

| Country Name | | The Food Crop Diversification Support Project Focusing on Rice Production | |
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| Republic of Zambia | | | |
| I. Project Outline | | | |
| Background | <p>In Zambia, the agricultural sector has been crucial in the national economy as it had accounted for 20% of Gross Domestic Product (GDP) and more than 60% of the population has been engaged in the sector. Nonetheless, the vast majority have been small-scale farmers who have relied on rain-fed cultivation, resulting in low productivity and high poverty levels. Besides, the excessive emphasis on maize production in the government policy brought about more vulnerability of the farmers. There were thus compelling issues to reduce the vulnerability and to exploit the potential by diversification of the cropping pattern of small-scale farmers as per local growing conditions for sustainable production of various crops countrywide. Although Zambia had plenty of lands suitable for rice production and increasing interest from small-scale farmers in rice production, there was limited knowledge and proper techniques among farmers and the extension service providers.</p> | | |
| Objectives of the Project | <p>Through strengthening basic research capacity for rice cultivation techniques and enhancing extension services on the target crops, the project aimed at improving the research and extension system for the promotion of food crop diversification with a focus on rice production, thereby contributing to the enhancement of the diversified food crop production in Northern, Muchinga, Western, Eastern, Lusaka, and Copperbelt provinces in Zambia.</p> <ol style="list-style-type: none"> Overall Goal: Diversified food crop production especially rice production is enhanced in the target areas. Project Purpose: Research and extension systems for the promotion of food crop diversification are improved, focusing on rice production. | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Northern, Muchinga, Western, Eastern, Lusaka, Copperbelt provinces Main Activities: Inputs (to carry out the above activities) <ol style="list-style-type: none"> strengthen research capacity for rice cultivation techniques, 2) identify the potential areas for research and extension on rice production, 3) enhance research and extension services on other target crops, 4) identify potential linkages and strengthen institutional collaboration between research and extension to promote food crop diversification. | | |
| | Japanese Side | Zambian Side | |
| | <ol style="list-style-type: none"> Experts: 6 persons Trainees received in Japan: 4 persons Training in the third country: 4 persons (in the Philippines), 7 persons (in Uganda) Equipment: Vehicles, laptop computers, video camera, copy machine, research equipment (husking machine, milling machine, electric scales, rice mills, air dryer, etc.) | <ol style="list-style-type: none"> Staff allocated: 19 persons Facilities: Office spaces and fields for rice research experiments for experts at ZARI, Mt. Makulu, and Misamfu research stations Local cost: Administrative and operational expenses | |
| Project Period | June 2012 – June 2015 | Project Cost | (ex-ante) 210 million yen, (actual) 207 million yen |
| Implementing Agency | Zambia Agricultural Research Institute (ZARI), Ministry of Agriculture (MoA) (the former Ministry of Agriculture and Livestock (MAL) was split into two Ministries: The Ministry of Agriculture (MoA) and the Ministry of Fisheries and Livestock (MFL) in 2015) | | |
| Cooperation Agency in Japan | Ministry of Agriculture, forestry, and fisheries | | |
| II. Result of the Evaluation | | | |
| 1 Relevance | | | |
| <Consistency with the Development Policy of Zambia at the Time of Ex-Ante Evaluation and Project Completion> | | | |
| <p>The project was consistent with the development policies of Zambia since the Government of Zambia aimed to enhance the system for food security by reducing the dependency on maize production and promoting the income of smallholder farmers. It also notably addressed the promotion of crop diversification in “the Vision 2030”, the “6th National Development Plan (SNDP)” (2011-2015), and the “National Agriculture Policy (NAP)”. Among other crops, rice was included in the “Farmer Input Support Programme (FISP)” to benefit from government subsidies of seed and fertilizer.</p> | | | |
| <Consistency with the Development Needs of Zambia at the Time of Ex-Ante Evaluation and Project Completion > | | | |
| <p>The project was consistent with the development needs of Zambia. Despite government policy above, the use of improved production technologies of smallholder farmers has remained very low leading to low productivity. Additionally, there were impending issues concerning establishing and extending the package of cultivation techniques, and these, among others, included limited access to quality seed and suitable varieties, as well as limited control of pest insects and diseases. Rice cultivation in Zambia still faced a number of other challenges that needed to be addressed. There was no change in the need for promoting food crop diversification, particularly rice production, by the time of project completion.</p> | | | |
| <Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation> | | | |
| <p>The project was consistent with Japan’s ODA policy for Zambia¹. It intended to support the three priority areas, inter alia, “industrial promotion” that included agriculture. Based on the fact that low agricultural productivity and yield exist, as the majority of farmers grow maize and rely on rain-fed cultivation, it was pertinent to support the expansion of irrigation and crop diversification through its technical</p> | | | |

¹ MOFA ODA Databook 2012

cooperation.

<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 achieved by the project completion. According to the project completion report, 6 research programs on rice were implemented in the 2014/15 cropping season in Lusaka, Northern and Western Provinces by 5 Zambian researchers (Indicator 1). “Rice production potential paper in Zambia 2015” was compiled and officially presented to be shared at the Rice Stakeholder Conference in 2015 to discuss the challenges and potentials of the rice industry (Indicator 2). The first and second editions of brochures on upland rice cultivation were produced during the project. The first edition was distributed to extension officers and farmers who participated in the training on rice cultivation (Indicator 3).

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

The project effects have continued since the project completion. All three target research stations have continued their research programs after 2015. Furthermore, although it has room for further utilization at the district level, the above-mentioned 2015 report on rice production has kept being referred mainly by researchers for ensuring effective rice production after the project. In 2019, the report was updated by the succeeding “Rice Dissemination Project (RDP)” (2015-2016). Regarding the brochure for dissemination, it has been strategically distributed to extension workers and leads farmers expected to be a focal point to conventional farmers in the vicinity.

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

The Overall Goal had been partially achieved at the time of ex-post evaluation. According to the survey results of the ex-post evaluation, due to various challenging issues in the market and production, only about 30% of farmers of the Target Group have continued to grow rice (indicator 1). Although the total average yield of rice in the target provinces was 1.13t/ha in 2017/18, which is below the target of 2.0 t/ha, it was confirmed that the yield level of rice in some target sites in the district level exceeded the target. It was deemed that those farmers adopted of improved technique the project demonstrated (indicator 2).

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

At the time of the ex-post evaluation, it was confirmed in some sites that rice cultivation and the other means of earning a living were mutually exclusive. Specifically, as road construction was taken place in the vicinity of rice fields in Nyimba, many farmers took day-labor jobs. As a result, the retention rate of rice-growing declined. In Ndola, as farmers opted for some vegetables with a shorter cultivation period over rice, rice farming did not continue inevitably. No other negative impact was confirmed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results |
|---|--|--|
| (Project Purpose) Research and extension systems for the promotion of food crop diversification are improved, focusing on rice production. | Indicator 1 At least 5 research on rice are implemented. | Status of the Achievement: achieved (continued) (Project Completion) Four programs on rice research had been conducted in the 2013/14 cropping season in Northern Province by both the Zambian and Japanese researchers (3 Zambian researchers and a Japanese expert). The reports on research No.1 “Preliminary Research on Occurrence of Cold Weather Damage and Evasion and Advantage of Early Cultivation,” and research No.2 “Development Study on Rice Cultivation System Implemented from Flooded Paddy Field to Non-Flooded Paddy Field in Dambo” were made. Up to 6 research programs on rice were being implemented in the 2014/15 cropping season in Lusaka, Northern and Western Provinces by 5 Zambian researchers and 2 Japanese experts. (Ex-post Evaluation): <ul style="list-style-type: none"> • The research station in Misamfu had conducted four research such as “Response of rice lowland varieties to different Nitrogen” between 2015 and 2018. • The research station in Mt. Makulu has conducted the 13-research including “Research on tolerance to cold weather” and “Comparison of the yield of various rice varieties on the station” between 2015 and 2018. • The research station in Mongu had conducted the following 2 research topics during 2 seasons from 2015: “International Upland Rainfed Observatory Nursery (IURON)”, and “International Lowland Rainfed Observatory Nursery (ILRON).” |
| | Indicator 2 The report on the identified potentials of rice production is shared with the research and other relevant institutions. | Status of the Achievement: achieved (continued) (Project Completion) A report titled “Rice production potential paper in Zambia 2015” was compiled. It was also presented at the Rice Stakeholder Conference (27th May 2015). During the process of editing and compiling the report, rice researchers could discuss scientific findings regarding the rice production and value chain. (Ex-post Evaluation) The 2015 report kept being referred to mainly by researchers. However, it has also been pointed out that extension officers, especially at the district level have not been evenly informed about it. Thus, there is still room for further utilization for the sake of the extension of rice production. The 2015 report was updated under RDP in 2019 and was referred to in “Market-Oriented Rice Development Project (MOREDeP)” (2019-2025) with the aim of research and documentation for dissemination. |

Indicator 3
Extension materials on rice cultivation are made available for extension services.

Status of the Achievement: achieved (continued)
(Project Completion)
A brochure on upland rice cultivation was produced to comprehensively cover the farming practices. This brochure had been distributed to extension officers and farmers who had participated in the training on rice cultivation. About 5000 copies of the first edition had been distributed. The contents of the brochure were revised in October 2014 as the second edition.
(Ex-post Evaluation)
The brochure was mainly distributed to lead farmers at the district level. Under the constraints on public resources, brochure dissemination has been strategically carried out within interpersonal relations and in locality conditions.

(Overall Goal)
Diversified food crop production especially rice production is enhanced in the target areas.

Indicator 1
The number of rice-growing farmers is increased by 20% in the target areas by 2018 compared to the number in 2012.

(Ex-post Evaluation) Not achieved.
According to the survey responses from each district agriculture office at the project sites, on average only 30 % of farmers of the project sites have continued to grow rice. Among others, low percentages were reported in Masaiti at 2 %, followed by Ndola at 10%. Nyimba district office had the highest percentage of rice growing reported at 75% for farmers continuing to grow rice. The main issues that rice farmers are facing were summarized as follows.

- Low total productivity of land caused by certain climate/ecological conditions (arising from, among other things, limitations in the availability of quality seed of preferred varieties and processing equipment)
- Market competitiveness with other crops and alternative income opportunities

Table 1: The number of rice-growing households in the Target Provinces

| Target provinces | Baseline 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2017/18 |
|-------------------|------------------|---------|---------|---------|---------|---------|
| Northern | 11,942 | 14,070 | 16,363 | 9,973 | 12,835 | 12,551 |
| Muchinga | 13,488 | 13,804 | 12,573 | 12,217 | 17,597 | 17,485 |
| Western | 25,615 | 24,376 | 30,369 | 32,577 | 18,801 | 18,404 |
| Eastern | 6,231 | 4,908 | 2,650 | 4,255 | 5,088 | 4,152 |
| Lusaka | 141 | 72 | 199 | 43 | 10 | 0 |
| Copperbelt | 83 | 55 | 22 | 210 | 105 | 46 |
| Total | 57,500 | 57,285 | 62,176 | 59,275 | 54,436 | 52,638 |
| Increase rate (%) | | 99.6 | 108.1 | 103.1 | 94.7 | 91.5 |

Source: Crop Forecast Surveys, 2016 and 2018

Indicator 2
The average yield of rice in the target area exceeds 2.0 t/ha by 2018.

(Ex-post Evaluation) Partially achieved
Some farmers adopted better cultivation techniques, and this led to an increase in yield in the project sites. The research also introduced better seeds such as Supa MG and Minsamfu 2 and 3. Additionally, aiming at further extension, the major research stations, notably Mt Makulu, have been purifying the seed as well as multiplying quality seed. However, where the yield was less than the target, it was resulted from adverse weather patterns, particularly drought in some areas, given the status of irrigation development.

Table 2: The average yield of rice in project sites (Unit:t/ha)

| Project Sites (District) | Baseline 2012 | 2016 | 2017 | 2018 |
|--------------------------|---------------|------|------|------|
| Ndola | N/A | 2.56 | N/A | N/A |
| Masaiti | N/A | N/A | N/A | N/A |
| Nyimba | N/A | 2.3 | 1.9 | 2.9 |
| Chinsali | N/A | 4.4 | 2.4 | 2.6 |

Source: Questionnaire Survey among the District Agriculture Offices in Ndola, Masaiti, and Nyimba districts and Farmer Questionnaire Survey in Chinsali
Note 1: The baseline data were not readily available.
Note 2: Ndola and Masaiti are in the Copperbelt Province, Nyimba in Eastern Province, and Chinsali in Muchinga Province

Table 3: The average yield of rice in the Target Provinces (Unit: t/ha)

| Target provinces | Baseline 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2017/18 |
|------------------|------------------|---------|---------|---------|---------|---------|
| Northern | 1.67 | 1.00 | 1.20 | 0.97 | 0.83 | 1.56 |
| Muchinga | 1.72 | 1.49 | 1.60 | 1.84 | 1.88 | 1.79 |
| Western | 1.18 | 1.01 | 1.10 | 0.17 | 0.93 | 1.28 |
| Eastern | 1.13 | 1.89 | 1.09 | 1.98 | 1.48 | 1.70 |
| Lusaka | 0.77 | 1.09 | 1.15 | 0.63 | 0.18 | 0 |
| Copperbelt | 1.76 | 1.09 | 1.57 | 0.51 | 2.45 | 0.48 |

Source: Crop Forecast Survey, 2016 and 2018

3 Efficiency

Both the project cost and project period were within the plan (ratio against the plan: 99% and 100%, respectively). The outputs were produced as planned. Thus, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The promotion of crop diversification has retained its importance in the national policy of the Government of Zambia. The Second “National Rice Development Strategy, NRDS,” (2016-2020) has aimed at doubling rice production in the country in 5 years. Its endeavor has to encompass the value chain development for rice, ranging from research, production, extension, to marketing. Policy pronouncements by MOA have also confirmed that crop diversification was an important policy direction and rice was one of the prioritized crops.

<Institutional Aspect>

The role and responsibility of MoA have not changed concerning the promotion of crop diversification. MoA has been responsible for the promotion of crop diversification. In terms of the implementation of specific activities such as research and extension for rice production in the context of crop diversification, the organizational structure, and responsibilities of ZARI (target research stations: Mt. Makulu, Misamfu, Mongu), as well as two supporting organizations: the Department of Agriculture (DoA) (HQ as well as the provincial offices) and the Seed Control and Certification Institute (SCCI) have remained unchanged. As per manpower status to ensure crop diversification, it was reported that in terms of farming system, it had not been sufficient especially in Mongu research station of the ZARI which has only 1 staff, whereas Mt. Makulu has 5 staff and Misamfu has 8 staff. And there is no staff in Mongu to engage in plant protection. Regarding the status of rice research, it was reported that Misamfu and Mongu perceived there had been a need to increase the number of technical staff (who currently stand at 3 staff each) in order to properly address the relevant issues. As far as DoA and its provincial offices are concerned, they perceived current staffing to be sufficient, enough to supervise the aspects of extension and crop production. The SCCI, however, perceived that its staffing was not sufficient to properly address seed control and certification such as variety testing, because some positions remain vacant. After project completion, it was recognized in the successor projects (RDP and MOREDeP) that Mansa research station in Luapula province would be suitable for rice cultivation research under natural conditions. As such, the station received several researchers from Misamfu research station and has been assisted to facilitate it through the projects.

<Technical Aspect>

According to the survey results, as the ex-counterpart staff members have remained active in each organization, it is considered technically sustained for the promotion of rice production. However, ZARI perceived that it requires more research skills and capacity in relevant fields and SCCI also reported that they need to enhance capacities for the inspection process, variety identification, and laboratory seed testing. ZARI has in its plans a training program; however, the current budget constraints have not allowed it to amply conduct training but self-study. SCCI has had a coping strategy of working with the private sector to conduct training courses each year. Concerning the number of equipped extension officers and trained farmers for rice production in target provinces², it was reported as follows; 113 in 2015/16 (93 extension officers and 20 master trainers), 201 in 2017/18 (128 block extension officers, 61 district staff, 22 master trainers), 282 in 2018/19 (53 block extension officers and Camp Extension Officers (CEO), 22 district officers, 22 master trainers, 158 extension farmers, and 27 international volunteers); and the number of trained farmers: 1,550 (2015/16), 1,159 (2017/18) and 1,185 (2018/19).

<Financial Aspect>

In Zambia, it has been vulnerable in terms of the government funding mechanism for the last three years. MoA has not guaranteed to disburse the amount of budget as anticipated the lesser amount of revenue for the next fiscal year, 2020. Even though the annual budget has been allocated, the disbursement rate has been less than 30 % at its highest. Or worse, no disbursement was made in some districts. It thus can be concluded that the central government has not adequately disbursed the operation costs in a timely manner.

<Evaluation Result>

Some problems have been observed in terms of the financial aspect. Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

The project has achieved the Project Purpose as they have engaged in a process of proving the potential in rice production through the extension and training of farmers. The Overall Goal was partially achieved; either the number of rice-growing farmers or the average yield in target provinces has not met the target. The average yield in some districts, however, showed an increase, meeting and even surpassing the target. As for sustainability, they have performed each duty as respective institutions and technically retained skill set to promote rice production in the context of crop diversification, although the national budget has been precarious to properly address the issue.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

In order to enhance the impact of the project, with the concerted efforts of ZARI and SCCI, MoA should engage in the promotion of the rice market, preferable varieties, and fostering of researchers. In order to achieve the fullest potential of rice production, it is necessary to encourage the utilization of the knowledge gained from research through active information-sharing between researchers and extension staff.

The survey revealed that officers in some districts were not aware of “Rice Production Potential Paper in Zambia 2015”. And sufficient level of budget for rice cultivation activities has not been allocated in such districts. Thus, to enhance the sustainability of the project, it is imperative to initiate active information sharing and take appropriate budget measures.

Lessons Learned for JICA:

The project used existing structures and the official mandate of the Ministerial organization. As in the notable case of ZARI, this was a positive basis for the project’s sustainability. On the other hand, in order to further enhance the impact of the project, it should have fully addressed sales activities in the project design. By the same token, in order to improve productivity in rice cultivation, it is essential to place a system for farmers to obtain appropriate means of production, such as a system to supply quality seeds. Considering the fact that the

² Data of the numbers of equipped extension officers and trained farmers in the year of 2016/17 were not readily available.

percentage of farmers who continue to cultivate rice depending on the target site, it is important to formulate a dissemination plan based on total marketability of rice such as the price competitiveness of rice in the target sites, the existence of markets to serve the income of rice farmers and competing crops.



Interview with a Rice Farmer (left) in Nyimba District

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| Country Name | Digital Topographic Mapping Project for the Bamako Metropolitan Area |
| Republic of Mali | |

I. Project Outline

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|---|--|--------------|---|---------------|-------------|---------------------------------|---------------------------------|----------------------------------|---|---|------------------------|
| Background | <p>Due to economic growth in West Africa, the population of Bamako, the capital of Mali, markedly increased from about 1 million in 1998 to 1.8 million in 2009. Particularly in the peripheric area of the city where suburban sprawl occurred, essential infrastructural facilities, such as transportation, water supply, hospitals, and schools were not sufficiently provided. It resulted in deteriorating living conditions and public security in the area. Furthermore, the lack of such facilities would impede its socio-economic development of the country. It was also palpable that needed infrastructure construction required deliberate planning based on updated data and accurate information including the wider areas to account for the suburban sprawl above.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through the production of 1:5,000 scale digital topographic maps and GIS data and training to Institut Géographique du Mali (IGM), the project aimed to assist the sustainable socio-economic development planning, thereby contributing to the improvement of urban infrastructure and thus living conditions in the Bamako metropolitan area.</p> <p>1. Expected Goals through the proposed plan¹: the utilization of the digital topographical map expedites the improvement of living conditions and urban infrastructure in Bamako and the surrounding area.</p> | | | | | | | | | | |
| Activities of the Project | <p>1. Project site: Bamako metropolitan area (520 km²) and Bamako and its surrounding area (1,400 km²) 2. Main activities: (1) produce 1:5000-scale digital topographic maps and orthophotos; (2) produce Geographic Information system (GIS) data; (3) conduct technical training for IGM</p> <p>1. Inputs (to carry out the above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Malian Side</td> </tr> <tr> <td>(1) Mission Members: 10 persons</td> <td>(1) Staff allocated: 13 persons</td> </tr> <tr> <td>(2) Trainees Received: 2 persons</td> <td>(2) Office space: Project office for Japanese experts and its utility costs</td> </tr> <tr> <td>(3) Equipment: Digital mapping equipment (UPS, GPS digital Cameras, software, etc.), Printers, PCs, servers, etc.</td> <td>(3) Operation expenses</td> </tr> </table> | | | Japanese Side | Malian Side | (1) Mission Members: 10 persons | (1) Staff allocated: 13 persons | (2) Trainees Received: 2 persons | (2) Office space: Project office for Japanese experts and its utility costs | (3) Equipment: Digital mapping equipment (UPS, GPS digital Cameras, software, etc.), Printers, PCs, servers, etc. | (3) Operation expenses |
| Japanese Side | Malian Side | | | | | | | | | | |
| (1) Mission Members: 10 persons | (1) Staff allocated: 13 persons | | | | | | | | | | |
| (2) Trainees Received: 2 persons | (2) Office space: Project office for Japanese experts and its utility costs | | | | | | | | | | |
| (3) Equipment: Digital mapping equipment (UPS, GPS digital Cameras, software, etc.), Printers, PCs, servers, etc. | (3) Operation expenses | | | | | | | | | | |
| Project Period | February 2015-October 2016 (Extension Period: September 2016-October 2016) | Project Cost | (ex-ante) 428 million yen (actual) 633 million yen | | | | | | | | |
| Implementing Agency | Ministry of Equipment, Transport, and Rural Development Institut Géographique du Mali (IGM) | | | | | | | | | | |
| Cooperation Agency in Japan | Asia Air Survey Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

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| <p>I Relevance</p> <p><Consistency with the Development Policy of Mali at the Time of the Ex-Ante Evaluation></p> <p>The project was consistent with the development policies of Mali at the time of ex-ante evaluation. As the Government of Mali addressed the infrastructure development in the Second Poverty Reduction Strategy, the topographic map was regarded as a basis for formulating various development plans. The Government of Mali also proclaimed an ordinance for the establishment of the cabinet council and national committee on GIS data and setting-up the Inter-ministerial Committee for Geographic Information (Conseil Interministériel d'Information Géographique: CIIG)² in 2002, with the objectives of developing and facilitating the application of GIS data in public organizations. Based on the results of CIIG's coordination activities, the National Policy of Geographic Information (Politique Nationale d'Information Géographique: PNIG) was approved by the Cabinet in 2012. To substantiate the policy, the Action Plan (2012-2016) was thus addressed to further enhance the utilization of GIS data.</p> <p><Consistency with the Development Needs of Mali at the Time of the Ex-Ante Evaluation></p> <p>The project was consistent with the needs of Mali at the time of ex-ante evaluation. There was a growing need for creating large-scale topographic maps for updating the urban development master plan. But they had only the technology for creating medium-scale (1/50,000) topographic maps. Because of this discrepancy between the information on the maps and the actual situation, the available maps fail to satisfy the demand for geographic information of the actors in the development of the Bamako metropolitan area including government and donor organizations involved in the urban planning sector and private developers. Large-scale geospatial information was important for urban planning of the metropolitan area as well as to share data with other relevant ministries and agencies, which would enable them to engage in effective planning and implementation of various development projects.</p> <p><Consistency with Japan's ODA Policy at the Time of the Ex-Ante Evaluation></p> |
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¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

² CIIG is to serve public organizations on a wider scale, along with the establishment of the National Committee for Geographic Information (Comité National d'Information Géographique: CNIG) for the central government and the Regional Committee for Geographic Information (Comité Régionale d'Information Géographique: CRIG) for the local governments. As the secretariat of CNIG, IGM has coordinated with 42 organizations, consisting of ministries, agencies, universities, and research institutes in terms of the development of map data, code standardization, metadata, and geographic information policy.

The project was consistent with Japan's ODA policy for Mali³. Japan supported the sustainable development of Mali at the time of ex-ante evaluation. The Government of Mali announced the "Mali Sustainable Reconstruction Plan" in May 2013. Considering the essential common denominator among multiple policy areas, Japan's assistance was to support the improvement of basic human needs and economic recovery to ensure compatibility with the peace and stability of the country.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The objectives of the project were achieved by the time of the project completion. As planned in the project, 1:5,000-scale digital topographic map data set (520 km²), GIS Data (520km²), and orthophoto maps of the Bamako metropolitan area (approximately 1,400 km²) were produced along with technology transfer for creating and/or updating the maps at the disposal of IGM.

