81 responses out of 383 students) were satisfied with ICT environment at USP
(Ex-Post Evaluation) Continued
• 83% of the students in both main and regional campuses (60 respondents out of 193 students enrolled) surveyed by the ex-post evaluation were satisfied with the overall ICT environment at USP.</td></tr>
<tr><td></td><td>(Indicator 2-2)
More than 70% of stakeholders and users are satisfied with the facilities and the services provided by the ICT Centre.</td><td><u>Status of achievement: Achieved</u>
(Project Completion)
• All of the stakeholders and users, such as FSTE, PITA and PacCERT, respondents to the follow up survey, verbally expressed their satisfaction with the ICT Centre.
(Ex-Post Evaluation) Continued
• 8 out of 10 respondents (FSTE, CFDL and graduates) were satisfied with the facilities and services provided by the ICT Centre.</td></tr>
<tr><td rowspan="7">(Overall goal)
USB contributes to the ICT human resources development in the South Pacific region through its improved ICT environment.</td><td>(Indicator 1)
More than 70% of interviewed employers (private sector and government) are satisfied with the quality of the USP graduates and acknowledges the improvement of the skill level.</td><td><u>Status of achievement: Achieved.</u>
(Ex-post Evaluation)
• 80% of the employers surveyed (4 out of 5 organizations responded to the survey, such as government ministries and private telecommunications & ICT companies) were satisfied with the quality of USP graduates.
• Some of the employers (including an Enterprise Software Design & Development company as well as government departments) noted that the quality of USP graduates has been slowly improving.</td></tr>
<tr><td>(Indicator 2)
More than 80% of interviewed graduates completed the BNC/BSE bachelor degree programmes are satisfied with the courses provided.</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
• 80% of the graduates surveyed by the ex-post evaluation (4 out of 5 respondents) were satisfied with the BNC/BSE bachelor degree programmes offered by USP.</td></tr>
<tr><td>(Indicator 3)
The fact that the BNC/BSE bachelor programmes are internationally accredited.</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
• The BNC/BSE bachelor programmes received full Professional Accreditation by Australian Computer Society from January 2016.</td></tr>
<tr><td>(Indicator 4)
The enrolment in CS/IS programmes increased compared to 2010.</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
• The total enrolment rate increased from 1,311 in 2010 to 1,460 in 2015.
[The total enrollment rate in CS/IS]
<table>
<tr><td>2010</td><td>2011</td><td>2012</td><td>2013</td><td>2014</td><td>2015</td><td>2016*</td></tr>
<tr><td>10,731</td><td>11,110</td><td>12,017</td><td>12,579</td><td>13,285</td><td>13,861</td><td>15,170</td></tr>
</table>
*The figures for 2016 are provisional.</td></tr>
<tr><td>(Indicator 5)
Student/Computer Ratio</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
[Student/Comupuer Ratio]
<table>
<tr><td></td><td>2013</td><td>2014</td><td>2015</td><td>2016*</td></tr>
<tr><td>No. of total studetns in USP</td><td>25,743</td><td>26,736</td><td>27,352</td><td>29,712</td></tr>
<tr><td>No. of PC in USP</td><td>1,932</td><td>2,236</td><td>2,296</td><td>2,296</td></tr>
<tr><td>Student/Computer ratio</td><td>13.32</td><td>11.96</td><td>11.91</td><td>12.94</td></tr>
</table>
*The figures for 2016 are provisional.</td></tr>
<tr><td>(Indicator 6)
Number of students in regional campuses increases compared to 2010</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
[No. of student in regional campus]
<table>
<tr><td>2010</td><td>2011</td><td>2012</td><td>2013</td><td>2014</td><td>2015</td><td>2016*</td></tr>
<tr><td>9,355</td><td>10,756</td><td>11,951</td><td>13,164</td><td>13,451</td><td>13,491</td><td>14,542</td></tr>
</table>
* The figures for 2016 are provisional.</td></tr>
<tr><td>(Indicator 7)
Student Satisfaction Rate on delivery of learning and teaching services in both main and regional campuses reaches same or exceeds the rate measured in endline survey 2012</td><td><u>Status of achievement: Achieved</u>
(Ex-post Evaluation)
• According to the results of the questionnaire survey for the ex-post evaluation, 95% of the students surveyed by the ex-post evaluation (60 respondents out of 193 enrolled) were satisfied with the overall delivery of learning and teaching services at USP.</td></tr>
</table>

Source：Joint Terminal Evaluation Report, Detailed Design Study Report for the Phase II (2014) , USP Strategic Plan 2013-2018, Press Release of USP, Results of interviews and the survey for USP 60 students, 5 graduates and 5 employers at the time of ex-post evaluation.

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan: 147%). The reason why the project cost significantly exceeded the plan was because the Japanese side did not specify the necessary and precise input for this project such as the number of short-term experts to be dispatched, the type and volume of equipment to be provided as well as the number of trainings to be conducted at the time of project planning. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The USP member countries are very supportive towards ICT human resources development in the Pacific region. According to the Council of Regional Organizations in the Pacific (CROP) ICT Working Group Secretariat, the Pacific Regional Digital Strategy was elaborated by the Forum in 2006 and was updated in 2013.and In 2015, the ICT Ministerial meeting approved the review of the ICT Framework and the Pacific Regional ICT Action Plan (PRISAP) which had been finalized by the CROP ICT Working Group in order to cover the period from 2016 to 2020. At the national level, 10 [3] out of the 14 Pacific Island countries have developed national ICT policies that are closely aligned to the above regional level strategy and action plan.

<Institutional Aspect>

[USP]

Sufficiency of the number of staffs differ by unit in charge of CS/IS education service and ICT services in USP. On the other hand, USP has identified that the numbers of regional staff need to be increased to cope with the increasing ICT nature of teaching and learning delivery and the increase in complexity of services on the ground which has evolved from the early days of USPNet. The difficulty in standardizing staff remuneration across the different regional USP campuses in the Pacific region give rise to increased staff turnover and unsuccessful recruitment attempts.

[FSTE and School of Computing, Information and Mathematical Sciences (SCIMS)]

FSTE/SCIMS is responsible for providing more professional bachelor programmes in CS/IS education including the BNC/BSE bachelor programmes. FSTE/SCIMS has 26 academic staffs, including 11 senior academic staffs in CS/IS education, 1 user consultant, 17 teaching assistants, 2 office assistants, 1 technical assistant and 1 cleaner. According to FSTE, the current number of staffs deployed for FSTE/SCIMS is determined by USP's Internal Funding Model and it is sufficient to provide the BNC/BSE bachelor programmes introduced by the project. At the time of ex-post evaluation, one professor in Computing Science has been appointed and appointments of three more senior academic staffs were underway.

[Centre for Flexible and Distance Learning (CFDL)]

CFDL takes responsibilities for developing and applying Moodle and m-Learning[4] to delivery of distance learning to make the delivery more efficient and effective. CFDL has 36 staffs. According to the CFDL staffs, the number is sufficient to continuously holding the responsibilities.

[IT Service (ITS) of USPNet]

ITS is in charge of operating and maintaining USPNet, Ku-Band and Nagois, promoting the role of Information Technology Infrastructure Library (ITIL) and delivering other ICT's services. ITS has 110 staffs but the number is not sufficient to undertake their activities because of the difficulties to recruit regional staffs and the increasing staff turnover. In addition, only one full-time staff is deployed for operation and maintenance of satellite related equipment of USPNet including Ku-Band and computer servers, but it is not sufficient since they need at least one more full time staff to take responsibility for the satellite related equipment provided by the project.

[ICT Centre]

ICT Centre is responsible for holding regional and international ICT events as well as providing incubation space for new tenants and office spaces for regional ICT organizations. While ICT centre has 2 staffs for the operation of USPNet and 2 staffs for maintenance of audiovisual (AV) equipment, they need at least 4 full time staff for AV equipment including equipment provided by the project since the scope of works has been increasing and needs of daily AV requirements in both Laucala and regional campus has been evolving.

<Technical Aspect>

[SCIMS of FSTE]

Although SCIMS stopped providing trainings to new staffs on provision of the BNC/BSE bachelor programmes after project completion,the staffs have still sustained their knowledge and skills by attending summer schools overseas for their areas of interests and participating in international conferences/symposiums about the recent trends in IT. Also, it is confirmed that a few CS/IS staffs took a postgraduate course on teaching skills and received post graduate certificates in teacher training.

[CFDL]

CFDL staffs continue to maintain the knowledge gained from the project experts, through on the job training, especially in the areas of Multi-media and Instructional design. Equipment provided by the project has been still used in the core functions of some of the services that CFDL offers such as Moodle platform.

[ITS]

ITS have extended trainings on Ku-Band and Nagios to a wider number of staffs, which results in inventing a knowledge base critical technology. The transfer of knowledge and skills regarding the provision of ICT Services from the Network Operations Centre using the Nagios Platform has been facilitated first amongst a core systems team for the development of Nagios and also the wider USP ICT technical support teams who have been trained on interpreting alarms and auctioning resolution efforts accordingly. OJT and regional staff training programmes are conducted during the semester breaks.

In terms of operations and maintenance (O&M) staff, the knowledge and technical skills are appropriate. Every 3 years, the Technical Operations and Maintenance (TOM) trainings are conducted. This capacity building initiative creates awareness and engages all technical staff from every campus and centre to learn and get hands on experience from their counterparts in IT Services at Laucala Campus. The transfer of knowledge and skills regarding the O&M of equipment for the Ku-Band network provided by the project was facilitated through on-the-job training on VSAT (Very Small Aperture Terminal)[5] installations, operations and maintenance – both for the project deployment

[3] Cook Island, Fiji, Federal States of Micronesia, Kiribati, Marshall Islands, Palau, Papua New Guinea, Samoa, Tonga and Vanuatu.

[4] m-Learning is a learning support system using a mobile technology.

[5] VSAT is one of the two way communication systems via communication satellite.

teams and also for regional support staff tasked with O&M tasks onsite.
<Financial Aspect>
[USP]

USP's financial condition seems to have been continuously healthy to cover the actual expenditure by their revenue after the project completion. In 2015, while the total revenue of USP is 188 million FJD (Fiji dollars), the total expenditure is 179.6 million FJD. The main sources of revenue of USP are the student tuition fees (53.9 million FJD), donors' fund (50.4 million FJD) and the government contributions (49.5 million FJD). USP headquarters has allocated sufficient budgets to each department/section taking any responsibility for sustaining the activities introduced by the project.

While the revenue of USP increased, the budget allocation to FSTE, ITS and CFDL have also expanded for the period from 2013 to 2016: for FSTE, 12.3 million FJD to 15.2 million FJD; for ITS, 7.3 million FJD to 11.4 million FJD; for CFDL, 2.2 million FJD to 2.4 million FJD. For ICT Centre, the budget decreased from 1.0 million FJD to 0.8 million FJD for the same period. However, they reported the budget had been adequately allocated to them in order to undertake their activities introduced by the project. For the O&M for the entire university including USPNet and equipment provided by the project, the budget also increased from 41.9 million FJD in 2013 to 49.6 million FJD in 2016 and the amount of budget has been sufficient for proper O&M.
<Evaluation Result>

In light of the above, some problems have been observed in the institutional aspect. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose 1 for delivery of CS/IS programmes across the Pacific region and the Project Purpose 2 for improvement of USP's capacity to deliver ICT Services. The Overall Goal has also been achieved since USP has been contributing to the ICT human resources development in the pacific region through its improved ICT environment. As for sustainability, although there are difficulties in deploying the sufficient number of staffs, in particular for the regional campuses, in order to cope with the progressing ITC services, USP has continuously allocated necessary budgets for the delivery of the CS/IS programs as well as the IT services and the USP staffs have sustained necessary skills and knowledge. As for efficiency, the project cost exceeded the plan due to the unspecified inputs by the Japanese side at the time of project planning.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency.

- It is noted that the BNC/BSE programmes have been internationally accredited which is an important achievement for the project, however, it is recommended that efforts must be made to continuously maintain the high standards of the programmes and ensure that it remains relevant, particularly in a highly dynamic industry such as ICT.
- It is recommended that a separate computer lab be allocated exclusively for BNC/BSE students within the ICT Centre as the lack of computers for programming or practical exercises, seems to be a common issue identified in the questionnaire responses.
- Although efforts have been made to improve communications in remote regional centres, issues still remain with regards to the lack of qualified, experienced staff available on the ground to address technical issues. It is therefore recommended that the Technical Operations and Maintenance trainings usually held in the main USP Laucala campus, every 3 years, be rotated amongst the regional centres/campuses so that regional administrative staff are equipped to address minor technical issues by themselves on the ground, with guidance from the ITS staff at Laucala.

Lessons learned for JICA:

- Accurate cost estimation for the project input should be undertaken during the project design and formulation stage; otherwise, the actual project cost will possibly exceed the planned cost as this project.
- Given the geographical characteristics of countries in the Pacific region, it is important that ICT-related projects provide sustainable ICT solutions that take these geographical challenges into account and are able to adapt accordingly. The installation of Ku-band in regional centres under this project provides a good example.

BNC/BSE 300 Level Laboratory Class

USP IT staff inspecting the computer server

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Dominican Republic Office: July 2017

Country Name	**Project for Appropriate Waste Management in Santo Domingo de Guzman, National District**
Dominican Republic	

I. Project Outline

Background	In the Santo Domingo metropolitan area, where approximately 2.5 million tourists visit every year, daily per capita generation of solid waste amounted to 1.26 kg/day (2005), comparable to that of higher-income countries. Among various environment-related problems attributed to rapid urbanization, solid waste management was considered as a crucial and urgent issue. Santo Domingo National District is the most urbanized district in the metropolitan area and it was seriously affected by solid waste problems. JICA conducted the Study on Integrated Solid Waste Management Plan[1] in Santo Domingo de Guzman National District in 2005 to prepare the Integrated Solid Waste Management (SWM) Plan (M/P). However, some activities recommended in M/P were not fully implemented due to lack of knowledge and experience of National District Municipality (ADN), and therefore technical cooperation was requested.				
Objectives of the Project	Through the capacity development of ADN and pilot projects with the 3Rs approach, the project aimed at enhancing ADN's SWM in order to improve waste collection, minimize waste, and increase the people's satisfaction on ADN's services, thereby contributing to achieving the targets of the Integrated Solid Waste Management Plan. *3Rs: Reduce, Reuse and Recycle.				
	Overall Goal: Targets of the Integrated Solid Waste Management (Integrated SWM) Plan (revised M/P) are substantially achieved by 2015. Project Purpose: Integrated SWM in Santo Domingo de Guzman, National District is enhanced.				
Activities of the project	1. Project site: Santo Domingo de Guzman, Gran Santo Domingo and surrounding areas. 2. Main activities: Revision of the M/P, development of the database for vehicle management, public awareness activities on waste discharge, pilot projects (appropriate waste discharge, paper recycling, and pruning waste management), etc. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 9 persons 2) Training in Japan: 1 persons 3) Training in the third country: 15 persons 4) Equipment: PC, printer, brush chipper, etc. 5) Operation cost for hiring local consultants, travel expenses, facility rental, etc. Dominican Republic Side 1) Staff allocated: 26 persons 2) Land and facilities: Office space and equipment, etc. 3) Operation cost for staff salaries, office utilities, etc.				
Ex-Ante Evaluation	2009	Project Period	July 2009 to July 2012	Project Cost	(ex-ante) 200 million yen (actual) 223 million yen
Implementing Agency	National District Municipality (Ayuntamiento del Distrito Nacional (ADN))				
Cooperation Agency in Japan	EX Research Institute Ltd., Kokusai Kogyo Co., Ltd.				

II. Result of the Evaluation

<Special perspectives considered in the ex-post evaluation>

- As same indicators were set for the Project Purpose and Overall Goal, there is not a causal linkage between them but rather the latter is a continuing status of the former. So it can be pointed out there was a minor problem in the project design as discussed in "Relevance". In this ex-post evaluation, however, the Project Purpose are judged as the design having 2 goals; "to strengthen SWM capacity" and "to achieve the revised M/P".
- For the Indicator 1 of the Project Purpose (waste collection rate which is calculated with waste collection amount divided by waste discharge amount), ADN did not have the data on waste discharge, so the waste collection amount was used as a supplementary information to verify the improvement of waste collection during the project period. For the ex-post evaluation, ADN calculated the collection rate based on the population and estimated waste discharge amount.
- The Indicator 3 of the Overall Goal was set as "financial soundness." However, the indicators was not clearly defined during the project period. For the ex-post evaluation, the amount of budget allocation was used for its verification.
- The target area was Santo Domingo de Guzman, National District, but pilot project activities were implemented in several sites of the municipality. The indicators of the Project Purpose were not specifically set for verifying the effects brought by the pilot projects in these limited sites. However, it was difficult to separate the project contribution from the achievement in the whole municipality.

1 Relevance

<Consistency with the Development Policy of the Dominican Republic at the time of ex-ante evaluation and project completion>

Waste issues were discussed as one of the programs in the environment area in the president's inauguration speech in 2008. In the National Development Strategy of the Dominican Republic (2010-2030), environment preservation is regarded as one of the four main components. Thus, the project was consistent with the development policy of the Dominican Republic at the time of ex-ante evaluation and project completion.

<Consistency with the Development Needs of the Dominican Republic at the time of ex-ante evaluation and project completion >

Among various environment-related problems attributed to rapid urbanization, solid waste management was considered a very

[1] According to the National Policy on the Integrated Solid Waste Management, "integrated solid waste management" means adequate waste management in all its stages, from generation to reutilization or final disposal, with criteria of prevention, minimization, eco-efficiency and risk management in each of them.

crucial and urgent issue. Santo Domingo National District is the most urbanized in the metropolitan and it was seriously affected by waste issues. There were still great needs for development of the solid waste management until the time of project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

Based on the results of working level meetings on economic cooperation policy to the Dominican Republic held in July 2007, it was decided to convey continuous and effective cooperation to the country in the areas including environmental preservation and recovery. Related to this, one of the contents is antipollution control in and around the metropolitan area through enhancing environmental management capacity of relevant municipalities centering on solid waste and sewage management.

< Appropriateness of the Project Plan and Approach>

This project aimed at enhancing the solid waste management in the target municipality through the capacity development of ADN, improvement of the waste collection system and introduction of 3Rs for waste diversion, thereby achieving the targets in the revised M/P. But the medium-long term impact and the causal linkage to the impact have remained unclear as the achievement goals duplicated with the indicators of the Project Purpose.

<Evaluation Result>

In light of the above, there was a minor problem with the project design, but as a whole, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved by the project completion. It was surmised that most of the waste was collected and the waste minimization rate was 8.5%, as planned. These were achieved through the capacity development of ADN. The capacity of ADN personnel regarding the understanding of the legal and institutional framework, waste collection and transfer, etc. increased during the project and was assessed that they reached the level of being able to manage without JICA experts' support. The raised awareness of the residents also contributed to the improved waste collection and minimization. These resulted in the residents' satisfaction with ADN services. However, it should be pointed out that it was difficult to clearly distinguish the project contribution to the achievement of the Project Purpose from the influence of the external factors such as illegal dumping.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued. The waste collection has increased. Though the collection rate has been mostly stable for the last four years, it was lower than the rate estimated during the project period. The reason of the decrease was not confirmed. The waste minimization rate has increased mainly attributed to pruning waste management and 3R activities explained later The number of complaints against ADN has decreased, and about 98% of the complaints to the General Directorate of Urban Cleaning and Equipment (DIGAUE) were resolved. Regarding the pilot project introduced by the project, two projects for improvement of waste discharge and pruning waste management have continued in INVI and Antilles areas. Experiences from pilot projects have served as guidelines for ADN to learn what approach works for waste delivery at the areas and also to diffuse this approach to other areas. The pruning pilot project has been even expanded to neighbor organizations and schools, but the amount of pruning waste has decreased due to malfunctions of one of the three machines provided by the project. According to the survey of 20 residents in the pilot project sites, 55% of them are satisfied with ADN's services.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It can be judged that the Overall Goal has been mostly achieved. The estimated waste collection has increased and the waste minimization rate has increased. Regarding the indicator on the financial soundness, though the budget of DIGAUE has increased, no sufficient data was available from ADN, and therefore it was not possible to judge the achievement.

<Other Impacts at the time of Ex-post Evaluation>

First, the project experience has been extended to other municipalities including San Gregorio de Nigua, Dajabon, Neyba, Salcedo, Santo Domingo Este, Santiago de los Caballeros, San Antonio de Guerra and Boca Chica, through the seminars and workshops organized by ADN and dissemination of the manuals developed by the project which showed improvement in ADN's service delivery of the waste collection. Second, ADN has played a key role as a collaborating organization in JICA Project for Institutional Capacity Development on Nation-wide Solid Waste Management (2014-2017) by providing training to the personnel of 32 provinces and 60 municipalities.

Collection and transfer of the waste cause emission of the harmful gases and pollution of air, water, and soil, but these are usual impacts and no other extra complaints have been confirmed with regard to the natural environment. Socially, increased capacity of ADN for waste collection has resulted in the decrease of the waste for the street pickers, while those have not been affected at the final disposal site.

<Evaluation Result>

The Project Purpose was achieved by the project completion, and the effects have mostly continued. Regarding the Overall Goal, targets in the indicators have been mostly achieved except for finance and several other positive impacts have been reported. Considering all these factors, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) Integrated SWM in Santo Domingo de Guzman, National District is enhanced.	1. Collection rate target on revised M/P (100%)	(Project Completion) Achieved. - The collection amount increased from 2006 to 2009 independently of the population growth and then remained stable. From this, it was surmised that most of the wastes were collected except for the areas where collection vehicles could not enter. (Ex-post Evaluation) Mostly continued. - The estimated collection rate were around 85% (85% in 2012, 82% in 2013, 85% in 2014 and 85% in 2015). - The volume of waste collection increased from 715,148 ton in 2012 to 735,482 in 2016.
	2. Waste Minimization target on revised M/P (8.5%)	(Project Completion) Achieved. - It can be interpreted that waste minimization rate was 8.5%.

<table>
<tr><td></td><td></td><td>(Ex-post Evaluation) Continued.
- The waste minimization rate has increased.
<table>
<tr><td></td><td>2011</td><td>2012</td><td>2013</td><td>2014</td><td>2015</td></tr>
<tr><td>Estimated waste haulage</td><td>2,103</td><td>2,192</td><td>2,282</td><td>2,373</td><td>2,464</td></tr>
<tr><td>Actual waste haulage</td><td>1,925</td><td>1,953</td><td>1,920</td><td>1,995</td><td>2,015</td></tr>
<tr><td>Waste minimization rate</td><td>8.5%</td><td>10.9%</td><td>15.9%</td><td>15.9%</td><td>18.2%</td></tr>
</table>
Note: Waste minimization rate = 1-(actual waste haulage amount to the final disposal site/estimated waste haulage amount to the final disposal site). For example, in 2011, the ratio of the actual waste haulage to the estimated waste haulage was 91.5%, and therefore it can be interpreted that the minimization rate was 8.5%.</td></tr>
<tr><td></td><td>3. Number of complaints received at the ADN call center</td><td>(Project Completion) Achieved.
- The number of the complaints received at ADN call center was 7,132 in 2011. The rate of resolution was 85.6% in 2011, though it decreased slightly from 88.4% in 2009.(Ex-post Evaluation) Continued.
- The complaints received by ADN decreased from 2,043 in 2012 to 1,750 in 2015. Among them, approximately 98% of the complaints received by DIAGUE were resolved.</td></tr>
<tr><td></td><td>4. Satisfaction rate for collection service</td><td>(Project completion) Partially achieved.
- 64% of the residents were satisfied with waste collection services in 2012. The satisfaction rate in the pilot area was 77%.
(Ex-post Evaluation) Partially continued.
- According to the survey conducted by ADN in September 2016, 11 among the 20 interviewed residents (55%) answered that they were satisfied with the collection service.</td></tr>
<tr><td>(Overall goal)
Targets of the Integrated Solid Waste Management (Integrated SWM) Plan (revised M/P) are substantially achieved by 2015.</td><td>1. Collection rate target (2015) on revised M/P</td><td>(Ex-post Evaluation) Mostly achieved.
- Refer to the achievement of the Indicator 1 of the Project Purpose.</td></tr>
<tr><td></td><td>2. Waste Minimization target (2015) on revised M/P</td><td>(Ex-post Evaluation) Achieved.
- Refer to the achievement of the Indicator 2 of the Project Purpose.</td></tr>
<tr><td></td><td>3. Financial soundness target (2015) on revised M/P</td><td>(Ex-post Evaluation) N/A.
-The budget of ADN and allocated budget to DIGAUE has annually increased.
- The information on the expenditure was not available.</td></tr>
</table>

Source: ADN.

3 Efficiency

The project period was as planned, but the project cost exceeded the plan (ratio against the plan: 100% and 112%, respectively). The reason for the cost excess was not confirmed. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

The integral solid waste management is considered as the most suitable alternative for promoting 3Rs approach in the National Development Strategy (2010-2030). The Policy for the Municipal Integrated Solid Waste Management has been launched by the Ministry of Environment and Natural Resources since 2014. Also, a bill for the Solid Waste Management Law was being discussed in the congress at the time of the ex-post evaluation survey.

<Institutional Aspect>

DIGAUE of ADN is responsible the municipal solid waste management such as waste collection, waste hauling to the transfer station and final disposal site, and street cleaning. It also develops the programs of the waste reuse and recycling with the Ministry of Environment and Natural Resources, conduct awareness raising activities for the residents, and advises the industry sector on clean technologies and decontamination activities. DIGAUE has approximately 1,400 personnel, which is sufficient for performing its responsibilities. DIAGUE has 31 compactor trucks of which only 9 are in operation, 7 dump trucks, 3 pruning machines including 2 provided by the project (1 out of order), 10 light vehicles for control tasks. These vehicles and spare parts are managed with the database. Waste collection works are contracted out to the private companies and community enterprises. Their work is monitored with the GPS devices installed in each unit. Since the project completion, ADN has not prepared the annual plan and budget for the environmental education activities and 3Rs projects, due to the budget limitation.

<Technical Aspect>

The personnel of DIGAUE has sufficient knowledge and skills for the integrated solid waste management, as some have more than 7-year working experience and the personnel have training opportunities given by ADN or JICA project. Five C/P personnel have remained at DIGAUE, as others were moved after the administrative change, and they function as trainers. The training manuals developed by the project have been used by DIGAUE for operation and also dissemination to other municipalities. The manual on electric system diagnosis and repair for compactor trucks developed by the project is not utilized, as the electric system is not working due to the unavailability of the spare parts in the country. (Compactor trucks themselves are used with the manual processing.)

<Financial Aspect>

The main source of the budget of ADN for solid waste management is the allocation from the central government. The budget of ADN has annually increased (3,900 million DOP in 2012 to 4,371 million (planned) in 2016), and the allocated budget for DIGAUE has annually increased, too (655 million DOP in 2012 to 1,206 million (planned) in 2016). However, it is not sufficient to expand the project experience in environmental education activities and 3Rs projects. Savings are not sufficient for vehicle depreciation costs for operation, either. In order to decrease the expenditure, DIGAUE has made efforts for making collection services more efficient through economic routes and reorganized schedule of the collection units, and also starting the collection service in the night time.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The Project Purpose was achieved by the project completion. In other words, the integrated solid waste management was enhanced and as its effects, waste collection has increased, and the waste minimization rate reached the target figure. As other impacts, ADN has shared their gained experience with other municipalities and nationwide in another JICA project. Thus, Effectiveness/Impact are high. Regarding the sustainability, due to the budget shortage ADN has not conducted some activities including preparation of the annual plan and budget for the environmental education activities and 3Rs projects. As for the efficiency, the project cost exceeded the plan, though the reason was not confirmed.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- In order not to lose the positive impacts achieved in improving waste delivery through the pilot project in INVI and Antilles areas, it is recommended to ADN to continue promoting and spreading this approach to other areas which have similar characteristics to the two areas in the National District.
- It is recommended to ADN to avoid, as far as possible, the rotation of its personnel who have skills for the integral solid waste management, so that the technical sustainability would be ensured. In case of the rotation or turnover, it is desirable to give necessary training for the newly assigned personnel.

Lessons learned for JICA:

- In this ex-post evaluation, there were difficulties in verifying the effects with the indicators set at the Project Design Matrix. As mentioned at the beginning of the report, the Overall Goal was not very appropriate; the Overall Goal was described as a continuing status of the effects of the Project Purpose, but not as effects caused by the Project Purpose. Therefore, same indicators were set for both the Project Purpose and Overall Goal, but the indicators themselves were not appropriate. In particular, one of the indicators was the waste collection rate which is calculated with waste collection amount divided waste discharge amount, but the necessary data were not available during the project period and after the project completion. Though the revision of the indicator was recommended by the Terminal Evaluation Team, it has not been conducted until the time of the ex-post evaluation. The reason is that ADN did not have the data including the waste generation rate to calculate the waste discharge amount. The Overall Goal is an objective which is expected after the project completion, but it is necessary to examine the appropriateness and data availability of the indicator by the mid-term of the project period, so that the achievement degree can be foreseen even before the project completion.

(ADN´s personnel working in waste pruning)

(ADN´s personnel giving training to municipalities)

conducted by Brazil Office: July 2017

Country Name	**Utilization of ALOS Images to Support Protection of the Brazilian Amazon Forest and Combat against Illegal Deforestation**
Federative Republic of Brazil	

I. Project Outline

Background	The government of Brazil has utilized satellite images for conservation of Amazon tropical rainforests since 1970's. However, effectiveness of the satellite images has been limited since the optical sensor was not able to catch landscapes for around a five month period in a year with thick clouds covering the Amazon areas. Therefore, it was expected that images by the Phased Array type L-band Synthetic Aperture Radar (PALSAR)[1] could be effectively utilized since PALSAR carried by the Advanced Land Observing Satellite (ALOS)[2] enabled to catch landscapes regardless of clouds. Since 2007, the Japan Aerospace Exploration Agency (JAXA) started to provide the Brazilian Institute for Environment and Renewable Natural Resources (IBAMA: Instituto Brasileiro do Meio Ambiente e dos Recursos Natrurais Renovaveis) with the ALOS images, but interpretation technique had not been developed at a sufficient level in Brazil because the ALOS images were different from the images by the conventional optic sensor. Also, the ALOS images were not incorporated in the existing satellite monitoring system in Brazil. Therefore, the government of Brazil requested the government of Japan for a technical cooperation project aiming at establishment of the capacity and institutional building to use the ALOS/PALSAR images provided by Japan in order to protect the Amazon tropical rainforests.
Objectives of the Project	Through improvement of methodologies using the satellite (ALOS/PALSAR) images to detect illegal deforested areas and possible areas that may be illegally deforested, improvement of information sharing and transmission between the Department of Federal Police (DPF: Departomento de Polícia Federal) and IBAMA for satellite monitoring, and improvement of capacity of DPF and IBAMA staffs for detection and judgement of illegal deforestation, the project aimed at providing technical information based on the ALOS/PALSAR images about illegal deforestation in the Brazilian Amazon, thereby contributing to reinforcement of law enforcement to illegal deforestation based on technical information using the satellite images. 1. Overall Goal: Law enforcement is enhanced based on technical information from satellite images on illegal deforestation. 2. Project Purpose: Technical information based on ALOS/PALSAR images on illegal deforestation in the Brazilian Amazon is provided for law enforcement.
Activities of the project	1. Project site: Legal Amazon (9 states of Acre, Amapá, Amazonas, Pará, Rondonia, Roraima, Tocantins, Mato Grosso and a part of Maranhão state) 2. Main activities: 1) development of extraction methodologies of illegal deforestation information from the ALOS/PALSAR images and preparation of technical manuals for IBAMA and DPF, 2) improvement of monitoring mechanism and development of information sharing mechanism on illegal deforestation between IBAMA head office and regional offices as well as DPF head office and regional offices, 3) training needs assessment, preparation of training plan and revision of training contents, etc. 3. Inputs (to carry out above activities) Japanese Side 1. Experts: persons: 4 persons 2. Acceptance of trainees in Japan: 16 persons 3. Equipment: 815 sheens of ALOS/PALSAR images, 2 servers and PCs, 2 data storages, software, etc. Brazilian Side 1. Staff allocated: 15 persons 2. Land and Facilities: Office spaces

Ex-Ante Evaluation	2008	Project Period	June, 2009 – June, 2012	Project Cost	(Ex-ante) 300 million yen (Actual) 290 million yen
Implementing Agency	Department of Federal Police (DPF), Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)				
Cooperation Agency or Contract Agency in Japan	Ministry of Agriculture, Forestry and Fisheries, Ministry of the Environment, Ministry of Education, Culture, Sports, Science and Technology, University of Tokyo, Forestry and Forest Products Research Institute, Japan Aerospace Exploration Agency, Remote Sensing Technology Center of Japan				

[1] PALSAR (Phased Array type L-band Synthetic Aperture Radar) is an active sensor enabling cloud-free and day-and-night land observation, which were carried in ALOS.

[2] ALOS (Advanced Land Observing Satellite) is a land observing satellite carrying a sensor enabling high precise elevation extraction, land coverage observation and day-and-night and all weather land observation, which was launched by JAXA in 2006.

II. Result of the Evaluation

[Issues to be considered by ex-post evaluation]

- In Brazil, as a result of dismissal of the former President Roussef by the impeachment procedures in September, 2016, the then Vice President Temer, the then acting president, was promoted to the President. Under the impeachment process, the positions for the high level officers in the federal government offices were reshuffled, the newly assigned officers have not necessarily succeeded same policies taken by the former officers. The budget executions in the government offices had been suspended until the time when the prospects of the new government became clear. Under such circumstances, since the telephone lines of the IBAMA Manaus regional office had been cut off for no payment, a contact with the representative of the IBAMA Manaus office was made by a personal telephone through the IBAMA head office in order to conduct this ex-post evaluation. On the other hand, since natures of responsibilities taken by the implementing agencies of this project, IBAMA and DPF, are more technical oriented, their activities had never stopped by the change of government. Therefore, it was confirmed that the change of government had not severely affected the implementing agencies of this project at the time of ex-post evaluation.

1 Relevance

<Consistency with the Development Policy of Brazil at the time of ex-ante evaluation and project completion>

The Brazil's development policy of *the Plan of Prevention and Combat against Deforestation in Amazon (2004)* (the Forest Conservation Management Plan based on the President Order in 2003), which was composed of land issues, forest monitoring and control, sustainable production activities and public infrastructure plan, had been unchanged for the period from the time of ex-ante evaluation to the time of project completion and the project was consistent with the Brazil's policies.

<Consistency with the Development Needs of Brazil at the time of ex-ante evaluation and project completion >

The project was consistent with the Brazil's development needs of enhancement of illegal deforestation monitoring through establishment of interpretation techniques of the ALOS/PALSAR images enabling cloud-free land observation in the Amazon areas.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

In May, 2005, when the former President Lula visited Japan, the 5 priority areas for cooperation, including "environment", were agreed between both heads of Brazil and Japan. The project was consistent with Japan's ODA policy for Brazil.

<Appropriateness of project design/approach>

Before starting the project, the agreement on *ALOS Kyoto Carbon Observation Plan* concerning utilization of ALOS/PALSAR images was concluded between the Brazilian side (IBAMA) and the side of JAXA on August 23th, 2007. However, in the ex-ante evaluation study for this project in 2008, the designed lifetime of ALOS was pointed out as one of issues to be considered for project implementation. The official designed lifetime of ALOS which was launched in 2006 was 3 years, JAXA considered that it could have been highly possible to operate ALOS after the original designed lifetime. On the other hand, it was preferable to produce the planned output as early as possible in light of assuredness of availability of the ALOS/PALSAR images. Although ALOS was operated after the expected lifetime of 5 years eventually, the communication of ALOS became impossible in April 2011, when the project was still under implementation, and the operation of ALOS was terminated in May, 2011. Since then, new images of ALOS/PALSAR and ALOS-2/PALSAR-2 have not been provided to the implementing agency. However, importance of the images provided before termination of ALOS has not been reduced even at the time of ex-post evaluation because there are many cases where they were highly important to utilize the past data as evidence data to bring charges of the current land owner's responsibilities against illegal deforestation in areas with progressed illegal deforestation. In addition, the ALOS/PALSAR images have been utilized on the database developed by the project through some measures to utilize the past images captured during the period when ALOS had been functioning combined with the current images captured by other satellites or by aerial photographs after the termination of ALOS. Therefore, it is judged that the approach of this project was appropriated.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was mostly achieved by the time of project completion. The number of days taken on detection of deforestation areas using the ScanSAR images[3] of ALOS by IBAMA (Indicator 1) was not confirmed because it could not confirm the number of days for data processing at the time of project completion due to the termination of ALOS in April, 2011. However, the number of days taken on extraction of deforestation information after receiving ScanSAR images was shortened to 9.5 days from more than one month[4]. In terms of the number of days taken on provisions of deforestation Polygons from the IBAMA head office to the regional offices after detection (Indicator 2) the Polygon extraction results by the head office became immediately available because of realization of real time access by the IBAMA head office and regional offices by internal information system of IBAMA at the time of project completion. For reference, the average number of days taken on transmission of deforestation information to the regional office after receiving ScanSAR images as a result of the last operation cycle of ALOS before the termination was 5.78 days. The number of forensic reports using the ALOS/PALSAR images prepared by DPF (Indicator 3) was 90 for the year from December, 2010 to November, 2011, which was over the target value of 60.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued since the project completion. IBAMA and DPF were not provided

[3] SAR images is images recorded by SAR satellites which do not require sunlight for observation and enable to observe on any weather conditions and in the night time by utilization of micro wave penetrating clouds. Since PALSAR was equipped with ScanSAR (wide imaging mode to observe wide range of 350 km by one time observation), the ScanSAR images were provided to the project.

[4] It was expected to be shortened to 2 working days if semi automation for a part of processing would have been completed by March, 2013 as planned.

ALOS-2/PALSAR-2 images by JAXA at the time of ex-post evaluation though ALOS-2 was launched in May, 2014 and has been in operation since then. Although IBAMA discussed with JAXA about utilization of images at the annual meeting, an agreement on provision of images was not concluded eventually[5]. DPF decided not to receive new ALOS-2/PALSAR-2 images since they have utilized optical images purchased by the Ministry of Environment of Brazil from other satellite such as LANDSAT and those images were sufficient for preparation of the Environment Forensic Reports.

Under these situations, ALOS/PALSAR images were not utilized for obtaining illegal deforestation information by the IBAMA head office. However, the past images at the time of operation of ALOS became an important tool to check the past situation, and they have been utilized for detection and extraction of illegal deforestation areas by combination with other optical images provided by other satellite. The number of days taken on detection and extraction of illegal deforestation reduced to 1-2 days. In addition, the number of days taken on provision of deforestation information by the IBAMA head office to the regional offices from the detection has been sustained within 1 day.

For the preparation of forensic report on illegal deforestation by DPF, as mentioned above, the other optical images from the other satellite have been utilized. However, since the past ALOS/PALSAR images were useful for criminal investigation as well, the past images were utilized for preparation of the forensic reports at the time of ex-post evaluation. The number of forensic report prepared by the DPF head office decreased from 101 in 2012 to 47 in 2013 and has been sustained at the same level. The DPF Manaus regional office has prepared 7 forensic reports a year on average. The number of reports prepared in 2016 is the ones compiled as of August, 2016. However, it is expected that the number of forensic report using the ALOS/PALSAR images will decrease since usefulness of the past images will be lowered over 5 years.

The techniques introduced by the project have contributed to illegal deforestation control activities because of their importance though new ALOS-2/PALSAR-2 images have not been utilized. In particular, in the North Amazon with significant cumulus development, the technical transfer of extraction techniques for illegal deforestation information from ScanSAR images by the project brought a unique technique to detect and prevent illegal detection through penetration of clouds. Also, although the new images by ALOS-2/PALSAR-2 have not been utilized, the fact indicates that the past images have been still useful.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved. The surveillance of illegal deforestation in the Brazilian Amazon using the techniques developed by the project (Indicator 1), has applied the knowledge of radar image analysis introduced by the project but used the optical images by the other satellite at the time of ex-post evaluation because of the Ministry of Environment's decision not to receive deforestation polygons from JAXA. The application of the techniques developed by the project on deforestation observation in other areas (Indicator 2) has not been carried out in IBAMA due to the complication of the image analysis techniques introduced by the project and the lack of human resources. On the other hand, the DPF Manaus regional has applied and utilized AVNIR[6], an optical image analytical technique as a part of ALOS's functions for Caatinga region in the East Amazon. Although utilization and reference of ALOS/PALSAR images and ALOS-2/PALSAR-2 images for environment forensic report prepared by DPF (Indicator 3) were limited to only using the past ALOS/PALSAR images provided during the project implementation as mentioned, the number of environment forensic report using optic images except ALOS/PALSAR images increased from 166 in 2012 to 730 in 2016 and those report referred the past ALOS/PALSAR images.

<Other Impacts at the time of Ex-post Evaluation>

At the time of ex-post evaluation, positive impacts of this project were confirmed. IMABA conducted the third country trainings for Latin American countries supported by JICA as a part of efforts to disseminate deforestation surveillance techniques using SAR images.

In addition, since InteliGeo, an information sharing system of DPF developed by the project, have been available for all the regional DPF offices and the techniques for preparation of forensic report have been opened in the system, it has been utilized in other areas besides the target areas of this project. Furthermore, in DPF, it has contributed to reduction of cost for preparation of environmental forensic reports. Before the introduction of InteliGEO, DPF needed to conduct site survey to check all possible sites of illegal deforestation. However, utilization of optical images reduced 70% of the cost for them.

According to the IBAMA Manaus office, comprehensive effects for deforestation control, including other efforts besides the project effects since the improved precision of images transmitted from the head office enabled monitoring during the rainy season.

Moreover, according to the IBAMA head office, they recognize that the image analysis techniques are useful despite of the lifetime of satellite. On the other hand, since the cross border efforts are critical because the Amazon forests cover various countries, the importance of such techniques was confirmed at the regional conference of JICA-JAXA Forest Early Warning System in Tropics (JJ-FAST[7]) held in Peru in December, 2016. Brazil

InteliGEO: coverage by satellite and status of site survey

[5] In the annual meeting between JAXA and IBAMA, although discussions about transmitting preprocessed images for Polygon data from JAXA to IBAMA had been progressed, it was revealed that the transmission of images was practically impossible due to the excessive volume of image data. JAXA proposed to transmit processed polygon data to IBAMA. However, the Ministry of Environment of Brazil rejected the proposal on provision of polygon data by JAXA because there would be issues of national security in case where data processing would not be carried out by the Brazilian side.

[6] AVNIR (Advanced Visible and Near Infrared Radiometer) is a high resolution optical sensor to observe sunlight from visible light reflected from land and coastal area to near infrared light. It is expected that observation data of AVNIR will be utilized to detect and monitor noticeable phenomena as current major environmental problems such as deforestation in tropical forests, desertification and water contamination, and further for exploitation areas including land use and resource exploitation in future.

[7] JJ-FAST is a service by JICA and JAXA, providing easy access from PC and smart phones through internet to information to monitor deforestation of rainforests and their changes by using ALOS-2. It was started in November, 2016.

introduced the techniques acquired through the project to other Amazon countries. It is expected that Brazil having such technique will make enormous contribution in conservation of vast Amazon rainforest requiring cross border countermeasures. The positive impacts, such as exertion of leadership by Brazil using the image analysis techniques acquired through the project, have been confirmed in international alliance and cooperation for conservation of the Amazon forests. No negative impact has been observed.

<Evaluation Result>

In light of the above, the project mostly achieved the Project Purpose and the Overall Goal through the utilization of ALOS/PALSAR images for illegal deforestation surveillance despite of no utilization of ALOS-2/PALSAR-2 images after the project completion because of the termination of ALOS during the project implementation. In addition, in the cross border alliance with other Amazon countries, Brazil is expected to use image analysis for cross boundary conservation of Amazon rainforests. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="3">(Project Purpose)
Technical information based on ALOS/PALSAR images on illegal deforestation in the Brazilian Amazon is provided for law enforcement.</td><td>(Indicator 1)
By the Project end, deforestation areas are detected within 3 working days after receiving the ScanSAR images of ALOS/PALSAR by IBAMA.</td><td><u>Status of the achievement: Partially achieved</u>
(Project Completion)
● Not confirmed the number of days taken for data processing due to the termination of ALOS in April. 2011.
● Although it took more than one month to extraction of deforestation information after receiving the ALOS ScanSAR data, it was shortened to 9.5 days.
(Ex-post Evaluation) Continued
[The number of days taken to detection of illegal deforestation area after receiving the images (using optical images)]
<table>
<tr><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>1-2 days (information from the head office)</td><td>1-2</td><td>1-2</td><td>1-2</td><td>1-2</td></tr>
</table></td></tr>
<tr><td>(Indicator 2)
By the Project end, the location and size of the detected deforestation areas (i.e. Deforestation Polygons) are provided to the relevant IBAMA regional offices within 2 working days after their detection.</td><td><u>Status of the achievement: Achieved</u>
(Project completion)
● At the time of project completion, the Polygon detection results by the head office became immediately available at the regional offices since the real time access of the IBAMA regional offices and the head office by web-link had been realized. However, specific data of the number of days from detection of illegal logging to provision of data to the regional offices at the time of project completion were not obtained due to the termination of ALOS in April, 2011.