<Utilization Status of the Proposed Plan at the time of the Ex-post Evaluation>

The proposed plan has been utilized at the time of the ex-post evaluation. The products by the project were utilized in the formulation of the socio-economic development plan and/or national land planning (Indicator 1). The Geographic Information Management Center (Centre de Gestion de l'Information Géographique: CGIG) IGM promoted the updated digital topographic maps and the other products of the project. As a result, those maps and products were used to serve the objectives of each public and private institution from the perspective of improving public goods and services.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of the Ex-post Evaluation>

The expected goals through the proposed plans have been achieved. The utilization of the digital topographical map was deemed to expedite the improvement of living conditions and urban infrastructure in the target area (Indicator 1). In terms of public safety and security, improvement of traffic safety, fire protection, and security enforcement resulted from the applications of the maps and the products of the project. Likewise, regarding health and sanitation, they were used for the enhancement of water supply, drainage system, healthcare facilities, and waste treatment and waste disposal. Furthermore, regarding people's livelihood, they were used for updating a tourist map, school distribution, and urban planning.

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

As the digital topographic map was instrumental for urban planning, environmental ramifications were observed such as deforestation entailed for the expansion of the suburban area of Bamako. On the other hand, several positive impacts were observed due to better planning. Notable cases are the creation of income generation activities for women (e.g. vegetable gardening and commercial activities in the vicinity to local marketplaces) in new habitation areas and new precautionary measures taken by identification of flood-prone areas.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results | | | | | | | | | | | | | | | | | |
|---|--|---|---------------|--------------|--------------|-------------|-----|---------------------------------|-------------|-------------------|---|-----------------|---------------------|------------------|--------------------------|------------|---------------------------------------|----------------|--------------------------------------|
| Utilization Status of the Proposed Plan The updated digital topographic map is utilized in the formulation of the socio-economic development plan and/or national land planning. | (Indicator 1) The utilization status of the digital topographic maps at relevant organizations (directorates related to city planning and housing, Bamako municipality government, etc) | (Ex-post Evaluation) Achieved The updated digital topographic maps and the other products became available to public and private institutions listed below. <ul style="list-style-type: none"> ➤ the National Institute of Statistics ➤ Peacekeeping Missions in Mali ➤ Higher education & research institutions ➤ the National Directorate of Land Registry ➤ EDM-SA (electric power company in Bamako and metropolitan area) ➤ Société Malienne de Gestion de l'Eau Potable (SOMAGEP) (water supply Company) ➤ Private consulting firms such as GeoConsult and NGOs <p>The digital topographic maps and products of the project were used extensively in the public and private/NGO sectors on their initiatives and needs. Notable examples of applications are as follows.</p> <ul style="list-style-type: none"> • the National Directorate of Land Registry used digital topographic maps for proposing candidate sites for the installation of certain national infrastructures. • The electric power company used orthophotos for the installation of power lines. • The water supply company used orthophotos to locate certain clients. • Expert Surveyors, Town Planners, and some Architects used the topographic map to make location plans for their projects. <p style="text-align: center;">Table 1: Utilization Status of the Maps and Products in Projects/Plans</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Utilized Area</th> <th>Organization</th> <th>Project/Plan</th> </tr> </thead> <tbody> <tr> <td>Cartography</td> <td>IGM</td> <td>Map of Bamako (updated version)</td> </tr> <tr> <td>Cooperation</td> <td>Embassy of France</td> <td rowspan="5">Master Plan of Bamako (* an inventory plan highlighting landscape elements, existing infrastructure, facilities, public squares, and tourist information)</td> </tr> <tr> <td>Public Security</td> <td>Ministry of Defense</td> </tr> <tr> <td>Cadastral Survey</td> <td>TOPO Mandé (survey firm)</td> </tr> <tr> <td>Sanitation</td> <td>OZONE Mali (waste management company)</td> </tr> <tr> <td>Private sector</td> <td>IGIP (international consulting firm)</td> </tr> </tbody> </table> | Utilized Area | Organization | Project/Plan | Cartography | IGM | Map of Bamako (updated version) | Cooperation | Embassy of France | Master Plan of Bamako (* an inventory plan highlighting landscape elements, existing infrastructure, facilities, public squares, and tourist information) | Public Security | Ministry of Defense | Cadastral Survey | TOPO Mandé (survey firm) | Sanitation | OZONE Mali (waste management company) | Private sector | IGIP (international consulting firm) |
| Utilized Area | Organization | Project/Plan | | | | | | | | | | | | | | | | | |
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| Cadastral Survey | TOPO Mandé (survey firm) | | | | | | | | | | | | | | | | | | |
| Sanitation | OZONE Mali (waste management company) | | | | | | | | | | | | | | | | | | |
| Private sector | IGIP (international consulting firm) | | | | | | | | | | | | | | | | | | |

³ Ministry of Foreign Affairs, "ODA Country Databook" (2014)

| | | | | |
|--|--|--|--|---|
| | | Design office | JV of LCI/GIC/SA | |
| | | NGO | Sasakawa Peace Foundation | |
| | | Agronomic research | CIRA(Consulting e Engineering and Applied Research) | Applied research |
| | | Humanitarian | International NGOs (e.g. AID International) | Projet d'Appui au Mali Humanitarian Projects in the area of health and nutrition and integration of new sectors such as protection (psychological support for survivors of gender-based violence) and water, hygiene, and sanitation. |
| | | Microcredit | MICROCRED Mali | Microcredit plan |
| | | Road network | The Directorate in charge of National Road | Road plan |
| | | Water supply | SOMAGEP | Water supply network |
| | | Land Cadastre Management | The Directorate in charge of the Cadastral plan | Cadastral map |
| | | Electrification | EDM-SA | Power network plan |
| | | Source: IGM | | |
| Expected Goals through the Proposed Plan The updated digital topographical map is utilized in the formulation of the socio-economic development plan and/or national land planning. | (Indicator 1) Development projects realized by utilizing digital topographic maps (e.g. road and water and sewage infrastructure development, etc.) | (Ex-post Evaluation) Achieved | | |
| | | Table 2: Applied Target Areas for the Improvement of Living Conditions and Urban Infrastructure in Bamako and the surrounding area | | |
| | | Applied Target Areas/Urban infrastructure | Leading/Responsible Organization | Utilization Status. |
| | | Safety and Security | | |
| | | Traffic safety | National Road Safety Agency (Agence Nationale de la Sécurité Routière: ANASER) | the road map of the District of Bamako derived from project data |
| | | Fire prevention | National Directorate of Civil Protection (Direction Nationale de la Protection Civile: DNPC) | Elaboration of the National Contingency Plan |
| | | Public security | United Nations Security Mission in Mali (Mission des Nations Unies pour la Sécurité au Mali : MINUSMA) | Planning for peacekeeping operations |
| | | Health and Sanitation | | |
| | | Water supply, drainage system | SOMAGEP | orthophoto set |
| | | Healthcare facilities | National Directorate of Health (Direction Nationale de la Santé: DNS) | health infrastructure data |
| | | Waste treatment and waste disposal | National Directorate of Sanitation and Pollution and Nuisance Control (Direction Nationale de l'Assainissement et du Contrôle des Pollutions et Nuisances : DNACPN) | Identification of favorable sites for dumping sites and final disposal sites |
| | | People's Livelihood | | |
| | | Tourist map (monuments, hotels) | Mali Tourist Promotion Agency (Agence de la Promotion Touristique du Mali) | the Bamako Master Plan derived from project data |
| | | School distribution | Ministry of Higher Education and National Education (Ministère de l'Enseignement Supérieur et de l'Education Nationale) | School Infrastructure Data |
| | | Urban planning | National Directorate of Town Planning and Housing (Direction Nationale de l'Urbanisme et de l'Habitat) | habitational data, status of areas of interest |

Source: Information provided by IGM

3 Efficiency

Project cost and period both exceeded the plan (ratio against the plan: 148% and 105%, respectively). Although the project was temporarily suspended during the course of implementation due to the political situation in the country, the outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

“The National Geographic Information Policy” (2020-2024) has explicitly addressed the importance of quality geographic information. To promote this, the policy has specified the following strategic objectives to be achieved: (1) to develop a national spatial data infrastructure; (2) to reinforce the capacity of actors involved in production and management of geographic information; (3) to strengthen multiple aspects of cooperation in the field of geographical information; (4) to implement a communication and information flow strategy between various partners and actors/users concerning geographic information.

< Institutional/Organizational Aspect>

A steering role collectively attached to IGM (including CGIG), CIIG, and the National Committee for Geographic Information (CNIG) has remained unchanged structurally and legally to promote geographic information at the central level. Concerning the manpower for the matter, it was considered generally sufficient in IGM and relevant institutions as the staffing need has been mostly accommodated since the decree stipulating the structure was effective in 2002.

<Technical Aspect>

According to the survey result, it was deemed IGM incapable yet of gaining mastery in advanced digital photogrammetry, digital mapping, and GIS techniques as it would like, due to lack of access to the latest equipment and a suitable training program for technical staff members. In order to accomplish the organizational goals, IGM needed to further strengthen in several technical aspects such as (1) to operationalize geoportals to coordinate all the tasks and activities for production and management of geographic information, and wide dissemination of products and services; (2) to establish a nation-wide network of well-equipped permanent stations for a geodetic survey; (3) to master maintenance techniques for topographic and cartographic equipment to better assist professionals in the related fields. Considering the challenges, it had even more room for technical improvement in a self-sustaining way.

<Financial Aspect>

According to the survey result, IGM secured a budget for “the Five-Year Action Plan” (2012-2016). The provisional budget was 6,284 million CFA Franc, whereas the actual disbursement was 5,300 million CFA Franc. In the meantime, 4 million CFA Franc was funded by the European Union within the framework of the “Project for the rehabilitation of the topographic map at 1/200,000 scale.” The project was to assist technology transfer and to provide training IGM staff members in France to produce the map of the scale. 1,500 million CFA Franc was disbursed from the National Budget to complete the 1/200,000 mapping project and start the implementation of the Mali Geodetic Reference Network Project (RGRM). However, to achieve the organizational goals, the accrual-basis deficit was palpable, and insufficient level of the budget in light of the required funding level to cover comprehensive implementation of the Action Plan: creation and operation of the CGIG; capacity building of stakeholders; strengthening of cooperation and implementation of the communication strategy. Thus, it has still been limited by the given budget.

<Evaluation Result>

In light of the above, some 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 1:5,000-scale digital topographic map data set, GIS Data, and orthophoto maps of the Bamako metropolitan area were produced by the project as planned. With regards to the utilization of the updated map data, they extensively served the objectives of each public and private institution from the perspective of improving public goods and services. As a result, the map data expedited the improvement of living conditions and urban infrastructure in the target area after project completion. As for sustainability, the organizational setting is underpinned by the basic policy of the Malian government. On the other hand, in terms of the technical aspect, IGM and related institutions were not amply reinforced to the extent of being capable of following up on constantly evolving technology in the field. Also, the national budget was not fully allocated to suffice the implementation of the planned activities. As for efficiency, 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:

Recommended areas to be addressed are as follows.

- The management board of the CGIG of IGM should make the authority aware of the need to expedite the regulatory procedure in order to mandate and organize its operations in due course.
- The promotion of the use of the products must be further reinforced through the strengthening of the capacities of the CGIG.
- IGM should exercise prudence over budget secured not only for the implementation of the Action Plan 2021-2025 but also to cover the unexecuted activities of the previous Action Plan.

Lessons Learned for JICA:

In the case of the master plan project (e.g. digital mapping project), it would be essential for JICA to raise authorities' awareness of the significance of the application of the results and to confirm the entailed law enforcement of the relevant reforms in parallel such as decrees and other regulatory documents throughout the implementation since there would be a time lag between the technical validation and the political validation that require for the subsequent application of the results of the project. It is a common practice to take several years after the end of the project for the authorities to make an official decision to grant the enforcement in the form of an issued decree for the application of the master plans. And the project is no exception that to date, no revision of the relevant law to enhance the further application of the

results has been confirmed. Thus, it is necessary to take a preparatory step to make the authorities amply aware of the merits and benefits of the study project so that they would be motivated enough to expedite the process of the use and application of the technical results of the master plan projects even after project completion.



An Excerpt of a Map of Bamako (scale of 1/5,000)



A Road Map of Bamako

| | |
|--------------------|--|
| Country Name | Project of Strengthening School-based Collaborative Teacher Training (SBCT) |
| Republic of Rwanda | |

I. Project Outline

| | | | | | | | | | | | | | |
|--|--|--------------|---|---------------|--------------|-----------------------|-------------------------------|---------------------------------|---|--|--|--|--|
| Background | Education is a priority sector for the Government of Rwanda. The Rwanda Education Board (REB) implemented the “Strengthening Mathematics and Science in Secondary Education Project (SMASSE)” from 2008 to 2011 in collaboration with JICA, which aimed at improving the subject content knowledge and pedagogical practice of science and mathematics teachers in secondary schools. While SMASSE achieved its project purpose as the trained teachers improved their lesson performance in a way that promotes student-centered learning, several challenges remained. The trainees did not share the acquired knowledge and skills with their colleagues, so the project fell short of meeting the increased training needs due to the expansion of basic education. The Government of Rwanda requested JICA another technical cooperation project aiming at improving the quality of lower secondary education by capacity development of teachers through revitalized school-based in-service teacher training (SBI). | | | | | | | | | | | | |
| Objectives of the Project | <p>Through building an institutional framework of introduction, implementation, coordination and monitoring of SBI at the national, district, sector and school levels, the project aimed at promoting schools with O-level (7th to 9th grades)^{Note 1} nationwide to implement SBI activities, thereby contributing to improved classroom lessons and students’ learning.</p> <p>Note 1: The schools with O-level include the three types of schools; 9-year basic education schools (1st to 9th grades), 12-year basic education schools (1st to 12th grades) and secondary schools (7th to 12th grades).</p> <p>1. Overall Goal: Lessons become more effective to “let students be capable to do it.”^{Note 2}</p> <p>2. Project Purpose: Planned School-based INSET (SBI) activities are implemented.</p> <p>Note 2: The phrase “let students be capable to do it” is used based on students’ achievements being described as such “Students should be capable/able to XXX” in the national curriculum of Rwanda at the time.</p> | | | | | | | | | | | | |
| Activities of the Project | <p>1. Project Site: Nationwide (30 districts and 416 sectors in total)</p> <p>2. Main activities: Building an institutional framework to implement SBI, Conducting the district-level SBI induction workshops and the school-level SBI induction workshops, Conducting coordination activities for promoting SBI among the Teacher Development and Management Department of REB (REB-TDM), District Education Offices (DEOs) and Sector Education Offices (SEOs), etc.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Rwandan Side</td> </tr> <tr> <td>1) Experts: 7 persons</td> <td>1) Staff allocated: 7 persons</td> </tr> <tr> <td>2) Trainees received: 3 persons</td> <td>2) Land and facilities: Project office with facilities in REB</td> </tr> <tr> <td>3) Equipment: PCs, Laser printers, Video cameras, etc.</td> <td>3) Local cost: Workshop implementation costs, etc.</td> </tr> <tr> <td>4) Local cost: Personnel cost for hiring local staff, etc.</td> <td></td> </tr> </table> | | | Japanese Side | Rwandan Side | 1) Experts: 7 persons | 1) Staff allocated: 7 persons | 2) Trainees received: 3 persons | 2) Land and facilities: Project office with facilities in REB | 3) Equipment: PCs, Laser printers, Video cameras, etc. | 3) Local cost: Workshop implementation costs, etc. | 4) Local cost: Personnel cost for hiring local staff, etc. | |
| Japanese Side | Rwandan Side | | | | | | | | | | | | |
| 1) Experts: 7 persons | 1) Staff allocated: 7 persons | | | | | | | | | | | | |
| 2) Trainees received: 3 persons | 2) Land and facilities: Project office with facilities in REB | | | | | | | | | | | | |
| 3) Equipment: PCs, Laser printers, Video cameras, etc. | 3) Local cost: Workshop implementation costs, etc. | | | | | | | | | | | | |
| 4) Local cost: Personnel cost for hiring local staff, etc. | | | | | | | | | | | | | |
| Project Period | January 2013 – December 2015 (Extended period: April 2015 to December 2015) | Project Cost | (ex-ante) 204 million yen, (actual) 254 million yen | | | | | | | | | | |
| Implementing Agency | Rwanda Education Board (REB), Ministry of Education (MINEDUC) | | | | | | | | | | | | |
| Cooperation Agency in Japan | PADECO Co. Ltd. | | | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on the ex-post evaluation>

- The project targets nationwide and the two indicators set for the Project Purpose needs the data on 1) the number of schools which conducted the school-level induction workshop and 2) the number of schools which implemented SBI out of all target schools nationwide both at the time of project completion and ex-post evaluation. Since the number of schools is increasing at a pace of about 100 schools every year in Rwanda and their exact data were not obtained both at the time of project completion and ex-post evaluation, the results of both indicators are calculated based on the estimated values of implementation rate obtained from the limited sample size.

<Special perspectives of evaluation to be considered>

- The successor project of SBCT, “Project for Supporting Institutionalizing and Improving Quality of SBI Activity (SIIQS)” (2017-2019) and a number of teacher training projects incorporating the SBI approach conducted by other development partners have been conducted in Rwanda and the results confirmed at the time of ex-post evaluation include the impact of these other projects.

1 Relevance

<Consistency with the Development Policy of Rwanda at the Time of Ex-Ante Evaluation>

“Teacher Development and Management Policy in Rwanda” formulated in 2007 addressed the improvement of the status of school-based training through on-the-job mentoring system. “Education Sector Strategic Plan (ESSP) 2010-2015” addressed the improvement of quality of education and the importance of continuous professional development (CPD) of teachers. Thus, the project was consistent with Rwanda’s educational development policies at the time of ex-ante evaluation.

<Consistency with the Development Needs of Rwanda at the Time of Ex-Ante Evaluation>

As mentioned in the background, there were high needs for providing training to in-service teachers as well as promoting CPD for

capacity development of teachers in Rwanda 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 the Country Assistance Policy for Rwanda (2012) which placed the human resources development for sustainable growth (science and technology education and training) as one of the priority areas.

<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 achieved by the project completion. More than 80% of schools which attended the district-level SBI induction workshops conducted the school-level induction workshops at their schools (Indicator 1) and more than 80% of the schools which conducted the school-level induction workshops implemented SBI at their schools (Indicator 2). Although the district-level SBI induction workshops were held for 19 districts out of 30 districts due to a shortage of budget for conducting the workshops, another workshop, the orientation workshops for introducing the newly adopted Competence-based Curriculum (CBC) had been conducted by REB from 2015 and the introduction of SBI to the remaining 11 districts was realized by incorporating the SBI approach into the CBC training. Furthermore, the CBC training was targeted at all teachers of primary schools (1st to 6th grades), 9-year basic education schools, 12-year basic education schools and secondary schools unlike SBI, which was targeted at teachers in charge of 7th to 9th grades, so primary schools were also included in the SBI implementation.

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

The project effects have continued since the project completion. According to the survey result conducted by the ex-post evaluation, SBI was introduced to more than 99% of primary schools, 9-year basic education schools, 12-year basic education schools and secondary schools nationwide and more than 99% of them have implemented SBI activities.

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

The Overall Goal is achieved at the time of ex-post evaluation. According to the results of interview survey for 3 DEOs, 3 SEOs and 9 schools conducted by the ex-post evaluation, the three indicators set for the Overall Goal such as student satisfaction to lessons (Indicator 1), teachers' perceptions on lesson improvement (Indicator 2) and DEOs'/SEOs' perceptions on student performance (Indicator 3) have improved by the SBI implementation. For example, teachers have provided more effective lessons to improve students' learning and students are more satisfied with lessons and their level of participation to lessons, display of creativity and innovative thinking have also improved.

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

As mentioned above, while it was necessary for REB to provide the CBC training to all teachers of primary schools, 9-year basic education schools, 12-year basic education schools and secondary schools nationwide, it was difficult to cover all teachers due to cost and system constraints. Conducting in-school training of CBC using the SBI approach enabled REB to provide the CBC training to all teachers nationwide. In addition, the SBI approach is based on the concept of CPD and through the implementation of SBI, CPD has been activated and promoted in the education sector in Rwanda. For example, the Technical Working Group on Teacher Professional Development chaired by REB-TDM and co-chaired by the development partners including JICA recognized the contribution of the SBI approach to CPD. Also, in response to increasing needs of CPD in Rwanda, the District CPD Committees (DCCs) with DEOs as the main member and the Sector CPD Committees (SCCs) with SEOs as the main member were established in all districts and sectors by a proposal of the Technical Working Group. Furthermore, many development partners such as British Council, USAID, VVOB (Belgian organization), UNICEF, international NGOs, etc. have implemented their CPD projects incorporating the SBI approach, one of which is JICA's successor project of SBCT called the "Project for Supporting Institutionalizing and Improving Quality of SBI Activity (SIIQS)" conducted from 2017 to 2019.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results |
|--|---|--|
| (Project Purpose) Planned SBI activities are implemented. | 1. More than 80% of schools which attend district-level SBI induction workshops conduct school-level induction workshop at their schools. | Status of the Achievement: Achieved (Continued) (Project Completion) In the 19 districts where the district-level SBI induction workshops were held, more than 80% of 9-year basic education schools, 12-year basic education schools and secondary schools conducted the school-level induction workshops. (Ex-post Evaluation) According to the result of questionnaire survey to DEOs, after incorporating the SBI approach into the CBC training, SBI was introduced to more than 99% of primary schools, 9-year basic education schools, 12-year basic education schools and secondary schools. |
| | 2. More than 80% of above schools implement SBI at their schools. | Status of the Achievement: Achieved (Continued) (Project Completion) In the 19 districts where the school-level induction workshops were held, more than 80% of 9-year basic education schools, 12-year basic education schools and secondary schools implemented SBI activities. (Ex-post Evaluation) According to the result of questionnaire survey to DEOs, more than 99% of primary schools, 9-year basic education schools, 12-year basic education schools and secondary schools have implemented SBI activities. |
| (Overall Goal) | 1. Student satisfaction to lessons | (Ex-post Evaluation) Achieved |

| | | |
|--|---|---|
| Lessons become more effective to “let students be capable to do it.” | | According to the interview with 9 schools conducted by the ex-post evaluation, all of them answered that students were more satisfied with lessons and their level of participation to lessons, display of creativity and innovative thinking had also improved. |
| | 2. Teachers’ perceptions on lesson improvement | (Ex-post Evaluation) Achieved According to the interview with 9 schools conducted by the ex-post evaluation, teachers’ lessons have improved by the SBI implementation as follows. 1) The spirit of teamwork among teachers has improved. They prepare lesson plans together and share skills. They have learned how to utilize locally available materials. Peer learning among teachers has improved and teachers share best teaching practices. 2) Teachers mindset has changed for the better, with more effort at peer learning among themselves and less absenteeism. Their pedagogical skills have also improved with more group work introduced as part of lessons. 3) Teachers have improved their group work facilitation and presentation skills as well. 4) Teachers are more committed to their work and there are less cases of teacher absenteeism. 5) Teachers have learned how to motivate students through rewarding their work. Best students are rewarded while under-performing students are encouraged to think more. |
| | 3. DEOs’/SEOs’ perceptions on student performance improvement | (Ex-post Evaluation) Achieved According to the interview with DEOs and SEOs conducted by the ex-post evaluation, they mentioned that students’ academic performance improved thanks to more effective delivery of CBC-based lessons by teachers through SBI. Teachers and students work closer now; for example, teachers work more as group and deliver better lessons and this results in students’ participation in class more actively. Students are also engaged in extra-curricular activities more actively, such as debate clubs. |

Source : Project Completion Report, Questionnaire survey to 23 DEOs, Interview survey to 3 DEOs (Bugesera, Gasabo and Musanze districts), 3 SEOs (Nyamata sector in Bugesera district, Kimihurura sector in Gasabo district, and Musanze sector in Musanze district) and 9 schools in Bugesera, Gasabo and Musanze districts.

3 Efficiency

Although outputs were produced as planned, both the project period and the project cost exceeded the plan (ratio against the plan: 133%, 125%, respectively). Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The current ESSP (2018/19 to 2023/24) prioritizes strengthening CPD including SBI activities. ESSP further stipulates that CPD activities should be school-based to ensure close and timely mentoring. Similarly, the National Teacher CPD Framework adopted in 2019 recommends school-based CPD as preferred mode of in-service teacher training.

<Organizational/Institutional Aspect>

Due to the reorganization of REB in 2018, while the Teacher Development and Management Department of REB (REB-TDM) was changed to the Teacher Development & Management and Career Guidance & Counseling Department (TDMCGC), one of the 4 units in TDMCGC, the Teacher Training Unit remains after the reorganization of REB and in charge of all activities related to CPD of teachers including coordination of SBI activities. After the reorganization, although the current staff members of Teacher Training Unit have all changed except one from the members at the time of project implementation, according to the Director of Teacher Training Unit, there has been no special problem in the current management system of CPD activities.