(Ex-post Evaluation) Continued
[The number of days taken to provision of deforestation Polygons for the regional office from detection of illegal deforestation area]
<table>
<tr><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>Within 1days （information from the head office）</td><td>Within 1day</td><td>Within 1day</td><td>Within 1day</td><td>Within 1day</td></tr>
</table></td></tr>
<tr><td>(Indicator 3)
By the Project end, ALOS/PALSAR images (mainly high-resolution ones), are utilized/referred to in 60 Forensic Reports produced by DPF per year.</td><td><u>Status of the achievement: Achieved</u>
(Project completion)
● 90 environmental forensic reports using the ALOS/PALSAR images were prepared for the period from December, 2010 to November, 2011.
(Ex-post Evaluation) Partially continued
● The ALOS/PALSAR images have been utilized for checking the past situation. However, since the information within the last five years is effective, the usefulness of the images before that have been decreasing and the number of forensic reports using the ALOS/PALSAR images have decreased, but the ALOS/PALSAR images have been supplementary utilized as reference for preparation of the reports based on other optical images.
[The number of forensic reports prepared by the DPF head office]
<table>
<tr><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>101</td><td>47</td><td>42</td><td>47</td><td>18</td></tr>
</table></td></tr>
</table>

<table>
<tr><td rowspan="3">(Overall goal)
Law enforcement is enhanced ground on technical information based on satellite images on illegal deforestation.</td><td>(Indicator 1)
Deforestation of Brazilian Amazon is monitored with use of SAR images, including ScanSAR images of ALOS/ALOS-2 at every Cycle, using/applying the methodologies developed through the Project.</td><td>Status of achievement: Partially achieved
(Ex-post Evaluation)
● IBAMA has been receiving images by the optical satellite and monitoring deforestation by using those images.
● The knowledge of radar image analysis introduced by the project has been applied for surveillance using the optical satellite.</td></tr>
<tr><td>(Indicator 2)
The techniques acquired through the Project are adapted and used for monitoring of deforestation in at least 2 sites different from Amazon.</td><td>Status of achievement: Partially achieved
(Ex-post Evaluation)
● The relevant techniques have not been applied by IBAMA for other areas.
● The analytical technique of optical images using AVNIR, a function of ALOS has been applied and utilized by DPF for Caatinga Region in the eastern Amazon under the Manaus regional office.</td></tr>
<tr><td>(Indicator 3)
SAR images and high-resolution images are utilized/referred to in 100 Environmental Forensic Reports on illegal deforestation produced by DPF per year.</td><td>Status of achievement: Partially achieved
(Ex-post Evaluation)
[The number of forensic reports using/referring SAR/high resolution images]
<table>
<tr><th></th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr>
<tr><td>No. of forensic reports based on SAR images/high resolution images</td><td>101</td><td>47</td><td>42</td><td>47</td><td>18</td></tr>
<tr><td>No. of forensic reports based on other optical images</td><td>166</td><td>240</td><td>290</td><td>471</td><td>730</td></tr>
</table></td></tr>
</table>

Source：Project completion report, interviews with IBAMA head office, IBAMA Manaus regional office, DPF head office and DPF Manaus regional office

3 Efficiency

Although the project cost slightly exceeded the plan (ratio against the plan: 107%), the project period was as planned (ratio against the plan: 100%). Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Although the new Forest Law was passed in 2012, no change in the policies and the regulations on supervision and law enforcement against illegal deforestation has been made. However, in terms of utilization of SAR images for surveillance and law enforcement against illegal deforestation, prospects on continuity of the activities related to the project has been unclear due to no agreement for provision of images concluded between JAXA a provider of images and IBAMA and DPF, the implementing agencies of Brazilian side.

<Institutional Aspect>

(IBAMA)

In IBAMA, while the Remote Sensing Center (CSR; Centro de Snsorlamento Remoto) is responsible for image analysis and processing in order to detect illegal deforestation sites, the regional offices are responsible for surveillance over illegal deforestation. There is no change in this organizational structure. In terms of staff assignment, 15 staffs are deployed for CSR and 4 out of them are engaged in analysis and processing of SAR images. For the IBAMA Manaus regional office which is responsible for the target area of this project, 3 staffs are deployed and only 1 staff out of them is engaged in activities related to SAR images. As the activities related to the project have been less prioritized compared to other works, the number of staffs assigned has not been sufficient. The Ministry of Environment expects future improvements on staffing through enhancing forest management, such as establishment of the National Forest Origin Certification System (Sinaflor: Sistema Ncional de Controle da Origem dos Produtos Florestais) though the administration change by the impeachment of the President affected staffing in the government organizations.

(DPF)

In DPF, the Technical-Scientific Directorate (DITEC: Directoria Tecnico-Cientifica) is responsible for information management, including transmitting satellite images to the Technical-Scientific Units (SETEC: Sector Tecnico-Cientifico) of the regional offices, and conducts surveillance and law enforcement comprehensively. SETEC implements activities for law enforcement in Amazonas region in accordance with instructions by DITEC. The Regional Office for Environment, Wildlife and Heritage (DELEMAPH: Delegacia do Meio Ambiente) is in charge of environment crime control jointly with DITEC and SETEC. The staff assignment of DPF was not confirmed because provision of such information is prohibited by decision of the Command. According to the DPF head office, they have deployed the minimum number of staffs for surveillance and law enforcement of illegal deforestation derived from the project. However, according to the DPF Manaus regional office, they have insufficient number of staffs assigned, in particular for analyzing SAR images. DPF has requested that the government opens a selection process in 2017 to hire more policemen. DITEC and many SETECs are also facing staff shortage caused by the large number of cases to be dealt with and the pressure of works which are not a problem specific to the Manaus regional office. Currently, since DPF is reconsidering divisions of role between the head office and the regional offices, better coordination of human resource allocation is expected.

(Cooperation with relevant organizations)

The cooperation between IBAMA and the Operations and Management Center of the Amazonian Protection System (CENSIPAM : Centro Gestor e Operacional do Sistema Proteção) has been continued and they have jointly obtained X-band images and analyzed them for specific sites in Pará and Amapá. DPF has implemented joint activities with the National Institute

for Space Research (INPE: Instituto Nacional de Pesquisas Espacial) and CENSIPAM as necessary in despite of no official agreement.

<Technical Aspect>

(IBAMA)

In terms of IBAMA's capacity for illegal deforestation surveillance and law enforcement using SAR images, the staffs of CSR are highly capacitated through trainings at JAXA and the activities of the project. In addition, two of them received the master degree in the area of radar image analysis. The staffs of the Manaus regional office have sustained necessary ability. However, capacity improvement of the staffs has not caught up with the progress of necessary techniques though CSR has delivered basic trainings. Although no related trainings has been currently delivered in the IBAMA head office, there is a plan to deliver two trainings courses a year at each level of basic, intermediate and advanced for 10 participants for each course. The manuals developed by the project have not been utilized since ALOS/PALSAR images have not been provided and there is difficulty to apply them for analysis of other optical images. In addition, GPS provided by the project for the IBAMA head office were not utilized at the time of project completion due to the aged deterioration. Currently, although there were some impacts by the administration change by impeachment of the president, the Ministry of Environment has enhanced forest management including establishment of Sinaflor. Since IBAMA is reconsidering divisions of responsibilities between the head office and the regional offices, necessary equipment and necessary skills and knowledge to use them is expected to be installed through coordination between the head office and the Manaus regional office and reviews on the activities for illegal deforestation surveillance and law enforcement to be conducted by the regional office.

(DPF)

The DPF staffs have sustained necessary ability and conducted analysis of more simply optical images without any problems since they have continuously prepared environment forensic reports using the ALOS/PALSAR images at the time of ex-post evaluation. The SETEC and DELEMAPH of the Manaus regional office have sustained necessary ability and utilized images transmitted from DITEC without problem. While trainings on utilization of InteliGEO have been delivered in DITEC, no training was delivered in SETEC because the forensics experts traveled to DITEC to receive training and DITEC has not been able to deliver trainings in SETEC. The training of staff allocated in SETECs was done in DITEC because it was more efficient to deliver courses for 10 experts from different SETECs at DITEC than to deliver a greater number of courses for 2 to 5 experts in each unit. Other reasons for that are that the experts have a chance to communicate with other colleagues from other units and gather more experience, and equipment and classrooms of DITEC are very good, which contribute to better learning. The manual for analysis of optical images developed by the project has not been utilized as GEOfit, a system with more simplified process, was introduced. Although various equipment such as PCs, servers and software for image processing were provided by the project, many of them have not been in use and the software has not been utilized due to the expiry of the license. On the other hand, since the works related to software has been concentrated in the head office, the activities of DPF has not been interfered at the time of ex-post evaluation. Currently, DPF is considering divisions of responsibilities between the head office and the regional offices as mentioned above, necessary equipment and skills knowledge to use them is expected to be installed through coordination between the head office and the Manaus office.

<Financial Aspect>

(IBAMA)

The estimated annual budget for IBAMA is 12 million reais and 25% of the budget (approximately 4 million reais) is allocated to all the regional offices including the CRS Amazon area office. The budget amount cannot be considered as sufficient compared to the amount of necessary cost. However, it is expected that the issue will be improved through the stabilized situation after the administration change and the ensured budget by alliance with external organization including JJ FAST.

(DPF)

By the decision of the DPF Command, the detailed budget allocation is confidential, so only the overall DITEC and regional offices budgets was available for the evaluation. According to the DPF head office, the necessary budget has been allocated for implementation of surveillance and law enforcement on illegal deforestation derived from the project.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the policy, institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project mostly achieved the Project Purpose and the Overall Goal through institutional development and capacity improvement for surveillance and law enforcement on illegal deforestation and enhancement of law enforcement on illegal deforestation. Although the ALOS/PALSAR images have not been provided since the termination of ALOS during the project implementation, ALOS/PALSAR images have been supplementary used for monitoring activities for illegal deforestation through referring the past ALOS/PALSAR images and the image analysis technique transferred to Brazil is expected to contribute to cross border conservation of Amazon rainforests. As for sustainability, although the image analysis techniques obtained through the project have been sustained, the manuals developed by the project have not been utilized because the ALOS-2/PALSAR-2 images were not provided by JAXA at the time of ex-post evaluation. In addition, the staff assignment and budget allocation for surveillance and law enforcement on illegal deforestation using optical images have not been sufficient, in particular on site. As for efficiency, the project cost slightly exceeded the plan.

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

III. Recommendations & Lessons Learned

Lessons learned for JICA:

- The project was implemented in order to improve capacity for surveillance and law enforcement on illegal deforestation using the ALOS/PALSAR images provided by JAXA and the institutional development. At the project planning stage, it was

expected that the target lifetime of ALOS would be end during the project implementation since the operation of ALOS started in 2006 and its designed lifetime was 3 years and the target lifetime was 5 years. Eventually, during the project implementation, ALOS was terminated though it had been operated beyond the target lifetime. Then, the provision of ALOS/PALSAR images was stopped. Therefore, in case where the project activities are planned to use satellite data using unique technologies which solely exists in the world, it is necessary to consider risk of termination of provision of the satellite data and alternatives at the time of project planning, such as utilization of other satellite data, which may not be a perfect alternative but can be a supplemental countermeasure, in order to prepare against risks such as breakdown of satellite that interfere utilization of data because the termination of satellite significantly affects effectiveness and impacts of the project and their sustainability.

Illegal Deforestation Surveillance Map (IBAMA)

Staffs of the DPF Manaus regional office conducting activities in an illegal deforestation site

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Kenya Office: November 2017

Country Name	Project for Strengthening of Health System Management in Nyanza Province
Republic of Kenya	

I. Project Outline

Background	Health indicators in Kenya declined in the middle of 1990s due to low quality of health care services caused by a shortage of qualified medical personnel and health workers, health facilities, equipment, medicines, and so forth. Commitment and incentives of service providers to their duties also declined. Health management teams supervised health workers in authoritarian manner with, methods and national tools that did not meet their needs. In line with the aspirations of the 2nd National Health Sector Strategic Plan (NHSSP II: 2005-2010) which indicated that health management teams in the districts and the provinces needed to strengthen their capacities to manage the cycle of health plans (planning, implementation and monitoring &evaluation), the Government of Japan agreed in 2009 to support the Government of Republic of Kenya to strengthen capacities of middle-level managers in management of health plans in Nyanza Province where most of the key health indicators were the worst in the country.
Objectives of the Project	The project aimed at strengthening the health system in Nyanza Province through the development of leadership and management capacities of health management team members, which would ultimately improve the quality of health services in the province. 1. Overall Goal: Quality of primary health services is improved in Nyanza Province. 2. Project Purpose: Management capacity of health management teams at provincial and district levels in Nyanza Province is strengthened.
Activities of the Project	1. Project Site: Project site: Nyanza Province 2. Main activities: ・To develop and disseminate a training package on health system management ・To support district health management teams to implement health promotion activities. ・To develop Integrated Management Supportive Supervision (IMSS) Checklist and support activities in the pilot districts as management an interface between district health management team (DHMT) and health facilities. ・To conduct operations researches to assess effects of interventions by the project. ・To strengthen the networking in the country/the region and share the information and experiences of the project 3. Inputs (to carry out above activities) Japanese Side / Kenyan Side (1) Assigned Experts: 3 long-term experts and 3 short-term experts / (1) Placement of Counterparts: Unknown (Ex-ante) 100（Mid-term Review） 98 (Terminal Evaluation) (2) Training in Japan: 12 counterparts (3) Equipment: Vehicles, Computers etc. / (2) Provision of Project office and payment of utilities (4) Local Cost：Cost for training and seminars / (3) Local Cost: Payment of salary to the counterparts and management cost

Ex-Ante Evaluation	2009	Project Period	July 2009 – June 2013	Project Cost	(ex-ante) 370 million yen (actual) 398 million yen
Implementing Agency	Ministry of Public Health & Sanitation、Provincial Public Health Office, District Public Health Offices in the Province				
Cooperation Agency in Japan	None				

II. Result of the Evaluation

<Constraints on Evaluation>

With the following two reasons, it was difficult to evaluate the achievement level of Project Purpose and Overall Goal in line with the indicators set in the Project Design Matrix (PDM) at the time of the completion of the project: and the ex-post evaluation：

(1) The endline survey was conducted about one and half years after the baseline and 1 year before the completion of the project hence not allowing sufficient time to record remarkable changes from implementation ,

(2) The governance system and service delivery structure were dramatically changed after the project period due to the devolution, and the then-health management teams underwent structural changes. With these changes, it was not possible to conduct the same survey using the same tools/methods to the same targets.

Therefore, in addition to evaluation on Project Purpose and Overall Goal in line with the indictors set in the PDM, the evaluator set the alternative indicators to assess the status of continuation of the project effects with the interpretation that what the project aim was development of technical capacities (capacities to practice the implementation models) and core capacities (leadership for changes). Based on this understanding, two alternative indicators were set: (1) Whether or not the 4 implementation models (Health System Management Training, Health Promotion Activity, Service Quality Management through Supportive Supervision and Community Health Management) had been practiced under the devolved system" (2) Whether or not the activities originally set as the sub-indicators to assess behavior changes of the target health management teams are sustained under the devolved system.

< Special Perspectives Considered in the Ex-Post Evaluation >

- To verify current condition of "mind-set change" of ex-counterparts in county/sub-county health management teams and effects of their mind-set change to improve working environment and service delivery.
- To analyze contributing and constraining factors for sustainability of technical and core capacities and consider possible actions to increase sustainability.

1 Relevance

<Consistency with the Development Policy of Kenya at the Time of Ex-Ante Evaluation and Project Completion>

The project's objectives were consistent with Kenya's development policy from the time of ex-ante evaluation to the time of project completion: Improvement of efficiency and effectiveness of service delivery was one of the strategic objectives under the Second National Health Sector Strategic Plan of Kenya 2005-2012: NHSSP II. Strengthening of health system is one of policy objectives in the Kenya Health Policy Framework (2014-2030) to reach ultimate goal identified under Vision 2030 which was launched in June 2008: to provide the people of Kenya with affordable and equity of high-level health services.

<Consistency with the Development Needs of Kenya at the Time of Ex-Ante Evaluation and Project Completion >

Strengthening capacities of provincial and districts' health management teams, which was the project purpose, remained as Kenya's priority concern: at the time of Ex-Ante Evaluation, there was a policy direction towards the bottom-up planning and direct national budget allocation to the health facilities through the districts. The devolved system, which was introduced in 2013, increases needs to develop capacities of health management teams in planning and implementation of health plans to improve service quality in the counties.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy: strengthening of health system was one of the strategies stipulated in the Initiative for Health and Development（2005: MoFA）and strengthening capacities of health management to improve primary health care in the provinces and lower levels was also the core objective of JICA's assistance program to Kenya (2000). In addition, capacity development of provincial and district health management team members were a part of "Yokohama Action Plan" declared at TICAD IV.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was not achieved in line with the two indicators set in the PDM: 1）Grand average score of the capacity assessment in PHMT and DHMT in Nyanza Province is increased to 4.0/5.0 by June 2013 (baseline: 3.27, endline: 3.75) and (2) Grand average of the behavioral change assessment in PHMT and DHMTs in Nyanza Province is increased to 4.0/5.0 by June 2013 (baseline: 2.64, endline 3.41). Yet, comparing between the baseline and the endline conducted around the time of the terminal evaluation, these indicators progressed by 65.7% and 56.6% respectively in just one and a half years of the project implementation. This level of achievement was in itself quite remarkable. However, non-achievement of the target indicators for the Project Purpose was attributed to the unbalanced geographical distribution of the intervention: The Project Purpose and Output 1 targeted all 36 districts while the other three Outputs targeted 2 pilot districts (which became 4 districts due to the restructuring of one pilot district during the project period). The scale up of combined interventions across the 36 districts to positively contribute to achievement of the Project Purpose was therefore limited during the latter half of the Project

＊The self-capacity assessment on 9 areas of HSM training and the assessment on behavior changes were conducted to PHMT and all DHMTs. Nine training areas are (1) leadership& governance (2) Planning, Monitoring and Evaluation (3) Health Policy Management (4) Supportive Supervision (5) Resource Management (6) Information Management (7) Team Management (8) Health Promotion (9) Customer Relations Management. 12 Behavior change indicators are (1) Leadership Characteristic (2) Leadership Behavior (3) Mindset Change for Higher Performing (4) Readiness for Change (Subjective Indicators) (5) Interpersonal Relationship (6) Vision & Mission (7) Number of Stakeholder Meeting (8) Number of Health Facilities in charge (9) Health Policy Resource Corner (10) Availability of Health Policy Document (11) Utilization of Scientific Publication (12) Suggestion Box (Objective indicators)

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Two alternative indicators were set for the ex-post evaluation: ((1) Whether or not the 4 implementation models (Health System Management Training, Health Promotion Activity, Service Quality Management through Supportive Supervision and Community Health Management) has been practiced under the devolved system" (2) Whether or not the activities originally set as the sub-indicators to assess behavior changes of the target health management teams are sustained under the devolved system. Based on the results of assessment, the level of achievement of both indicators was satisfactory. As for alternative indicator (1) Majority of ex-counterparts (C/Ps) have managed to practice the localized Implementation Models. Among the 4 models, supportive supervision model and community health management models that directly address the quality of services at health facilities and community level have been implemented in all 6 counties (100%), while the HSM training model has been only implemented in Kisumu, Siaya and Kisii counties (50%). Health Promotion Model has not been implemented in Migori county only (16.7%) which currently has received support from many development partners using different health promotion tools and methods. As for alternative indicator (2), all seven sub-indicators (100%) have been achieved in four counties (Siaya, Homabay, Migori, Kisii). In Kisumu and Nyamira counties, six out of seven sub-indicators (85.7%) have been achieved.

<Status of Achievement of Overall Goal at the time of Ex-post Evaluation>

Achievement of Overall Goal could not be assessed in line with the original indicators due to the same reasons for the assessment of Project Purpose and therefore 3 alternative indicators were set: (1) Satisfaction of customers at the facilities visited at the time of ex-post evaluation. (2) Progress of indicators for selected High Impact Interventions (HIIs) in each county for the consecutive three years (2012/2013, 2013/ 2014, 2014/2015) (3) The understanding of ex-counterparts on "mind-set change" and activities introduced by ex-counterparts to their work place and its influence on work environment and service delivery at the time of ex-post evaluation. In summary, the achievement level of alternative indicators (1) and (3) is satisfactory based on results of assessment. On the other hand, improvement of HII indicators remains as challenges in most of the counties: Under 5 Malaria cases are increased for the consecutive three years since the end of the project at all 6 counties and improvement in U1 Mortality Cases and Maternal Mortality Cases present a mixed across the counties. However, in the absence of direct interventions by the Project in service delivery around HIIs, and considering the contribution of other actors, it is not possible to attribute improved management capacity to performance indicators in service delivery. .

<Other Impacts at the time of Ex-post Evaluation>

・ In combination with the national policy on free primary health care, good practices, especially practices to promote community health management,

have contributed to improve indicators of full immunization of children, delivery at health facilities and ANC attendance in the six counties.

- A number of ex-C/Ps have smoothly risen to managerial positions since the completion of the project as (according to some of the interviewees) they were considered to be ready for being good leaders: 5 ex-counterparts are assigned to managerial position in MoH and the current County Directors of Health in 4 counties (Siaya, Homabay, Kisii, Nyamira) out of 6 counties are ex-C/Ps

<Evaluation Result>

In light of the above, the Project Purpose was not achieved based on the indicators set in the PDM at the time of project completion, but the alternative indicators set for the ex-post evaluation were mostly achieved. Alternative indicators to assess the status of Overall Goal were partially achieved and other positive impact was also reported as described below. Therefore, the effectiveness/impact of the project is fair.

Effects of intervention by the project remain to a fair extent at the time of ex-post evaluation: the majority of the ex-C/Ps manage their technical capacities through practice of the localized Implementation Models in the devolved system, and a few ex-C/Ps have practiced their core capacities (mind-set changes) and have been contributing to improve their work environment and quality of services through team building and mentorship in their new team in the assigned county although they have faced drastic change of health system management due to devolution. It is remarkable impact of the project that 9 ex-C/Ps currently have been assigned senior management positions either in the national or the county government.

Achievement of Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td rowspan="4">(Project Purpose)
Management capacity of health management teams at provincial and district levels in Nyanza Province is strengthened”</td><td>(1) Grand average score of the capacity assessment in PHMT and DHMT in Nyanza Province is increased to 4.0/5.0 by June 2013</td><td>Status of the Achievement: Not achieved.
(Terminal Evaluation)
The endline survey conducted in October 2012 showed that the grand average score on self-assessment by PHMT and all 36 DHMTs was increased from 3.27/5.00 in baseline to 3.75/5.00 in endline representing a 65.7% increase</td></tr>
<tr><td><u>Alternative Indicator (1)</u>
Whether or not the 4 implementation models (Health System Management Training, Health Promotion Activity, Service Quality Management through Supportive Supervision and Community Health Management) has been practiced under the devolved system

a) Health System Management Implementation Model
b) Health Promotion Implementation Model
c) Supportive Supervision Model
d) Community Health Management Model</td><td>Status of the Achievement: Continued
(Ex-post Evaluation)
The implementation models are localized with the same concept of the original models under the devolved system and have been practiced. Among 4 models, the model for Service Quality Management through Supportive Supervision and community health management models are practiced at all 6 counties (Kisumu, Siaya, Migori, Homabay, Kisii and Nyamira) while the practice of the Health System Management (HSM) training model is relatively weak: the model is only implemented in 3 counties (Kisumu, Siaya and Kisii) and in these counties, the cascading to the sub-counties is limited due to the insufficient budget. Health Promotion Activity Model is practiced in 5 counties (Kisumu, Siaya, Kisii, Homabay and Nyamira). The Health Promotion Model has been practiced little in Migori where other development partners have supported with their own methods and tools. Comparing the 6 counties in the sustainability of the implementation models, Kisii is the best while Nyamira is relatively weak due to higher turn-over rate and fewer financial resources for practices. Overall, the activities for the implementation models have not been as dynamic as they were before; however, most of the counties have been making efforts to continue.
<table>
<tr><th></th><th>Kisumu</th><th>Siaya</th><th>Migori</th><th>Kisii</th><th>Homabay</th><th>Nyamira</th></tr>
<tr><td>a)</td><td>✓</td><td>✓</td><td></td><td>✓</td><td></td><td></td></tr>
<tr><td>b)</td><td>✓</td><td>✓</td><td></td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>c)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>d)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table></td></tr>
<tr><td>(2) Grand average of the behavioral change assessment in PHMT and DHMTs in Nyanza Province is increased to 4.0/5.0 by June 2013.</td><td>Status of the Achievement: Partially achieved
(Terminal Evaluation)
The grand average score on self-assessment by PHMT and all 36 DHMTs increased from 2.64/5.00 to 3.41/5.00 representing a 56.6% increase</td></tr>
<tr><td><u>Alternative Indicator (2)</u>
Have the following activities, which was originally set as the objective sub-indicators to assess behavior changes of the target health management teams subjectively, are sustained in each county?
a) Vision and mission
b) Regular stakeholder meeting
c) Meetings with health facilities in charge
d) Health Policy Resource Corner
e) Availability of Health Policy Documents
f) Utilization of scientific publication
g) Suggestion Box</td><td>Status of the Achievement: Continued
(Ex-post Evaluation)
The table shows the current status of the activities:
<table>
<tr><th></th><th>Kisumu</th><th>Siaya</th><th>Migori</th><th>Kisii</th><th>Homabay</th><th>Nyamira</th></tr>
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<tr><td>d)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>e)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>f)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>g)</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
(Source: Questionnaire Survey)</td></tr>
<tr><td>(Overall Goal)</td><td>(1) Customers satisfaction rates in</td><td>Status of the Achievement: Not achieved
(Terminal Evaluation)</td></tr>
</table>

Quality of primary health services is improved in Nyanza Province	health facilities are increased to 90% (3.6//4) by 2015 (Benchmark in March 2011)	Customers satisfaction rate increased slightly from 2.59/4.00 (baseline in March 2011) to 2.73/4.00 at the endline conducted in October 2012, an increase of 13.8%. The seemingly high target value was set using the baseline results from the pilot districts as opposed to the endline results that took into account responses across all the 36 districts
	(2) Health managers'/providers' work satisfaction rates are increased to 90% (3.6/4) by 2015 (Benchmark in March 2011)	Status of the Achievement: Not achieved (Terminal evaluation) Health managers'/providers' work satisfaction rates decreased by 23.4% from 3.36/4 at the baseline to 3.21/4.00 at the endline. It should be noted that the indicator did not appropriately capture the cause (the improved performances of the health management teams) and effect (health managers'/providers' work satisfaction rates) relation: salary and/or other working conditions of health managers/providers must have affected their commitment and ultimately improvement of health care services.
	Alternative Indicator (1) Satisfaction of customers and health providers interviewed at the time of ex-post evaluation.	Status of the Achievement: partially continued (Ex-post Evaluation)* The customers interviewed at sub-county hospitals (Level 4), health centers (Level 3) and dispensaries (Level 2) said that they are satisfied with services provided at the facility with such reasons as cleanliness of the facility, smooth patient flow with service charters and a customer care desk and reduced waiting time at OPD, friendly manner of health providers to customers with willingness to listen to them and free services for primary health care. All health providers interviewed at different levels of facilities said that they are comfortable with the current manner of supervision by the health management team. According to the interviewees, the previous supervision used to be about "faults-finding" but it is currently very "supportive." On the other hand, a shortage of staff and equipment in addition to small size of rooms in the facility are commonly identified by the health providers as bottlenecks. * Total 24 facilities were visited in 6 counties: 3-4 health staff and 3-4 customers were interviewed at each facility.
	(3) Health service performance indicators for priority High Impact Interventions (HIIs)* are increased to 80% and above by 2015 (Benchmark is AOP 4 and 5) *A Package of High Impact Interventions in Maternal and Child Health was developed by the Government of Kenya with supports from key development partners. The indicators to assess the intervention are: MMR cases, U1 Mortality cases, U5 Malaria cases, Measles coverage, Fully immunized children, Skilled delivery, 4 Antenatal Care, Family Planning	Status of the Achievement: Not achieved (Terminal evaluation) All 8 key health indicators were improved from 2010 to 2013 in Nyanza Province, except maternal mortality rate. Looking at the performance of the pilot districts, these indicators were increased by 51% in Siaya and 58% in Kisumu West (in average). *Siaya and Kisumu West were pilot districts of the project in 2009 and afterward, while Ugenya and Gem became a part of the pilot districts due to the restructuring of Siaya (and therefore there was no baseline data on Ugenya and Gem for the before-after comparison)
	Alternative Indicator (2) Progress of HISs indicators in each county for the consecutive three years (2012/2013, 2013, 2014, 2014/2015)	Status of the Achievement: Not achieved (Ex-post Evaluation) With devolution in 2013-Nyanza Province is currently restructured to 6 counties, and therefore, progress of the said indicators could not be reviewed at the time of the Ex-post evaluation, and therefore alternatively, progress of key health indicators at each county were reviewed: Maternal mortality rate, Under 1 mortality rate and Under 5 Malaria cases. Under 5 Malaria cases are increased for the consecutive three years since the end of the project at all 6 counties, while improvement in other two indicators are mixed among the counties that might be affected by the change of health system due to devolution It is also noteworthy here that the Project did not have direct intervention in service delivery and therefore the progress of health service indicators cannot be absolutely attributed to the Project..
	Alternative Indicator (3) The understanding of ex-counterparts on "mind-set change" at the time of ex-post evaluation and examples of activities they have introduced to their work place.	Status of the Achievement: Partially achieved. (Ex-post Evaluation) Having asked about mind-set change at the focus group discussion, the majority of ex-counterparts answered commonly: "being proactive" "setting objective and gradually stepping towards the goal. Change will not happen at once" "My problem is my team's problem" and so forth. It was found that there is correlation between their answer on "mind-set change" and their level of commitment to their current assignment : None of these keywords of "mind-set change" were answered by those who complained about the problems they currently have faced, while those who pointed these key words shared examples of their initiative toward the challenges they have. At each county, a number of

		good practices were reported at the time of ex-post evaluation. These activities have contributed to: ✓ increase efficiency of works (e.g. introduction of 5S-Kaizen to office and facilities, introduction of an electronic data backup system to all health facilities, introduction of a 3-step data review process for health information management to the sub-county hospital, formation of technical working group at sub-counties for health plan management, formation of the County Health M&E Unit, integration of all services to children to the Beyond-Zero Campaign which is supported by the First Lady with purpose of reducing maternal mortality cases through provision of a mobile clinic to each county) ✓ improve supportive supervision activities (e.g. development of a supportive supervision reporting format, development of a supervision matrix, digitalization of a SS checklist) ✓ strengthen Community Health management (e.g. introduction of a monthly stipend to Community Health Volunteers, introduction of a method of referral and defaulter tracing by phone) ✓ improve quality management (e.g. introduction of World-café styled "Learn Café" to the sub-county hospital and health centers, introduction of a revenue collection charter to the sub-county public health department, placement of Vision and Mission at all health facilities and develop health plans based on them, introduction of a psychosocial supporting group for adolescents, pediatrics and adults, introduction of a weekly reporting system to all facilities, development of a social media reporting platform, formulation of a quality assurance team, development of a client satisfaction survey format to be viewed on a tablet)

Source：Terminal Evaluation Report, Questionnaire Survey, informative interviews and Focus Group Discussion to ex/C/ s

3 Efficiency

The efficiency of the project is fair: Actual cost was 108% of the plan, and there was no gap between the planned and the actual period.

4 Sustainability

<Policy Aspect>

Strengthening of health system is priority in Comprehensive National Health Policy Framework (2011-2030) aiming to transform Kenya into a globally competitive and prosperous country with a high quality of life by 2030 and the Kenya Health Sector Strategic Plan (2014 -2018), which is the first health sector strategy that operates under the devolved system. Improving the governance of the health sector in line with the 2010 Constitution of Kenya is identified as one of the major areas of focus in KHSSP (2014-2018). The Mid-term Review of KHSSP (2014-2018) conducted in November 2016 drew recommendations including development of training programs for health personnel, strengthening of county capacity to practice regular and integrated supportive supervision, evidence-based planning and resource mobilization and tracking, and implementation of Community Health Strategy. These recommendations are consistent with project's intervention and initiatives taken by ex-C/Ps in the respective county.

<Institutional Aspect>

The Mid-term Review of KHSSP (2014-2018) recommended that the county departments of health should accelerate the effort of developing a prototype organization structure based on counties' functions to help adjust their current organizational structures to fit for effective service delivery. Like many other counties, the 6 counties in the Project area have been in the process of establishing organizational structures, and therefore the structure of the county department of health is far from stable with high turn-over rate of the staff. Kisii and Homabay are the only counties among 6 counties where all health management team members at the county and sub-county level currently have been placed in line with the new constitution. In addition to the challenges in human resources, several health managers interviewed said that the competing tasks among team members has to some extent lowered efficiency of work as a team.

<Technical Aspect>

Constraining factors which have already arisen so far include (i) knowledge gaps on health system management not only between project ex-counterparts and non- counterparts, but also with decision makers and senior managers in the county government which often resulted in (ii) insufficient budget allocation to conduct such activities as supportive supervision and the training and (iii) increased and competing tasks among the team members, which has decreased the efficiency of operations of the team as a whole. Despite those constraints, with technical and core capacities developed by the project, a number of ex-counterparts have committed themselves to improve working environment and service delivery in the rather unstable devolved system. A number of ex-C/Ps have currently been assigned managerial positions in MoH and the majority of the county health department, which enables them to take an initiative for strengthening capacities of their team members. The majority of the ex-C/Ps usually transfer their knowledge and skills on health management to their new team members through On Job Training, Continuing Medical Education, workshops, staff meetings, supportive supervision and so forth. The more the number of ex-C/Ps is in the team, the easier the team-building become successful. The number of ex-C/Ps in a health management team and the number of ex-counterparts assigned to leading management positions are factors influencing sustainability of the project's effects, together with understanding and support by decision-makers in the county government.

	2014/2015	2015/2016	2016/2017	2017/2018
Kisumu	15%	30%		
Siaya		31%	27.32%	
Migori	15%	17.4%	25%	20%
Kisii	25 %	28%	30%	
Homabai	20%	23%	25%	
Nyamira	30%	28%	30%	

<Financial Aspect>

The table here shows the percentage of county budget allocated to the health sector. Looking at the available data, 5 out of the 6 counties are allocated 25% of the total county budget or more, and according to the response to the questionnaire to the counties, none of the 6 counties have not been suffering from serious shortage of budget. Yet the majority of the stakeholders, including County Executive Members,

County Directors of Health and their teams identified insufficient budget as the main challenge to promote further activities, saying that it is County Assembly that determines how much should be allocated to which component of activities and that the counties need assembly members with health background. This indicates that management of resources is a bottleneck. The members of County Assembly Health Committee need to be sensitized and capacitated for better resource management

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the financial, institutional and technical aspects of the implementing agencies under devolution. Therefore, the sustainability of the effectiveness through the project is fair. However, it should be noted that the Ex-post evaluation has contributed to remind ex-counterparts of "mind-set change"– Key stakeholders proposed that they should be reunited to take collective actions against the common challenges: (i) a local arrangement for recognition of the certificate of SEMAH's HSM training and (ii) taking up the HSM training to decision makers and other key stakeholders in the county government. If the initiative is successful, institutional, technical and financial sustainability would be increased.

h) Summary of the Evaluation

Considering all of the above points, overall, this project is evaluated to be partially satisfactory.

It is reasonable to conclude that the performance of the project is satisfactory from perspectives of effectiveness/impact and sustainability: ex-counterparts have managed to practice the implementation models adapted to the devolved system although activities for each model are not as comprehensive as before due to the insufficient budget allocated to the counties. With skills of mentorship/coaching and team-building, a number of ex-counterparts have exercised their leadership in their new team to respond to current needs. These ex-post conditions are evidences that the project was successful not only in development of technical capacities to manage health system, but also in mind-set change of health management teams. On the other hand, the evaluation was aware of bottlenecks for sustainability of the current momentum for future: a knowledge gap between ex-counterparts and non-counterparts in a team which makes difficult to build consensus on actions, and insufficient and inappropriate budget allocation to activities in health plans which is beyond control of the county government of health and his teams. These issues highlight the way-forward to ensure sustainability – implementing the training not only to key stakeholders in the health sector, but also senior managers and policy makers in the county government.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Recommendations to MoH and 6 County Departments of Health:

1. To consider collaborating with ex-health management team members/peer facilitators as resource persons to strengthen health system management in the counties. The list of the ex-C/Ps which is one of the deliverables of the ex-post evaluation is ready for being shared with the stakeholders for future actions.
2. To hold a consultative meeting with senior managers and policy makers of the 6 counties on institutionalization of SEMAH's HSM Training or local arrangement of the SEMAH training certificate as a requirement for promotion. Key stakeholders to be invited include County Public Service Board, County Assembly (Committee of Health and Committee of Board), County Directors of Health and their teams, Public Service Commission and Kenya School of Government.
3. To consider creating a web link in the MoH homepage as a platform to promote networking among ex-counterparts and mutual learning/information sharing among the counties throughout the nation.

Lessons Learned for JICA

1. The project successfully developed the functional health system by covering all levels of the governance in the target structure (i.e. province – district－sub-district －community) with focus on the supply side and the demand side in service delivery. This comprehensive approach was reflected on the HSM training curriculum to enable then-health management team members to learnt efficiently how the health system toward the improved service delivery through dialogue with health providers and stakeholders in the community. Therefore, the results of the project lead to the conclusion that a project with purpose of strengthening health system requires to develop capacities of the key stakeholders at each administrative level, from the perspective of both service providers and users.

2. A satisfactory number of the ex-C/Ps has recently contributed to improve their working environment and quality of service delivery in the devolved system. The number of ex-C/Ps with comprehensive perspectives for health system management and sense of servant leadership, required knowledge and skills for team-building and mentorship currently in senior management positions in MoH and the counties is one of the evidences for effectiveness of the project intervention. The success is attributed to the fact that the project strengthened not only their technical capacities (knowledge and skills to manage the 4 implementation models to strengthen the health system), but also core capacities (mind-set change). Two main contributing factors are seen in the HSM program and day-to-day communication with the Japanese experts:

   - HSM training curriculum and approaches: the purpose of the training was to strengthen the health system by not only strengthening competency of the individual health managers, but also by promote team building. To this end, the training program was designed in combination between" learning through lectures and group discussion" and "practices the acquired knowledges and skills at the facilities". What was effective for empowerment and then mind-set change is "5S-Kaizen" and Supportive Supervision because these practices highlight differences between before and after in environment at the facilities and attitudes of health providers and stakeholders in the communities (supervisees).
   - Team approach practiced by the Japanese members in day-to-day communication with Kenyan teams, which led ex-C/Ps to the understanding of importance and effects of team works. The team-approach was also effective for ex-C/PS to learn Japanese work ethics and disciplines. The ex-CPs were further encouraged to document and share their best practices from implementation.

   Therefore, the success of the project indicates that the sustainable health system can be established by developing both technical and core capacities of individual health managers and the team.

Files well labeled and arranged at Migori County Referral Laboratory

CHVs training progress in Nyatike, Homabay

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Burkina Faso Office: December 2017

Country Name	**Seedling Production Support Project**
Burkina Faso	

I. Project Outline

Background	Burkina Faso, whose northern territory is located in the Sahel region which is a semi-dry area with an annual rainfall of less than 600mm, faced the progressing desertification causing aggravation of living environment, such as land degradation, deforestation, depletion of water resources and other environmental deterioration. In particular, since livelihood of the rural population accounting 80% of the total population depended on natural resource such as forest resource, there were concerns about deterioration of living environment and poverty in rural areas. Under those situations, the government of Burkina Faso developed a series of policies to implement sustainable management of natural resource in order to cope with those issues. In addition, for promotion of forestation, the National Strategy of Seedling Production (SNPP: Stratégie National de Production de Plants) was elaborated by the Ministry of Environment and Living Environment (Ministère de l'Environment et du Cadre de Vie: MECV) (in 2007. Although the government made efforts for quantitative expansion of seedling production, there were still remaining issues including a) organizing private seedling producers, b) quality improvement of seedlings and development of distribution system, c) preparation and monitoring of efficient seedling production plan, and so forth.				
Objectives of the Project	Through delivery of trainings on seedling production techniques for the officers of the Ministry of Environment and Sustainable Development (MEDD: Ministère de l'Environnement et du Développement Durable)) and the Regional Directorates of Environment and Sustainable Development (DREDDs: Direction Regional de l'Environnement et du Développement Durable) and seedling producers, as well as delivery of public awareness activities in the 2 target regions, the project aimed at promotion of planned and efficient seedlings production in the target areas, thereby contributing to strengthening of afforestation activities in the target areas. 1. Overall Goal: Afforestation activities are strengthened in the target areas. 2. Project Purpose: Planned and efficient seedlings production is promoted in the target areas.				
Activities of the project	1. Project Sites: Central Region and North Region 2. Main activities: 1) Development of training materials on seedling production techniques and implementation of the trainings for the officers of MEDD and DREDDs, seedling producers and general public, 2) Holding conference at regional and district levels and conducting public awareness activities in the 2 target regions, including dissemination of newsletters and training materials, 3) Holding workshops on responsibilities of forest administration 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 4 persons 2) Acceptance of trainees in Japan: 2 person 3) Equipment: Vehicles, motorbikes, office equipment, etc. Burkina Faso Side 1. Counterpart personnel: 10 persons 2. Land and Facilities: Project office, storage 3. Local Cost: Office appliance for the project, communication cost, electricity cost, and miscellaneous expenses				
Ex-Ante Evaluation	2008	Project Period	April, 2010 – April, 2013	Project Cost	(Ex-ante) 187 million yen (Actual) 217 million yen
Implementing Agency	Directorate of Forest (Direction des Forêt: DiFor)* of the Ministry of Environment and Sustainable Development (MEDD)** * Difor has changed to the Directorate of Forests and Reforestation (Direccton des Forêt et Reboisement: DFR) of the Ministry of Environment, Green Economy and Climate Change (Ministère de l'Environment, de l'Economie Verte et du Changement Climatique: MEEVCC) in January 2016 when MEDD was reformed to MEEVCC. ** MEDD was reorganized from MECV in April 2011, and then was reorganized to MEEVCC in January 2016.				
Cooperation Agency in Japan	Forestry and Fisheries Agency, National Center for Forest Seeds, Japan Overseas Forestry Consultants Association, Japan Forest Technology Association				

II. Result of the Evaluation

<Constraints on Ex-post Evaluation>

- According to the security warning by the Ministry of Foreign Affairs of Japan, travel to Yatenga province and Loroum province as well as Ouahigouya in North Region has been restricted due to the security risks. Therefore, the ex-post evaluation team visited the Central Region and Boussou (Zondoma) in the North Region but was not able to visit Ouahigouya (Yatenga) and Titao (Loroum) which had been selected for the ex-post evaluation. Therefore, at this ex-post evaluation, the interview survey with planters from Ouahigouya and Titao was conducted during the field survey in Boussou.

<Special Perspectives considered by Ex-post Evaluation>

- There is an issue of reliability of data showed in the Annual Reports of Afforestation Campaign by DFR, in particular for the Central Region with the very low level of the carry-out rates during the period from 2013 to 2015. It could be because of the limited data source since their records have been based on only the followed-up producers and have not covered all the producers in the region. Therefore, in this ex-post evaluation, the project effects including the achievement level of the Overall Goal were verified not only by the Annual Report of Afforestation Campaign DFR but also the data collected by this ex-post evaluation despite the limited coverage.