The Technical Working Group on Teacher Professional Development chaired by TDMCGC and co-chaired by the development partners also remains in place after the project completion and plays coordination roles across the CPD projects conducted by the development partners. The members of the Technical Working Group meet quarterly to jointly monitor the progress of all CPD activities conducted in all districts and sectors. However, as mentioned in the financial aspect below, the monitoring of CPD activities at district and sector levels has identified some challenges due to financial constraints.

<Technical Aspect>

There have been still challenges in the monitoring and feedback of SBI activities at the national, district and sector levels. The submission of monitoring reports on CPD activities including SBI activities should be improved at the district, sector and school levels. Although the Technical Working Group has developed an online monitoring form to track the progress of CPD activities at the district and sector levels, it is yet to be approved by the management of REB and its full operation has not yet started.

<Financial Aspect>

REB receives their budget for CPD activities from the Ministry of Education. The development partners cover the cost of their CPD projects either by handling the budget by themselves as JICA does or by channeling the funding through the Single Project Implementation Unit of REB, which coordinate project implementation. REB considers that the lack of recurrent budget for monitoring of CPD activities is the major challenge. DEOs and SEOs also face a challenge of insufficient funding to cover transport and other expenses for the monitoring of CPD activities as well as to hold DCCs and SCCs meeting regularly.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the technical and financial aspects. 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, and the project effects have continued. SBI was introduced to more than 99% of primary schools, 9-year basic education schools, 12-year basic education schools and secondary schools nationwide, and more than 99% of them implement SBI activities at the time of ex-post evaluation. Through the implementation of SBI, teachers have provided more effective lessons to improve students' learning and students have been more satisfied with lessons with more participation to lessons. In addition, CPD of teachers has been activated and promoted in Rwanda by the implementation of SBI and many development partners have implemented their CPD projects incorporating the SBI approach. Regarding the sustainability of the project, although the organizational framework for implementing and coordinating CPD activities including SBI activities has been sustained, there have been a concern on the shortage of budget for monitoring of CPD activities at the national, district and sector levels. As for the efficiency, both the project period and 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:

- To secure time for CPD activities including SBI, close coordination across government offices in charge of teacher professional development (e.g. REB TDMCGC) and those in charge of curriculum (REB Curriculum) will be essential. Joint monitoring of CBC implementation by these offices would help understand how much space schools currently have in their timetables for CPD activities, and how best additional time could be created for more frequent and quality in-service teacher education. Curriculum office may use the information to revisit the curriculum design and propose revisions to ensure space for CPD. This would help REB TDMCGC to institutionalize SBI further.

Lessons Learned for JICA:

- The Rwandan government's recurrent budget for education prioritizes the allocation to teachers' salaries and the budget for activities for professional development of teachers including SBI is not sufficient, and this has posed risk to JICA project's sustainability after completion. For future projects, detailed analysis of Rwandan government's fiscal space should be conducted jointly by MINEDUC, REB and JICA, and project sustainability should be thoroughly discussed during the project formulation phase. Availability of budget at REB, district and sector office as well as schools should be included in this analysis. Also, it is necessary for JICA to have a continuous discussion with MINEDUC and REB to secure the recurrent budget for project activities during the project period.



Interview with a Sector Education Inspector



Reading room established to address the shortage of textbooks identified by SBI activities.

| | |
|--------------------|--|
| Country Name | The Project for Assistance of Enhancement of Energy Management System in Energy Consumption Sectors in the Republic of Serbia |
| Republic of Serbia | |

I. Project Outline

| | | | | | | | | | | | |
|---|--|--------------|---|---------------|--------------|------------------------|--------------------------------|---|---|---------------|---------------|
| Background | <p>Serbia was dependent on imports for about 40% of its primary energy (as of 2009), facing a need to diversify energy sources and promote energy conservation. Besides, Serbia was required efforts to fulfill the EU Directive 2012/27 in Energy Efficiency to be an EU member country after the accession to the Energy Community Treaty in 2006. The Directive stipulates a 20% reduction in overall EU energy consumption compared to 2012. It requires the EU member countries to prepare a national action plan every three years that sets intermediate targets for reducing energy consumption. Under that circumstance, JICA conducted a development study, “Study for Introduction of Energy Management in Energy Consumption Sectors in Serbia,” from 2009 to 2011 and identified a significant energy efficiency potential in the industry sector of Serbia. Based on the institutional design of the energy management system recommended by the study, Serbia enacted the Law on Efficient Use of Energy in March 2013. Accordingly, there was an urgent need to establish a framework for energy management and auditing systems (hereafter “energy management system” (EMS)) and to develop human resources for Energy Managers (EMs) and Energy Auditors (EAs).</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through 1) establishing the scheme design of the EMS, 2) establishing the classroom training program of EMs and EAs, 3) establishing the practical training program of EMs and EAs, 4) institutionalizing the qualification and examination system of EMs and EAs, and 5) strengthening the capacity of the Ministry of Mining and Energy (MOME) to implement the energy management and audit system, this project aimed at the introduction and implementation of the energy management system in Serbia, thereby contributing to the promotion of energy efficiency in the designated organizations under the EMS.</p> | | | | | | | | | | |
| | <ol style="list-style-type: none"> 1. Overall Goal: Energy efficiency in designated organizations (DOs) under the EMS will be promoted. 2. Project Purpose: EMS is introduced and implemented. | | | | | | | | | | |
| Activities of the project | <ol style="list-style-type: none"> 1. Project site: Whole country of Serbia 2. Main activities: <ol style="list-style-type: none"> (1) To review secondary legislations (decrees, rulebooks, and decisions) of Ministry of Mining and Energy (MOME) that are necessary for EMS, to prepare guidebooks for DOs, to program the database for EMS, and to formulate/implement the plan of use of energy efficiency fund/other available funds to promote EMS. (2) To prepare and implement classroom training for EMs and EAs. (3) To design and procure training equipment, to prepare and implement practical training for EMs and EAs. (4) To prepare and conduct examination test and to issue the license for EMs and EAs, respectively (5) To plan and implement dissemination and awareness seminars for DOs and EMs, to develop manuals on monitoring of DOs, to conduct monitoring of DOs, to conduct performance check of EAs, and to review/make necessary revisions on EMS. 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Serbian Side</td> </tr> <tr> <td>1) Experts: 12 persons</td> <td>1) Staff allocated: 29 persons</td> </tr> <tr> <td>2) Equipment: Equipment for practical training (boiler unit, steam trap unit, air compressor unit, pump unit, testing equipment, tools)</td> <td>2) Building and facilities: Office space for JICA experts; rooms and spaces for installation and storage of the equipment</td> </tr> <tr> <td>3) Local cost</td> <td>3) Local cost</td> </tr> </table> | | | Japanese Side | Serbian Side | 1) Experts: 12 persons | 1) Staff allocated: 29 persons | 2) Equipment: Equipment for practical training (boiler unit, steam trap unit, air compressor unit, pump unit, testing equipment, tools) | 2) Building and facilities: Office space for JICA experts; rooms and spaces for installation and storage of the equipment | 3) Local cost | 3) Local cost |
| Japanese Side | Serbian Side | | | | | | | | | | |
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| 3) Local cost | 3) Local cost | | | | | | | | | | |
| Project Period | (ex-ante) February 2014 – February 2016 (actual) March 2014 – December 2017 (Extension period: March 2016 – December 2017) | Project Cost | (ex-ante) 229 million yen, (actual) 292 million yen | | | | | | | | |
| Implementing Agency | Ministry of Mining and Energy (MOME) Mechanical Faculty of Belgrade University (MFBU) as a Training Organization/Training Center | | | | | | | | | | |
| Cooperation Agency in Japan | Tokyo Electricity Power Company Holdings, Inc., YSK Consultants Co., Ltd. | | | | | | | | | | |
| Related Project | <ul style="list-style-type: none"> - Technical Cooperation for Development Planning: Study for introduction of energy management in energy consumption sectors in Serbia (2009~2011) - Technical Cooperation: Capacity Development Project on Nationally Appropriate Mitigation Actions (NAMAs) (2010~2013) - Dispatch of Science Technology Researchers: Project for Science and Technology Research Partnership for Biomass Energy Utilizing Livestock Waste (2011~2013) - Country-focused Training: Measures of Energy Efficiency and Conservation Training (2010) | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 situation, interviews were conducted online.

<Special Perspectives Considered in the Ex-Post Evaluation >

- Assessment of the Overall Goal: Since the year of achievement of the Overall Goal is designated as 2022, the ex-post evaluation in 2021 verified achievement level against the target value of the Overall Goal based on achievements to date and the prospects for achievement during 2022.

1 Relevance

<Consistency with the Development Policy of Serbia at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Serbia. In the “Energy Sector Development Strategy” (2005-2015) and the “Energy Strategy Implementation Program” (2007–2012), the promotion of energy efficiency and conservation was taken up as a priority issue. The “Energy Development Strategy by 2025” (Draft) and the “Energy Efficiency Action Plan 2013–2015” (Draft) were formulated. The implementation of the EMS was the core of the promotion of energy efficiency and conservation in those plans.

<Consistency with the Development Needs of Serbia at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Serbia for improvement of energy efficiency. 20% reduction in the overall EU energy consumption required the EU member countries to take actions to attain the target. And Serbia, as a Contracting party to the Treaty Establishing the Energy Community, was required to fulfill the energy efficiency goals adapted at the level of the Energy Community. Besides, Serbia had its own development needs regarding improvement of energy efficiency, which was also reflected by goals set out in the Energy Sector Development Strategy and other energy policy documents.

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

The project was also consistent with Japan’s ODA Policy to Serbia. Of the three priority areas of Japan’s aid policy for Serbia as of 2013 (market economy, healthcare and education, and environmental conservation), this project was positioned in the “environmental conservation” area¹.

<<Appropriateness of Project Design/Approach>

Although the project design was consistent with the development policy and needs of Serbia, more attention should have been paid to the actual range of the project scope having in mind the lack of staff of the Implementing Agency (MOME) and slowness of the relevant institutions which were involved in the process of approval of the Law and the bylaws, though numerous secondary legislation acts regulating the EMS were adopted during the project period except the Law and bylaws². Therefore, these facts should have been taken into consideration during the project formulation in order to adjust the main project design to them.

<Evaluation Result>

In light of the above, the relevance of the 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. The number of DOs submitting Periodical Reports (PRs) was 55, which could not reach the target (100) because 2017 was the first year of submitting PRs. The number of submissions was expected to gradually increase with penetration of the EMS. It was assumed that there were difficulties for municipalities in dealing with a lot of facilities during the first year.

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

The project effects have partially continued. EMS has been partially implemented from 2017 up to the time of ex-post evaluation. Training for EMs has been still conducted by MFBU, as was defined at the time of the project; however, the number of newly qualified EMs has been decreasing over the years though there have been applicants every year due to the limited number of DOs.

The EA system including EA training has not yet been introduced because of the amendment of the Law on Efficient Use of Energy in that part. At the time of ex-post evaluation, the rulebooks on the training and exam for EAs and implementation of the Energy Audit were being prepared under the technical assistance of the IPA14 Project (“Technical Assistance to the Ministry in Charge for Energy and Relevant Public Entities for the Implementation of the New Energy Law, NEEAP and RES Directive”, financed through European Union (EU)’s Instrument for Pre-Accession Assistance (IPA) fund).

The EMS database developed under the project has been functional and working. The design of the database was prepared within the scope of the project and the database programming was financed by the Norwegian Government, which is a good example of successful combination of financing from various sources. Successful integration of the databases has been implemented which makes it easier for DO in public sector to use it and make annual reports.

There was a decrease in the number of PRs submitted in 2019 and 2020 due to a COVID-19 pandemic situation. Nonetheless, there have been efforts to strengthen DOs ability to analyze energy consumption and develop energy efficiency plans. Technical assistance was provided for some municipalities to prepare energy efficiency plans and programs under the UNDP Global Environment Facility (GEF) project, “Removing Barriers to Promote and Support Energy Management Systems in Municipalities throughout Serbia” which was in implementation in the period from 2015 to 2020.

<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. It has been achieved in the part of energy consumption reduction in municipalities and buildings but overall result for industry has not been achieved (Indicator 1). Although some individual examples have shown that the Overall Goal has been achieved in some cases in industry as well since significant energy consumption reduction has been registered. The reason for not achieving the Overall Goal for the industry sector has been rise in industrialization in the country.

The Budgetary Fund for energy efficiency has supported EMS systematically. In the public calls issued by the Budget Fund for financing energy efficiency projects in Municipalities, those Municipalities that are DOs of EMS need to have appointed EM in order to apply for the funds and must submit annual report in order to get the final payment on the project. Through the above-mentioned UNDP project, support was provided to smaller Municipalities to introduce EMS, prepare annual reports, programs and introduce data in Energy Management

¹ MOFA, ODA Data book 2013

² Later in April 2021, new Law on energy efficiency and rational use of energy was adopted (“Official Gazette of RS”, No. 40/21) and based on the new Law, bylaws regulating energy audits has been prepared for the adoption procedure.

Information System (EMIS) database. In addition to that, 10 demonstration energy efficiency projects, identified and implemented within the energy management system with the use of EMIS were implemented.

The implementation of EA has not started yet (Indicator 2), due to the revision of law as mentioned above.

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

No negative impacts on the natural environment have been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is low.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|----------------------|--|--|--------------------------------|----------|----------------------|-------------------|---------------------|----|----|-----------|---|----|-------|-----|----------------|---------------------|----|----|----|---|----|----|----|-----------|---------------------|---|---|---|---|---|---|---|
| (Project Purpose) EMS is introduced and implemented. | Indicator 1: At least 100 DOs can analyze current situation on energy consumption and prepare the plan to enhance energy efficiency in their periodical report | Status of the Achievement: Partially achieved (partially continued) (Project completion) The number of DOs submitting PRs could not reach the target because 2017 was the first year of submitting PRs. The number of submissions is expected to gradually increase with penetration of the EMS scheme. It is assumed that there are difficulties for municipalities in dealing with a lot of facilities during the first year. Data collection methods are to be established as early as possible. | JICA documents, MOME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>Sector</th> <th>The number of DO that submitted the application for primary energy consumption</th> <th>Number of DO that submitted PR</th> </tr> </thead> <tbody> <tr> <td>Industry</td> <td>72 DO (83 locations)</td> <td>41 (66 locations)</td> </tr> <tr> <td>Municipalities</td> <td>79</td> <td>14</td> </tr> <tr> <td>Buildings</td> <td>8 (12 locations)</td> <td>0</td> </tr> <tr> <td>Total</td> <td>159</td> <td>55</td> </tr> </tbody> </table> | | Sector | The number of DO that submitted the application for primary energy consumption | Number of DO that submitted PR | Industry | 72 DO (83 locations) | 41 (66 locations) | Municipalities | 79 | 14 | Buildings | 8 (12 locations) | 0 | Total | 159 | 55 | | | | | | | | | | | | | | | | | |
| | | Sector | | The number of DO that submitted the application for primary energy consumption | Number of DO that submitted PR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Industry | | 72 DO (83 locations) | 41 (66 locations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Municipalities | | 79 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Buildings | | 8 (12 locations) | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Total | | 159 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | (Ex-post Evaluation) There was a decrease in the number of PR submitted in 2019 and 2020 due to a COVID-19 pandemic situation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>Sector</th> <th>Total number of Dos/Number of Dos that submitted PR</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Industry</td> <td>Total number of DOs</td> <td>51</td> <td>55</td> <td>58</td> </tr> <tr> <td>Of which, number of DOs that submitted PR</td> <td>44</td> <td>41</td> <td>29</td> </tr> <tr> <td rowspan="2">Municipalities</td> <td>Total number of DOs</td> <td>79</td> <td>79</td> <td>79</td> </tr> <tr> <td>Of which, number of DOs that submitted PR</td> <td>32</td> <td>24</td> <td>18</td> </tr> <tr> <td rowspan="2">Buildings</td> <td>Total number of DOs</td> <td>8</td> <td>8</td> <td>8</td> </tr> <tr> <td>Of which, number of DOs that submitted PR</td> <td>7</td> <td>7</td> <td>7</td> </tr> </tbody> </table> | | Sector | Total number of Dos/Number of Dos that submitted PR | 2018 | 2019 | 2020 | Industry | Total number of DOs | 51 | 55 | 58 | Of which, number of DOs that submitted PR | 44 | 41 | 29 | Municipalities | Total number of DOs | 79 | 79 | 79 | Of which, number of DOs that submitted PR | 32 | 24 | 18 | Buildings | Total number of DOs | 8 | 8 | 8 | Of which, number of DOs that submitted PR | 7 | 7 | 7 |
| | | Sector | | Total number of Dos/Number of Dos that submitted PR | 2018 | 2019 | 2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Industry | Total number of DOs | 51 | 55 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Of which, number of DOs that submitted PR | 44 | 41 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Municipalities | Total number of DOs | 79 | 79 | 79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Of which, number of DOs that submitted PR | 32 | 24 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Buildings | Total number of DOs | 8 | 8 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Of which, number of DOs that submitted PR | 7 | 7 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) Energy efficiency in designated organizations (DOs) under the EMS will be promoted. | Indicator 1: Five years after the introduction of EMS, on the average of total DOs for five years, the percentage of total energy consumption reduction will be 1% for a year. | (Ex-post Evaluation) Partially achieved <ul style="list-style-type: none"> - In Industry there is 1.68% increase of primary energy consumption average per DO due to increased production, improvement of technological processes. - In Municipalities there is 1.82% decrease of primary energy consumption average per DO - In Buildings there is 1.28% decrease of primary energy consumption average per DO. | MOME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2: Five years after the introduction of EMS, energy audit must be conducted for All DOs in industry sector. | (Ex-post Evaluation) Not achieved The implementation of energy audits has not started yet. | MOME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

3 Efficiency

The project cost exceeded the plan and the project period significantly exceeded the plan (the ratio against the plan: 128%, 184%, respectively). The project was extended twice. The project was extended to April 2017 to add activities regarding secondary legislations to PDM since those secondary legislations had not been completed by the time of launching the project. The project was further extended to December 2017 to make certain of the project's effects. Both extensions were somewhat affected by factors such as elections (carried out twice and it took long time to appoint responsible persons in MOME) as well as slow processing by the side of the Legal Secretariat (a body which checks all submitted laws and bylaws). The outputs were produced as planned.

Therefore, the efficiency of the project is low.

4 Sustainability

<Policy Aspect>

Established support from Government's policy side have existed. According to the new Law, energy efficiency policy in the future will be planned through documents including the "Energy Sector Development Strategy of the Republic of Serbia", the "Programme determining the conditions, manner, timetable and measures for Strategy Implementation", and the "Integrated National Energy and Climate Plan", that shall be adopted pursuant to the law regulating the field of energy. The obligation to adopt Integrated National Energy and Climate Plan is in accordance with Directive 2012/27/EU on energy efficiency, that is with its amendments introduced through Regulation (EU) 2018/1999 of the European parliament and of the Council of 11 December 2018.

<Institutional/Organizational Aspect>

Insufficient number of staff in organizational structure of MOME has still existed which is one of the main reasons for slower implementation of EMS system than it was planned and expected. The Department for Energy Efficiency of MOME has dealt with EMS. Although the staff members increased, there was only two persons assigned in the daily work on the EMS; however, one place was empty. Due to budget limitations, according to the Law on Budgetary System, from December 2013 until December 2020 there was limitation of number of persons that could be employed in the Government institutions.

As for MFBU, there has been no changes in the organizational structure of Organization for the training of certified energy managers and energy advisors (TO). The TO was established on 20 November 2015 on the basis of a decision adopted by the Minister of Mining and Energy under Decision No 401-00-00204/2/2015-06 ("Official Gazette of the RS", No. 95/15), which gave authorization to MFBU to perform tasks relating to the training of energy managers and certified energy advisors. The establishment of the TO is one of the main results of this technical cooperation project. MFBU is authorized to perform training of EM and certified EA in the period of four new years (until October 2023) based on the Decision adopted by the Minister of Mining and Energy (Decision No. 401-00-00204 / 3 / 2015-06) ("Official Gazette of RS", No. 84/19 of November 29, 2019),.

MFBU as TO has had sufficient number of staff for all activities which were established by the project.

<Technical Aspect>

Due to the insufficient manpower at MOME, there has been no specific capacity development program for promotion and dissemination of EMS system, and therefore limited activities on it. The Standing Conference of Towns and Municipalities - National Association of Local Authorities in Serbia, has supported MOME and has organized a few seminars for EM in municipalities and put in place an electronic way of communication between them aiming at exchange of knowledge and experience.

Manuals/guidelines/ materials developed by the project have been utilized. The equipment procured under this project is fully operational and successfully used.

<Financial Aspect>

Within the activities of the Budgetary Fund for energy efficiency, EMS has been systematically supported. Still, the range of this support needs to be bigger in the future in order to achieve even stronger impact of the project and considering the needs from various DOs. MOME has been thinking for financing energy efficiency projects from the Budgetary Fund.

At MFBU, costs for work (expenditures) of the TO have been covered only from revenue that the TO achieves through the collection of expenditures that trainees pay as compensation for provision of training services.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational 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 partially achieved the Project Purpose at the project completion, as PRs were submitted, though the number of PRs did not reach the target. The effects of the project have partially continued such as training, database and submission of PRs; however, EA system including EA training has not yet started. The Overall Goal has not been achieved. Energy consumption has reduced in Municipalities and Building sector; however, the energy consumption has increased in Industry sector, due to the increased production. As for the sustainability, slight problems have been observed in terms of the institutional/organizational and financial aspects. As for the efficiency, the project cost exceeded the plan and the project period significantly exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- The small number of staff employed in MOME makes implementation slower than it should be. MOME should increase the number of staff and should also use JICA KCCP trainings for Energy Efficiency to educate them, besides the internal education they carry out through their work.
- Dissemination and promotion of EMS to DOs should be even more frequent and energetic in order DOs to grasp importance of EMS. Special point should be put on the industrial sector with this regard since they are the biggest energy consumers.
- Even larger budgetary support should be obtained by MOME for EMS in the future to secure sustainability of EMS system.
- MOME should accelerate part of the project concerning EA since this part's implementation is rather slow.

Lessons Learned for JICA:

During the time of project formulation, JICA Consultant Team was not aware of quite slow process of approval of Secondary Laws by the Legal Secretariat and the other relevant ministries as well as of the political situation (frequent elections), so the project period was determined in the regular way. The JICA Consultant Team had no practical project experience in the Balkan Region before, and MOME did not explain sufficiently to them and JICA the actual speed of feedback by the counterparts like Legal Secretariat and other Ministries - too many sides were involved in the Secondary Law approval. JICA should formulate the project period more realistically **by appropriately including the process for taking necessary actions to implement the project plan.**

Database (EMIS) screen with the list of officially submitted yearly reports from Designated Organizations

Званична презентација Министарства Корисник: Министарство рударства и енергетике

Република Србија
МИНИСТАРСТВО РУДАРСТВА И ЕНЕРГЕТИКЕ

База података за енергетски прегледи и систем енергетског мониторинга

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[Администрација](#)

ГОДИШЊИ ИЗВЕШТАЈИ

| Број извештаја | Година | Датум извештаја | Датум обраде | Датум одобр. | Верзија конвертора | Имањина сва ЕМ | | Објектне системе | Статус извештаја | Q |
|----------------|--------|-----------------|--------------|--------------|-----------------------|----------------|----------|----------------------------|------------------|---|
| | | | | | | Сва | EM | | | |
| ГИ-2021-0063 | 2020 | 24.09.2021. | 25.09.2021. | 14:14 | Конвертор од 13.11.20 | ✓ | 0719436 | Општина Александровац | Припремљен | ✗ |
| ГИ-2021-0062 | 2020 | 17.06.2021. | | | Конвертор од 13.11.20 | ✓ | 0680835 | ГРАД ПЕЉОКОВАЦ | У припреми | ✗ |
| ГИ-2021-0060 | 2018 | 02.04.2021. | | | Конвертор од 13.11.20 | ✓ | 07183087 | Град Краљево | У припреми | ✗ |
| ГИ-2021-0061 | 2020 | 31.03.2021. | 22.04.2021. | 12:38 | Конвертор од 13.11.20 | ✓ | 0033537 | Градско управе града Пан | Припремљен | ✗ |
| ГИ-2021-0057 | 2019 | 31.03.2021. | | | Конвертор од 13.11.20 | ✓ | 07194005 | Град Крушевац | У припреми | ✗ |
| ГИ-2021-0058 | 2020 | 31.03.2021. | | | Конвертор од 13.11.20 | ✓ | 07194005 | Град Крушевац | У припреми | ✗ |
| ГИ-2021-0059 | 2020 | 31.03.2021. | | | Конвертор од 13.11.20 | ✓ | 07137010 | Град Ваљева | У припреми | ✗ |
| ГИ-2021-0048 | 2020 | 31.03.2021. | 30.03.2021. | 11:02 | Конвертор од 13.11.20 | ✓ | 00179115 | Град Нови Сад | Припремљен | ✗ |
| ГИ-2021-0053 | 2020 | 30.03.2021. | 30.03.2021. | 10:46 | Конвертор од 13.11.20 | ✓ | 07179588 | Општина Високоград | Припремљен | ✗ |
| ГИ-2021-0056 | 2020 | 30.03.2021. | 30.03.2021. | 11:28 | Конвертор од 13.11.20 | ✓ | 17620541 | Град Нови | Припремљен | ✗ |
| ГИ-2021-0056 | 2020 | 30.03.2021. | 31.03.2021. | 10:22 | Конвертор од 13.11.20 | ✓ | 00079087 | Општина Бања Паланка | Припремљен | ✗ |
| ГИ-2021-0051 | 2020 | 29.03.2021. | 30.03.2021. | 9:34 | Конвертор од 13.11.20 | ✓ | 20547716 | IBOSE SH-OPPING CENTER | Припремљен | ✗ |
| ГИ-2021-0050 | 2020 | 26.03.2021. | 30.03.2021. | 9:49 | Конвертор од 13.11.20 | ✓ | 21333387 | Итали Салва д.о.о. Врњачки | Припремљен | ✗ |
| | | 24.03.2021. | 26.03.2021. | 12:48 | Конвертор од 13.11.20 | ✓ | 07137923 | Анда Гали А.Д. | Припремљен | ✗ |

Equipment provided by the project for practical training of Energy Managers



| | |
|---------------------|--|
| Country Name | Project for Community Development for Improvement of Livelihood in the Conflict-Affected Areas in the Gitega Province |
| Republic of Burundi | |

I. Project Outline

| | | | | | | | | | | | | | | | |
|--|---|--------------|---|---------------|----------------|--------------------------------|--------------------------------|----------------------------------|---|--|--|--|--|--|--|
| Background | <p>In Burundi, conflicts had been repeated since its independence in 1962. The Gitega province heavily suffered from such conflicts and had the largest number of internally displaced persons (IDPs) in the country. Thus, camps for IDPs remained there, and socially vulnerable groups, such as widows, orphans and ex-combatants lived there. Their livelihood mainly relied on agriculture, but it was severe due to land devastation through conflicts and recent droughts and pests. In order to improve the situation, a communal plan for community development (PCDC) was formulated with a support from the German International Cooperation (GIZ). However, PCDC was just a project list on the basis of citizens' needs and was not properly implemented. This was because of the lack of budget and the inadequate capacity of government officials in charge. In addition, technical guidance on agriculture was not sufficiently provided to citizens from officials or extension workers dispatched by the Ministry of Agriculture and Livestock.</p> | | | | | | | | | | | | | | |
| Objectives of the Project | <p>The project aimed at preparing concrete action plans along with PCDC, carrying out pilot projects targeting certain communes, drawing knowledge and lessons learned from the pilot projects, developing manuals and capacity development programs for Ministry of Agriculture and Livestock to promote the improvement of livelihood in the Gitega province based on the knowledge and lessons, and proposing recommendations for the revision of PCDC in the selected communes in the Gitega province.</p> <p>1. Expected Goals through the proposed plan¹: 1) The agricultural productivity and production in irrigation areas of the Gitega province increase, 2) The livelihood of farmers in the target communes in the Gitega province is improved.</p> | | | | | | | | | | | | | | |
| Activities of the Project | <p>1. Project Site: Makebukoko commune, Itaba commune, Bukirasazi commune, and Buraza commune in the Gitega province</p> <p>2. Main Activities: 1) Survey on current situations of target communes, 2) Analysis of challenges to promote PCDC and consideration of their measures, 3) Implementation, monitoring and evaluation of pilot projects, 4) Development of actions plans and manuals for PCDC based on the results of the pilot projects, etc.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Burundian Side</td> </tr> <tr> <td>1) Mission members: 12 persons</td> <td>1. Staff allocated: 11 persons</td> </tr> <tr> <td>2) Trainees received: 10 persons</td> <td>2. Land and facility: Project office in the Provincial Directorate of Agriculture and Livestock, public land and farmers properties</td> </tr> <tr> <td>3) Training in the Third Country: 9 persons (Sierra Leone)</td> <td></td> </tr> <tr> <td>4) Equipment: Milling machines, mixer of sweet potato, processing machine for banana wine, shelves of the tile making, carpentry machines, ceramic machine, etc.</td> <td></td> </tr> <tr> <td>5) Local expenses: Cost for project activities</td> <td></td> </tr> </table> | | | Japanese Side | Burundian Side | 1) Mission members: 12 persons | 1. Staff allocated: 11 persons | 2) Trainees received: 10 persons | 2. Land and facility: Project office in the Provincial Directorate of Agriculture and Livestock, public land and farmers properties | 3) Training in the Third Country: 9 persons (Sierra Leone) | | 4) Equipment: Milling machines, mixer of sweet potato, processing machine for banana wine, shelves of the tile making, carpentry machines, ceramic machine, etc. | | 5) Local expenses: Cost for project activities | |
| Japanese Side | Burundian Side | | | | | | | | | | | | | | |
| 1) Mission members: 12 persons | 1. Staff allocated: 11 persons | | | | | | | | | | | | | | |
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| 4) Equipment: Milling machines, mixer of sweet potato, processing machine for banana wine, shelves of the tile making, carpentry machines, ceramic machine, etc. | | | | | | | | | | | | | | | |
| 5) Local expenses: Cost for project activities | | | | | | | | | | | | | | | |
| Project Period | March 2012 – March 2014 | Project Cost | (ex-ante) 680 million yen, (actual) 825 million yen | | | | | | | | | | | | |
| Implementing Agency | Provincial Directorate of Agriculture and Livestock (Direction Provinciale pour Agriculture et Elevage: DPAE), Ministry of Agriculture and Livestock (Ministere de l'Agriculture et de l'Elevage: MINAGRIE) | | | | | | | | | | | | | | |
| Cooperation Agency in Japan | NTC International Co., Ltd. KENSETSU GIJUSTU CENTER, LTD. | | | | | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- The field survey for the ex-post evaluation could not be carried out at a satisfactory level due to the following reasons: 1) all the main staff of the implementing agencies left due to the 2015 political crisis, and no one knows the situation at the time of project implementation, 2) the presidential election in May 2020 kept the implementing agencies busy, and they could not spend the sufficient amount of their time on the ex-post evaluation, 3) the Ministry of Water, Environment, Agriculture and Livestock (the successive agency of MINAGRIE) moved to the Gitega in July 2020 along with the relocation of the capital from the Bujumbura to the Gitega, 4) the internet connection has not been set up satisfactory in Burundi, and 5) all surveys were remotely undertaken due to the global pandemic of COVID-19. Thus, the information and data related to the project could not be collected at a sufficient level for the ex-post evaluation.

1 Relevance

<Consistency with the Development Policy of Burundi at the Time of Ex-Ante Evaluation >

The project was consistent with Burundi's development policy of "Poverty Reduction Strategy Paper II" (2012-2015), which was being drafted at the time of ex-ante evaluation, positioning an agricultural sector as one of the most prioritized challenges and aiming at the strengthening of agricultural productivity through development of flatland and lowland.

<Consistency with the Development Needs of Burundi at the Time of Ex-Ante Evaluation >

The project was consistent with Burundi's development needs of the capacity building of government officials and the provision of the

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

technical guidance on agriculture from such officials to citizens in order to implement PCDC.

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

The project was consistent with Japan's ODA policy for Burundi (2012)² raising "agricultural development support", such as improvement of agricultural productivity, support of community development and infrastructure development, as one of the two priority areas.

<Appropriateness of Project Design/Approach>

As described below, PCDC has not been disseminated across whole areas in the Gitega province. The main reason is that the political instability since 2015 after project completion has hindered the dissemination and promotion of PCDC. Even though the political and security instabilities in Burundi were pointed out even at the time of ex-ante evaluation, the project was decided to be implemented, expecting that it would contribute to the reduction in such instabilities. However, the political crisis since 2015 had been beyond the expectation, and if the event had not occurred, the staff of the implementing agencies trained by the project would have stayed at their agencies and disseminate and promote the Action Plans and the Manual for promotion of PCDC. In fact, as written later, the pilot projects implemented by the project have continued in the target communes. Therefore, the project design/approach is considered to be appropriate.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The objectives of the project were achieved by the time of project completion. The project collected and analyzed basic information such as population and existing infrastructure about all collines of Makebuko commune, Itaba commune, and Bukirasazi commune while reviewing existing PCDC to improve its contents (Output 1). Based on the results of the analysis and review, eight pilot projects³ were planned and implemented in the three target communes. Moreover, as urgent pilot projects, irrigation facilities were constructed for the three target communes, and the provincial road 212, which was the most important access route to other communes, was rehabilitated for Bukirasazi commune and Buraza commune (Output 2). Furthermore, by conducting on-the-job-training (OJT) through the implementation of the pilot projects, trainings in Japan and Sierra Leone as well as cascade trainings from a provincial level to a colline level, the project improved the capacities of various stakeholders to plan, coordinate, supervise and execute PCDC (Output 3 and 4). Through these activities mentioned above, the Action Plans for the three target communes and the Manual for promotion of PCDC mainly in an agricultural sector were formulated. Several suggestions to improve PCDC, such as allocation of staff and budget, were pointed out in the final report through the analysis of PCDC (Output 5).

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The proposed plan has not been utilized at the time of ex-post evaluation. The pilot projects commenced by the project have still been implemented in the three target communes because the local staff trained by the project still know the details of the Action Plans and the Manual and has sustained the knowledge and skills necessary to plan, coordinate, supervise and execute PCDC (Indicator 1). On the other hand, such project effects have not been disseminated to other non-targeted communes for the following two reasons: 1) insecurity and displacement of the communes caused by the 2015 political crisis, which made it difficult to implement community development activities and 2) the government officials trained by the project left their positions due to the political crisis and their knowledge and experiences were not well-transferred to their successors (Indicator 1). As for integration of the recommendations proposed by the project into PCDC (Indicator 2), minimum conditions (allocation of staff and budget, societal and security situation of communities, etc.) to revise PCDC were not met due to the 2015 political crisis. The cascade training methodology established by the project has been continuously used in some fields including agriculture by Provincial Office of Environment, Agriculture and Livestock (Bureau Provincial de l'Environnement, de l'Agriculture et de l'Elevage: BPEAE)⁴, the Ministry of Water, Environment, Agriculture and Livestock, and non-governmental organizations (NGOs) to teach beneficiaries different agricultural techniques such as soil plowings, seeds supply, and sowing methods. The beneficiaries are commune agronomists, zone agronomists, colline monitors and farmers. According to commune agronomists, the reason for the continuous adoption of the cascade training methodology is that the methodology is useful to disseminate the project effects (Indicator 3).

The provincial road 212 rehabilitated by the project has been cleaned and maintained on a daily basis. However, according to an administrator of Bukirasazi commune, as they have not had sufficient funds to carry out large-scale maintenance, some parts of the road have been left unrehabilitated. Additionally, according to communities for the irrigation facilities constructed by the project, the facilities themselves have still existed but not been maintained well. For instance, many canals have been covered with earth and weeds. In the background, Burundi faces financial difficulties, especially after the 2015 political crisis, and sanctions by several donors so that national and local governments cannot secure a sufficient amount of budget for their activities, and associations in charge of operation of the facilities have not had enough technical supervision and suffered from lack of funds for the maintenance.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

The expected goals through the proposed plan have not been achieved at the time of ex-post evaluation. As mentioned above, because PCDC has been functional to some extent in the target three communes, the agricultural production of all four products (rice, banana, sweet potato, and maize) in the communes increased from 2015/16 after project completion to 2017/18 (Indicator 1). However, in terms of the livelihoods of farmers in the target communes of the Gitega province, data on the average income of the farmers showed a reduction from USD300 in 2015/16 to USD274 in 2016/17 and there were no available data for the period between 2018 and 2020. On the other hand, according to BPEAE, the average income of farmers in the target communes is generally high in comparison to the ones in the non-target communes because of increased rice production in marshland with different agricultural techniques introduced by the project (Indicator 2). However, the Gitega province has 8 other communes, and such communes have yet to introduce PCDC because social, political and security conditions to implement the activities have not been met since 2015 (Indicator 1). Nevertheless, achievements against the expected

² Ministry of Foreign Affairs "ODA Databook 2012"

³ The types of the pilot projects were marsh development, environmental protection, soil fertility improvement, selected seed solidarity chain, livestock promotion, agricultural products processing promotion, marketing promotion and handicraft industry promotion.

⁴ DPAAE was reformed to BPEAE in July 2018.

goals are unknown as data on neither agricultural productivity and production nor livelihood of farmers are not available.

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

There were some positive impacts observed at the time of ex-post evaluation. Due to the introduction of PCDC, female farmers who had originally been engaged in the agricultural activities have become more emancipated by working with men and participated in marsh association structures elections and being represented in more leadership. Moreover, irrigation systems established by the project play another role as a drainage system during heavy rains and floods, and water do not stay on grounds for a long period of time, which results in reducing the consequences of floods. Growers collaborate more especially for seeds supply or intra-distribution from one farmer to another. Furthermore, skills to works with different stakeholders is improved. Promotion of women's participation and self-confidence as well as collaborative works among different stakeholders within communities are considered to be remarkable impacts from a perspective of peacebuilding especially in conflict affected areas like the Gitega province.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is low.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results |
|--|---|---|
| (Status of Achievement of Outputs) | 1. Collection and analysis of related information including existing PCDC and collines's profile. | Status of the Achievement: Achieved (Project Completion) <ul style="list-style-type: none"> The project collected and analyzed basic information such as population and existing infrastructure about all collines of Makebuko commune, Itaba commune and Bukirasazi commune while reviewing existing PCDC to improve its contents. |
| | 2. Pilot projects for the improvement of livelihood are implemented in the target communes. For Buraza commune, the poorest commune in the Gitega province, roads, which are obstacles for development of the commune, are urgently developed and rehabilitated to build a based for the improvement of livelihood. | Status of the Achievement: Achieved (Project Completion) <ul style="list-style-type: none"> Based on the results of the analysis of the basic information about the target communes and the review of existing PCDC, eight pilot projects were planed and implemented in the three target communes. Moreover, as urgent pilot projects, irrigation facilities were constructed for the three target communes, and the provincial road 212, the most important access route to other communes, was rehabilitated for Bukirasazi commune and Buraza commune. |
| | 3. Implementation capacities of officials and community leaders under Provincial Directorate of Agriculture and Livestock of the Gitega province for development plans are enhanced, and additionally, mid- and long- term programs for capacity enhancement are prepared. | Status of the Achievement: Achieved (Project Completion) <ul style="list-style-type: none"> The project improved the capacities of various stakeholders to plan, coordinate, supervise and execute PCDC by conducting OJT through the implementation of the pilot projects, providing trainings in Japan and Sierra Leone and holding cascade trainings from a provincial level to a colline level. |
| | 4. Capacity of officials of Provincial Directorate of Agriculture and Livestock of the Gitega province to promote development plans in the target communes is enhanced, and additionally, action plans and manuals to promote the implementation of the development plans are prepared. | |
| | 5. Concrete recommendations for the revision of PCDC in the Gitega province are proposed. | Status of the Achievement: Achieved (Project Completion) <ul style="list-style-type: none"> Several suggestions to improve PCDC, such as allocation of staff and budget, were pointed out in the final report through the analysis of PCDC. |
| (Utilization Status of the Proposed Plan) | 1. Implementation of PCDC is promoted based on the Action Plan using the Manual prepared by the project in the target communes and non-target communes in the Gitega province | (Ex-post Evaluation) Partially Achieved <ul style="list-style-type: none"> After the project completion, PCDC has been continuously implemented in the target three communes but not been fanned out to other communes. |
| | 2. Recommendations proposed by the project are integrated into PCDC | (Ex-post Evaluation) Not Achieved <ul style="list-style-type: none"> Minimum conditions (allocation of staff and budget, social and security situation of communities, etc.) to revise PCDC were not met due to the 2015 political crisis. |
| | 3. Capacity program development formulated by the project for officials of Ministry of Agriculture and Livestock and community leaders is used at Ministry of Agriculture and Livestock at a national level. | (Ex-post Evaluation) Partially Achieved <ul style="list-style-type: none"> The cascade training methodology established by the project has been continuously used only in some fields including agriculture by BPEAE, MINAGRIE and NGOs to teach beneficiaries different agricultural techniques such as soil plowings, seeds supply and sowing methods. The beneficiaries are commune agronomists, zone agronomists, colline monitors and farmers. |
| (Expected Goals through the Proposed Plan) | 1. The agricultural productivity and production in irrigation areas of the Gitega | (Ex-post Evaluation) Unverified <ul style="list-style-type: none"> After the project completion, the agricultural production in the target three communes increased more or less. However, data on agricultural |

| | | | | |
|--|--|---------|---------|---------|
| <p>province increase</p> <p>2. The livelihood of farmers in the target communes in the Gitega province is improved.</p> | <p>productivity and production in all the 11 communes in the Gitega province is not available at the time of ex-post evaluation. Moreover, these data for 8 non-target communes after the completion of the project is not available. Therefore, the achievement level of the indicator is unverifiable.</p> | | | |
| | <p>[Agricultural production in irrigation areas of Makebuko Commune]</p> | | | |
| | Item/Year | 2015/16 | 2016/17 | 2017/18 |
| | Rice (tons/ha) | 1.3 | 1.8 | 2.4 |
| | Banana (kg/plant) | 7.9 | 7.9 | 8.5 |
| | Sweet potato (tons/ha) | 5.8 | 11.9 | 17.4 |
| | Maize (tons/ha) | 0.6 | 1.2 | 4.6 |
| | <p>[Agricultural production in irrigation areas of Itaba Commune]</p> | | | |
| | Item/Year | 2015/16 | 2016/17 | 2017/18 |
| | Rice (tons/ha) | 3.0 | 3.5 | 3.5 |
| | Banana (kg/plant) | 11.0 | 12.0 | 13.5 |
| | Sweet potato (tons/ha) | 3.0 | 3.2 | 3.5 |
| | Maize (tons/ha) | 7.0 | 7.0 | 7.5 |
| | <p>[Agricultural production in irrigation areas of Bukirasazi Commune]</p> | | | |
| | Item/Year | 2015/16 | 2016/17 | 2017/18 |
| Rice (tons/ha) | 2.5 | 2.3 | 2.7 | |
| Banana (kg/plant) | 14.0 | 17.0 | 18.0 | |
| Sweet potato (tons/ha) | 7.0 | 7.0 | 8.0 | |
| Maize (tons/ha) | 3.0 | 2.8 | 3.3 | |
| <p>(Ex-post Evaluation) Unverified</p> <ul style="list-style-type: none"> The average income per a farmer in the target communes in the Gitega province reduced between 2015/16 and 2016/17 due to external factors such as the political instability in 2015 and the stagnation of production in parallel with big population growth. On the other hand, according to BPEAE, the average income of farmers in the target communes is generally high in comparison to the ones in the non-target communes because of increased rice production in marshland with different agricultural techniques introduced by the project. | | | | |
| <p>[Average income per a farmer in the target communes of the Gitega province (Unit: US dollar)]</p> | | | | |
| 2015/16 | 2016/17 | 2018/19 | 2019/20 | |
| 300 | 274 | N.A. | N.A. | |

Source : Final Report, Questionnaire and interview to Principal Advisor of Gitega Governor, Chief of Crop Production Division in BPEAE, Ministry of Plan Representative in Gitega Province, Bukirasazi commune Administrator, Water Users Organization Committee leader in Mutukura-Kamirange Marsh, Water Users Organization Committee leader in Kibuye Marsh, Former Project Coordinator of NTC International Co., Ltd., Former -GIZ staff member in PCDC preparation

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: 121%). The outputs were mostly produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

“National Strategy of Agriculture Development” (2015-2025), “National Strategy of Marshland and Watershed Management” (2011) and “National Strategy of Water” (2015-2020) aim to promote the agricultural development. As the project aimed at the agricultural development through PCDC, it has been endorsed by such national policies.

<Institutional/Organizational Aspect>

[National level]

There was an institutional/organizational change in the implementation and promotion of PCDC introduced by the project. MINAGRIE was reformed to the Ministry of Water, Environment, Agriculture and Livestock. The Ministry of Water, Environment, Agriculture and Livestock takes over MINAGRIE’s responsibilities such as agricultural extension so that the reform has not negatively affected the sustainability of the project effects. Due to the limitation of the field survey, the exact number of the staff allocated to the Ministry of Water, Environment, Agriculture and Livestock could not be confirmed, but according to the organization, the number of the staff has not been enough.

[Provincial level]

There was an institutional/organizational change for the implementation and promotion of PCDC introduced by the project. DPEA was reformed to BPEAE. BPEAE takes over DPEA’s responsibilities so that the reform has not negatively affected the sustainability of the project effects. Due to the limitation of the field survey, the exact number of the staff allocated to BPEAE could not be confirmed, but according to the organization, the number of the staff has not been sufficient as the staff sometimes needs to work for many development programs with a wide range of stakeholders.

[Commune level]

One commune agronomist, one zone agronomist and colline extension workers are placed at each administrative division. Commune agronomist has been responsible of implementing agriculture policies in communes with commune administrator and submitting monitoring reports to BPEAE. Zone agronomist has been in charge of managing/supervising 10-12 collines and submitting monitor reports to commune agronomist. Colline extension worker has taken responsibilities of introducing different agricultural techniques proposed by

the MINEAGRIE. Due to the limitation of the field survey, the exact number of the staff allocated to each organization could not be confirmed, but considering that the dissemination of PCDC has been limited, the number of the staff is considered to have been insufficient.

<Technical Aspect>

[National, provincial and commune levels]

Considering that PCDC has been continuously implemented in the target communes, the staff of the above-mentioned organizations at national, provincial and commune levels has had a certain level of the knowledge and skills to plan, coordinate, supervise and execute PCDC. However, according to BPEAE, they need refresh trainings for PCDC and new agricultural techniques.

[Manuals]

According to commune agronomists, some of the manuals developed by the project have continuously been used to implement the PCDC as they are practical even though their names could not be identified due to the limitation of the field survey.

<Financial Aspect>

No budget data was available due to the political and financial crisis in the country. According to BPEAE, they have not secured the sufficient budget to implement the PCDC introduced by the project because of the political instability preventing other stakeholders from having an interest in the implementation.