1 Relevance

<Consistency with the Development Policy of Burkina Faso at the time of ex-ante evaluation and project completion>

The project was consistent with the Burkina Faso's development policy of "the National Strategy of Seedling Production (SNPP: Stratégie National de Production de Plants), (2007)", "National Policy on Environmental Matters (PNE: Politique Nationale en Matiere d'Environnement) (2007)", "National Programme of Sustainable Management for Forest Resources and Wildlife (PRONAGREF: Programme National de Gestion Durable des Ressources Forestieres et Fauniques), (2006-2015)" and "Strategy for Accelerated Growth and Sustainable Development (SCADD: Strategie de Croissance Acceleree et de Developpment Durable), (2011-2015)", which prioritized sustainable forest management, including reinforcement of seedling production.

<Consistency with the Development Needs of Burkina Faso at the time of ex-ante evaluation and project completion >

The project was consistent with the Burkina Faso's development needs of expansion of seedling production in order to cope with the issue of reduction of forest resources in the country which had not changed from the time of ex-ante evaluation and to the project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy, which was confirmed by the policy dialogue for economic cooperation between Burkina Faso and Japan in 2007, to support agriculture and rural development through natural resource conservation and sustainable effective use as one of the 3 priority areas.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. The carry-out rate of the seedlings produced in the target areas (Indicator 1), according to the end-line survey conducted in 2011, increased from 77% to 85% as expected. Also, the rate of the number of the seedling producers recording necessary data in their nursery books in the target areas (Indicator 2) reached to 66% (target value: 60%) at the time of terminal evaluation.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued since the project completion. The carry-out rate of the seedlings produced at the regional level differed by the target regions. According to the data collected by the field survey of ex-post evaluation in the Central Region and the three departments (Ouahigouya (Yatenga), Titao (Loroum) and Boussou (Zondoma) in the North Region, the carry-out rates sustained at more than 80% for the same period. On the other hand, the carry-out rate, which was collected at the ex-post evaluation in the three departments of the North Region, improved to 114.43% in 2014 but decreased to 64.53% in 2016. According to the planters surveyed, the sharp decrease in the carry-out rates in the three departments of the North Region in 2016 could be brought by producers' poor market based planning and non-fulfillment of contracts by the producers.

According to the field survey by this ex-post evaluation, 14 out of 19 surveyed producers in the Central Region and 19 out of 20 surveyed producers in the three departments of the North Region took a record of data such as production in their nursery register books in 2016. According to the producers interviewed by the field survey at the ex-post evaluation, all the producers who had participated in the project activities during the project implementation, knew well about the good practice of using a nursery register book and its advantages, but most of them have not make records. It is because many of them are not able to make production records in the nursery books due to their old age and limited literacy education

In terms of utilization of production plan introduced by the project, the entire seedling producers have continuously formulated and implemented their individual seedling production plants based on their individual needs through consultations with DFR/DREEVCC (DREEVCC: Direction Regionale de l'Environnment, de l'Economie Verte et du Changement Climatique). The driving forces for the producers to use the services provided by DFR/DREEVCC are: i) technical supports on seedling production and planning, and ii) non-technical support to find buyers and solve contract issues.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved and in particular, the afforestation activities in the Central Region has significantly improved. According to the Annual Report of Afforestation Campaign by DFR, improvement of the issues of oversupply or shortage of seedlings for afforestation (Indicator 1) has differed by region. In the Central Region, the balance of the number of seedlings produced and the number of seedling used for afforestation has considerably improved by the decrease in the surplus of the seedling production from more than 1 million in 2013 to around 260,000 in 2015. On the other hand, the balance in the North Region had significantly fluctuated year by year. The following two reasons had caused to worsen the situations: i) seedling producers' poor planning ii) non-fulfillment of contracts between seedling producers and planters. In terms of improvement of the rootage rate in the target regions (Indicator 2), while it has improved in the Central Region from 89.6% in 2013 to 94.0% in 2016, it decreased from 76.6% to 46.4% in the North Region for the same period. According to the planters interviewed by the field survey at the ex-post evaluation, the improvement of the rootage rate in the Central Region was attributed to the capacity building through the project, in particular the improvement of planting skills as well as timely planting in the rainy season. On the other hand, there are several reasons for the deteriorated rootage rate in the North Region, such as damages by termites and other soil parasites destroying the seedlings, wandering animals destroying young planted seedlings and terrible droughts.

<Other Impacts at the time of Ex-post Evaluation>

Some positive impacts by the project have been observed at the time of the ex-post evaluation. Residents in the target regions of Central Region and North Region became sensitized about desertification issues and how to take action to contribute to afforestation.

Bush fires in the target regions have reduced due to the afforestation activities by the trained planters using the seedlings produced by the trained producers. Lands for planting are better secured through the planting activities, since empty land can be easily occupied or used illegally.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose and partially achieved the Overall Goal. The carry-out rates and the rootage rates in the target regions have improved to some extent due to the improved skills of planting and planning for timely planting by the project activities. In addition, there are some positive impacts such as sensitized population in the target regions to contribute to afforestation, reduction of bush fires and secured lands for planting. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Planned and efficient seedlings production is promoted in the target areas.</td><td>(Indicator 1)
The carry-out rate* of the seedlings produced in the target areas is increased (77%->85%)

*No. of seedlings used among the produced seedlings, including for the purpose of sales and for self-consumption</td><td><u>Status of the achievement: Achieved</u>
(Project Completion)
● The end-line survey in 2011 with seedling producers at Communal Workshop: 85%
(Ex-post Evaluation) Partially continued [Central Region]
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016 (as of November)</th></tr>
<tr><td>a) No. of seedlings produced</td><td>134,300</td><td>145,300</td><td>132,800</td><td>158,800</td></tr>
<tr><td>b) No. of seedlings used (sales/ self-consumption)</td><td>119,600</td><td>130,250</td><td>114,250</td><td>135,050</td></tr>
<tr><td>b)/a) (%)</td><td>89.05</td><td>89.64</td><td>86.03</td><td>85.04</td></tr>
</table>
[North Region]
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th><th>2016 (as of November)</th></tr>
<tr><td>a) No. of seedlings produced</td><td>177,268</td><td>183,065</td><td>192,860</td><td>142,483</td></tr>
<tr><td>b) No. of seedlings used(sales/ self-consumption)</td><td>171,260</td><td>209,485</td><td>169,272</td><td>91,955</td></tr>
<tr><td>b)/a) (%)</td><td>96.61</td><td>114.43</td><td>87.76</td><td>64.53</td></tr>
</table>
(Source)Collected by the field survey of this ex-post evaluation.</td></tr>
<tr><td></td><td>(Indicator 2)
The rate of producers who take record (of production, sales etc.) in their nursery books researches more than 60%.</td><td><u>Status of the achievement: Achieved</u>
(Project Completion)
● 66% of the seedling producers in the target areas took record of their production in their nursery books at the time of the terminal evaluation.
(Ex-post Evaluation) Continued.
● 14 out of 19 seedling producers in Central Region and 19 out of 20 seedling producers in North Region took record of their production in their nursery books.</td></tr>
<tr><td>(Overall goal)
Plantation activities are strengthened in target areas.</td><td>(Indicator 1)
The issues of oversupply or shortage of seedlings for afforestation are reduced in target regions.</td><td><u>Status of achievement: Partially achieved.</u>
(Ex-post Evaluation)
[Central Region]
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>a) No. of seedlings produced</td><td>1,263,776</td><td>978,400</td><td>481,592</td></tr>
<tr><td>b) No. of seedlings used for afforestation</td><td>231,540</td><td>156,674</td><td>215,834</td></tr>
<tr><td>(a-b)</td><td>1,032,236</td><td>821,726</td><td>265,758</td></tr>
</table>
[North Region]
<table>
<tr><th></th><th>2013</th><th>2014</th><th>2015</th></tr>
<tr><td>a) No. of seedlings produced</td><td>584,766</td><td>759,111</td><td>347,637</td></tr>
<tr><td>b) No. of seedlings used for afforestation</td><td>531,065</td><td>586,576</td><td>518,226</td></tr>
<tr><td>(a-b)</td><td>53701</td><td>172535</td><td>-170589</td></tr>
</table>
(Source) Annual Reports of Afforestation Campaigns of DFR.</td></tr>
</table>

(Indicator 2)
The rootage rate** is improved in target regions.

**The number of seedlings that survive after certain period of time compared to the number of seedlings during the afforestation. Certain period of time means after having spent a dry season (1 or 2 years according to the period of plantation)

Status of achievement: Partially achieved.
(Ex-post Evaluation)
[Central Region]

	2013	2014	2015	2016 (as of November)
a) No. of seedlings survived	18,943	18,795	15,290	11,236
b) No. of seedlings planted	21,140	24,480	16,550	11,950
a)/b) (%)	89.60	76.77	92.38	94.02

[North Region]

	2013	2014	2015	2016 (as of November)
a) No. of seedlings survived	10,590	7,409	7,206	5,783
b) No. of seedlings planed	13,824	10,305	10,148	12,453
a)/b) (%)	76.59	71.89	71.1	46.43

(Source) Data collected by the field survey for this ex-post evaluation.

Source : Project completion report, Terminal Evaluation Report, Annual Reports of afforestation campaign, Interviews with producers (19 in Central Region and 20 producers in North Region), Interviews with planters (19 in Central Region and 16 in North Region)

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan: 116%) due to the additional activities for the additional real needs on the field that were not taken into account during the planning stage. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The activities to promote the planned seedling production and more effective afforestation activities have been endorsed by SNPP (2007) which is still valid. Although the policy recommendations proposed by the project, which was produced as one of the project outputs, have were not incorporated in any national policies related to seedling production at the time of ex-post evaluation, some of the related organizations such as DFR, the National Center of Forest Seeds (Centre National de Semences Forestières: CNSF) and DREEVCCs and other departmental offices have unofficially reflected them on the implementation of seedling production and reforestation activities, including usage of recommendable bags for seedling production, usage of improved seedlings, identification of potential lands to be reforested, planning of reforestation activities at the municipal level and consultation with CNSF for capacity building of technicians, .

<Institutional Aspect>

There have been important changes in organizational structures at the central level. In particular, the decentralization process, which took place in 2014, made clear divisions of roles for appropriate organizations and enabled each of the organizations to keep the continuation of well-planning seedling production introduced by the project. Whereas DFR take responsibilities for financial supports and training for producers and planters, CNSF is responsible for applied research on seedlings and dissemination. In terms of seedling certification, sworn quality control officers of CNSF were in charge of such duty up to 2014, but CNSF antennas and private producers are currently engaged in it. DREEVCC of the Central and North Region play a role to implement seedling production and dissemination programs and the related activities in each region. The sufficient number of officers has been appropriately deployed to each organization whereby they have kept answering to their responsibilities given for seedling production and dissemination (DFR: 9, CNSF: 27, DREEVOC of the Central Region: 68 and DREEVCC of the North Region: 82).

In terms of sales and purchase of seedlings, the seedling producers and the planters conclude contracts, but contractual defaults, such as a case where the producers were not able to ship out the seedlings with the planned volume and quality or the case where the planters did not purchase the seedlings as contracted, sometimes have occurred. In the case of contractual defaults, DFR and other offices provide the producers with advices or supports, such as helping to find alternative buyers of the produced seedlings.

<Technical Aspect>

Almost all of the key government officers of DFR, CNSF and DREEVCC of the Central Region and the North Region trained by the project have sustained the necessary skills and knowledge to provide technical support for the producers and the planters since they recognized importance of the skills and knowledge obtained through the project. Also, according to the planters and producers, they have sustained the necessary skills for the well-planned production or proper planting with higher rootage rate.

According to the planters, seedling producers and departmental officers, the training courses developed by the project have not been continuously delivered due to the lack of financial support by the government. However, in terms of trainings on reforestation, 9 training courses sponsored by FAO, individuals or other private organizations, such as Project Preparation of Investment Fund for Environment (Pre-FIE)[1], and the Program of Economic Growth in the Agriculture Sector[2], have been delivered at ad hoc basis

On the other hand, the training materials and other technical documents such as a species list, nursery monitoring records, seedling

[1] The fund is operated by the government of Burkina Faso with financial supports by Luxemburg and Sweden. It was established in April, 2013. In 2017, the Fund is offering for the budget amounting approximately 400 million JPY. The participating groups are able to use the fund for reforestation activities.
[2] It is a program assistance by Demark for the five years since 2014. It is composed of the following two programs: i) support for agricultural entrepreneurs and agro-industries; and ii) support for enhancing value chains (filières) from production to processing and sales.

production manuals and planting techniques manuals have been still utilized by seedling producers and planters for their activities.

<Financial Aspect>

The government of Burkina Faso has allocated a certain amount of budget on the technical support for seedling production and afforestation activities, but the budget allocated has not been sufficient to deliver trainings for the government officers, the producers and the planters. The budget has been fluctuated year by year due to availability of financial resources.

While the majority of them have so few funds that they cannot continue to run their activity, especially, to obtain fundamental materials such as pots and seeds, some of the seedling producers in the target regions have gained sufficient profits to sustain their production activities.

<Evaluation Result>

In light of the above, there is an issue of contract execution between the seedling producers and the planters from the institutional aspect. From the financial aspect, the implementing agency faces an issue of budget for trainings. While some of seedling producers have difficulties to obtain necessary fund for continuation of the activities, some of them have gained profits sufficiently. Therefore, there are some challenges observed from institutional and financial aspects, and the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and partially achieved the Overall Goal for promoting planned and efficient seedling production and strengthening afforestation activities to contribute to preservation of forest. As for sustainability, since SNPP has been still valid, the seedling production and afforestation activities introduced by the project have been backed up at policy level. While DFR, DREEVCC and CNSF continuously provide technical support, the seedling producers and the planters have sustained the necessary skills and knowledge for well-planned seedling production or effective planting with higher rootage. On the other hand, technical trainings have not been delivered by the government for the government officers, the producers and the planters due to the lack of fund. Also, majority of the producers faced a financial difficulty in pursuing their seedling production activity due to the loss made along the seedling production process. As for efficiency; the project cost slightly exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency (MEEVCC, DFR, DREEVCC and CNSF):

- Regular re-training of staff of DFR, DREEVCC and CNSF to cope with ever evolving techniques should be delivered through various projects and programs implemented by the government.
- It is essential to establish a formal framework for discussion and negotiation between seedling producers and planters at municipal level in collaboration with services of MEEVCC in order to improve seedling production plan based on planting demand and to reduce gaps between the actual seedling production and the actual planting activities.

Lessons learned for JICA:

- While the seedling producers trained by the project understand usefulness of the techniques introduced by the project, such as nursery book, majority of them have not been able to practice them due to their limited literacy. It is essential to consider alternative techniques to substitute “nursery book” for the seedling producers with limited literacy in order to broadly disseminate useful practices and to sustain their effects.
- Also, owing to the limited available fund, they have not been able to obtain necessary materials for seedling production in order for quality assurance and efficient production planning, such as pots and seeds. Therefore, at the planning stage, it is necessary to carefully assess capacity and needs of the seedling producers and to incorporate necessary components to establish funding and procurement mechanisms for them to sustainably obtain necessary materials.

Seedling Nursery in Gourcy
(Zondoma Province, North Region)

Seedling Producer in Yako who built a wall to protect a nursery from animals (Passoré Province, North Region)

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Burkina Faso Office: Februray 2018

Country Name	**Project for Rural Development through Aquaculture**
Burkina Faso	

I. Project Outline

Background	While Burkina Faso, an inland county located in West Africa, experienced a steady economic growth for the several years, the poverty ratio (43.9% in 2009) went down slowly. While most of the poor population inhabited in rural areas, the rural population accounted for 80% of the total population in the country. The rural poverty ratio of 50.7% was much higher than the urban poverty ratio of 19.9%. The most of rural poor population depended on subsistence farming for their own food consumption. On the other hand, the consumption volume of fishery products in the country had been rapidly growing and it was covered by the imports. The domestic fishery production had been around 10,000 tons per year for the period from 2006 to 2008. The aquaculture production limited to only around 300 tons per year. The aquaculture production in Burkina Faso was started in 1970 with the construction of the Bazèga Aquaculture Center. In addition, the government of Burkina Faso implemented various projects based on the "National Strategy and Priority Plan of Development and Management of Fishery Resources" (2003). However, sufficient results to be expected were not accomplished. Under those situations, the government of Burkina Faso requested the government of Japan a technical cooperation project aiming at establishment of a system for extension of aquaculture to diversify farming activities and to contribute to rural development.
Objectives of the Project	Through implementation and monitoring of extensive aquaculture, monitoring and improvement of semi-intensive aquaculture, development and delivery of trainings for dissemination of aquaculture, the project aimed at reinforcement of the dissemination plan for aquaculture in the target areas, thereby contributing to sustainably practicing and disseminating aquaculture by farmers and fishery workers in the target areas. 1. Overall Goal: Aquaculture is sustainably practiced and disseminated by farmers and fishery workers in the target areas. 2. Project Purpose: The plan for dissemination of aquaculture is reinforced in the target areas.
Activities of the project	1. Project Sites: 6 provinces of Bazèga (Centre Sud region), Houet and Kénédougou (Hout-Bassin region), Comoé (Cascades region), Sanguie (Centre Ouest region), Gourma (Est region) 2. Main activities: 1) Implementation and monitoring of extensive aquaculture in the 26 pilot sites, 2) Monitoring and improvement of semi-intensive aquaculture in the 2 pilot sites, 3) Development of instructions for dissemination of aquaculture and delivery of trainings based on the instructions, etc. 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 11 persons 2. Acceptance of trainees in Japan: 2 persons 3. Trainings in the 3rd country: 2 persons in the Philippines 4. Equipment: Vehicles, motorbikes, boat, PCs, digital cameras, analytical and test tools, etc. Burkina Faso Side 1. Counterpart personnel: 12 persons 2. Land and Facilities: Office spaces for the Japanese experts in the Directorate General of Fishery and Aquaculture and the Bazèga Aquaculture Center

Ex-Ante Evaluation	2009	Project Period	September 2009 – September 2012	Project Cost	(Ex-ante) 250 million yen (Actual) 254 million yen
Implementing Agency	General Directorate of Fisheries Resources (DGRH), the Ministry of Animals and Fisheries Resources (MRAH) *Since January 2012, DGRH was transferred to the Ministry of Environment and Sustainable Development (MEDD) and its name was changed to the General Directorate of Fishery and Aquaculture (DGPA). In 2013, DGPA was transferred again to MRAH and renamed DGRH, and then, from 2014 to 2015, DGRH was transferred to MEDD. During 2016, DGRH was finally transferred to MRAH.				
Cooperation Agency in Japan	Overseas Agro-Fisheries Consultants Co., Ltd. INTEM Consulting Inc.				

II. Result of the Evaluation

1 Relevance

<Consistency with the Development Policy of Burkina Faso at the time of ex-ante evaluation and project completion>

The project was consistent with the Burkina Faso's development policy of "Strategy Document of Rural Development for 2015 (SDR 2015)", focusing on aquaculture as one of the priority actions for sustainable growth of fishery products. The policy priority was confirmed at the times of ex-ante evaluation and project completion.

<Consistency with the Development Needs of Burkina Faso at the time of ex-ante evaluation and project completion >

The project was consistent with the Burkina Faso's development needs of higher expectation for aquaculture because of a decrease in water and fishery resources as well as larger dependence on imported frozen fish for satisfying the growing domestic consumption of fish.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project, aiming at dissemination of sustainable aquaculture to cope with the decrease in fishery resources, was consistent with the Japan's ODA policy confirmed by the policy dialogue for economic cooperation between Burkina Faso and Japan in 2007, prioritizing agriculture and rural development as basic human needs through natural resource conservation and sustainable effective use.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was partially achieved at the time of project completion. By the end of the project, although guidelines on appropriate aquaculture technologies and instruction of dissemination were developed by the project and the plan of dissemination was prepared based on the guidelines, the plan was not validated (Indicator 1). The necessary persons were trained for implementation of the plan of dissemination (Indicator 2) through the seminars on the guidelines for extensive and semi-intensive aquaculture developed by the project as follows: 9 officers of DGRH, 3 forest officers of the Regional Directorate of Environment and Sustainable Development (DREDD) in the 5 target regions, 5 forest officers of the Provincial Directorate of Environment and Sustainable Development (DPEDD) in the 6 target provinces and 14 forest officers of the District Service of Environment and Sustainable Development (SDEDD) in the 26 project sites. In addition, 13 fishery officers were trained by On-the Job Training (OJT) on semi-intensive aquaculture and they delivered the trainings for the forest officers, extension officers and farmers.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been partially continued since the project completion. The Fisheries and Aquaculture Action Plan, which aims at an increase in the production of aquaculture and a promotion of private entrepreneurship in aquaculture based on the guidelines developed by the project, was validated after the project completion. Also, the plans of dissemination have been partially implemented in 11 provinces in the target regions. The 33 officers in total trained by the project from the Regional Directorates of Fishery Resources (DRRAHs), the Provincial Directorates of Fishery Resources (DPRAHs) and the District Services of Fishery Resources (SDRAHs) have been continuously engaged in dissemination activities. The plan of dissemination of aquaculture prepared by the project has been implemented for semi-intensive fish farming remarkably for the last 5 years since the project. On the other hand, the community-based extensive aquaculture has been limitedly extended because of transfer of some of the former DGRH staffs trained by the project to other ministries and the limited knowledge about aquaculture of the newly assigned staffs of MEDD. However, the 22 pilot extensive community aquaculture sites initiated by the project have been continued the extensive fish farming due to the simplicity of the technique required for fish farming and the very low cost of production.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved at the time of ex-post evaluation. In total, the aquaculture technologies introduced by the project have been practiced in the 133 sites in the 6 target provinces and the 5 non-target provinces[1] of the project. The extensive aquaculture has been practiced in 28 sites in the 6 target provinces, including 6 sites which newly started aquaculture after the project completion, as mentioned above. For the semi-intensive aquaculture, the aquaculture technologies have been disseminated to the non-target provinces and the number of sites with practice of aquaculture dramatically increased from 11 in 2012 to 105 in 2016: 52 in the 6 target provinces except Kénédougou and 53 in the non-target provinces.

<Other Impacts at the time of Ex-post Evaluation>

There some positive impacts by the project were observed in socio-economic, food and nutrition security and poverty reduction. The results of the survey for this ex-post evaluation on aquaculture sites shows aquaculture production of 238.90 kg of fish / site / year in average in the 22 pilot sites with the extensive community aquaculture. The highest production was 1,350 kg. Among those farmers, in general, their income is allocated to food and to the purchase of agricultural equipment 45%, social events 20% and medical care 10%.