<Evaluation Result>

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

5 Summary of the Evaluation

The project implemented the pilot projects in the target communes and developed the Action Plans and the Manuals for promotion of PCDC with the implementing agencies. As a result, the capacity of the implementing agencies to plan, coordinate, supervise and execute was improved, and the pilot projects have continuously been implemented by them even after the project. However, due to external factors such as the 2015 political crisis, PCDC has not been disseminated to other non-target communes, while the achievement against expected goals through the proposed plan (i.e. to increase the agricultural productivity and production in irrigation areas of the Gitega province and to improve the livelihood of farmers in the target communes in the Gitega province) is unknown due to constraints for the ex-post evaluation. As for sustainability, the implementing agencies have not secured the sufficient number of the staff, the sufficient level of the knowledge and skills and the sufficient amount of the budgets for the implementation and promotion of PCDC. As for efficiency, the project cost exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- The PCDC action plan and manuals produced in the target communes have improved the planning, coordination, supervision and execution capabilities of the implementing agencies, and the pilot project continues to be implemented after the project. However, due to the chronic financial difficulties in Burundi, it is difficult to secure financial resources in the target area, resulting in low sustainability. If it is difficult for the implementing agencies alone to deal with it, they should request various donors including JICA to provide financial and technical support.
- The livelihood of farmers in the target communes in the Gitega province have not been confirmed at the time of ex-post evaluation. In order to achieve the goal, Burundi side shall cooperate with the livelihood improvement advisor, who is expected to be dispatched by JICA in the future to confirm the status quo and conduct necessary follow-up activities.

| | |
|-------------------|--|
| Country Name | “School for All”: The Project on support to educational development through community participation |
| Republic of Niger | |

I. Project Outline

| | | | | | | | | | | | | | |
|--|--|--------------|---|---------------|---------------|-----------------------|--------------------------------|---------------------------------|--|--|--|---|--|
| Background | <p>The government of Niger made efforts to attain “Education for All”. However, educational indicators of the country remained quite low. For example, in primary education, the net enrollment rate was limited to 76% (2011), and the completion rate was 49% (2010). In response to the situation, the government promoted the establishment and institutionalization of school management committees for primary school (Comités de Gestion Décentralisée des Établissements Scolaires: CGDES), and JICA supported to make CGDES function through a technical cooperation project “The Project on Support to the Improvement of School Management through Community Participation (School for All)” (2004-2007) and to disseminate the model across the country through a successive project “Support to the improvement of school management through Community Participation in Niger (School for all) Phase 2” (2007-2012). As a result, CGDES was introduced to all primary schools in the country, and educational indicators such as the exit examination pass rate were improving. On the other hand, it was necessary to maximize CGDES’s resources at a school level and set up a system including the capacity enhancement of CGDES for appropriate use of the resources in order to further improve the quality of and access to basic education.</p> | | | | | | | | | | | | |
| Objectives of the Project | <p>Through establishment and evaluation of CGDES monitoring system, strengthening of capacity of CGDES Coordination Unit on information collection and analysis for CGDES federations, provision of trainings for teachers on CGDES at teacher training schools, establishment of the sustainable forum approach¹, development and dissemination of the minimum quality package², development of a model on resource management³ and provision of its training to CGDES and development and introduction of school management committee for secondary education (Comités de Gestion des Établissements Scolaires: COGES⁴), the project aimed at strengthening the function and capacity of COGES’s school management, thereby contributing to the improvement of the quality of and access to basic education.</p> <ol style="list-style-type: none"> Overall Goal: The quality of and access to basic education are improved by decentralized school management. Project Purpose: The function and capacity of school management committees (called CGDES in Niger) is strengthened to contribute to educational development (access and quality) in Niger through community participation. | | | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: All regions of Niger (eight regions) Main Activities: 1) Establishment and evaluation of CGDES monitoring system, 2) Strengthening of CGDES Coordination Unit’s capacity on information collection and analysis for CGDES federations, 3) Provision of trainings on CGDES to teachers at teacher training schools, 4) Establishment of the sustainable forum approach, 5) Development and dissemination of the minimum quality package, 6) Development of a model on resource management and provision of its training to CGDES, 7) Development and introduction of COGES, etc. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Nigerien Side</td> </tr> <tr> <td>1) Experts: 8 persons</td> <td>1) Staff allocated: 26 persons</td> </tr> <tr> <td>2) Trainees received: 5 persons</td> <td>2) Land and facilities: a project office in Ministry of Primary Education, Literacy, Promotion of National Languages and Civic Education</td> </tr> <tr> <td>3) Equipment: vehicles for monitoring, a generator, PC, printer, projector, etc.</td> <td>3) Local expense: costs for trainings and monitoring</td> </tr> <tr> <td>4) Local expense: cost for project activities</td> <td></td> </tr> </table> | | | Japanese Side | Nigerien Side | 1) Experts: 8 persons | 1) Staff allocated: 26 persons | 2) Trainees received: 5 persons | 2) Land and facilities: a project office in Ministry of Primary Education, Literacy, Promotion of National Languages and Civic Education | 3) Equipment: vehicles for monitoring, a generator, PC, printer, projector, etc. | 3) Local expense: costs for trainings and monitoring | 4) Local expense: cost for project activities | |
| Japanese Side | Nigerien Side | | | | | | | | | | | | |
| 1) Experts: 8 persons | 1) Staff allocated: 26 persons | | | | | | | | | | | | |
| 2) Trainees received: 5 persons | 2) Land and facilities: a project office in Ministry of Primary Education, Literacy, Promotion of National Languages and Civic Education | | | | | | | | | | | | |
| 3) Equipment: vehicles for monitoring, a generator, PC, printer, projector, etc. | 3) Local expense: costs for trainings and monitoring | | | | | | | | | | | | |
| 4) Local expense: cost for project activities | | | | | | | | | | | | | |
| Project Period | May 2012 - May 2016 | Project Cost | (ex-ante) 400 million yen, (actual) 436 million yen | | | | | | | | | | |
| Implementing Agency | Ministry of Primary Education, Literacy, Promotion of National Languages and Civic Education (MEP/A/PLN/EC) Ministry of Secondary Education | | | | | | | | | | | | |
| Cooperation Agency in Japan | - | | | | | | | | | | | | |

II. Result of the Evaluation

| |
|--|
| 1 Relevance |
| <Consistency with the Development Policy of Niger at the Time of Ex-Ante Evaluation> The project was consistent with Niger’s development policy of “a sector program” (2012-2020) which was being under formulation and |

¹ The sustainable forum approach is a system that various stakeholders engaging in educational development in certain areas hold a forum to decide feasible solutions to educational challenges common within the region and input their procurable resources at most whereby they significantly improve educational environments not only at a school level but also at a regional level.

² The minimum quality package is a model that aims to improve learning quality at minimal inputs. The package is made up of three elements: 1) scholastic ability tests and results sharing (information sharing on learning quality), 2) extracurricular study supported by local communities (increased learning time), 3) math exercise books and facilitators for supplementary study (improvement of learning environment and teaching quality).

³ A model on resource management is to assist CGDESs in appropriately managing funds, such as subsidies provided by the project, with transparency and using them for the improvement of quality of education.

⁴ It should be noted that CGDES is a school management committee for primary school while COGES is for secondary school.

going to raise the improvement of an educational system through decentralization as a challenge at the time of ex-ante evaluation.

<Consistency with the Development Needs of Niger at the Time of Ex-Ante Evaluation>

The project was consistent with Niger’s development needs for the maximization of CGDES’s resources at a school level and the establishment of a system including the capacity enhancement of CGDES for appropriate use of the resources in order to further improve the quality of and access to basic education in the country 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 “The Country Assistance Policy for Niger” (2012) setting primary education as one of the prioritized support areas.

<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 achieved by the time of project completion. Through the project, more school hatched classrooms were constructed according to the number of students, whereby the average number of school aged children per a school classroom had become 41 by 2013/14 and remained at the same level since then (Indicator 1). The average hour of extracurricular study (supplementary teaching and night study) from 2012/13 to 2015/16 was approximately 180 hours, exceeding the target value of 150 hours (Indicator 2). As for financial support from communes to their CGDES federations, the rate of CGDES federations receiving the support to all CGDES federations was 71.0% in 2012/13 and went up to 77.4% in 2015/16 (Indicator 3).

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

The project effects have been continued since the project completion. The average number of school aged children per a school classroom has remained at around 40 since 2016/17, which indicates that the adequate number of school classrooms has continuously been secured since the project completion. With regard to CGDES’s extracurricular study time, CGDESs have delivered on its target of 150 hours even after the project completion with 183 hours in 2016/17, 205 hours in 2017/18 and 198 hours in 2018/19. Furthermore, it was confirmed that more than 80% of CGDES federations on average for the last three years from 2016 to 2019 have continued to receive financial support from their respective communes.

Also, more than 80% of CGDESs have continuously submitted their annual activity summaries to CGDES federations every year. The minimum quality package, which was introduced into Tillaberi region as a pilot during the project, has been disseminated to other regions after the project such as Maradi region as it is perceived as practical, participatory and realistic. Additionally, more than 90% of CGDESs in almost all regions have continued to adopt the resource management model. This is because the model is considered to significantly improve the quality of teaching and learning and to enable CGDESs to have educational inputs, for instance, textbooks, exercise books and pens, in sufficient quantity and quality as well as transparency and trust between CGDES members and their communities. Furthermore, “Order No. 001147/MES/SG/DL/CNP/COGES of June 16, 2016 – Regarding the Creating, Composition, Mission, Attribution and Functioning of COGES” (2016), a law related to COGES established by the project, was officially approved in June 2016, contributing to making COGES functional. On the other hand, the sustainable forum approach promoted by the project is expected to be more ensured. The forum was held three times in Tahoua region, a pilot region for the approach, in 2016/17 and one time in all regions in 2018/19 and 2019/20, but it was not held at all in 2017/18. The obstacles were lack of budget in the central government, the regional government and CGDES federations, initiatives by some of CGDES federations and monitoring of the forum. UNICEF has shown their interest in the approach and co-organized the forum so that the obstacles will be overcome.

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

The Overall Goal has been partially achieved at the time of ex-post evaluation. All the educational indicators set by the project such as the net enrollment rate and the completion rate have worsened since the project completion (Indicator 1). According to MEP/A/PLN/EC, there are many factors which influence the educational indicators, so the reasons for the worsening are unclear. Modifications in the data in 2017, especially the population data regarding school aged children, could contribute to the adverse changes in the indicators, and some of the reasons why the indicators have not been improved could be that the sustainable forum approach has not been well-promoted and that the minimum quality package has yet to be disseminated to all regions. The average score of final exams held in 2016 was 47.6, improved to 59.2 in 2017 and dropped to 51.1 in 2018, which can be said that its overall trend is an upward trend (Indicator 2).

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

Several positive impacts were confirmed at the time of ex-post evaluation. With the passage of “Order No. 001147/MES/SG/DL/CNP/COGES of June 16, 2016 – Regarding the Creating, Composition, Mission, Attribution and Functioning of COGES” (2016) suggested by the project, at least two women have come to be among seven members of COGES board. In addition, as one out of three delegates for COGES federation, women have come to be selected. These enable women to be involved in decentralized school management, which was also confirmed in decentralized school management at a primary level. Other than these, the following positive impacts were confirmed: 1) the building of trusts between pupils and teachers and teachers and communities, 2) the revolutionizing of teachers’ teaching methods and 3) the dissemination of the school management model introduced by the project to other sectors such as a health sector, a hydraulic sector and an agricultural sector.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results |
|--|--|---|
| (Project Purpose) The function and capacity of school management committees (called CGDES in Niger) is strengthened to contribute | 1. An adequate number of school classrooms across the nation, which meets the needs of school aged children, is endured. | Status of the Achievement: Achieved (Continued) (Project Completion) • The average number of school aged children per a school classroom had remained at around 40 across the country since 2013, and it was considered that the adequate number of school classrooms had been endured. [Average no. of school aged children per a school classroom] |

| to educational development (access and quality) in Niger through community participation. | | <table border="1"> <thead> <tr> <th>Item / Year</th> <th>2013/14</th> <th>2014/15</th> <th>2015/16</th> </tr> </thead> <tbody> <tr> <td>No. of school classrooms</td> <td>55,388</td> <td>58,635</td> <td>70,056</td> </tr> <tr> <td>No. of school aged children</td> <td>2,270,908</td> <td>2,444,979</td> <td>2,611,352</td> </tr> <tr> <td>Average no. of the children per a school classroom</td> <td>41.0</td> <td>41.7</td> <td>37.3</td> </tr> </tbody> </table> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> The average number of school aged children per a school classroom has increased to around 40 since 2016/17, which indicates that the adequate number of school classrooms have continuously been secured. <p>[Rate of school classrooms to school aged children]</p> <table border="1"> <thead> <tr> <th>Item / Year</th> <th>2016/17</th> <th>2017/18</th> <th>2018/19</th> </tr> </thead> <tbody> <tr> <td>No. of school classrooms</td> <td>73,000</td> <td>61,844</td> <td>62,276</td> </tr> <tr> <td>No. of school aged children</td> <td>2,648,569</td> <td>2,599,390</td> <td>2,666,748</td> </tr> <tr> <td>Average no. of the children per a school classroom</td> <td>36.3</td> <td>42.0</td> <td>42.8</td> </tr> </tbody> </table> | Item / Year | 2013/14 | 2014/15 | 2015/16 | No. of school classrooms | 55,388 | 58,635 | 70,056 | No. of school aged children | 2,270,908 | 2,444,979 | 2,611,352 | Average no. of the children per a school classroom | 41.0 | 41.7 | 37.3 | Item / Year | 2016/17 | 2017/18 | 2018/19 | No. of school classrooms | 73,000 | 61,844 | 62,276 | No. of school aged children | 2,648,569 | 2,599,390 | 2,666,748 | Average no. of the children per a school classroom | 36.3 | 42.0 | 42.8 | | | | | | | | | | | |
|--|--|--|----------------------------|----------------------------|----------------------------|-------------------------|--------------------------|---------|--------|--------|-----------------------------|--|-----------|-----------|--|---------|---|-------|-------------|---------|---------|-------------|--------------------------|----------------|-------------|--------------------------|-----------------------------|-------------|------------------------|--------------------------|--|-------------------------|-------------------------|---------|----|----|-----|---------|-----|----|-----|---------|----|----|-----|
| | Item / Year | 2013/14 | 2014/15 | 2015/16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of school classrooms | 55,388 | 58,635 | 70,056 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of school aged children | 2,270,908 | 2,444,979 | 2,611,352 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average no. of the children per a school classroom | 41.0 | 41.7 | 37.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Item / Year | 2016/17 | 2017/18 | 2018/19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Average no. of the children per a school classroom | 36.3 | 42.0 | 42.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 A minimum 150 hours (per CGDES) of extracurricular study time (supplementary teaching and night study time) in a school year is maintained through CGDES activities. | <p>Status of the Achievement: Achieved (Continued) (Project Completion)</p> <ul style="list-style-type: none"> The average hour of extracurricular study (supplementary teaching and night study) from 2012/13 to 2015/16 was approximately 180 hours. <p>[Extracurricular study time by CGDES (Unit: hours)]</p> <table border="1"> <thead> <tr> <th rowspan="2">Year / Item</th> <th>Supplementary teaching</th> <th>Night study</th> <th rowspan="2">Extracurricular study time</th> </tr> <tr> <th>Average hours per CGDES</th> <th>Average hours per CGDES</th> </tr> </thead> <tbody> <tr> <td>2012/13</td> <td>77.0</td> <td>90.0</td> <td>167.0</td> </tr> <tr> <td>2013/14</td> <td>91.4</td> <td>96.4</td> <td>187.8</td> </tr> <tr> <td>2014/15</td> <td>78.2</td> <td>88.3</td> <td>166.5</td> </tr> <tr> <td>2015/16</td> <td>114.0</td> <td>81.0</td> <td>195.0</td> </tr> <tr> <td>Average</td> <td>90.2</td> <td>88.9</td> <td>179.1</td> </tr> </tbody> </table> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> CGDES has had more than 150 hours of extracurricular study time even after the project completion. <p>[Extracurricular study time by CGDES (Unit: hours)]</p> <table border="1"> <thead> <tr> <th rowspan="2">Year / Item</th> <th>Supplementary teaching</th> <th>Night study</th> <th rowspan="2">Extracurricular study time</th> </tr> <tr> <th>Average hours per CGDES</th> <th>Average hours per CGDES</th> </tr> </thead> <tbody> <tr> <td>2016/17</td> <td>92</td> <td>91</td> <td>183</td> </tr> <tr> <td>2017/18</td> <td>106</td> <td>99</td> <td>205</td> </tr> <tr> <td>2018/19</td> <td>99</td> <td>99</td> <td>198</td> </tr> </tbody> </table> | Year / Item | Supplementary teaching | Night study | Extracurricular study time | Average hours per CGDES | Average hours per CGDES | 2012/13 | 77.0 | 90.0 | 167.0 | 2013/14 | 91.4 | 96.4 | 187.8 | 2014/15 | 78.2 | 88.3 | 166.5 | 2015/16 | 114.0 | 81.0 | 195.0 | Average | 90.2 | 88.9 | 179.1 | Year / Item | Supplementary teaching | Night study | Extracurricular study time | Average hours per CGDES | Average hours per CGDES | 2016/17 | 92 | 91 | 183 | 2017/18 | 106 | 99 | 205 | 2018/19 | 99 | 99 | 198 |
| Year / Item | Supplementary teaching | | Night study | Extracurricular study time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Average hours per CGDES | Average hours per CGDES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012/13 | 77.0 | 90.0 | 167.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Average | 90.2 | 88.9 | 179.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 2016/17 | 92 | 91 | 183 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017/18 | 106 | 99 | 205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018/19 | 99 | 99 | 198 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. 80% of CGDES federations receive financial support from their respective communes. | <p>Status of the Achievement: Achieved (Continued) (Project Completion)</p> <ul style="list-style-type: none"> The rate of CGDES federations which receive financial support from their respective communes to all CGDES federations was 71% in 2012/13 and became 77.4% in 2015/16 after reaching its peak at 95.9% in 2014/15. <p>[Rate of CGDES federations receiving financial support from their respective communes]</p> <table border="1"> <thead> <tr> <th>Item / Year</th> <th>2012/13</th> <th>2013/14</th> <th>2014/15</th> <th>2015/16</th> </tr> </thead> <tbody> <tr> <td>No. of CGDES federations</td> <td>266</td> <td>266</td> <td>266</td> <td>266</td> </tr> <tr> <td>No. of CGDES federations receiving financial support</td> <td>189</td> <td>205</td> <td>255</td> <td>206</td> </tr> <tr> <td>Rate of CGDES federations receiving financial support</td> <td>71.0%</td> <td>78.2%</td> <td>95.9%</td> <td>77.4%</td> </tr> </tbody> </table> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> More than 80% of CGDES federations on average for the last three years from 2016 to 2019 have received financial support from their respective communes even after the project completion. <p>[Rate of CGDES federations receiving financial support from their respective communes]</p> <table border="1"> <thead> <tr> <th>Item / Year</th> <th>2016/17</th> <th>2017/18</th> <th>2018/19</th> </tr> </thead> <tbody> <tr> <td>No. of CGDES federations</td> <td>266</td> <td>266</td> <td>266</td> </tr> <tr> <td>No. of CGDES federations</td> <td>259</td> <td>226</td> <td>239</td> </tr> </tbody> </table> | Item / Year | 2012/13 | 2013/14 | 2014/15 | 2015/16 | No. of CGDES federations | 266 | 266 | 266 | 266 | No. of CGDES federations receiving financial support | 189 | 205 | 255 | 206 | Rate of CGDES federations receiving financial support | 71.0% | 78.2% | 95.9% | 77.4% | Item / Year | 2016/17 | 2017/18 | 2018/19 | No. of CGDES federations | 266 | 266 | 266 | No. of CGDES federations | 259 | 226 | 239 | | | | | | | | | | | | |
| Item / Year | 2012/13 | 2013/14 | 2014/15 | 2015/16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of CGDES federations | 266 | 266 | 266 | 266 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of CGDES federations receiving financial support | 189 | 205 | 255 | 206 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rate of CGDES federations receiving financial support | 71.0% | 78.2% | 95.9% | 77.4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Item / Year | 2016/17 | 2017/18 | 2018/19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of CGDES federations | 266 | 266 | 266 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | |
|--|---|--|-------|---------|---------|---------|
| | | receiving financial support | | | | |
| | | Rate of CGDES federations receiving financial support | 97.3% | 85.0% | 89.8% | |
| (Overall Goal) The quality of and access to basic education are improved by decentralized school management. | 1. Improvement of educational indicators (enrollment rate, repetition rate, dropout rate, completion rate, etc.) | (Ex-post Evaluation) Unverified | | | | |
| | | <ul style="list-style-type: none"> All of the educational indicators have worsened since the project completion. However, according to MEP/A/PLN/EC, in 2017, the population data regarding school aged children was modified so that the data shown below is not comparable. | | | | |
| | | [The status of the educational indicators] | | | | |
| | | Indicators / Year | | 2015/16 | 2016/17 | 2017/18 |
| | | Net Enrollment Rate | Boy | 71.2 | 70.0 | 66.0 |
| | | | Girl | 60.8 | 59.8 | 56.9 |
| | | | Total | 66.1 | 65.0 | 61.5 |
| | | Gross Enrollment Rate | Boy | 82.6 | 80.4 | 75.5 |
| | | | Girl | 70.5 | 69.0 | 65.4 |
| | | | Total | 76.7 | 74.8 | 70.6 |
| | | Repetition rate | Boy | - | 1.5 | 2.6 |
| | | | Girl | - | 1.5 | 2.5 |
| | | | Total | - | 1.5 | 2.6 |
| | | Dropout rate | Boy | 11 | 10 | 18.1 |
| Girl | 10.9 | | 11.2 | 21.1 | | |
| Total | 13.4 | | 10.6 | 19.5 | | |
| Completion rate | Boy | 81.4 | 70.5 | 66.7 | | |
| | Girl | 67.9 | 60.9 | 57.2 | | |
| | Total | 74.8 | 65.8 | 62.0 | | |
| 2. Proportion of children who have completed primary education | (Ex-post Evaluation) Achieved | | | | | |
| | <ul style="list-style-type: none"> The average score of final exams held three times per a year seems to have been in an upward trend overall. | | | | | |
| | [The average score of final exams held three times per a year] | | | | | |
| Note: With the abolition of the graduation exam in 2014 during the project, the indicator became verified with the average score of final exams held three times per a year. | 2016 | 2017 | 2018 | | | |
| | 47.6 | 59.2 | 51.1 | | | |

Source : Terminal Evaluation Report, Project Completion Report, Interview and questionnaire to MEP/A/PLN/EC, CGDES Coordination, regional and department education offices of MEP/A/PLN/EC, teacher training schools and CGDES federations, communes

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: 109%). The outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

“The Education and Training Sector Program” (2014-2024) and “The Transition Plan for Education and Training Sector” (2019-2021) aim to improve the quality of and the access to primary education through more rigorous management of resources and community mobilization in school management. As the project aimed to contribute to educational development (access and quality), it has been endorsed by such national policies.

<Institutional/Organizational Aspect>

[MEP/A/PLN/EC]

CGDES Coordination Unit of MEP/A/PLN/EC, a central organization for the project, was reorganized to a Direction in charge of Community Participation, School Health and Environmental Education. The Direction takes responsibilities for preparing national education policies regarding CGDES’s activities, enacting laws and orders related to CGDES, monitoring the implementation status of the education policies nationwide, training CGDES officers and members and publishing data on CGDES activities. According to MEP/A/PLN/EC, 12 officers are allocated to the Direction, and the number has been sufficient.

At regional and department levels, education offices of MEP/A/PLN/EC are respectively in place. Their responsibilities are to implement the national education policies prepared by MEP/A/PLN/EC headquarter and monitor the implementation status at their lower levels. According to the organizations, one officer is allocated to each regional or department education office, thereby securing the sufficient number of the staff.

[MSE]

Similarly with MEP/A/PLN/EC, MSE headquarter takes responsibilities for preparing national education policies regarding COGES’s activities, enacting laws and orders related to COGES, monitoring the implementation status of the education policies nationwide, training COGES officers and members and publishing data on COGES activities. According to MSE, four officers are distributed to its headquarter, and the number has been enough.

Education offices in regions and departments have been in charge of implementing the national education policies prepared by MSE headquarter and monitoring the implementation status at their lower levels. According to the organizations, one officer is allocated to each regional or department, and the number of the staff has been sufficient.

[The monitoring system of CGDES or COGES]

The monitoring system of CGDES or COGES introduced by the project has been sustained even at the time of ex-post evaluation. This is because the system makes it possible to smoothly carry out local activities and is not so costly that CGDES or COGES can bear the cost.

However, there are some cases that the sustainable forum approach has not been monitored as the system has not sufficiently functioned due to the shortage of national budget.

<Technical Aspect>

The staff of the above-mentioned organizations have sustained their knowledge and skills necessary to fulfill their responsibilities. In the background, internal trainings, workshops and seminars are held on a regular basis with national budget and donor's financial support. What is more, trainings were organized and provided by a successive project, "School for All": The project on support to educational development through community participation Phase 2" (2016-2020), for counterparts in order for them to learn from an Indian NGO on how to ameliorate the minimum quality package.

[Manuals]

All the manuals prepared by the project, for instance Manual on the Setting-up of the Communal Consultation Framework, Manual of implementation process of the Minimum Quality-Based Package and CGDES activity planning process manual for better utilization of resources, have been used even at the time of ex-post evaluation. According to MEP/A/PLN/EC and MSE, their contents are still relevant for their activities.

<Financial Aspect>

[National level]

As the table below shows, MEP/A/PLN/EC's whole budget for CGDES had been in an upward trend with 248 million Fcfa in 2016, 1,249 million Fcfa in 2017 and 1,541 million Fcfa in 2019. Also, the planned national budget in 2020 is expected to significantly increase to around 4,394 million Fcfa. The budget is composed of national budget, financial support from such donors as the World Bank and the Global Partnership for Education and tax from communes. According to MEP/A/PLN/EC, the budget has not been sufficient and been unstable so that there have been some cases that budget is sometimes revised in the middle of the year and budget is not appropriately executed. However, even though these challenges have existed, it can be concluded that a certain amount of budget has been secured, taking into consideration that a certain number of staff has been allocated and the knowledge and skills of staff have been sustained through trainings and others.

MEP/A/PLN/EC's budget for CGDES

(Unit: Million Fcfa)

| Item / Year | 2016 | 2017 | 2018 | 2019 | 2020 (Plan) |
|-----------------|--------------|----------------|----------------|----------------|----------------|
| National Budget | 178.5 | 56.8 | 92.9 | 127.1 | 967.0 |
| Donor | 42.0 | 1,150.0 | 1,220.0 | 1,400.0 | 3,418.0 |
| Commune | 27.3 | 42.0 | 16.7 | 13.5 | 8.8 |
| Total | 247.8 | 1,248.8 | 1,329.6 | 1,540.6 | 4,393.8 |

As the table below shows, MSE's whole budgets for COGES have been quite fluctuating at 87.8 million Fcfa in 2016, 111 million Fcfa in 2017, 25 million Fcfa in 2018 and 39.2 million Fcfa in 2019. Also, the planned national budget in 2020 is expected to be zero Fcfa, and it can be seen from the situation that securing budget faces difficulties. According to MSE, similarly with the MEP/A/PLN/EC's situation, the budget has not been enough. However, even though these challenges have existed, it can be concluded that a certain amount of budget has been secured with financial support from donors, taking into consideration that a certain number of staff has been allocated and the knowledge and skills of staff have been sustained through trainings and others.

MSE's budget for COGES

(Unit: Million Fcfa)

| Item / Year | 2016 | 2017 | 2018 | 2019 | 2020 (Plan) |
|-----------------|-------------|--------------|-------------|-------------|--------------|
| National Budget | 65.8 | 78.2 | 0 | 34.7 | 0 |
| Donor | 22.0 | 32.8 | 25.0 | 4.5 | 257.3 |
| Total | 87.8 | 111.0 | 25.0 | 39.2 | 257.3 |

[Regional and department levels]

The data on the budget of regional and department education offices of MEP/A/PLN/EC and MSE was not available due to administrative issues. Although the shortage of the national budget has prevented the CGDES or COGES monitoring system from being functional at a sufficient level, considering that a certain number of staff has been allocated to each office and the project effects have been sustained, it is considered that a certain amount of the budget has been secured.

[Commune level: CGDES]

CGDES federations have secured around 200 Million Fcfa every year, and its sources are communes and CGDES. According to them, the amount has not reached a sufficient level because the financial supports from communes and CGDES are inconstant and irregular. Yet, taking into account that the forum among CGDES federations was held in all regions in 2018/19 and other project effects have also been sustained, it can be said that a certain amount of budget has been secured.

According to CGDES, its budget was 2,585 million Fcfa in 2016 and increased to 3,397 Million Fcfa by 2019. According to the organization, they basically plan their activities based on their available budget so that the budget has been sufficient since the project completion.

[Commune level: COGES]

The budget for COGES federations was 328 million Fcfa in 2017 and decreased to 53 million Fcfa by 2019. In 2020, the budget of 47 million Fcfa is planned to be secured, but in comparison to the one in 2017, the budget is still at a low level. Its sources are commune and COGES. According to COGES federations, the budget has been insufficient, and its reasons are 1) local authorities and donors have not provided sufficient financial support and 2) there are some COGESs which do not pay membership fee for their COGES federations.

According to COGES, its budget was 72 million Fcfa in 2016 and increased to 1,148 million Fcfa by 2019 along with the increase in the number of COGESs. According to the organization, they basically plan their activities based on their available budget so that the budget has been sufficient since the project completion. It also should be noted that some activities are not implemented because some parents do not pay membership fee.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational 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 the Project Purpose aiming at strengthening the function and capacity of CGDES's school management and partially achieved the Overall Goal aiming at improving the quality of and access to basic education by decentralized school management. As for the sustainability, some problems have arisen due to the budget shortage at all administrative levels, such as the monitoring system of CGDES and COGES has not sufficiently worked. Even so, as the sufficient number of staff has been drafted in to each organization and the staff have had the skills and knowledge to sustain the project effects, it is considered that the budget for their activities has been secured to some extent. 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:

- Considering that the sustainable forum approach has been a success in all the ways (increase in access to education, improvement in quality education, among others) in all the regions where it has been held, the support from the government is recommended for its institutionalization to become as a key element of its educational policy.

Lessons learnt for JICA:

- 3 activities (the minimum quality package, the resource management model and preparation of COGES related laws) implemented by the project have been continued even at the time of ex-post evaluation and considered as effective activities for stakeholders. Therefore, the 3 activities should be considered to be introduced into similar projects on school management committee taking into account the contexts of target countries at the planning stage.



Pupils studying under "Thatched classrooms" constructed by CGDES in Pays Bas 1 & 2 Primary Schools



"15 Thatched Classrooms" constructed by CGDES in Pays Bas 1 & 2 Primary Schools

| | |
|--------------------------------------|---|
| Country Name | The Project for Mangrove Rehabilitation Plan for Enhancement of Disaster Prevention in Ayeyawady Delta |
| The Republic of the Union of Myanmar | |

I. Project Outline

| | | | | |
|---------------------------|--|---|-----------------|--------------------------------|
| Background | Ayeyawady Delta in Myanmar had been managed as a conservation area, but the mangrove forest cover had been decreasing due to illegal activities (e.g. firewood, agricultural expansion and aquaculture). The Cyclone Nargis in May 2008 had a serious impact on the residents' daily lives and livelihoods, with a huge death toll and missing persons (no less than 140,000 people), and devastated the mangroves in Ayeyawady Delta. The cyclone, at the same time, served to confirm the disaster prevention effectiveness of the mangroves such as their role in alleviating seawater invasion by flood tide, prevention of erosion and drifting floating wreckage. However, it was difficult for the Government of Myanmar to implement early rehabilitation of the mangroves on its own due to limited budget. | | | |
| Objectives of the Project | The project aimed to rehabilitate the mangrove forest and recover its function of disaster prevention and mitigation in Kadonkani Reserve Forest (RF) in Ayeyawady Delta, which had been decreased by the damage caused by the cyclone, deforestation, etc., by (i) establishing a mangrove plantation, constructing a cyclone shelter with a forest watch tower, and procuring equipment for management and (ii) implementing the relevant technical assistance, thereby contributing to establishment of a disaster prevention structure in the cyclone affected area ¹ . | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: The central part of Kadonkani RF (1,154ha) in Ayeyawady Division. 2. Japanese side: (1) Provision of grant necessary for establishment of the mangrove plantation (area: 1,154ha), construction of a cyclone shelter with a forest watch tower (capacity: 150 people) and procurement of 2 vehicles and 1 boat for management; and (2) Technical assistance (soft component of Grant Aid) to Forest Department (FD) regarding preparation of the participatory management plan of the mangrove plantation established by the project, and implementation of participatory disaster prevention drills and aquatic life survey. 3. Myanmar side: Opening of the office required for construction supervision, acquisition of the land required for facility construction, observation of tree planting and inspection of facilities and equipment at each stage, etc. | | | |
| Project Period | E/N Date | April 21, 2012 | Completion Date | February 15, 2017 ² |
| | G/A Date | August 3, 2012 (Original) December 28, 2012 (Revision) | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: : 583 million yen, Actual Grant Amount: 568 million yen | | | |
| Executing Agency | Forest Department (FD), Ministry of Natural Resources and Environmental Conservation* *Ministry of Environmental Conservation and Forestry at the time of ex-ante evaluation. The name was changed due to the government restructuring in March 2016. | | | |
| Contracted Agencies | Main Contractor(s): Hazama Ando Cooperation Main Consultant(s): Kokusai Kogyo Co., Ltd. | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Due to COVID-19 pandemic, the Ex-post evaluation was done by data collection from existing reports and questionnaire for Executing Agency, without on-site field survey.
- Although the management plan, namely, Mangrove Forest Management Plan (MFMP), was prepared as planned, it is noted that not only "preparation" but also "implementation" of the management plan is mentioned in the relevant output of the soft component in the Ex-ante Evaluation Sheet. However, it is considered the actual contents planned were up to "preparation" based on the Soft Component Plans included in the PS2, according to which the soft component activities were carried out, as their planned outputs and activities do not include "implementation" of the management plan.

1 Relevance

<Consistency with the Development Policy of Myanmar at the Time of Ex-ante Evaluation>

The project was highly consistent with development policy of Myanmar at the time of Ex-ante Evaluation. "Myanmar Action Plan on Disaster Risk Reduction (MAPDRR) 2009-2015" was drawn up in July 2009. The action plan shows seven main policies including plantation and construction of cyclone shelter. The goal of the action plan is "To make Myanmar Safer and more Resilient against Natural Hazards, thus Protecting Lives, Livelihood and Developmental Gains", and the implementation of this project was to contribute to achievement of this goal.

<Consistency with the Development Needs of Myanmar at the Time of Ex-Ante Evaluation>

The project was highly consistent with the needs of Myanmar for rehabilitating the damaged mangrove as described in "Background" in 1. Project Outline.

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

¹ Since the Assumed Impact is not mentioned in the Ex-ante Evaluation Sheet, the Overall Goal (establishment of a disaster prevention structure in the cyclone affected area) mentioned in the Preparatory Survey Report (PS) 2 is used as the Assumed Impact in this Ex-post evaluation.

² The completion date of the soft component has been confirmed to be within February 2017, however, its exact date could not be confirmed. Here, the completion date of the construction work is used as the completion date of the whole project.

At the time of Ex-ante evaluation, the project was consistent with the economic cooperation policy for Myanmar (April 2012), which include assistance for disaster prevention for improvement of people's livelihood³.

<Evaluation Result>

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

2 Effectiveness/Impact

<Effectiveness>

The project objectives have been achieved. As for quantitative effects, the rehabilitated area of mangrove forest in 2017 (the year of project completion) was 1,154 ha as planned, and has been properly maintained since the project completion. In addition, based on "Myanmar Reforestation and Rehabilitation Programme (MRRP) 2018-2027", FD has been implementing mangrove plantation of 566.8 ha in Kadonkani RF annually from 2018 to 2020, resulting in the total rehabilitated area of 2854.4 ha in 2020 (ratio against assumed quantity: 248%). Also, conditions of facilities and equipment procured in the project are good and in use, namely cyclone shelter with forest watch tower, two 4WD cars, and a boat. The cars and boat have been utilized for observation of mangrove forest or meetings during implementation period, and for transportation of staffs and equipment in the maintenance activities after project completion. Based on the assumption made at the Ex-ante evaluation, it is estimated that 1,000 ha of mangrove plantation could reduce CO2 emissions by 35,450 tons/year.⁴

The project also made full use of the capabilities of relevant personnel which were strengthened through JICA's preceding Technical Cooperation Project (TCP) "Integrated Mangrove Rehabilitation and Management Through Community Participation in the Ayeyawady Delta" (2007-2012), where JICA had cooperated towards sustainable management of mangrove forest for FD and the local residents.

As for qualitative effects⁵, The capacity of staffs of FD were improved through participation in the project, and FD has been continuously operating mangrove forest maintenance and rehabilitation as planned in MRRP 2018-2027".

In the soft component, MFMP was prepared by FD and disseminated to local residents through workshops, and at the time of Ex-post Evaluation, they are willing to work for mangrove restoration and rehabilitation through community forestry and plantation labours. According to FD, the soft component also contributed to raising awareness of local residents on importance of sustainable forest management (symbiosis between mangrove forest and people), issues they have been facing in associated with mangrove depletion and degradation in the last few decades, and possible measures to be taken for their livelihood security at present and in future. In addition, the disaster drills and biodiversity survey by local residents resulted in their better understandings of mangrove forest's function for disaster prevention and biodiversity conservation.

<Impact>

FD acknowledged positive impacts as follows: in adjacent 20 villages, 2,498 houses and 8,057 local residents (target: 4,400 local residents) have been benefitted in mitigation of the damage caused by strong wind from rehabilitated mangrove forest, namely reduced speed of turbulences have been observed in the early monsoon season. Likewise, in adjacent 22 villages, 49,957 houses and 217,389 local residents (target: 210,000 local residents) have been benefitted, as rehabilitated mangrove forest has prevented tides and damage caused by it has been reduced. Furthermore, as a result of the disaster prevention drills implemented in the soft component, when cyclones and storms are in place, residents of the nearby villages and fishermen evacuate to the shelter. The project also contributed to raising awareness of the local residents for conservation of biodiversity by involving them into biodiversity survey in the soft component.

Since it was expected that slight amount of wastes (e.g. cement bags and scrap wood) would be discharged under construction, the project was categorized as "Category B" in accordance with "JICA Guidelines for Environmental and Social Considerations (April, 2004)" at the planning stage. However, monitoring of waste management had been done by the consultant as a part of TOR on construction supervision, and no negative impacts on the natural environment caused by wastes were observed in the Ex-post Evaluation.

<Evaluation Result>

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

Quantitative Effects

| Indicators | Baseline 2012 Baseline Year | Target figure 2020 3 Year(s) after Completion | Actual figure (2017 Completion Year) | Actual figure (2018 1 Year after Completion) | Actual figure (2019 2 years after Completion) | Actual figure (2020 3 Years after Completion) |
|---|--------------------------------|--|---|---|--|--|
| Indicator 1: Rehabilitated area of the mangrove forest damaged by the cyclone. | 0 ha | 1,150ha | 1,154ha | 1,720.8ha | 2,287.6ha | 2,854.4ha |

Source : Ex-ante Evaluation Sheet and other JICA documents, Questionnaire for Grant Aid Project (answered by FD)

3 Efficiency

Both the project cost and the project period were within the original plan (ratio against the plan: 97% and 98%, respectively). Therefore, the efficiency of the project is high.

4 Sustainability

< Institutional/Organizational Aspect >

³ Based on the description in the ODA Country Databook in 2012.

⁴ Area of plantation (1,000 ha)*carbon absorption per unit area (9.66 tons/ha/year)*CO2 reduced-value(3.67)=35,450 tons/year

⁵ Among the qualitative effects mentioned in the Ex-ante Evaluation Sheet, (1) "CO2 reduction" is included in the quantitative effects as numerical data were not available. (2) "Tide and wind protection" is included in the "Impacts" section below based on logic.

Relevant policies are MRRP 2018-2027, which includes a 10-year mangrove plantation plan by FD, and “Myanmar Action Plan on Disaster Risk Reduction 2017” (MAPDRR 2017) which includes hazard and vulnerability atlas. Regarding Operation and Maintenance of the facilities/equipment provided in the project, staffs are sufficiently assigned in accordance with MFMP provided in the soft component ; namely, i) for mangrove forest, three Range Officers, three Deputy Range Officers, five Forester, and two Forest Guard, ii) for the cyclone shelter, one Range Officer, one Deputy Range Officer, two Foresters, and one Forest Guard, and iii) for procured equipment, two Directors, one Assistant Director, and one Staff Officer. Granted the rehabilitated area as the community forestry, local residents are actively involved in mangrove management, disaster prevention, and fish/shrimp/crab habitat conservation.

<Technical Aspect>

As mentioned above, technical levels of FD staffs have been sufficiently improved through the project for management of mangrove forest. Furthermore, trainings on mangrove rehabilitation and restoration are delivered once to three times a year for approximately 20 staffs at Community Forestry Development Training Center at Hmawbi in Yangon and Myanmar Forest School in Phyin Oo Lwrin, and the system for maintaining the technical levels of FD is sufficient.

<Financial Aspect>

Union Budget and Regional Budget cover the following items; i) cost for mangrove conservation and management in Bogalay Township, where Kadonkani RF is located, ii) construction and maintenance cost of the cyclone shelter, and iii) operation and maintenance cost of procured equipment (two vehicles and one boat). Although data on budget amounts were not available, it can be said that the necessary budget has been allocated, given the policy support and good operation and maintenance situation, as mentioned elsewhere.

<Current Status of Operation and Maintenance>

After handing over the project, FD shall execute the following maintenance works: i) for mangrove forest, fire protection, weeding supplemental plant or patching (if necessary), and forest guard, ii) for the cyclone shelter, daily cleaning, recoating of waterproof paint every ten years, and renovation work (if necessary). FD has been implementing the above-mentioned operations in the rehabilitated mangrove forest, and the necessary budgets are secured yearly by Union and Regional Budget. It shall be noted that planning and dissemination of MFMP along with the mangrove plantation have contributed to proper maintenance of established mangrove forest.

<Evaluation Result>

No major problems have been observed in the institutional/organizational, technical, financial aspects and current status of the operation and maintenance system. Therefore, sustainability of the project effects is high.

5 Summary of the Evaluation

The project achieved its objective of rehabilitating the mangrove forest damaged by the cyclone Nargis. Both quantitative and qualitative effects have been observed to a greater degree than initially expected, as well as further plantation of mangrove forest by FD on its own after the project completion. Regarding the sustainability, staffs for operation and maintenance have been assigned, and trainings for relevant staffs have been done on regular basis. Also, necessary budgets for operation and maintenance are secured. Overall, from institutional/organizational, technical, and financial aspects, operation and maintenance is expected to be sustainably implemented by the executing agency and the local residents.

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

III. Recommendations & Lessons Learned

Lessons Learned for JICA:

- The main reasons for successful mangrove rehabilitation during the project period and maintenance, and further mangrove plantation by FD after the project completion are summarized up in the following four points: 1) through collaboration with JICA’s TCP “Integrated Mangrove Rehabilitation and Management Through Community Participation in the Ayeyawady Delta”, the project could have active commitment by the FD staffs whose capacity had been developed through the TCP Project, 2) planning and dissemination of MFMP were done in parallel to the mangrove plantation, and resulted in proper maintenance of established mangrove forest, 3) necessary budgets for mangrove forest maintenance were secured by FD based on MRRP, and 4) the involvement of local residents into the project led to active cooperation by them, especially on implementation of the soft component activities.
- In Ex-post Evaluation, it was difficult to observe the growing conditions of mangrove forest and improvement in the biodiversity situation. Since continuous monitoring of these conditions is vital for proper implementation and timely modification of management plan, it was preferable to include those monitoring activities into the MRRP.



Implementation of project activities



Cyclone shelter with a forest watch tower developed in the project

| | |
|--------------------|---|
| Country Name | Capacity Development toward Effective Disaster Risk Management |
| Republic of Turkey | |

I. Project Outline

| | | | | | | | | | | | |
|--|--|--------------|---|---------------|--------------|------------------------|--------------------------------|----------------------------------|--|---------------|---------------|
| Background | Turkey was known as one of the most earthquake-prone countries. Disaster and Emergency Management Presidency (AFAD) was newly established under Prime Ministry in 2009 based on the Law of 5902, which gave the highest priority to disaster risk management. However, there was no standardized method for risk assessment, and the nationwide risk assessment was therefore not conducted. | | | | | | | | | | |
| Objectives of the Project ¹ | <p>The project aimed to improve the capability of AFAD central and Provincial AFADs for disaster risk management in Turkey through (i) preparation of a draft version of guidelines on disaster risk assessment and Disaster Risk Reduction Plan (DRRP), (ii) preparation of disaster risk assessments and DRRPs in the pilot provinces, and (iii) formulation of a sustainable extension mechanism of standardized guidelines and disaster risk assessment applicable countrywide, thereby enhancing capacity on disaster risk management through risk assessment throughout the country.</p> <ol style="list-style-type: none"> Overall Goal: Capacity on disaster risk management through risk assessment is enhanced throughout the country. Project Purpose: The capability of AFAD central and Provincial AFADs for disaster risk management is improved. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Ankara and the pilot provinces (i.e., Bursa (the original pilot province) and Samsun and Kahramanmaraş (the additional pilot provinces selected in the fourth year).² Main Activities: (i) Preparation of a draft version of guidelines on disaster risk assessment and DRRP; (ii) preparation of Action Plans for local DRRPs called “Provincial Risk Reduction Plans (IRAPs)” in the pilot provinces through training in Japan, and organization of a high-level meeting in Samsun for IRAP formulation and an IRAP informative workshop for the pilot provinces;³ (iii) organization of an informative and awareness-raising workshop on natural disaster risk reduction (DRR).⁴ Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Turkish Side</td> </tr> <tr> <td>1) Experts: 14 persons</td> <td>1) Staff Allocated: 48 persons</td> </tr> <tr> <td>2) Trainees Received: 26 persons</td> <td>2) Building and facilities: Project Office, etc.</td> </tr> <tr> <td>3) Local cost</td> <td>3) Local cost</td> </tr> </table> | | | Japanese Side | Turkish Side | 1) Experts: 14 persons | 1) Staff Allocated: 48 persons | 2) Trainees Received: 26 persons | 2) Building and facilities: Project Office, etc. | 3) Local cost | 3) Local cost |
| Japanese Side | Turkish Side | | | | | | | | | | |
| 1) Experts: 14 persons | 1) Staff Allocated: 48 persons | | | | | | | | | | |
| 2) Trainees Received: 26 persons | 2) Building and facilities: Project Office, etc. | | | | | | | | | | |
| 3) Local cost | 3) Local cost | | | | | | | | | | |
| Project Period | (ex-ante) January 2013 – December 2016 (actual) March 2013 – March 2017 | Project Cost | (ex-ante) 467 million yen (actual) 238 million yen | | | | | | | | |
| Implementing Agency | Prime Ministry, Disaster and Emergency Management Presidency of Turkey (AFAD) | | | | | | | | | | |
| Cooperation Agency in Japan | OYO International Corporation; Oriental Consultants Co., Ltd. Yachiyo Engineering Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 Pandemic, field survey and expected on-site meetings for data collection had to be cancelled. To overcome these difficulties, online meetings were set with the implementing agency, and only once, the face-to-face meeting could be realized for the confirmation of the project related issues.

<Special Perspectives Considered in the Ex-Post Evaluation>

- Continuation status of the effects of the selected indicators of the Outputs, including implementation status of risk assessments and formulation status of DRRPs (IRAPs) in the pilot provinces, was confirmed as Supplementary Information.
- The Project Purpose Indicator 2 was modified from “Some activities written in the prepared DRRP of Bursa province are started” (PDM Ver2) to “DRR Planning activities are started in the pilot provinces” in conducting the terminal evaluation, and the modification was approved through M/M (2/March/2017). This latest Project Purpose Indicator 2 shall be used since the ex-post evaluation is basically conducted based on the same perspectives as those of the terminal evaluation. This modification, however, is inappropriate from the logical viewpoint because the indicator after modification is logically at a lower level than the Output level (i.e., preparation of risk assessments and DRRPs (IRAPs) in the pilot provinces and approval of them by AFAD central (AFAD HQ) and pilot provincial AFADs) whereas the Project Purpose should be a logical consequence of the

¹ The Objectives are based on the latest Logical Framework called “Project Design Matrix (PDM)” Ver3 attached to Minutes of Meetings (M/M) (2/March/2017), but some grammatical errors were corrected in this report.

² The target area for the capacity improvement was changed from “AFAD central and AFAD Bursa” to “AFAD central and Provincial AFADs” through M/M (2/March/2017) based on the recommendation of the terminal evaluation to reflect the actual situation. Originally, Bursa Province was selected as the pilot province, where a risk assessment and the provincial DRRP (IRAP) would be implemented using the draft guidelines prepared in the project. Although the draft guidelines were prepared as planned, the subsequent activities for preparation of the risk assessment and the IRAP in Bursa Province were suspended. It was because one of the major Japanese inputs, dispatch of the Japanese expert team (JET), was not provided from the second year as the contract between JICA and the JET was expired with their new terms of reference not being concretized in a timely manner. In the meantime, JICA dispatched Project Consultation Mission three times, which realized training in Japan in December 2016 to develop the capacity for effective disaster risk reduction planning, and three provinces, including Bursa, were selected to participate in the training as the pilot provinces.

³ As stated in the footnote 2, the activities planned for preparation of the risk assessment and the IRAP were not conducted.

⁴ The planned activities were not conducted either for formulation of a sustainable extension mechanism of the standardized guidelines and disaster risk assessment.

Outputs. Therefore, the Project Purpose Indicator 2 of PDM Ver2 (i.e., the commencement of activities written in the prepared DRRP (IRAP) of Bursa province) was also used in the ex-post evaluation as Supplementary Information from the logical perspective.

- The target number of the Overall Goal Indicator 2 (i.e., The number of Local DRRPs is increasing at the provincial level) is not specified in the PDM. This evaluation set the target number to be “41” since DRRPs (IRAPs) were planned to be completed in 41 provinces from 2017-2019 according to the Action Plan for DRRP prepared through the training in Japan.

1 Relevance

<Consistency with the Development Policy of Turkey at the Time of Ex-Ante Evaluation>

This project is consistent with Turkey’s development policies at the time of ex-ante evaluation. The Ninth National Development Plan (2007-2013) places importance on measures for disaster prevention, such as the inclusion of disaster management in regional development and urban planning, establishment of a new organization to conduct disaster management as a public service”, etc. and the National Earthquake Strategy and Action Plan (UDSEP) (2012-2023), which was formulated to be prepared for earthquakes across sectors, promotes activities for that.