Also, the practices of semi-intensive aquaculture like enclosure aquaculture and floating cages in lake contribute to seeding the aquatic area with fish. They noted an improvement in the quantities of fish caught in the project sites related to aquaculture practice. Thereby, the practice of semi-intensive aquaculture in the project sites contributes significantly to the sustainable management of aquatic resources (fisheries).

No negative impact on the natural environment has been notified at the ex post evaluation.

<Evaluation Result>

In light of the above, the project partially achieved the Project Purpose and achieved the Overall Goal. The extensive and semi-intensive aquaculture introduced by the project have been disseminated to the targeted and non-targeted regions/provinces because of a lot of supports provided by public and private sectors under the aquaculture policy based on the guidelines created by the project. No other positive and negative impact was observed. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The plan for dissemination of aquaculture is reinforced in the target areas.	(Indicator 1) Plan of dissemination based on the appropriate technologies and instruction of dissemination is validated in the target areas.	Status of the achievement: Not Achieved (Achieved) (Project Completion) • The plan of dissemination based on the guidelines (the appropriate technologies and instruction of dissemination) developed by the project was only prepared by the end of the project. (Ex-post Evaluation) • After the project completion, the Fisheries and Aquaculture Action Plan, which set an increase in production of aquaculture and promotion of private entrepreneurship in aquaculture based on the project guidelines as one of the objectives, was validated.

[1] Kadiogo, Zoundwéogo, Sanmatenga, Oubritenga, Boulgou

<table>
<tr><td></td><td>(Indicator 2)
Necessary persons are trained for implementation of the plan of dissemination.</td><td><u>Status of the achievement: Achieved (Continued)</u>
(Project Completion)
• 31 officers from DGPA, DREDDs, DPEDDs and SDEDDs in total were trained through the seminar on the guidelines for extensive and semi-intensive aquaculture developed by the project. 13 fishery officers trained by the On-the-Job Training (OJT) delivered trainings on semi-intensive aquaculture for the forest officers, extension officers and farmers.
(Ex-post Evaluation)
• In total, 33 officers trained by the project from DRRAH, DPRAH and SDRAH have been continuously engaged in the dissemination activities.</td></tr>
<tr><td>(Overall goal)
Aquaculture is sustainably practiced and disseminated by farmer and fishery workers in the target areas.</td><td>(Indicator 1)
The aquaculture technologies of extensive and/or semi-intensive ones introduced by the project have been practiced in more than 30 sites in the target areas by 2017.</td><td><u>Status of achievement: Achieved.</u>
(Ex-post Evaluation)
[No. of the sites working in aquaculture in the target area]<table><tr><th>System</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th></tr><tr><td>Extensive</td><td>25</td><td>25</td><td>27</td><td>28</td></tr><tr><td>Semi-intensive</td><td>11</td><td>21</td><td>42</td><td>105</td></tr></table>(Source) Survey with DGRH and its annual report</td></tr>
</table>

Source：Terminal Evaluation Report (JP), Project Completion Report (JP), Survey with DGRH and its annual report

3 Efficiency

Although the project period was within the plan (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan 102%) due to an additional input of a Japanese expert on a semi-intensive aquaculture.

Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Besides “SDR 2015”, the policies of Burkina Faso, such as “the National Plan for Economic and Social Development 2016-2020 (PNDES)”, “the National Fisheries and Aquaculture Policy (PNPA) 2013” and “the National Strategy for Sustainable Development of Fishery and Aquaculture a horizon 2025 (SNDDPA 2025)”, have prioritized improvement of fish production capacity and aquaculture for sustainable growth and poverty reduction in rural areas. Therefore, the dissemination of aquaculture technologies introduced by the project have been endorsed by these policies.

<Institutional Aspect>

As described above, DGRH was administratively transformed three times after the project completion and has been under MRAH since 2016. Also, the administrative structure had been changed at regional, provincial and district level in accordance with the changes at the central level. Those frequent changes in the administrative structure for extension of aquaculture have negatively affected the deployment of officers in charge of extension of aquaculture and trainings for them.

MRAH is responsible for coordinating policies on all animals and fisheries resource and DGRH is in charge of fishery resources and aquaculture. DRRAHs are responsible for coordinating actions for development of fishery resources, management and operation activities and monitoring of activities by the Provincial Directorates of Fishery Resources (DPRAHs). DPRAHs is responsible for implementation of provincial policy measures and the District Services of Fishery Resources (SDRAHs) provide extension services for the communities. Although 6 officers for DRRAH in the target regions, 33 for DPRAHs in the target provinces and 138 for SDRAHs in the target sites have been assigned for extension of aquaculture, insufficient number of qualified technical personnel has hampered dissemination of aquaculture.

The Bazéga Aquaculture Center, which was established by the grant aid project supported by Japan, has continued to produce seedlings for promotion of semi-intensive fish farming by the private sector.

<Technical Aspect>

[Government]

Although the DGRH officers have sustained the knowledge and skills for the dissemination of the aquaculture introduced by the project, the officers of DRRAH, DPRAH and DDRAH have not been able to sustain any related knowledge and skills because of the frequent changes in the administrative structure since the project completion. However, the DGRH officers have annually delivered technical trainings on the dissemination for the officers with insufficient knowledge and skills, and the participants of the trainings have been able to improve their capacity. A part of the Fisheries and Aquaculture Action Plan, a policy for aquaculture, was referred to the manuals and guidelines created by the project, and they have been utilized as main documents for technical trainings and aquaculture dissemination in Burkina Faso. This is because they cover many practical aspects of aquaculture development such as seed production, sexual inversion, fish feed and artificial propagation.

[Fishery farmers]

The fishery farmers for extensive and semi-intensive aquaculture in the pilot sites of the project have sustained the knowledge and skills acquired by the project. There has been an official system under the Fisheries and Aquaculture Action Plan where new fishery farmers for semi-intensive aquaculture can receive various supports for starting the aquaculture from DGRH such as technical trainings. For the last three years from 2015, 4 trainings on aquaculture technologies introduced by the project were delivered by DGRH in Bazéga, Oubritenga, Kadiogo, Zoundwéogo for 300 participants in total and 1 training was delivered by the University of Polytechnic of Bobo-Dioulasso for 20 participants.

<Financial Aspect>

There is no available data on budgets of any level of central, regional, provincial and district administration for dissemination of aquaculture. This has resulted from frequent institutional changes, mobility of staffs and managers from one to another position and confidentiality of economic data. However, according to MRAH, MRAH annually has allocated the sufficient budgets to DGRH, DRRAH, DPRAH and SDRAH for dissemination of aquaculture technologies, including cost for recruitment and trainings for the staffs and

procurement of necessary equipment for the extension activities, such as motorcycles and fuels in order to implement the plan of dissemination of aquaculture prepared by the project.

<Evaluation Result>

In light of the above, there are some challenges observed from the institutional and technical aspects and some issue of the financial aspect of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose and achieved the Overall Goal. Through the project, the aquaculture technologies have been disseminated and the number of sites practicing aquaculture, in particular, semi-intensive fish farming, has dramatically increased. As for sustainability, the DGRH officers trained by the project have sustained the knowledge and skills for the aquaculture and continuously delivered trainings on aquaculture technologies. Also, the manuals and guidelines created during the project have been utilized as national standards of dissemination and trainings of aquaculture. On the other hand, the number of technical qualified staffs at regional provincial and district level has not been sufficient for the full implementation of the plan of dissemination. As for efficiency, the project cost exceeded the plan due to an additional input of a Japanese expert on a semi-intensive aquaculture.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency

[DGRH and MRAH]

- Stabilize the Directorate General of Fisheries Resources in a only Ministry in order to sustain stable policy and administration for support and promotion of aquaculture;
- Continue the search for logistics and financial resources for the extension of aquaculture in the country;
- Strengthen the capacity of extension of aquaculture for managers in the different areas, including regions and provinces, of the country;
- Strengthen the technical capacity of private promoters for the development of aquaculture in Burkina Faso
- Increase the supply of fish seeds at the Bazèga station to meet the high demand for fingerlings from the promoters;
- Create a new seed production center such as Bazèga.

Lessons learned for JICA:

- The technologies introduced by JICA have been great support to aquaculture practice in Burkina Faso. However, the extensive community-based aquaculture, which has been popularized with in the pilot sites, has not shown a significant increase in the number of sites practicing it. On the other hand, despite institutional changes of DGRH and the lack of financial resources, the semi-intensive fish farming technologies (enclosures fish farm in particular) demonstrated by the project rapidly expanded. Therefore, it is better to specify objectives of introduction of the two aquaculture technologies, extensive for rural community and semi-intensive for more market-oriented, and to clarify the target groups for dissemination by type of technology. Such strategic targeting by technology enables to elaborate more realistic dissemination plan for each technology and to get results. In addition, the approach of the project to develop demonstration sites and manuals for different types of aquaculture is effective to disseminate aquaculture which can meet the needs of the different target groups.
- Aquaculture development plays a socio-economic role in contributing to food and nutrition security, job creation and poverty reduction. Such direct benefits of aquaculture for communities can motivate farmers to sustain aquaculture activities. In addition, demand driven aquaculture can contribute to effective resource management as well. Thus, it is essential to carefully assess needs and demand on aquaculture in the target areas at the project planning stage in order to successfully introduce aquaculture and to ensure their sustainability.

Extensive Community Aquaculture site of Lémuroudougou
Comoé province

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Burundi Field Office/Rwanda Office: June 2017

Country Name	**Rehabilitation of Public Transportation**
The Republic of Burundi	

I. Project Outline

Background	Burundi struggled for the reconstruction and development from the long years of civil war that had been finally terminated in September 2006. Because no railway service existed in the country, bus transport was main transport mode for the ordinary population without its own vehicles. Whereas the bus transport service was provided by the Office of Public Transport (OTRACO), the private operators also provided the transport service by microbuses which were limited to profitable routes within urban areas and connecting urban areas. Therefore, the rural population relied on the bus transport service by OTRACO for their mobility. OTRACO has the head office in Bujumbura and branches in Gitega, and used to operate the bus transport service nationwide by more than 100 buses. However, their service decreased quantitatively and qualitatively to 41 routes operated by only 29 buses due to inappropriate maintenance of the buses and reduction of the number of staffs during the civil war. As a result, the rural population faced difficulty in transport with the limited bus transport service by OTRACO. Under those situations, it was necessary to revitalize fundamental operational capacity of OTRACO in order to reinforce the bus transport service by OTRACO.
Objectives of the Project	Through improvement of capacity for management, maintenance and bus operation control for OTRACO as well as reactivation of function of branches of OTRACO, the project aimed at quantitative and qualitative improvement of the service of OTRACO bus operation, thereby contributing to increasing the movement of people. 1. Overall Goal: The movement of people increased through improvement of public transportation. 2. Project Purpose: The service of bus operation by OTRACO improves quantitatively and qualitatively.
Activities of the project	1. Project site: Bujumbura and major cities in Burundi where OTRACO has branches 2. Main activities: 1) Elaboration of basic management policy and bus operation plan of OTRACO, 2) Elaboration of basic policy of maintenance, 3) Elaboration of basic policy of operation control 4) Elaboration of basic policy of reactivation and management of the branches. 3. Inputs (to carry out above activities) Japanese Side 1. Experts: 6 persons 2. Acceptance of trainees in Japan: 7 persons 3. Equipment: PCs, printers, projectors, small scale buses, spare parts set, etc. Burundi Side 1. Counterpart personnel: 7 persons 2. Land and Facilities: Office spaces for the Japanese experts in OTRACO.

Ex-Ante Evaluation	2008	Project Period	April, 2009 to July, 2012	Project Cost	(Ex-ante) 370 million yen (Actual) 343million yen
Implementing Agency	Ministry of Transport, Public Works and Equipment (MTPE: Ministère des Transports, de Travaux Publics et de l'Equipment), Office of Public Transport(OTRACO: Office Des Transports en Commun)				
Cooperation Agency or Contract Agency in Japan	CDC International Corporation				

II. Result of the Evaluation<Constraints on Ex-post Evaluation>

- Since April, 2015, the political crisis between the government and the oppositions has been escalated and threatened security of the country. In addition, the major donor agencies suspended direct supports to the government since the summer in 2015. While JICA permits entry only in the central areas of Bujumbura for security reasons, the field survey was carried out only in the center of Bujumbura and the number of OTRACO bus drivers, mechanics and passengers interviewed, who have been beneficiaries of the project, was limited though the project had been implemented in other cities.

<Special Perspectives considered in the Ex-post Evaluation>

Verification of the Project Purpose

- Indicator 1 (the number of OTRACO bus passenger is increased): There was an inconsistent logic between the Project Purpose and its verifiable indicators since the indicator can be a result of the quantitative improvement of the bus operation service by OTRACO and it is overlapped with one of the verifiable indicators 1 for the Overall Goal. Therefore, in the ex-post evaluation, the achievement level of the Project Purpose was verified by the indicators defined in the PDM and supplemental information to assess the quantitative improvement of the bus operation service by OTRACO, such as the increase in the number of bus routes.
- Indicator 2 (service quality of OTRACO is improved): The indicator was not clearly defined how to assess improvement of service quality. At the time of terminal evaluation, it was assessed by safety of bus operation and passengers' satisfaction and the safety of bus operation was verified with the number of accidents. However, it should have been assessed by the proportion of the number of accidents against the number of the buses operated.

Verifiable indicators for the Project Purpose and the Overall Goal

The verifiable indicators in the PDM do not indicate s clear target values. Therefore, the achievement level of the Project Purpose and the Overall Goal were verified by the following aspects:

- For the Project Purpose: comparisons of the data defined by the indicators at the time of the beginning and the end of the project as assessed by the terminal evaluation in order to verify whether the service of OTRACO bus operation, such as the number of passengers and bus routes as well as the passengers' satisfaction, were improved or not.
- For the Overall Goal: comparison of the data defined by the indicators at the time of the project completion and at the time of ex-post evaluation in order to verify whether the number of OTRACO bus passengers increased and the financial balance of OTRACO improved.

1 Relevance

<Consistency with the Development Policy of Burundi at the time of ex-ante evaluation and project completion>

The project was consistent with the Burundi's development policies, "the Poverty Reduction Strategy Paper (2006)" and the policy document for "the Department of Transport, Ports and Telecommunication 2006-2010", which prioritized "restoration and modernization of infrastructure" and "improvement of accessibility on national level for the residents of Burundi", and these policy priorities had not been changed by the project completion in despite of no specific policy elaborated.

<Consistency with the Development Needs of Burundi at the time of ex-ante evaluation and project completion >

The project was consistent with the Burundi's development needs to increase mobility of the population and the goods between rural and urban areas through improvement of the bus transport service operated by OTRACO.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with the Japan's ODA policy based on the policy dialogue on economic cooperation between Japan and Burundi (2006), which prioritized the two pillars of "establishment of peace" and "improvement of basic living environment", including rehabilitation of infrastructure and human resource development as cross cutting issues.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the project completion. The annual total number of bus passengers of OTRACO increased from 349 thousand in 2010 to 1,701 thousand in 2012 (from January to May). It was because of the increase in the total number of bus routes operated by OTRACO, including the Bujumbura head office and branches of Ngozi, Gitega and Buruni which had been revitalized by the project[1], from 45 in 2009/10 to 178 in 2011and 2012. In addition, the grant aid by the government of Japan which provided OTRACO with 86 buses contributed to quantitative improvement of the OTRACO bus service. Also, improvement of the quality of OTRACO bus service was confirmed through enhancement the passengers' satisfaction and the safety of bus operation. According to the results of the baseline survey in January 2012, the passengers were satisfied with increase in the number of seats by introduction of large-sized buses, reduction of waiting time, and increase in the number of inter-urban routes, though the satisfaction levels for accessibility, travelling time, frequency of operation and regularity of operation were lower than the ones for the private bus companies. In terms of the safety of the bus operation by OTRACO, the number of bus accidents decreased from 29 in 2009 to 10 in 2010, but increased to 95 in 2011 then decreased to 61 in 2012. The sharp increase in 2011 occurred after the provision of the left hand drive buses by the grant aid project. Since it was presumed that the drivers had were not used to those buses, the intensive trainings for the drivers were conducted in 2011. As a result, the training effects brought about speed reduction and safer driving by the trained drivers.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been mostly continued. The number of buses operated by OTRACO decreased from 106 in 2012 to 86 in 2016[2]. It was because some buses were in bad condition after serious accidents and others were seriously damaged by disastrous road conditions in the rural areas. However, OTRACO has difficulty to repair the damaged buses because of the lack of spare parts, in particular for buses of large and medium sizes which are not available in Burundi. The total number of bus routes also reduced from 116 to 80 during the same period because the routes with low profitability were cut while the new ones were opened. On the other hand, the bus operation management tools introduced by the project have been continuously utilized for updating, revising and improving the bus operation plan since the project completion. Also, the quality of bus service by OTRACO has been sustained. According to 6 passengers[3] interviewed by this ex-post evaluation, they have been satisfied with the provision of transport to remote areas, the low cost transport, and the ensured weekly schedule. All 6 passengers interviewed had the same perception about the service of OTRACO bus operation. The only complaint by the passengers interviewed was the passengers need to be await for long time. It is because of the unreliable daily operation without a fixed time table in contrast to the daily operation based on a time table during project implementation. The safety of bus operation has also been sustained through the number of accidents decreased to 54 in 2015 after the increase in 2013 and 2014. Since that was because of the newly-recruited drivers with insufficient experience, OTRACO delivered trainings for the drivers in 2014.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved. After the project completion, the number of bus passengers of OTRACO increased from 1,692 thousand in 2012 to 2,150 thousand in 2014 because of the growing transport demand of the rural population. Although, it sharply decreased since 2015 due to low mobility of the population induced by the political crisis in May 2015, the downward trend has stopped by September 2016. Since the number of bus passengers directly affects revenue of OTRACO, the financial balance in 2015 has worsened compared to that in 2012 despite of the improvements in 2013 and 2014. The expenditure of OTRACO, such as operation and maintenance cost including spare parts, pneumatic, lubricants and fuel (diesel), has been always larger than their revenue. In particular, the installment payments for buses purchased in 2014 aggravated the financial balance in 2015 along with the sharp reduction of revenue. The financial balance shows a trend toward recovery by September 2016 compared to a previous year.

<Other Impacts at the time of Ex-post Evaluation>

There are some positive impacts by the project confirmed at the time of ex-post evaluation. The improved OTRACO bus services have

[1] At the time of project start, there was only Ngozi branch operating 1 route. After starting the project, Gitega branch and Buruni branch were opened in 2010 and 2012, respectively.

[2] From 2010 to 2013, three kinds of buses such as small, medium and large size were provided by this project and the grant aid of the government of Japan.

[3] Four males and two females

contributed to creation of job opportunities outside of the country, such as in the eastern region of the Democratic Republic of Congo (DRC) and Uganda, for the young population of Burundi through the extended bus routes. In Burundi, since severe economic situation and business environment under high inflation have brought about higher unemployment rate in the country and have forced the population to seek opportunities outside the country. Under such circumstances, with the new routes for DRC and Uganda, the young people might have become easier to find jobs outside the country. In addition, the national flags of Burundi and Japan were drawn on the side of all buses. Since the buses go around the whole country, they have become the symbol of Japan and Japanese aid. No other negative impact by the project was confirmed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the project achieved the Project Purpose and partially achieved the Overall Goal through the improvement of OTRACO bus service quantitatively and qualitatively. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
The service of bus operation by OTRACO improves quantitatively and qualitatively.</td><td>(Indicator 1)
Number of OTRACO bus passengers is increased.</td><td>Status of the achievement:
(Project Completion) Achieved
[The number of passengers of OTRACO bus service]
(Unit: thousand/year)
<table>
<tr><td></td><td>2009*</td><td>2010</td><td>2011</td></tr>
<tr><td>Inter-urban bus</td><td>29</td><td>67</td><td>147</td></tr>
<tr><td>Urban bus</td><td rowspan="2">107</td><td rowspan="2">282</td><td>507</td></tr>
<tr><td>School bus</td><td>836</td></tr>
<tr><td>Others (Gitega, Ngozi)</td><td>0</td><td>0</td><td>92</td></tr>
<tr><td>Total</td><td>136</td><td>349</td><td>1,582</td></tr>
</table>
*From July to December
[The number of bus routes]
<table>
<tr><td></td><td>2009-2010</td><td>2011</td><td>2012</td></tr>
<tr><td>Inter-urban bus*</td><td>22</td><td>79</td><td>79</td></tr>
<tr><td>Urban bus</td><td>11</td><td>24</td><td>24</td></tr>
<tr><td>School bus</td><td>12</td><td>38</td><td>38</td></tr>
<tr><td>International bus</td><td>0</td><td>1**</td><td>1***</td></tr>
<tr><td>Unscheduled bus****</td><td>0</td><td>36</td><td>36</td></tr>
<tr><td>Total</td><td>45</td><td>178</td><td>178</td></tr>
</table>
*Including routes operated by Bujumbura, Ngozi, Gitega and Bururi as of June, 2012.
**Route between Bujumbura and Kigali (Rwanda)
***Route between Bujumbura and Dar es Salaam (Tanzania)
****Operated by request from market users

(Ex-post evaluation) Mostly continued.
● The number of OTRACO bus passengers after the project completion is verified as the indicator 1 for the Overall Goal.
● The number of buses and bus routes operated by OTRACO decreased after the project completion. Although the routes with low profitability were cut, the new ones were opened.
[The number of bus routes]
<table>
<tr><td></td><td>2012</td><td>2013</td><td>2014</td><td>2015</td><td>2016</td></tr>
<tr><td>Inter-urban bus</td><td>28</td><td>26</td><td>31</td><td>24</td><td>24</td></tr>
<tr><td>Urban bus</td><td>24</td><td>34</td><td>22</td><td>15</td><td>15</td></tr>
<tr><td>School bus</td><td>38</td><td>19</td><td>16</td><td>17</td><td>17</td></tr>
<tr><td>International bus*</td><td>2</td><td>2</td><td>3</td><td>2</td><td>2</td></tr>
<tr><td>Unscheduled bus**</td><td>24</td><td>27</td><td>23</td><td>22</td><td>22</td></tr>
</table>
*The route is between Bujumbura and Dar es Salaam (Tanzania), Uganda and Democratic Republic of the Congo.
** Operated by the request from market users
[The number of buses operated by OTRACO]
<table>
<tr><td>2012</td><td>2013</td><td>2014</td><td>2015</td><td>2016</td></tr>
<tr><td>106</td><td>94</td><td>93</td><td>90</td><td>86</td></tr>
</table></td></tr>
<tr><td></td><td>(Indicator 2)
Service quality of OTRACO is improved.</td><td>Status of the achievement:
(Project completion) Achieved
● According to the results of the baseline survey, the passengers were satisfied with the improved OTRACO bus service, including increases in the number of seats by introduction of larger-size buses, reduction of waiting time for bus, and increase in the number of inter-urban routes but less satisfied with accessibility, travelling time, frequency of operation and regularity of operation.</td></tr>
</table>