<Consistency with the Development Needs of Turkey at the Time of Ex-Ante Evaluation>

This project is consistent with the need for capacity development on disaster risk management at the time of ex-ante evaluation, as mentioned in “Background” above.

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

This project is consistent with the cooperation policy of Japan with Turkey at the time of ex-ante evaluation. The Country Assistance Policy for the Republic of Turkey (2012) maintains that Japan cooperates on DRR, preparedness, and response for Turkey’s sustainable economic development.

<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 partially achieved by the time of project completion. The project prepared four draft guidelines (disaster reduction planning and three draft complementary guidelines for earthquake and tsunami risk assessment, landslide risk assessment, and risk assessment of man-made disaster induced by earthquake, tsunami, and landslide) and presented them at the second Joint Coordination Committee (JCC) meeting in June 2014. However, it was not approved by AFAD HQ during the project implementation since necessary activities for the approval were not carried out due to the bureaucratic structure of JICA and AFAD⁵ (Indicator 1). Therefore, the test usage of the guidelines for the DRRP (IRAP) in Bursa and the improvement of the guidelines (if needed) did not take place during the project.

AFAD HQ started DRR planning activities in the pilot provinces by organizing an IRAP informative workshop inviting provincial AFADs and municipalities from the three pilot provinces (Indicator 2) but did not result in the formulation and implementation of IRAPs in the pilot provinces (Supplementary Information).

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

The effects of the project continued to the time of ex-post evaluation. After project completion, a group of AFAD HQ, including those trained in Japan under this project, tested the above-mentioned draft guidelines in the preparation of the IRAP in Kahramanmaraş and improved them into a single guideline, the Provincial Disaster Risk Mitigation Plan Preparation Guideline (hereafter, “the single guideline”). The reason behind why making a single guideline was to need applicable and practical one for all provinces and staffs to be worked for preparation IRAPs. For instance, in the previous one, preparation of risk analysis for disaster types are explained step by step but in the single guidelines recommends usage of those available assessments, which can be received from the tools of AFAD such as AFAD-Red (AFAD Earthquake Pre-damage and Loss Estimation System), ARAS (Disaster Risk Reduction System), Aydes (Disaster Management and Decision Support System) that are integrated with the single guideline. AFAD HQ approved and distributed it to all provinces in November 2020. Provinces, including the three pilot provinces of this project, started to prepare IRAPs. Risk assessment was carried out in all three pilot provinces based on the single guideline. The IRAPs in Samsun Province and Kahramanmaraş Province were approved by the respective Governorship in 2020, and the preparation of the IRAP was ongoing in Bursa Province as of May 2021.

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

The Overall Goal was partially achieved by the time of ex-post evaluation. According to AFAD HQ, AFAD staff members in the country obtained sufficient capacity to coordinate with relevant ministries and provinces to implement disaster risk management activities, which were shown by: 1) such activities were part of routine work of AFAD personnel, and they enhanced their capacity through experience; 2) IRAPs were completed successfully in seven provinces by the coordination and guidance by the respective provincial AFADs; and 3) staff members of AFAD HQ improved their capacity by preparation of the guidelines under this project and upgrading of them after project completion (Indicator 1). Although the preparation of IRAPs is behind the schedule of the Action Plan for DRRP (IRAP) prepared through the training in Japan under this project, the preparations are very fast considering the date of approval of the single guideline (i.e., November 2020). According to AFAD HQ, IRAPs will be completed and approved in all provinces by the end of 2021 (Indicator 2).

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

No negative impacts were observed. According to AFAD HQ, there were positive impacts in the provinces regarding the creation of safe cities by disaster mitigation efforts based on IRAPs. However, implementation of mitigation activities (investments in super and infrastructures, schools, hospitals, etc.) was being done step by step by the related institutions.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

⁵ The Terminal Evaluation Report stated that there was a “long internal process of JICA to preside the dispatch of JET, frequent relocation top-management personnel in AFAD leading to the lack of sustained prioritization of the Project.” See the footnote 2 for the reason for the suspension the dispatch of JET.

| Aim | Indicators | Results | Source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|---|--|---|-------------------------|-------------------------------------|----------------|--|----------------|--|----------------|---|----------------|--|----------------|--|------|----|----------------------------|---|--------------|-----------|----------------------------|---|------------|----|--|--|-------------|----|-------------|
| (Project Purpose) The capability of AFAD central and Provincial AFADs for disaster risk management is improved. | Indicator 1 The guidelines* are officially approved by AFAD. * The guidelines refer to “the guidelines on disaster risk assessment and DRRP” according to the logical framework. | Status of the Achievement (Status of the Continuation): not achieved (continued) (Project Completion) Activities towards the approval of the guidelines planned in the logical framework <table border="1"> <thead> <tr> <th>Planned activity</th> <th>Status by March 2017</th> </tr> </thead> <tbody> <tr> <td>Preparation of draft guidelines</td> <td>Completed.</td> </tr> <tr> <td>Approval of draft guidelines by JCC</td> <td>Not completed.</td> </tr> <tr> <td>Utilization of draft guidelines in risk assessment and DRRP formulation in the pilot provinces</td> <td>Not conducted.</td> </tr> <tr> <td>Feedback based on the lessons learned in the pilot provinces to the draft guidelines</td> <td>Not conducted.</td> </tr> <tr> <td>Identification of process of approving guidelines</td> <td>Not conducted.</td> </tr> <tr> <td>Approval of the guidelines by AFAD (Project Purpose Indicator 1)</td> <td>Not conducted.</td> </tr> </tbody> </table> (Ex-Post Evaluation) After project completion, AFAD HQ improved the above-mentioned draft guidelines into a single guideline, the Provincial Disaster Risk Mitigation Plan Preparation Guideline, and approved and distributed it to all provinces. | Planned activity | Status by March 2017 | Preparation of draft guidelines | Completed. | Approval of draft guidelines by JCC | Not completed. | Utilization of draft guidelines in risk assessment and DRRP formulation in the pilot provinces | Not conducted. | Feedback based on the lessons learned in the pilot provinces to the draft guidelines | Not conducted. | Identification of process of approving guidelines | Not conducted. | Approval of the guidelines by AFAD (Project Purpose Indicator 1) | Not conducted. | source: Terminal Evaluation Report; Questionnaire and interview with AFAD HQ | | | | | | | | | | | | | | | |
| | Planned activity | Status by March 2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preparation of draft guidelines | Completed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Approval of draft guidelines by JCC | Not completed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Utilization of draft guidelines in risk assessment and DRRP formulation in the pilot provinces | Not conducted. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feedback based on the lessons learned in the pilot provinces to the draft guidelines | Not conducted. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Identification of process of approving guidelines | Not conducted. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Approval of the guidelines by AFAD (Project Purpose Indicator 1) | Not conducted. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indicator 2 Disaster Risk Reduction Planning activities are started in the pilot provinces. | Status of the Achievement (Status of the Continuation): partially achieved (continued) (Project Completion) AFAD HQ started DRR planning activities in the pilot provinces by organizing an IRAP informative workshop inviting provincial AFADs and municipalities from the three pilot provinces but did not result in the formulation and implementation of IRAPs in the pilot provinces. (Ex-Post Evaluation) Provinces, including the three pilot provinces of this project, started to prepare IRAPs. | source: Terminal Evaluation Report; Questionnaire and interview with AFAD HQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) Capacity in disaster risk management through risk assessment is enhanced throughout the country. | Indicator 1 AFAD staff members obtain capacities to coordinate with relevant ministries and provinces to implement disaster risk management activities. | | (Ex-Post Evaluation) achieved AFAD HQ considers the capacity is enough based on the following. 1) Disaster risk management activities are part of the routine work of AFAD personnel, and they enhanced their capacity through experience. 2) IRAPs were completed successfully in seven provinces by the coordination and guidance by the respective provincial AFADs. 3) Staff members of AFAD HQ improved their capacity by preparing the guidelines under this project and upgrading them after project completion. | source: Questionnaire and interview with AFAD HQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2 The number of Local Disaster Risk Reduction Plans is increasing at the provincial level. | (Ex-Post Evaluation) not achieved Number of provinces in which DRPP was prepared/approved <table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th rowspan="2">Plan as per the Action Plan for DRRP prepared through the training in Japan</th> <th colspan="2">Actual (as of May 2021)</th> </tr> <tr> <th>Prepared (*)</th> <th>Approved (*)</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>3 (pilot provinces)</td> <td>-</td> <td>-</td> </tr> <tr> <td>2018</td> <td>12</td> <td>-</td> <td>-</td> </tr> <tr> <td>2019</td> <td>26</td> <td>1 province (Kahramanmaraş)</td> <td>-</td> </tr> <tr> <td>Total</td> <td>41</td> <td>1 province (Kahramanmaraş)</td> <td>-</td> </tr> <tr> <td>(Ref) 2020</td> <td>40</td> <td>6 provinces (Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana)</td> <td>7 provinces (Karamanmaraş, Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana)</td> </tr> <tr> <td>Grand total</td> <td>81</td> <td>7 provinces</td> <td>7 provinces</td> </tr> </tbody> </table> (* The IRAP's of the remaining 74 provinces are being prepared and expected to be completed and approved by the end of 2021. | Year | | Plan as per the Action Plan for DRRP prepared through the training in Japan | Actual (as of May 2021) | | Prepared (*) | Approved (*) | 2017 | 3 (pilot provinces) | - | - | 2018 | 12 | - | - | 2019 | 26 | 1 province (Kahramanmaraş) | - | Total | 41 | 1 province (Kahramanmaraş) | - | (Ref) 2020 | 40 | 6 provinces (Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana) | 7 provinces (Karamanmaraş, Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana) | Grand total | 81 | 7 provinces |
| Year | Plan as per the Action Plan for DRRP prepared through the training in Japan | Actual (as of May 2021) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Prepared (*) | Approved (*) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | 3 (pilot provinces) | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 12 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2019 | 26 | 1 province (Kahramanmaraş) | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 41 | 1 province (Kahramanmaraş) | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Ref) 2020 | 40 | 6 provinces (Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana) | 7 provinces (Karamanmaraş, Samsun, Afyonkarahisar, Rize, Tekirdağ, Sivas, Adana) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grand total | 81 | 7 provinces | 7 provinces | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

3 Efficiency

Both the project cost and the project period were within the plan (ratio against the plan: 51% and 100%, respectively). However, it should be noted that the project cost was lower than planned since the JET was not dispatched as planned from the second year. Also, due to some institutional arrangement, some of the Outputs of the project were not produced as planned. And we cannot verify that the decrease in the Outputs is commensurate with the decrease in the Inputs. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The importance of DRR is well-enough underlined in national development plans. The 11th National Development Plan (2019-2023)

underlined the importance of DRR in chapter “2.4. Livable Cities, Sustainable Environment.” Under this chapter, it is stated as “722.2. Provincial disaster risk reduction plans will be prepared by taking priority disaster types into consideration to reduce disaster hazards and risks” in the sub-chapter of “2.4.8. Disaster Management.” Besides, the UDSEP (2012-2023) is still effective at the time of ex-post evaluation. Furthermore, the Climate Change Action Plan (2011-2023) and the Climate Change Adaptation Strategy and Action Plan (2011-2023) under the responsibility of the Ministry of Environment and Urbanization also support the improvement of DRR.

<Institutional/Organizational Aspect>

The organizational setup at the central and provincial levels to promote DRRPs (IRAPs) is ensured. AFAD established working groups both at provinces and its HQs and assigned staff to deal with the preparation of IRAPs. According to AFAD HQ, the number of staff allocated at the HQ and provinces depends on the needs, but it is sufficient since available personnel works for the given subjects.

<Technical Aspect>

AFAD seems to provide knowledge and experience sharing among staff members who are in charge of IRAPs. In addition to the findings mentioned in <Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation> above, AFAD HQ commented that to enhance capacities of staffs, training seminars were provided when needed in addition to regular studies on DRR at both the central and provincial levels.

<Financial Aspect>

So far, no budget constraints for the preparation of IRAPs have been observed. According to AFAD HQ, there is no specific budget for IRAP preparation, but AFAD’s own budget is utilized, and no budgetary constraints have been faced.

<Evaluation Result>

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

5 Summary of the Evaluation

The project partially achieved the Project Purpose by the time of project completion. Although the draft guidelines on disaster risk assessment and DRRP was prepared, it was not approved by AFAD. Also, provincial AFADs did not start the formulation of IRAPs. After project completion, however, the guidelines were upgraded into a single guideline, and provinces started to formulate IRAPs. The Overall Goal of improving the capacity of disaster risk management in Turkey was partially achieved. The improvement of the capacity was observed, and the formulation of IRAPs progressed. This pace accelerated after the approval of the single guideline in 2020, although the target was not reached until then. No problem was found on sustainability. As for efficiency, both the project cost and the project period were within the plan, but some of the Outputs were not produced as planned.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

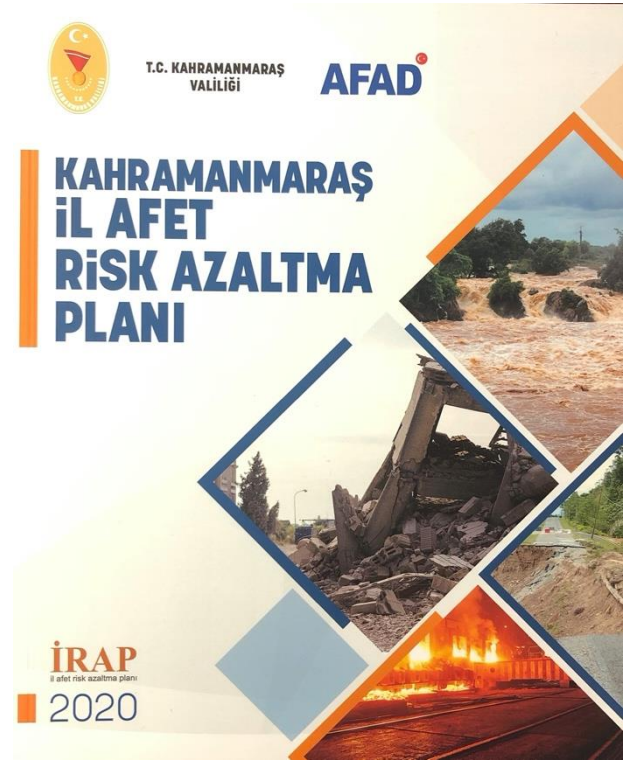
- Although IRAPs would have been completed in all provinces (81) in 2020, still 74 are in preparation and expected to be completed and approved by the end of 2021. In addition, after the approval stage, the most essential part is investments and improvements based on the plan to mitigate the risks. As a disaster-prone country, preparation of IRAPs and their implementation, such as investments and improvements, need to be done as soon as possible by all relevant ministries and organizations to mitigate the possible loss and damages in Turkey. AFAD HQs and provincial AFADs are recommended to facilitate such an implementation process.

Lessons Learned for JICA:

- The project timetable in line with the preparation of IRAPs and even to some extent covering implementation of the plans in some provinces could have been set during project planning or modified during the project implementation appropriately.
- The draft guidelines prepared during the projects seem not practical to use by the provincial level; thus, AFAD HQ improved it into the single guideline used by all provinces. It is recommendable that when preparing a tool like guidelines, manuals, etc., user’s opinions need to be reflected well enough, and some practices in their utilization should be confirmed during the project implementation for a smooth outcome.



İRAP Guideline



Kahramanmaraş İRAP

| | |
|------------------------|---|
| Country Name | Project on Promoting Sustainability in Rural Water supply, Hygiene and Sanitation in Niassa Province |
| Republic of Mozambique | |

I. Project Outline

| | | | | | | | | | | | |
|--|---|--------------|--|---------------|-----------------|------------------------|--------------------------------|---------------------------------|---------------------------------|--|--|
| Background | <p>Since Niassa Province had not been the subject of large-scale assistance from development partners, construction of new water supply facilities had not progressed and Niassa was the only province in the country where the water supply rate was declining. Therefore, there was still high demand for rural water supply and sanitation projects.</p> <p>*At the time of ex-ante evaluation, the average water supply rate in Niassa Province was higher (69,8%) than the national average (50.9%). However, the actual population who did not access to safe water was believed to be larger. After the modification of calculation methods of water supply rate by the Government of Mozambique in 2013 (before: 1 water point = 500 people; after: 1 water point = 300 people), the rate in Niassa (36.45%) became lower than the national average (52.0%) .</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through (i) improving capacity of planning and preparation for water supply, sanitation and hygiene activities, (ii) constructing water points and latrines, (iii) enhancing capacity of operation and maintenance (O&M) of the water points in the target districts, (iv) improving hygiene behavior of the local residents in the target districts and (v) disseminating the know-how of the project to other districts and at the national level, the project aimed at improving water supply and sanitation in the target districts, thereby contributing to improvement of the water supply and sanitation in Niassa province.</p> <ol style="list-style-type: none"> Overall Goal: Improve the situation of water supply and sanitation in Niassa Province. Project Purpose: Improve the situation of water supply and sanitation in target districts through institutional capacity building of DPOPH/DAS and SDPIs. | | | | | | | | | | |
| Activities of the project | <ol style="list-style-type: none"> Project site: Mavago, Mandimba, Majune, and Muembe Districts in Niassa Province Main activities: Through (i) strengthening capacity of planning and preparation for water supply, sanitation and hygiene activities, (ii) construction of water points and latrines, (iii) enhancement of capacity of O&M of the water points in the targets districts, (iv) improvement of hygiene behaviour of the local residents in the target districts and (v) dissemination of know-how of the project to other district and at the national level. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Mozambique Side</td> </tr> <tr> <td>1) Experts: 10 persons</td> <td>1) Staff allocated: 29 persons</td> </tr> <tr> <td>2) Trainees received: 7 persons</td> <td>2) Office space for the Project</td> </tr> <tr> <td>3) Equipment: Vehicles, motorbikes, equipment and materials necessary for the project activities (spare parts for handpump, computer, generator, digital camera, GPS and others)</td> <td>3) Cost for project: Transportation/per diem of C/P and fuel for motorbikes, and other activity cost</td> </tr> </table> | | | Japanese Side | Mozambique Side | 1) Experts: 10 persons | 1) Staff allocated: 29 persons | 2) Trainees received: 7 persons | 2) Office space for the Project | 3) Equipment: Vehicles, motorbikes, equipment and materials necessary for the project activities (spare parts for handpump, computer, generator, digital camera, GPS and others) | 3) Cost for project: Transportation/per diem of C/P and fuel for motorbikes, and other activity cost |
| Japanese Side | Mozambique Side | | | | | | | | | | |
| 1) Experts: 10 persons | 1) Staff allocated: 29 persons | | | | | | | | | | |
| 2) Trainees received: 7 persons | 2) Office space for the Project | | | | | | | | | | |
| 3) Equipment: Vehicles, motorbikes, equipment and materials necessary for the project activities (spare parts for handpump, computer, generator, digital camera, GPS and others) | 3) Cost for project: Transportation/per diem of C/P and fuel for motorbikes, and other activity cost | | | | | | | | | | |
| Project Period | March 2013-February 2017 | Project Cost | (ex-ante) 771million yen, (actual) 894 million yen | | | | | | | | |
| Implementing Agency | <ul style="list-style-type: none"> Ministry of Public Works and Housing (MOPH) /(National Directorate of Water Supply and Sanitation (DNAAS), formerly called DNA Provincial Directorate of Public Works, Housing and Water Resources (DPOPHRH), formally called DPOPH District Infrastructure and Planning Service (SDPI) in 4 Districts (Mavago, Mandimba, Majune, Muembe) | | | | | | | | | | |
| Cooperation Agency in Japan | Japan Techno Co., Ltd., IC Net Limited, Earth System Science Co., Ltd | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 pandemic, it was not possible to visit sites and conduct interviews. Information was collected through questionnaires and telephone/on-line interviews.

<Special Perspectives Considered in the Ex-Post Evaluation >

- The status of continuation of the project effects at the time of ex-post evaluation were taken as the part of the verifiable indicators of the Overall Goal and the factors affecting the achievement levels of the verifiable indicators of the Overall Goal.

I Relevance

<Consistency with the Development Policy of Mozambique at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Mozambique. “National Rural Water Supply and Sanitation Program” (Programa Nacional Abastecimento de Água e Saneamento: PRONASAR) (2010-2015) was formulated under the framework of the Sector Wide Approaches (SWAPs) to improve the rural water and sanitation.

<Consistency with the Development Needs of Mozambique at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Mozambique for the water supply as mentioned above (“Background”)

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

The project was consistent with Japan’s ODA policy to Mozambique. Human Resource Development including expanding access to safe water through developing of water supply facilities was one of the priority areas of ODA to Mozambique¹.

¹ ODA Databook 2012

<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 partially achieved. The reduction of the number of people affected by waterborne diseases in the target districts did not reach the target (Indicator 1). However, this indicator can increase or decrease due to different factor besides them such as food conservation methods, population behavior. The number of beneficiaries with access to water supply in the target districts achieved the target (Indicator 2), and capacity of DPOPH/DAS and SDPI improved (Indicator 3).

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

The effects of the project such as the number of population with access to water supply, have partly continued after the project was completed. As mentioned above, the status of continuation of the project effects at the time of ex-post evaluation were taken as the part of the verifiable indicators of the Overall Goal and the factors affecting the achievement levels of the verifiable indicators of the Overall Goal.

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

The Overall Goal was partially achieved. Concerning the indicator 1, the reduction by 5% of the number of people affected by waterborne diseases was not achieved as the number increases between 2016 and 2019, especially in the case of diarrhea. However, as mentioned above, other factors may influence the waterborne diseases. Concerning the indicator 2, there was 80% increase in the number population with access to water supply in the Niassa province from 2016 to 2019, and a lot more than 2% in each of the target district. Therefore, the indicator 2 was achieved. This resulted from the government's interventions in each target district as well as province through the construction of new water supply facilities in some towns, particularly in some health centers and secondary schools. Budget for the annual implementation plans of DPOPHRH and SDPI has been not consistent, though the budget secured has been mainly directed to the construction of new water points. Mandimba district secured more budget (due to the large population) and resulted in the highest number of new constructions. Nonetheless, the need for expansion was high, according to SDPI of Mandimba.

The target districts together with DPOPH were expected to transfer techniques to non-target districts. The technician from the Majune district were not able to transfer knowledge to other districts, on the other hand in the case of Mavago and Mandimba, the technicians shared knowledge on the National System for Water and Sanitation Information (SINAS). In the case of Muembe, the knowledge was shared to 4 different districts. The three manuals under the project have been utilized by the four districts to promote hygiene and sanitation and for the better maintenance of the facilities.

The target districts supported the activation of water committees: They have encouraged rational management of water fee, accountability and good leadership in order to ensure the sustainability of the water points (maintenance). However, in the district of Mandimba, due to the lack of transparency and conflicts within the water committee there was a decrease in the number of water committees from 33 in 2017 to 8 in 2019. To overcome the situation, the SDPI is revitalizing the water committees and trying to raise the awareness of the local communities about the importance of the water committees. DPOPHRH thinks using water fees to buy necessary spare parts, even when it is not urgently needed (stock) may reduce some community conflicts, especially lack of trust, and also prevent people from spending money for unrelated or unnecessary activities. Also, the water committees can avoid keeping money in cash at home (which is not safe).

Most of the facilities constructed/rehabilitated facilities under the project have been functioning and utilized after the project completed (96%), though some need to be repaired.

After-project status of the facilities constructed under the project

| | Number of facilities functioning |
|-----------------------------------|----------------------------------|
| Newly constructed 50 water points | 49 |
| Rehabilitated 65 water points | 62 |
| Constructed 20 school latrines | 19 |

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

According to SDPIs of the target districts, there was no negative impact on the natural environment.

There have been positive impacts related to gender. According to Mavago, Majune and Muembe districts, the project has contributed to the empowerment of women in the local communities, promoting the leadership and involvement of women in the management of water committees. In Mavago district, the project also has contributed to the reduction of the time that women need to find water, which is considered as another positive impact on gender. In Mandimba district, positive impacts on gender by the project were also reported. According to the SDPI, the design of school latrines took into consideration the privacy of girls as there was a separation inside the toilets, which secures each girl's own privacy when using the toilet.