<table>
<tr><td></td><td></td><td>
● The number of accidents in 2011 increased after the provision of new buses by the Japan's grant aid project[4]. However, the intensive trainings for the drivers and mechanics were conducted in order to reduce the number of accidents.
[The number of bus accidents]
<table>
<tr><th>2009</th><th>2010</th><th>2011</th><th>2012</th></tr>
<tr><td>29</td><td>10</td><td>95</td><td>61</td></tr>
</table>

(Ex-post Evaluation)Partially Continued.
● According to the passengers interviewed at the time of ex-post evaluation, they have been satisfied with the bus service by OTRACO, such as the provision of transport to remote areas, the low cost transport, and the ensured weekly schedule, but the unreliable daily operation making the passengers being wait for long hours.
● The number of accidents decreased to 54 in 2015 after increasing to 84 in 2014. The technical training on driving skills is continuously required for ensuring safety drive.
[The number of bus accidents]
<table>
<tr><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016
(as of Sept)</th></tr>
<tr><td>61</td><td>76</td><td>80</td><td>54</td><td>28</td></tr>
</table>
</td></tr>
<tr><td>(Overall goal)
The movement of people increased through improvement of public transportation.</td><td>(Indicator 1)
Number of bus passengers is increased.</td><td>
Status of achievement: Mostly achieved
(Ex-post Evaluation)
[Number of passengers]
(Unit: thousand/year)
<table>
<tr><th></th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016
(as of September)</th></tr>
<tr><td>Inter-urban bus</td><td>305</td><td>349</td><td>344</td><td>278</td><td>202</td></tr>
<tr><td>Urban bus</td><td>522</td><td>424</td><td>388</td><td>193</td><td>68</td></tr>
<tr><td>School bus</td><td>535</td><td>334</td><td>926</td><td>568</td><td>464</td></tr>
<tr><td>Others</td><td>329</td><td>436</td><td>436</td><td>491</td><td>374</td></tr>
<tr><td>Total</td><td>1,692</td><td>1,880</td><td>2,150</td><td>1,415</td><td>1,108</td></tr>
</table>
</td></tr>
<tr><td></td><td>(Indicator 2)
Balance of OTRACO is improved.</td><td>
Status of achievement: Partially achieved
(Ex-post Evaluation)
[Financial Balance of OTRACO]
(Unit: million BIF)
<table>
<tr><th></th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016
(as of September)</th></tr>
<tr><td>Revenue</td><td>3,445</td><td>3,808</td><td>4,067</td><td>3,330</td><td>1,557</td></tr>
<tr><td>Expenditure</td><td>3,836</td><td>3,886</td><td>4,037</td><td>4,025</td><td>1,685</td></tr>
<tr><td>Balance</td><td>-391</td><td>-78</td><td>30</td><td>-695</td><td>-108</td></tr>
</table>
</td></tr>
</table>

Source : Terminal Evaluation Report, data and information provided by OTRACO at the time of ex-post evaluation, interviews with passengers (6), mechanics (10) and bus drivers (15)

3 Efficiency

Although the project cost were within the plan (ratio against the plan: 93%), the project period exceeded the plan (ratio against the plan: 108%) due to the delayed delivery of equipment procured by the project. Therefore, efficiency of the project is fair

4 Sustainability

<Policy Aspect>

The newly elaborated policy, "the Sectoral Policy of the Ministry of Transport, Public Works and Equipment" (2014-2025) prioritizes: i) insuring mobility of the population across the country, ii) improving the quality of transport service to the people, and iii) allowing the people to travel at low cost. It is expected that the importance of the OTRACO bus service will be ensured by the government policy. Although there is concern about continuity of the policy due to the political instability, the policy is likely to be sustained beside the case where a civil war occurs

<Institutional Aspect>

The organizational structure of OTRACO has been changed in order to enhance productivity of staffs, efficiency as well as rapidity in execution of the OTRACO mission. In terms of the Technical and Operational Department which is in charge of the bus operation and maintenance, 4 sections under the department were reorganized as the Supply and Stock Management Section, the Technical Section, the Operation Section and the Branch Management Section. The number of staff in OTRACO has been sufficient to implement the bus operation plan. The total number of the staff in OTRACO including the headquarters and branch offices increased from 167 in 2007 to 227 in 2016. However, the turnover rate has been quite high due to the low level of salary.

In terms of maintenance system of the buses owned by OTRACO, since there is no agency in Burundi and spare parts needs to be procured through the ones in Kenya. However, the international procurement system for the spare parts has not yet been established.

<Technical Aspect>

The mechanics of OTRACO have obtained their technical skills based on the system for bus maintenance developed by the project,

[4] The number of bus accidents includes not only improper maintenance and driving errors but also poor road conditions in remote areas.

such as periodic inspection, diagnostic inspection and parts classification and allocation, through the technical trainings by the project and sustained those skills at the time of ex-post evaluation. Also, the mechanics trained by the project have transferred their skills to the newly recruited mechanics. The bus drivers have also sustained their technical skills on the maintenance works for bus. They have followed the maintenance procedures through the internal meetings on a regular basis and they have continuously conducted the regular and daily inspection of the buses before the operation. In addition, the drivers have sustained their driving skills to operate buses safely. The technical training of "Professional bus driver training" for the drivers and mechanics was delivered by OTRACO after the project completion. For ensuring future prospect of sustainability from the technical aspect, regular trainings for mechanics and drivers are essential to sustain proper regular and daily maintenance by following the maintenance procedures in a precise manner. Also, in terms of driving technique, trainings for drivers, in particular for newly recruited drivers is necessary to sustain and to improve further safe operation of buses in the future.

<Financial Aspect>

As mentioned above, OTRACO has not earned sufficient revenue from the bus service to cover the O&M cost because of the decrease in the number of passengers caused by the socio-political crisis since May, 2015. In addition, the fares have not been perfectly collected because of frauds and thefts. Therefore, MPTE has provided the subsidy to OTRACO in order to cover the financial shortage. However, the amount of subsidy to OTRACO decreased from 232 million BIF in 2012 to 168 million BIF in 2016. More than 50% of the government's annual revenue was expected to be covered by the aid from partners. However, since the major donors, such as the European Union, Belgium, USA, and Germany, have suspended to directly provide the financial support to the government of Burundi, the government has not had sufficient fund to allocate for the government agencies. Under such situation, the new government requires OTRACO financially self-sustainable, but a lot of efforts will be necessary by the new management of OTRACO in the long run in order to stabilize the financial position. The future prospect for the OTRACO financial balance was unclear at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, problems have been observed in terms of the institutional and the financial aspects of sustainability. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and partially achieved the Overall Goal for the improvement of mobility of the population in the country, in particular in the remote areas, through the quantitative and qualitative improvement of the bus service by OTRACO. As for sustainability, OTRACO has not earned sufficient revenue and received the subsidy from the government to cover the O&M cost though OTRACO has the sufficient number of staffs with necessary technical skills for the bus operation and maintenance. The international procurement system for the spare parts has not yet been established as the institutional aspect. However, as the technical aspect, OTRACO obtained their technical skills based on the system for bus maintenance developed by the project through the technical trainings by the project, and OTRACO has sustained those skills at the time of ex-post evaluation. Moreover, the technical training of "Professional bus driver training" for the drivers and mechanics was delivered by OTRACO after the project completion. As for efficiency, although the project period exceeded the plan due to the delayed procurement of necessary equipment for the project activities, the project cost was within the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

[For OTRACO]

- OTRACO needs to establish the effective fare collection system. Installation of bus ticket sales offices in the central town and use of the branches as sales points for tickets (Gitega, Ngozi and Bururi) enable OTRACO to ensure cash income from the ticket sales. The sales point could be near the local administration offices to facilitate convenience for the bus users. In addition, all the passengers should be asked to present their tickets for verification when they enter the buses in order to tackle cheating fares.
- Increase of salaries for OTRACO staff is worthy of consideration. Drivers are constantly leaving OTRACO for better pay checks since the salary for some drivers is less than 50 USD per month which is not affordable to live in Bujumbura town. Though the increase of salaries may imply additional expenses for OTRACO, the staff may be more motivated and thus enhance their working skills. The increase in salaries may prevent them from "stealing" money and in the long term, OTRACO will gain skilled personnel and more revenues.
- It is recommended that OTRACO provide more training opportunities for mechanics and drivers on a regular basis at least once a year in order to sustain and to improve further their technical skills on proper maintenance of buses. In particular, delivery of technical training on driving skills should be obligatory for the newly-recruited drivers for ensuring safety drive. Also, before installation of the newly procured buses, the drivers who operate them must receive training in order to avoid accidents caused by driving errors.
- Since the government subsidies have been decreasing and the financial situation getting worse from 2015, OTRACO should find a way of more diversifying their business, such as rental of OTRACO parking spaces in the town of Bujumbura to the private companies or rental of some space at the terminal for kiosk.

Lessons learned for JICA:

- From 2010 to 2013, JICA provided with three kinds of buses such as small, medium and large size through this project and the grant aid of the Government of Japan. However, the spare parts of large and medium size of buses which were provided by the grant aid are not available in Burundi because there are no agencies, so that they have not been able to procure them in a timely manner. As a result, appropriate bus maintenance based on the repair skills transferred by the project has not been sufficiently conducted. Therefore, during the project implementation, in terms of not only the spare parts of small buses but also those of large and medium size provided by the grand aid, it should have carefully considered the viewpoint of establishing sustainable and timely procurement system for spare parts.
- To improve the safety of the bus service, technical trainings for mechanics and drivers on maintenance of buses and for drivers on

driving skills are effective, in particular for the newly procured buses, which have different characteristics from the existing ones, in order to avoid malfunctioning of the buses and driving errors. Therefore, JICA should design a project activity to conduct the training of repair buses during the project period in order to ensure sustainability of project effects, including sustainable operation of buses. In the case where there is a plan to replace buses during the project period of technical cooperation project, it is necessary to include training sessions for mechanics and drivers related to buses to be replaced.

The bus to be repaired at the garage of OTRACO Headquarter

OTRACO Bus station in Bujumbura

Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by China Office: October 2017

Country Name	**Human Resource Development Project for Seismic Engineering and Construction of Buildings**
People' Republic of China	

I. Project Outline

Background	A big earthquake occurred in Sichuan Province, China on May 12, 2008, which caused more than 87,000 deaths and missing people, damage of 6,020,000 houses collapsed, and many of the victims were under the wreckage of the collapsed buildings. In the Japan-China summit held in June of the same year, both countries agreed on the cooperation in the areas of (1) health and welfare, (2) society and culture, (3) industry and employment, (4) disaster prevention, and (5) community development, based on the experience of the Great Hanshin-Awaji Earthquake of Japan. With regard the area of community development, there were issues such as (a) the national standard for seismic construction which were not sufficiently reflected in the actual design, (b) insufficiency of the seismic technicians and (c) lack of building regulations for appropriate design which enables appropriate construction works. Under such circumstances, technical support for capacity building of seismic technicians and government officers was requested to the Government of Japan from the Government of China.		
Objectives of the Project	Through development of the curriculum and materials for dissemination of seismic techniques and capacity building of trainers, the project aimed at deepening technicians and related government officers' understandings on seismic techniques, thereby contributing to developing a system for disseminating seismic technologies for buildings which are critically in need of seismic measures in the country, especially rural areas.		
	Overall Goal: The diffusion system of seismic technologies for buildings such as residences, schools and hospitals which are critically in need of aseismic measures in the country, especially in rural areas is developed. Project Purpose: Seismic technicians and related government officers deepen understandings on aseismic techniques through the trainings conducted by the project.		
Activities of the project	1. Project site: Whole country 2. Main activities: Training of trainers for dissemination of aseismic techniques, development of the curriculum and materials, development of the proposals for revision of seismic related guidelines, etc. 3. Inputs (to carry out above activities) as of the terminal evaluation Japanese Side 1) Experts from Japan: 40 persons (5 long-term and 35 short-term) 2) Training in Japan: 305 persons 3) Equipment: PC and other office supplies, etc. 4) Operation cost. Chinese Side 1) Staff allocated: 19 persons 2) Land and facilities: Office space and equipment, communication, electricity, vehicles, etc. 3) Operation cost.		
Project Period	June 2009 to May 2013	Project Cost	(ex-ante) 420 million yen, (actual) 483 million yen
Implementing Agency	Ministry of Housing and Urban-Rural Development (MHURD), China Architecture Design & Research Group (Hereinafter referred to as "Design Group"), China Institute of Building Standard Design & Research (Hereinafter referred to as "Standard Institute")		
Cooperation Agency in Japan	Housing Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, Building Research Institute, Building Center of Japan, Asian Disaster Reduction Center, Tokyo National Research Institute for Cultural Properties, etc.		

II. Result of the Evaluation

[Special perspectives considered at the ex-post evaluation]

- Since revision of the guidelines on seismic reinforcement techniques and seismic design is planned around 2020, it was not appropriate to verify achievement of Indicator 2 of the Overall Goal set in PDM "Fact and contents of revision of necessary seismic related guidelines" at the time of the ex-post evaluation. Therefore, at the ex-post evaluation, the future prospect for the revision of related guidelines is analyzed. As supplementary information for Indicator 2, it was investigated at the ex-post evaluation if the "Recommendations for revision drawn by the project were referred to in the revision process", which was proposed as an alternative indicator at the Terminal Evaluation.

1 Relevance

<Consistency with the Development Policy of China at the time of ex-ante evaluation and project completion>

In the "Wenchuan Earthquake Comprehensive Recovery and Reconstruction Plan" (2008), improvement of housing environment by strengthening disaster prevention capability was taken up. In the "Disaster Prevention and Mitigation Plan in Urban and Rural Buildings based on the 12th Five-Year Plan" (2011-2015), policies include seismic measures for buildings in the rural area and reinforcement of schools, hospitals and big public buildings. Thus, the project objectives were relevant with policies of the government of China at the time of the ex-ante evaluation and project completion.

<Consistency with the Development Needs of China at the time of ex-ante evaluation and project completion>

There were great needs for ensuring earthquake resistance at townships and towns (local government levels), as dissemination and application of seismic techniques for both new and existing buildings were slow. Although measures were being taken for schools and hospitals by the government, there were issues related to dissemination of seismic design, assessment and reinforcement of low- and middle-rise buildings including houses, especially in the rural area. There were still great needs for capacity building of the professionals for dealing with these issues at the project completion.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

In the Japan-China Summit Meeting conducted in April 2009, it was confirmed that Japan would provide assistance for reconstruction under the "One Overall Plan and Five Pillars ((i) Health and Welfare, (ii) Society and Culture, (iii) Industry and Employment, (iv) Disaster Prevention and (v) Reconstruction)", based on Japan's experience from the Great Hanshin-Awaji Earthquake.

Thus, the project was relevant with Japan's ODA policy for China at the time of the ex-ante evaluation.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved. 9,538 persons, more than twice as many as planned, completed general training courses as per each profession. Participants' understandings are judged mostly high based on the questionnaire result, which showed 2.67 for training difficulty, 2.05 for contents clarity and 2.11 for applicability (1 is the best under 5-point scale). On the other hand, there are a few voices which say they still wanted to learn further to apply the learnings in actual works, though they understood the outline. The original cascade method for capacity building (Those trained in the trainings in Japan function as trainers of core trainings, and then those trained in the core training function as trainers of general trainings) was partially changed. Specifically, those trained in the trainings in Japan functioned as trainers in most of the general trainings[1]. It is because 10-day core trainings were not sufficient to develop trainers of general trainings. The other reason is that there was a request to receive general trainings directly from those trained in Japan so as to learn Japanese seismic techniques.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have mostly continued. 50-79% of the participants of general trainings have continued the work in each organization. According to the Standard Institute, in China, seismic design and assessment and reinforcement works can be conducted only with techniques clearly conforming to the government's guidelines. Judging from the fact that these works have been conducted, it can be said that structural engineers and related administrators who completed general trainings have sustained the gained seismic knowledge and techniques in each organization. The Standard Institute has continuously organized training, symposiums and China-Japan technical exchanges on seismic techniques, and a total of 1,243 engineers have participated in these activities. Furthermore, it has annually conducted 4-5 exchange activities regarding the elderly care model, housing for the elderly, housing parts, interior integration[2], etc. in collaboration with the Urban Renaissance Agency of Japan. Besides, Hangzhou City of Zhejiang Province and the Department of Housing and Urban and Rural Areas of Shandong Province each provided 10 and 19 engineers and researchers with training opportunities in Japan, respectively.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

It is judged that the Overall Goal has been achieved. The number of the cases of seismic design, construction, management and reinforcement conducted by the trained persons could not be confirmed because it was difficult to contact each of their organizations. However, training outputs have been utilized in their works (seismic reinforcement techniques for reinforced concrete buildings with shear panels and brace filling, etc.) and contributed to development of the diffusion system of seismic techniques for public buildings. And, administrative orders for application and dissemination of seismic buildings and vibration control have been developed by the training participants' initiatives in Xinjiang Uighur Autonomous Region, Shandon Province, Sichuan Province, Shanxi Province, which apply Japan's techniques and concepts on seismic design and damping and formats for emergency assessment after earthquakes. Furthermore, it is planned that the national standard "Standard of Architectural Seismic Design," which is being drafted in July 2017, will reflect the project outputs ((i) Methods of design and calculation of the junction of seismic isolation bearings are added in the annex; (ii) Use of the response spectrum method and time history response analysis method[3] are suggested, applying the overall model of seismic structure, etc.) Also in the three national standards which will be revised, the project outputs related to seismic assessment and reinforcement techniques will be partially applied.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact has been confirmed in the natural and social aspects at the time of the ex-post evaluation.

<Evaluation Result>

In light of the above, the project purpose was achieved and the effects have mostly continued. The Overall Goal has been achieved, and several positive impacts have been confirmed. Therefore, the effectiveness/impact of the project is high.

Achievement of the Project Purpose and Overall Goal

<table>
<tr><th>Aim</th><th>Indicators</th><th>Results</th></tr>
<tr><td>(Project Purpose)
Seismic technicians and related government officers deepen understandings on aseismic techniques through the trainings conducted by the project</td><td>1. Number of the trained persons in the country (by profession and rank) and result of the training completion</td><td>Status of achievement: Achieved. (Mostly continued.)
(Project Completion)
- 9,538 persons received general training, against the planned 4,700. The breakdown number by profession was as follows. The breakdown by rank was not available because they were not separately recorded.
<table>
<tr><th></th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>Total</th></tr>
<tr><td>Seismic design and reinforcement</td><td>6,479</td><td>491</td><td>108</td><td>44</td><td>1,381</td><td>0</td><td>0</td><td>8,503</td></tr>
<tr><td>Administration, Disaster prevention</td><td>97</td><td>17</td><td>262</td><td>7</td><td>5</td><td>3</td><td>0</td><td>391</td></tr>
<tr><td>Quality control for construction</td><td>0</td><td>0</td><td>72</td><td>454</td><td>0</td><td>0</td><td>0</td><td>526</td></tr>
<tr><td>Conservation of historical buildings</td><td>33</td><td>0</td><td>0</td><td>0</td><td>0</td><td>9</td><td>76</td><td>118</td></tr>
<tr><td></td><td>6,609</td><td>508</td><td>442</td><td>505</td><td>1,386</td><td>12</td><td>76</td><td>9,538</td></tr>
</table></td></tr>
</table>

[1] 279 and 324 were trained in the training in Japan and core trainings, respectively. Among them, 35 and 9 functioned as trainers of general trainings, respectively.

[2] Simultaneous conduct of the framework construction and interior work.

[3] Method to calculate the response acceleration, velocity and displacement of each floor, by modeling the building with its weight, spring and attenuation and giving ground motion accelerating over time on the surface.

		A: Structural design engineers of the Institute of Architectural Design, Urban Planning Design Institute and Science Institute of Architecture B: Persons in charge of construction chart examination of the companies of construction chart examination and Construction Chart Examination Affairs Office C: Administrators of Seismic Buildings Affairs Office, Department of Earthquake, Department of Civil Disaster Prevention and Department of Urban Planning D: Persons in charge of construction quality control of the construction quality management stations E: Structural engineers of the management companies, contractors and consulting companies F: University researchers G: Officers in charge of protection of cultural properties and construction - Training participants answers in the questionnaire indicated 2.67 for training difficulty, 2.05 for contents clarity and 2.11 for applicability (1 is the best under 5-point scale). (Ex-post Evaluation) - 50-79% of the participants of the general trainings remain in the same organization, while almost all of the participants of the core trainings remain in related works. - The Standard Institute judge that structural engineers and related administrators have sustained sufficient seismic knowledge and techniques in each organization, since seismic design, assessment and reinforcement works cannot be conducted without techniques which satisfy the guidelines.
(Overall goal) The diffusion system of seismic techniques for buildings such as residences, schools and hospitals which need aseismic measures are critical in the country, especially rural areas	1. Fact and number of the cases of seismic design, construction, management and reinforcement conducted by the trained persons.	Status of achievement: Achieved. (Ex-post Evaluation) - Training participants have applied the learnings in their present current works including the following: 1. Knowledge and techniques were utilized for seismic assessment and reinforcement works of more than 300 schools in Fuzhou City and Ningde District, Fujian Province. 2. Seismic isolation techniques learned from the training were applied in seismic design of two houses in Fuzhou City, Fujian Province as part of the Fuzhou New Continent Project I. 3. Administrative orders were issued through the local administrative sections based on the learning from the training on construction quality control. - The number of the cases of seismic design, construction, management and reinforcement could not be confirmed.
	2. Fact and contents of revision of necessary seismic related guidelines <Supplementary indicator> Recommendations for revision drown by the project are referred to in the revision process	Status of achievement: Achieved. (Ex-post Evaluation) - The project experience is expected to be incorporated in the national standard, "Building Seismic Isolation Design Standard" which is being drafted as of July 2017, related to isolation structural design and isolation buildings. - The project experience will be reflected in part of the "Standard on Architectural Seismic Assessment Techniques" and "Guidelines on Architectural Seismic Reinforcement" which will be revised after 2018. - Administrative orders for application and dissemination of seismic buildings and vibration control have been developed by the training participants' action in Xinjiang Uyghur Autonomous Region, Shandong Province, Sichuan Province, Shanxi Province, etc.

Source: Terminal Evaluation Report, information provided by the Standard Institute.

3 Efficiency

Both the project cost and period exceeded the plan (ratio against the plan: 115% and 133%, respectively). The principal reason is that the change from the cascade training method required necessity of more capacity building of the trainers, receipt of more trainees in Japan and dispatch of more experts in certain areas. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

Seismic reinforcement of housings and public buildings is described as part of the policies in the "Disaster Prevention and Mitigation Plan in Urban and Rural Buildings based on the 13th Five-Year Plan" (2016-2020).

<Institutional Aspect>

MHURD is in charge of trainings of administrators, and the Standard Institute and Exploration and Design Association of each region undertake training of engineers on seismic design and assessment/reinforcement. Thus, demarcation of the related institutions for capacity building of structural engineers and related administrators is clear. The Design Group trains its engineers. Training plans are made for the new employees and existing personnel. New employees are encouraged to acquire qualifications and participate in technical trainings, and chances are given to existing personnel who have a certain experience such as assignment in major posts, promotion and participation in advanced trainings. Training officers are assigned in each of MHURD, Standard Institute (5 persons) and Design Groups (2-3 persons). Although the number of the officers at MHURD could not be confirmed, these numbers are sufficient because the programs are conducted as planned, according to the Standard Institute. Participants of the trainings in Japan and core trainings including administrators at the national and provincial levels have continuously functioned as master trainers (trainers of core and general trainings) and core trainers (trainers of general trainings and those in each organization). The number of the trainers could not be confirmed, but it is sufficient, according to the Standard Institute.

<Technical Aspect>

Master trainers interviewed at the ex-post evaluation have several working experiences as trainers of core trainings and conduct a

comparative analysis on seismic design standards and methods of China and Japan. According to the Standard Institute, both master trainers and core trainers have sufficient knowledge and techniques as trainers on seismic design, assessment/reinforcement, emergency assessment, judging from the fact that they have a firm theoretical foundation and much working experience and that they are registered in the professionals list in each region. With regard to the participants of general trainings, continuous learning opportunities are given to registered structural engineers by the Exploration and Design Association of each province and city every year, in order to sustain their knowledge and techniques. Furthermore, even after the project completion, engineers and administrators of China have continued technical exchanges with the Japan Structural Consultants Association (JSCA) and several private companies. Training materials developed by the project have been used since the project completion. Some additions will be made by the Standard Institute based on the national standards to be issued.

<Financial Aspect>

The Design Group and Standard Institute are privatized institutions and their main budget sources are contract incomes from the public works. Their financial data are not publicly disclosed. The Design Group's budget for capacity building is based on training plans and its financial situations, and 90% is secured. Trainings of administrators are based on the plans of MHURD and the Department of Housing and Urban-Rural Development of each province and city, of which the finance section covers training expenses. Regarding the Standard Institute, their budget is sufficient since they send their engineers to trainings, symposiums and exchange activities. Training fees are collected based on the regulations. They are cheaper than those provided by other private companies and organizations, but they cover necessary expenses because the Standard Institute also receives subsides from the national government.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional, technical or financial aspects. Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

Trainers were developed and more than twice as many administrators and engineers were trained in the project. Training participants have applied the learnings in the work and sustained the gained knowledge and techniques through trainings and technical exchange activities. Also, the project outputs have been reflected in the national standards and administrative orders at the local level. Thus, it can be judged that the diffusion system of seismic techniques has been developed. Therefore, the project effectiveness/impact is high. Demarcation of the related institutions for capacity building of structural engineers and related administrators is clear. Trainers have sustained their knowledge and techniques, and also budgets for capacity building have been secured. Thus, the sustainability is high. Regarding the efficiency, both the project cost and period succeeded the plan.

Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- The Standard Institute has provided trainings as planned with not only fees collected from the participants but also subsidies from the national government at the time of the ex-post evaluation. Even if training budgets will not be sufficient in the future, it is not very realistic to increase the fees, because it may cause a decrease of training applicants. In such a case, it is suggested to keep the present training fees.

Lessons learned for JICA:

- Even after the project completion, the Standard Institute has not only provided trainings in the country but also continuously communicated with Japanese related companies and organizations to organize technical exchanges. In this background, first, there are still great needs for introduction of Japanese techniques in the seismic architecture area. Second, the relationship between Chinese and Japanese personnel was good during the project. In particular, the Project Manager was involved in the project during the whole period and deeply understands seismic techniques and related organizations in Japan. Another strength is that long-term trainees in Japan have worked in the same position and can communicate with Japanese personnel in Japanese. Third, for Japanese private companies, keeping communication with related organizations in China may bring business chances. Thus, in order to ensure technical sustainability, it is effective (i) to implement activities during the project period with collaboration and technical exchanges with private companies, industry groups and research institutes after the project completion in mind, (ii) to seek for support and cooperation other than ODA, and (iii) to select counterpart personnel and trainees from those who will surely keep working after the project completion.
- The cascade method for capacity building originally expected in the project is that those trained in the trainings in Japan would have functioned as trainers of core trainings, and then those trained in the core training would have functioned as trainers of general trainings. However, this method was partially changed; those trained in Japan became in charge of most of the trainers of general trainings.. It was because only 10-day core trainings were not sufficient to develop the capacity as trainers of general trainings. The other reason was that there was a request to receive general trainings from those trained in Japan in order to learn Japanese seismic techniques. Accordingly, the number of participants of general trainings increased more than expected, and the participants could enrich their understanding. Furthermore, it resulted in the use of seismic technique in practice and its diffusion. Based on this project experience, when a cascade training method is planned, it is necessary to not only focus on transfer of techniques, but also clarify qualifications required for trainers and then carefully examine how to train the trainers in order to meet the needs of training participants and to make the trainings effective. If it turns out that the cascade method does not work, it is important to make necessary changes flexibly in the early stage of the project in order to achieve project objectives.

Japan-China Technical Exchange Conference on Building Structure (October 2015, co-organized by the Standard Institute and JSCA)

5th Anniversary of Commencement of the Project/Technical Exchange Conference on Building Damping and Isolation (May 2014, organized by the Design Group and sponsored by Standard Institute and JICA)

Internal Ex-Post Evaluation for Grant Aid Project

conducted by JICA Palestine Office: March 2018

Country Name	The Project for the Establishment of New Schools in the West Bank
Palestinian Authority	

I. Project Outline

Background	The Palestinian Authority regarded the education sector as a priority area in order to develop the human resources for its future independence. In the West Bank, the target area of the project, the annual average rate of increase in basic and secondary education enrolment between 2002/3 -2006/7 was as high as 2.6%. Moreover, the annual average rate of increase in enrolment at secondary level alone during the same period was as high as 8.7%. In order to accommodate the increasing number of students, many schools in the West Bank were forced to adopt a double-shift system at school or even under a single-shift system they have to use buildings for rent not designed for educational purposes and which had often been dilapidated. Many of those rented school buildings did not have classrooms of adequate size, nor have specific rooms to meet the purpose of subjects, such as computer labs or science laboratories. And the time allocated for the lecture under the double-shift system was limited or much shorter than that of single-shift system. Lectures given under the double-shift system had not always been in accordance with the curriculum. These inadequate learning environments had constituted a limiting factor to improve the educational quality.			
Objectives of the Project	To provide a better learning environment for students of schools in the West Bank by constructing primary and secondary school facilities with provision of school furniture and educational equipment, thereby contributing to the improvement in the quality of education in the West Bank.			
Contents of the Project	1. Project Site: Seven sites located in three Governorates of Nablus, Tubas and Jericho of the West Bank 2. Japanese side：Provision of grant necessary for the following items: (1) Reclaim the land and construct the exterior facilities, (2) Construct classrooms, special classrooms such as science labs, administrative unit including headmaster room, toilets, etc. (3) Procure school furniture and educational equipment. (It was once planned for five schools. Later, construction of another two schools was decided with remaining available funds.) 3. Palestinian side: (1) Secure the land for construction, (2) Dismantle existing buildings and obstacles			
Project Period	E/N Date	February 26, 2009	Completion Date	July 18, 2012
	G/A Date	February 26, 2009		
Project Cost	E/N Grant Limit / G/A Grant Limit: 900 million yen　　Actual Grant Amount：900 million yen			
Executing Agency	The Ministry of Education and Higher Education (MEHE), the Palestinian Authority			
Contracted Agencies	(1) Main Consultant: Mohri Architect & Associates, Inc. (2) Agent: Japan International Cooperation System (3) Local Contractors: Al-Aseel Co., Brothers Engineers Contracting Company, Al-Aseel Co., Rida Ahmad Khamees Eswad Company, Al-Nakheel Company, and Al-Emad Co.			

II. Result of the Evaluation

<Constraints on Evaluation>

・Since the targeted schools were widely spread, the evaluator could visit the limited number of schools for detailed data collection and site observation within the given timeframe.

<Special Perspectives Considered in the Ex-Post Evaluation>

[Target Year for Evaluation] Due to that the two schools were additionally constructed with the remaining funds, the project period was extended to the year 2012. Therefore, the target year is defined as 2012 according to the definition of target year stated as “after the project completion” in the ex-ante evaluation sheet.

[Indicators for Outcome] With the remaining funds, two schools were additionally constructed and furniture and equipment were procured as well. This change in baseline resulted in the increase of number of schools subject to assessment for Outcome indicators.

[Supplemental information for Outcome] In order to examine how the school capacity as a whole has changed, “the number of students for each school by year” is used as supplemental information (1). In order to examine the continuation effect by the project, “the number of ordinary classrooms and special classrooms used continuously from the project completion accordingly as originally intended” is used as supplemental information (2).

1 Relevance

<Consistency with the Development Policy of Palestinian Authority at the Time of Ex-Ante and Ex-Post Evaluation>

At the time of ex-ante evaluation, this project was consistent with development plans such as “Palestine Reform & Development Plan (2008-2010)”, “Five Year Education Plan” (2007-2011) which specifically focused on the equal educational opportunities for all Palestinians by reducing the rented classes, rehabilitating the old schools and reducing the number of schools under double shift system and the improvement in the quality of education (the appropriate number of students per classroom, classes per teacher, square measure of classroom, etc.） At the time of ex-post evaluation, “Education Development Strategic Plan” (2017-2022), which integrates all related policies and development plans for education, emphasizes the improvement of learning environment by access to education for all students.

<Consistency with the Development Needs of Palestinian Authority at the Time of Ex-Ante and Ex-Post Evaluation>

This project has been consistent with Palestinian development needs of education in the West Bank at the time of ex-ante evaluation as described in "Background" above. At the time of ex-post evaluation, there are still continuing needs for schools constructed and equipment provided by the project due to the continuous increase of student numbers (About 7% increase in 2016/17 compared with before the project in 2008/9).

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

One of the priority areas of the Japan's ODA Policy toward Palestinian Authority, (Economic Cooperation Policy Consultation, 2005) was the assistance toward human right. This policy had been further enhanced with the strong commitment for the initiative of the "Corridor for Peace and Prosperity" presented at the Third Ministerial-Level Meeting of the Four-Party Consultative Unit in July 2008.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Effectiveness>

The project objective of providing a better learning environment for students by constructing primary and secondary school facilities with provision of school furniture and educational equipment has been achieved. For quantitative effects, all of five schools which were under double shift or were expected to be under double shift have now been used under single shift as planned (Indicator 1). Also, all of four schools which used buildings for rent before the project have used no rental building after the project completion in 2012 (Indicator 2). Furthermore, the number of students for all seven schools has gradually been increasing year by year after the project. Before the project in 2009, the aggregated number of students of all seven schools was 1,713 and this number increased to 1,958 after the project in 2012 showing 14% increase. And at the time of ex-post evaluation in 2017, the number has increased to 2,066 showing 21% increase. (Supplemental Information 1). It was confirmed that most of ordinary classrooms and special classrooms constructed by the project have been used accordingly as originally intended, with some exception that some classrooms have been divided into two in order to accommodate the increment of students or in order to cope with the special needs for those students with learning difficulties, etc. (Supplemental Information 2). As for qualitative effects, according to the interview with schoolmasters, their schools have secured the adequate classroom sizes and special classrooms such as laboratories, thus the curriculum has been taught according to the plan under the single shift system and it was also observed the active participation of the students to the science classes by using the laboratories and much deeper exchanges with community persons in taking care of the garden in the schools.

<Impact>

As shown by the tables below, it is obvious that there was a positive impact of the improvement of learning environment on the quality of education. Average attendance rates of targeted schools for both boys and girls gradually increased and it reached to 97% and 98% respectively at the time of ex-post evaluation. Average dropout rates of targeted schools for both boys and girls have shown the remarkable progress. They were 10.5% for boys and 3% for girls before the project, but at the time of ex-post evaluation, they dropped down to 2% and 1% respectively. Interviews with teachers have revealed that teachers are more focusing on each individual student because of less students in each classroom. It was also reported that social workers rooms created by the project has contributed to decreasing the dropouts in all schools; since they have served as the space for social worker to communicate with the families of dropped-out students for counseling, and science laboratories created by the project have motivated students for better understanding and practice of science. As to impacts on gender, an interview with the principal of one of girl's school in a rural area, where females' enrollment to the higher education is not so much high comparing with that of males, revealed that the relatively large number of graduated students attend universities and colleges and it reached 99% in some years. Some of them have become instructors in some universities. The establishment of the school in the area have promoted females as part of the community decision making in the village. No negative impacts were found on environment.

<Evaluation Result>

In light of the above, the effect of the project has been observed mostly as planned. Therefore, the effectiveness /impact of the project is high.

Quantitative Effects:

Indicators	Baseline 2009 Baseline Year	Target 2012 0 Year after Completion	Actual 2012 Completion Year	Actual 2017 5 Years after Completion
Indicator 1:Number of schools under the double-shift system	5	0	0	0
Indicator 2: Number of schools which use buildings for rent that are not designed for educational purpose	4	0	0	0

<Source>Outline Design Study Report, JICA document, Interviews and site visits to targeted schools.

Supplemental Information 1: The aggregate number of students for targeted schools (Actual)

Supplemental Information	Baseline 2009 Baseline Year	Target 2012 Completion Year	Actual 2013 1 Year after Completion	Actual 2014 2 Years after Completion	Actual 2015 3 Years after Completion	Actual 2016 4 Years after Completion	Actual 2017 5 Years after Completion
Total aggregate number of boy students for targeted schools	1,109	1,166	1,194	1,368	1,366	1,320	1,381
Total aggregate number of girl students for targeted schools	604	792	800	806	645	673	685
Grand Total	1,713	1,958	1,994	2,174	2,011	1,993	2,066
% increase from the baseline year		14%					21%

<Source> MEHE Data

Expected Impact: Average attendance rates and dropout rates of targeted schools (Actual)

Indicators		Baseline 2009 Baseline Year	Target 2012 Completion Year	Actual 2013 1 Year after Completion	Actual 2014 2 Years after Completion	Actual 2015 3 Years after Completion	Actual 2016 4 Years after Completion	Actual 2017 5 Years after Completion
Average attendance rates(1) of targeted schools	Boys	88%	93%	95%	95%	96%	97%	97%
	Girls	95%	96%	97%	97%	98%	98%	98%
Average dropout rates(2) of targeted schools	Boys	10.5%	6%	4%	3%	2.5%	2%	2%
	Girls	3%	2%	1.5%	1.5%	1.5%	1%	1%

<Source>School data and MEHE data

<Note>

(1)Average attendance rates: Total number of students in the given age group for a given level of education attending that level at any time during the reference academic year

(2)Average dropout rates: Proportion of students from a cohort enrolled in a given grade at a given school year who are no longer enrolled in the following school year.

3 Efficiency

The outputs of the project were produced more than planned due to that two schools were additionally constructed with the remaining funds, which was determined after the bidding of five schools. And it required longer than planned work period for construction because large scale of land reclamation work was needed to build one of additionally planned schools. As a result, while the project cost was within the plan, the project period largely exceeded the plan (ratio against plan: 100%, 175%) (The increase in the inputs surpassed the increase in the outputs). Therefore, efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

The Construction Department of MEHE is responsible for construction of school facilities and the Equipment Department is responsible for procurement of school furniture and educational equipment and they work under the instructions and Ministerial Decisions. And maintenance and procurement of essential equipment is conducted periodically by the Building's Department of MEHE and the Region Directorate's engineers. The mechanism of self-managed schools was adapted national-wide and each school maintains the school management policy which stipulates on the budget, maintenance and renovations of building facilities. According to the interviews with teachers, sufficient number of teachers and maintenance staff has been allocated to each targeted-school (Its number varies from 10 to 30 for teachers and 1 to 3 for maintenance staff for each school depending on the school size). However, there is a limited number of engineers for all targeted schools in the Regional Directorate of MEHE. In principle, one engineer is allocated to each directorate who is expected to visit each school for the periodical checkup several times per year. But there are only 14 engineers who should cover the checkup for the total number of 1,750 schools in the 14 directorates all told. The interview with a school principle notified the delay of repair work for Marj Al Ghazal School due to the shortage of those engineers. Especially in the case of Marj Al Ghazal School, due to the insufficient number of engineers, the needs of repair work from the schools was not reported at the right timing to the MEHE, even the periodical visit to the school was conducted properly. Therefore, regional Directorate of MEHE should have sufficient number of engineers to fulfill the periodical site visits to each school and at the same time to cope with other related works, such as to make reports at the appropriate timing to MEHE by allocating budget.

<Technical Aspect>

Sufficient number of teachers and maintenance staff are allocated for each target schools and it enables for them to manage well in daily maintenance and minor repair which do not require the specific technical skills. In this regards, the technical skills of teachers and maintenance staff (Janitors) are sufficient to sustain the benefit of the project. According to the interview with MEHE, there is a general need for capacity building on maintenance in order to keep up with their maintenance skills. Currently, no trainings are available for teachers and maintenance staff at school due to no budget allocation. Such training is available only for some engineers in the Directorate of MEHE.

<Financial Aspect>

No major problems have been identified in the financial aspect in terms of daily maintenance and repair of school facilities as they are covered by the school budget which consists of student's contribution and some revenues earned by themselves, such as by leasing the Cafeteria, etc. They are called "Financially Self-managed Schools", of which a school administration controls its own budget with monitoring by and reporting to the MEHE. According to the Income and Expenditure for seven-targeted schools in 2017, approximately 26% of revenue has been allocated to the building /utilities maintenance. Meanwhile, it was also observed in several schools when relatively large repair or rehabilitation is needed, the school has not received the timely response from Region Directorate of MEHE due to the shortage of engineers. And it is often difficult for them to hire new engineers due to the insufficient budget.

Income and Expenditure of seven targeted schools (September 2016 to August 2017)

Unit of CCY (NIS: New Israeli Shekel)

School Name	Income Total	Expenditure					
		IT maintenance	Building/utilities maintenance	Stationary	Others	Total	Net Balance
Beita Boys School	40,000	9,000	10,000	8,000	13,000	40,000	-
Wadi Fara Girls School	25,800	5,200	4,700	5,000	10,000	24,900	900
Beit Dajan Boys School	15,000	3,500	4,000	3,000	4,550	15,050	△50
Jericho Boys School	45,000	7,000	12,000	9,000	17,000	45,000	-
Al Fara'a Boys School	17,000	1,000	4,200	2,500	4,750	12,450	4,550

Marj Al Ghazal Girls' School	12,300	2,000	6,000	1,000	3,000	12,000	300
Marj Al Ghazal Co-ed School	1,620	450	-	200	950	1,600	20
Total amount	156,720	28,150	40,900	28,700	53,250	151,000	5,720
Average %	100%	18%	26%	18%	34%	96%	4%

<Source> Targeted seven schools <Note> No budget data to show the periodical change was available.

<Current Status of Operation and Maintenance>

Building facilities of all targeted-schools have been maintained well. According to Buildings Department, and Regional Directorate of MEHE, the engineers of the Department are supposed to pay a periodical visit to each school six to eight times per year for checkup of building status, but may not be able to fulfill planned visits for all seven schools because of its limited numbers. IT technicians of Regional Directorates of MEHE visits schools on demand for IT checkups and maintenance. All targeted schools have maintenance contract for printing machines and some high-tech equipment. Spare parts for furniture are obtained from Regional Directorate of MEHE and spare parts for educational equipment are obtained either from the MEHE, or purchased with school budget.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional and financial aspects of the executing agency. Therefore, the sustainability of the project effect is fair.

5 Summary of the Evaluation

The project has achieved its objectives, "to provide a better learning environment for students" as it was observed that the double-shift operation was abolished and all targeted schools have now used buildings designed for educational purpose. Furthermore, the number of students of targeted schools has steadily increased. Positive impacts were observed in improvement in students' attendance and dropout rates. As for sustainability, there is a slight problem in institutional and financial aspects. Regarding efficiency, project period exceeded the plan.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

To: Building Department of MEHE and Regional Directorate of MEHE in Jericho

MEHE should have engineers to conduct periodical site visit to schools and to make report at the appropriate timing to MEHE by allocating budget for hiring the engineers. Due to shortage of the number of engineer in the Directorate of MEHE, requests submitted by schools for repair have not been effectively handled, thus some school facilities in need for repair have left unfixed.

Lessons Learned

In order to ensure the sustainability of the school facility, it is necessary to confirm whether there is the system of both daily checkup and the periodical monitoring for large repair or rehabilitation such as repairing the wall or part of school infrastructure.

Although no major problems have been identified in terms of daily maintenance and repair of school facilities, the poor function of periodical monitoring for large repair or rehabilitation by engineers have resulted in the insufficient repair work for school facilities.

Lessons Learned in terms of social workers room

The dropout rate has improved year by year in the targeted schools. It is likely that the improvement of learning environment and security situations in the school as well as political stability might have served as contributing factors. Furthermore, it was also identified in some targeted schools that the establishment of the social workers room might have contributed to reduce the drop-out rates as it has made possible for social workers to pay periodic visit and provide necessary consultation and follow up for the students. MEHE should recognize this and encourage the effective usage of the social worker's room further in the future.

General view of Beita Boys School in Nablus

Pupils at the classroom of Wadi Fara'a Girls School in Tubas