SDPIs reported that the project had positive impacts on the natural environment as it contributed to reduce/eliminate open defecation practice in many communities of the target districts, improving the sanitation.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | | | | | |
|--|--|---|----------|-----------|---------|----------|-----------|-------------------|----------|-----------|---------|
| (Project Purpose) Improve the situation of water supply and sanitation in target districts through institutional capacity | Indicator 1: Reduction by 10% of the number of people affected by waterborne diseases in the target Districts. | Status of the achievement: not achieved (Project completion) | | | | | | | | | |
| | | 2013 | | | 2015 | | | Percentage Change | | | |
| | | | Diarrhea | Dysentery | Cholera | Diarrhea | Dysentery | Cholera | Diarrhea | Dysentery | Cholera |
| | | Mavago | 1,381 | 213 | 0 | 1,908 | 374 | 0 | 38% | 76% | 0% |
| Muembe | 2,935 | 390 | 0 | 2,591 | 409 | 0 | -12% | 5% | 0% | | |

| | | | | | | | | | | | |
|---|--|--|---------|---------|---------|---------|--------------------------|-------|------|------|------|
| building of DPOPH/DAS* and SDPIs. *Departamento de Água e Saneamento (Water and Sanitation Department) | | Majune | 2,225 | 658 | 0 | 4,346 | 703 | 1 | 95% | 7% | 100% |
| | | Mandimba | 7,152 | 1,999 | 0 | 6,410 | 1,288 | 0 | -10% | -36% | 0% |
| | | Total in 4 Districts | 13,693 | 3,260 | 0 | 15,255 | 2,774 | 1 | 11% | -15% | 100% |
| | | Province | 77,683 | 15,501 | 468 | 97,062 | 16,365 | 1,080 | 25% | 6% | 131% |
| | | Source: Provincial Directorate of Health (Ex-post Evaluation) Refer to the Overall Goal below. | | | | | | | | | |
| | Indicator 2: Increase of 33,600 beneficiaries with access to water supply in the target Districts. | Status of the achievement: achieved (Project completion) - A total of 115 water supply facilities were available, including 50 deep well water supply facilities with new hand pumps and 65 rehabilitations of existing hand pumps. - No. of Beneficiaries: 115 water points x 300 people = 34,500 people have access to safe water. (Ex-post Evaluation) Refer to the Overall Goal below. | | | | | | | | | |
| | Indicator 3: Improve capacity of DPOPH/DAS and SDPIs in evaluation test. | Status of the achievement: achieved (Project completion) The capacity of the staff of DPOPHRH/DAS and SDPI was evaluated based on pre-defined capacity check list. In the mid-term assessment, it is considered that 80% of the targeted level was achieved. (Ex-post Evaluation) Refer to the Overall Goal below. | | | | | | | | | |
| (Overall Goal) Improve the situation of water supply and sanitation in Niassa Province. | Indicator 1: Reduction by 5% of the number of people affected by waterborne diseases in Niassa Province. | (Ex-post Evaluation) not verified Waterborne diseases in Niassa Province | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Diarrhea | 57339 | 52282 | 72640 | 74333 | 30% | | | | |
| | | Dysentery | 12604 | 15154 | 12834 | 10957 | -13% | | | | |
| | | Cholera | 79 | 2 | 10 | 8 | -90% | | | | |
| | | Source: Provincial Directorate of Health (DPS) Waterborne diseases in Mavago | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Diarrhea | 1329 | 1327 | 1782 | 2222 | 67% | | | | |
| | | Dysentery | 174 | 209 | 291 | 338 | 94% | | | | |
| | | Cholera | 0 | 0 | 0 | 0 | - | | | | |
| | | Source: District Service of Health, Women and Social Welfare (SDSMAS) Mavago Waterborne diseases in Mandimba | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Diarrhea | 6689 | 5460 | 4825 | 5568 | -17% | | | | |
| | | Dysentery | 1242 | 1075 | 847 | 681 | -45% | | | | |
| | | Cholera | 0 | 0 | 0 | 0 | - | | | | |
| | | Source: District Service of Health, Women and Social Welfare of Mandimba Waterborne diseases in Majune | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Diarrhea | 2795 | 2576 | 2123 | 3086 | 10% | | | | |
| | | Dysentery | 506 | 588 | 417 | 480 | -5% | | | | |
| | | Cholera | 0 | 0 | 0 | 0 | - | | | | |
| | | Source: SDSMAS Majune Waterborne diseases in Muembe | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Diarrhea | 2888 | 1600 | 1648 | 1488 | -48% | | | | |
| | | Dysentery | 384 | 236 | 232 | 205 | -47% | | | | |
| | | Cholera | 0 | 0 | 0 | 0 | - | | | | |
| | | Source: SDPI Muembe (Ex-post Evaluation) achieved Population with access to water supply | | | | | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | Change from 2016 to 2019 | | | | |
| | | Niassa Province as a whole | 370,000 | 490,475 | 626,936 | 667,586 | 80.4% | | | | |
| | | Muembe | 15,600 | 16,800 | 17,100 | 18,000 | 15.4% | | | | |
| | | Majune | 24,596 | 24,596 | 26,897 | 26,897 | 9.4% | | | | |

| | | | | | | | |
|--|---|---|--------|--------|--------|--------|-------|
| | | Mandim | 63,000 | 68,000 | 69,000 | 73,000 | 15.9% |
| | | Mavago | 13,200 | 15,600 | 14,100 | 15,300 | 15.9% |
| | Supplementary information 1 as a factor to the Indicator 2: | Supplementary information as a factor for the indicator 2: Number of water points newly constructed* (*No latrines were newly constructed) | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | |
| | | Niassa Province as a whole | 103 | 42 | 72 | 106 | |
| | | Muembe | 1 | 0 | 0 | 2 | |
| | | Majune | 5 | 1 | 0 | 0 | |
| | | Mandim | 3 | 0 | 3 | 13 | |
| | | Mavago | 5 | 1 | 0 | 0 | |
| | | Number of water points rehabilitated | | | | | |
| | | | 2016 | 2017 | 2018 | 2019 | |
| | | Niassa Province as a whole | 110 | 1 | 28 | 68 | |
| | | Muembe | 1 | 1 | 0 | 0 | |
| | | Majune | 20 | 6 | 7 | 1 | |
| | | Mandim | 20 | 0 | 8 | 3 | |
| | | Mavago | 10 | 0 | 0 | 0 | |

Source: DPOPHRH and SDPIs at the target districts

3 Efficiency

Although the project period was as planned (the ratio against the plan: 100%), the project cost slightly exceeded the plan (the ratio against the plan: 116%). The outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

There have been plans and policies in national level such as the Government's Five-year Plan (PQG) (2020-2024), and plan in district level such as District Development Plan (2018-2029) (PDD) which aim to promote construction of water supply systems and latrines that can support the dissemination of the projects outcomes.

< Institutional/Organizational Aspect>

There has been no change in the organizational structure of the implementing agencies to promote the outcomes of the project, and it is reported that it has been functioning well. The number of staff at the target districts have been sufficient, except in Muembe district due to insufficient budget. DPOPHRH reports that the number of staff has been insufficient.

<Technical Aspect>

The staff at DPOPHRH and the target districts sustained necessary skills and knowledge. In concern to the manual, they were sent to four districts and they are using the manual to improve sanitation and water facilities.

<Financial Aspect>

DPOPHRH could secure the budget to implement activities and to monitor facilities after the project, by using regular budget (The budget of personnel expenses is excluded). As mentioned above, the budget for the annual implementation plans has been inconsistent in the target district. Majune district stated that it had secured budget for the related activities. However, it is not defined when the budget will be available and how much; nonetheless, according to SDPI of Majune, the budget will come from the District Investment Fund. Other target districts did not secure budget because of insufficient/lack of specific budget designated only for the continuation of project activities.

Budget for the annual implementation plans

(Unit: MT)

| | 2016 | 2017 | 2018 | 2019 |
|----------|------------|------------|------------|------------|
| DPOPHRH | 26,811,000 | 37,126,518 | 39,356,159 | 22,356,159 |
| Mavago | 0 | 450,000 | 1,800,000 | 0 |
| Mandimba | 2,250,000 | 2,250,000 | 2,250,000 | 2,250,000 |
| Majune | 2,250,000 | 0 | 450,000 | 0 |
| Muembe | 300,000 | 0 | 0 | 390,000 |

<Evaluation Result>

In light of the above, problems have been observed in terms of the institutional/organizational and financial aspect. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project partially achieved the Project Purpose, as the number of beneficiaries with access to water supply in the target districts increased and capacity of the implementing agencies improved while the reduction in the number people affected by waterborne diseases in the target districts did not attain the target. The Overall Goal has been partially achieved, as the population with access to water supply in the Niassa province attained the target, while the reduction in the waterborne diseases did not. As for the sustainability, the problems in the financial aspect have been observed. As for the efficiency, the project cost slightly 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 (SDPIs and members of water committees):

- It is important to find a sustainable way to manage water committees in order to ensure, continuously, the maintenance of water points through the local communities' initiatives or interventions; for example, using water fees to buy necessary spare parts, even when it is not urgently needed (stock), so that the water committees can avoid keeping money in cash at home (which is not safe). This system may also reduce some community conflicts, especially lack of trust, and also prevent people from spending money for unrelated or unnecessary activities.

Lessons Learned for JICA:

- The indicator 1 for the Project Purpose and the Overall Goal were influenced by different factors beside the achievement of the project such as food conservation methods, population behavior. Therefore, it was not possible to make a direct correlation with the project outcomes and the indicator. At the time of project formulation, the selection of the indicator that can be influenced by factor more significantly than the outcomes of the project should be avoided.



Local community can access to safe water through water points constructed under the project



Sanitation in primary schools is improved through school latrines constructed under the project

| | |
|--------------------|---|
| Country Name | Project for Capacity Enhancement in Public Sector Investment Programming Phase 2 |
| Republic of Malawi | |

I. Project Outline

| | | | | | | | | | | | | | |
|---|--|--------------|---|---------------|-------------|-----------------------|--------------------------------|---|-----------------|--|---|-------------------------|--|
| Background | <p>The Republic of Malawi manages development projects (both new and on-going) in the next five years under Public Sector Investment Programme (PSIP), for effectively utilizing limited development resources. Under the PSIP Process, proposals of development projects by ministries are appraised in line with priority of the Malawi Growth and Development Strategy (MGDS), and linked to budgeting. From 2009 to 2011, JICA assisted in capacity and database development for the PSIP Process through a technical cooperation project titled “Capacity Enhancement in Public Sector Investment Programming” (hereinafter referred to as “the Phase I Project”). As a result, the number of projects without appraisal through the PSIP Process had decreased. However, issues remained such as inadequate criteria for appraising on-going projects (consisting of 80% of the PSIP at the time of ex-ante evaluation) as well as insufficient coordination among ministries. Thus, further assistance to improving the PSIP Process was requested by the Government of Malawi.</p> | | | | | | | | | | | | |
| Objectives of the Project | <p>Through i) improving database and manuals, ii) harmonizing the PSIP Process with planning and budgeting processes, and iii) building capacity to use the improved database in the PSIP Unit and line ministries, the project aimed to increase efficiency and harmonization of PSIP operation, thereby enabling the development project cycle in Malawi efficient and effective.</p> <ol style="list-style-type: none"> Overall Goal: The development project cycle will be efficient and effective. Project Purpose: Public Sector Investment Programme (PSIP) is operated with increased efficiency and enhanced harmonisation within the public financial and economic management framework. | | | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Lilongwe Main Activities: <ol style="list-style-type: none"> To review the utilisation status of the database and manuals developed under the Phase I Project, and to improve them especially for appraising on-going projects. To review and improve the PSIP Process in planning by line ministries, and to link the PSIP Process with budgeting process under the Budget Division. To prepare and conduct a training program on the improved database and manuals on the PSIP Process. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Malawi Side</td> </tr> <tr> <td>1) Experts: 6 persons</td> <td>1) Staff Allocated: 23 persons</td> </tr> <tr> <td>2) Trainees Received: 17 persons in Japan, 9 persons in Tanzania or Kenya</td> <td>2) Office space</td> </tr> <tr> <td>3) Equipment: Copy machines, a server machine, and computers, etc.</td> <td>3) Operational expenses (including travel costs for field verification as a part of PSIP appraisal)</td> </tr> <tr> <td>4) Operational expenses</td> <td></td> </tr> </table> | | | Japanese Side | Malawi Side | 1) Experts: 6 persons | 1) Staff Allocated: 23 persons | 2) Trainees Received: 17 persons in Japan, 9 persons in Tanzania or Kenya | 2) Office space | 3) Equipment: Copy machines, a server machine, and computers, etc. | 3) Operational expenses (including travel costs for field verification as a part of PSIP appraisal) | 4) Operational expenses | |
| Japanese Side | Malawi Side | | | | | | | | | | | | |
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| 2) Trainees Received: 17 persons in Japan, 9 persons in Tanzania or Kenya | 2) Office space | | | | | | | | | | | | |
| 3) Equipment: Copy machines, a server machine, and computers, etc. | 3) Operational expenses (including travel costs for field verification as a part of PSIP appraisal) | | | | | | | | | | | | |
| 4) Operational expenses | | | | | | | | | | | | | |
| Project Period | (ex-ante) Jan. 2013 – June 2016 (actual) Apr. 2013 – Sept. 2017 | Project Cost | (ex-ante) 423 million yen, (actual) 598 million yen | | | | | | | | | | |
| Implementing Agency | <p>The PSIP Unit of the Department of Economic Planning and Development under the Ministry of Finance Economic Planning and Development (MFEPD)* * The Ministry of Economic Planning and Development and Public Sector Reforms (at the time of ex-post evaluation)</p> | | | | | | | | | | | | |
| Cooperation Agency in Japan | Koei Research & Consulting Inc. | | | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to COVID-19 pandemic, the evaluation judgement was made by analyzing information acquired by sending and collecting a questionnaire, and through telephone interviews with officials concerned. No interviews by visiting the implementing agency were conducted.

<Special Perspectives Considered in the Ex-Post Evaluation>

- To verify the continuation status of the PSIP Process, Project Purpose Indicators (1,2 and 4) and an Output Indicator (2-2) were examined, since these indicators would show how the PSIP Process had been operated efficiently through harmonizing the appraisal process with planning and budgeting processes. (Project Purpose Indicator 3 was not re-examined under this ex-post evaluation, since it was not easy to conduct another survey with officials, and the above indicators were sufficient for evaluation judgement.)

1 Relevance

<Consistency with the Development Policy of Malawi at the Time of Ex-Ante Evaluation>

The Project was planned and initiated in line with Malawi’s national development plan, “Malawi Growth and Development Strategy II (MGDS II) (2011–2016)”. The MGDS II includes governance improvement as one of its six (6) themes, and “Public Financial and Economic Management Reform Program (PFEM-RP) (2011-2014)” was issued in 2011 as a program to improve economic governance. Under the PEFM-RP, strengthening of the PSIP Process was aimed and prioritized.

<Consistency with the Development Needs of Malawi at the Time of Ex-Ante Evaluation>

As mentioned in “Background” above, further assistance to improving the PSIP Process was necessary especially for i) appraising on-going projects, and ii) harmonizing the appraisal process with planning and budgeting processes.

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

“Country Assistance Policy for the Republic of Malawi (2012)” emphasized “human resources development” under “Points to be

considered". The policy stated, "It is necessary to support the development of human resources and enhancement of organizational capability in an administrative field from the long-term view not only for Malawi but also for Japan's effective provision of assistance". The Project aimed to enhance organizational capability in financial administration of Malawi, and thus aligned with the Japan's ODA Policy.

<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 achieved at the time of project completion. Under the Project, the templates and database of projects were improved such that incomplete proposals were not accepted. In addition, "Quarterly Progress Report" and "Extension Request Form" were introduced for on-going projects (Indicator 1). The observance ratio of deadlines of the PSIP Process was as low as 29% in FY 2016/17, due to introduction of "new" templates/database, which improved to 47% (against the target of 90%) at project completion in FY2017/2018 (Indicator 2). Improvement in efficiency of the PSIP Process was evaluated highly by both ministries (who submit project proposals), and the PSIP Unit (who appraise the proposals) (Indicator 3). The consistency between the PSIP database with the budget book was also improved (Indicator 4).

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

The project effects have been partially continued till the time of ex-post evaluation, but there is room to improve the efficient cycle (planning, appraising and budgeting) of the PSIP Process.

The templates and database developed by the project have been continuously well utilized (Project Purpose Indicator 1). As measured by "Output Indicator 2-2" in the table below, one issue at project completion was that the ratio of development projects which did not pass the PSIP Process did not reach its target of less than 20%. After project completion, however, this indicator has remarkably improved to 3.1%, thanks to continuous orientation for ministries to submit all the projects to the PSIP Unit for appraisal. Thus, the PSIP Process in the planning stage has been improved.

Output Indicator 2-2: Percentage of Development Projects Which Did Not Pass the PSIP Process

| F/Y | % | Sources |
|------------------------------|----------------|--|
| 2015/16 | 29.3 | Terminal Evaluation Report |
| 2016/17 | Not available | - |
| 2017/18 (Project Completion) | 22 (Target:20) | Project Completion Report |
| 2018/19 | 8.6 | 2018/19 Approved Development Budget Document |
| 2019/20 | 14.5 | 2019/20 Approved Development Budget Document |
| 2020/21 | 3.1 | 2019/20 Approved Revised Development Budget Document |

On the other hand, the observance ratio of deadlines of submitting proposals has recently remained around 60%, although the value improved after project completion (Project Purpose Indicator 2). This is due to lack of staff in ministries to prepare and submit proposals to the PSIP Unit. Moreover, the degree of consistency between the PSIP database with the budget book has been decreasing after FY 2016/17 (Project Purpose Indicator 4). Since project commencement, it has been an issue that the budgeting process is not being fully harmonized with the PSIP Process. In other words, each ministry submits development project proposals to the PSIP Unit, whereas requesting development budget to the Budget Division, and thus development projects appraised through the PSIP Process are not necessarily examined for budgeting. This is a structural issue of the Government of Malawi, and with this constraint, the project attempted to increase the consistency between the PSIP database and the budget book through checking both. This structural issue, however, remains unresolved at the time of ex-post evaluation.

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

The Overall Goal has been achieved. To measure the Overall Goal, the indicator "Projects due for completion but requiring an extension not more than 15 percent" was set, then achieved in FY 2019/20 and 2020/21. One major issue at the commencement of the Project was inadequate criteria for appraising on-going projects which consisted of 80% of the PSIP. Unexpected extension of on-going projects used to encroach onto funding meant for new projects. Under the Project, "Quarterly Progress Report" and "Request Extension Form" were developed and submitted through the database by ministries to the PSIP Unit for appraising extension (or termination) of on-going projects, which improved predictability of funding. After completion of the Project, ministries have kept using the templates by uploading to the database, and have been prioritizing on-going projects to make sure they are completed.

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

No negative impacts have been observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---|--------------------------------------|--------------------------|--------------------------------------|---------------|----------------------------|----------------------------|---------------------------------|---------------------------|---------------------------------|---------|---------------------------|-----------------------|---------|--|---|---------|--|---|------|--|
| (Project Purpose) Public Sector Investment Programme (PSIP) is operated with increased efficiency and enhanced harmonisation within the public financial and economic management framework. | Indicator 1: Increased amount and elevated quality of information (both on new projects and on-going projects) available for an appraisal by PSIP Unit. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) - Through the templates and database improved/developed by the Project, sufficient information was provided from ministries to the PSIP Unit for both new and on-going projects. (Ex-Post Evaluation) - These templates and database are still utilized and make sufficient information available for the PSIP Unit to appraise projects. | Project Completion Report, Questionnaire with the PSIP Unit | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2: Improved observance ratio of the deadlines of PSIP Process by PSIP Unit and line ministries to 90%. | Status of the Achievement (Status of the Continuation): partially achieved (partially continued) (Project Completion)/ (Ex-Post Evaluation) | Refer to the table. | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">FY</th> <th style="text-align: center;">%</th> <th style="text-align: center;">Source</th> </tr> </thead> <tbody> <tr> <td>2016/17</td> <td style="text-align: center;">29</td> <td>Terminal Evaluation Report</td> </tr> <tr> <td>2017/18 (Project Completion)</td> <td style="text-align: center;">47</td> <td>Project Completion Report</td> </tr> <tr> <td>2018/19</td> <td style="text-align: center;">69</td> <td>2018/19 PSIP Document</td> </tr> <tr> <td>2019/20</td> <td style="text-align: center;">58</td> <td>2019/20 PSIP Outlook: Input to Development Budget Setting</td> </tr> <tr> <td>2020/21</td> <td style="text-align: center;">56</td> <td>2020/21 PSIP Outlook: Input to Development Budget Setting</td> </tr> </tbody> </table> | | | FY | % | Source | 2016/17 | 29 | Terminal Evaluation Report | 2017/18 (Project Completion) | 47 | Project Completion Report | 2018/19 | 69 | 2018/19 PSIP Document | 2019/20 | 58 | 2019/20 PSIP Outlook: Input to Development Budget Setting | 2020/21 | 56 | 2020/21 PSIP Outlook: Input to Development Budget Setting | | |
| | FY | % | | Source | | | | | | | | | | | | | | | | | | | |
| 2016/17 | 29 | Terminal Evaluation Report | | | | | | | | | | | | | | | | | | | | | |
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| 2018/19 | 69 | 2018/19 PSIP Document | | | | | | | | | | | | | | | | | | | | | |
| 2019/20 | 58 | 2019/20 PSIP Outlook: Input to Development Budget Setting | | | | | | | | | | | | | | | | | | | | | |
| 2020/21 | 56 | 2020/21 PSIP Outlook: Input to Development Budget Setting | | | | | | | | | | | | | | | | | | | | | |
| Indicator 3: Improved evaluation on the PSIP efficiency by the stakeholders (PSIP desk officers, Planning Section of line ministries, Budget Division, etc.) | Status of the Achievement: achieved (Project Completion) Survey on PSIP Efficiency Improvement from 2013 to 2016 March | Joint Terminal Evaluation Report | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Respondents</th> <th style="text-align: center;">No. of Respondents</th> <th style="text-align: center;">PSIP Process is improved</th> <th style="text-align: center;">Workload for PSIP Process is reduced</th> </tr> </thead> <tbody> <tr> <td>PSIP Unit</td> <td style="text-align: center;">10</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">90%</td> </tr> <tr> <td>Ministries</td> <td style="text-align: center;">60</td> <td style="text-align: center;">95%</td> <td style="text-align: center;">96%</td> </tr> </tbody> </table> | | | Respondents | No. of Respondents | PSIP Process is improved | Workload for PSIP Process is reduced | PSIP Unit | 10 | 100% | 90% | Ministries | 60 | 95% | 96% | | | | | | | | | |
| Respondents | No. of Respondents | | PSIP Process is improved | Workload for PSIP Process is reduced | | | | | | | | | | | | | | | | | | | |
| PSIP Unit | 10 | 100% | 90% | | | | | | | | | | | | | | | | | | | | |
| Ministries | 60 | 95% | 96% | | | | | | | | | | | | | | | | | | | | |
| Indicator 4: The number of votes* of which all budgeted projects in the budget book in given fiscal year are captured in the PSIP database will increase from 5 to 8. * “Votes” means ministries, departments and agencies who have a right to request for their budget. | Status of the Achievement (Status of the Continuation): achieved/ (not continued) (Project Completion)/ (Ex-Post Evaluation) | Refer to the table. | | | | | | | | | | | | | | | | | | | | | |
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| F/Y | No. of Votes | | Source | | | | | | | | | | | | | | | | | | | | |
| 2015/16 | 3 | | Terminal Evaluation Report | | | | | | | | | | | | | | | | | | | | |
| 2016/17 | 16 | | Project Completion Report | | | | | | | | | | | | | | | | | | | | |
| 2017/18 (Project Completion) | 14 | | ditto | | | | | | | | | | | | | | | | | | | | |
| 2018/19 | 11 | 2018/19 Approved Development Budget Document | | | | | | | | | | | | | | | | | | | | | |
| 2019/20 | 8 | 2019/20 Approved Development Budget Document | | | | | | | | | | | | | | | | | | | | | |
| 2020/21 | 5 | 2019/20 Approved Revised Development Budget Document | | | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) The development project cycle will be efficient and effective. | Projects due for completion but requiring an extension not more than 15 percent (every year). | (Ex-Post Evaluation) achieved | Refer to the table. | | | | | | | | | | | | | | | | | | | | |
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| F/Y | % | Sources | | | | | | | | | | | | | | | | | | | | | |
| 2015/16 | Not available | - | | | | | | | | | | | | | | | | | | | | | |
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| 2019/20 | 12.9 | Quarterly reports | | | | | | | | | | | | | | | | | | | | | |
| 2020/21 | 15.0 | Quarterly reports | | | | | | | | | | | | | | | | | | | | | |

3 Efficiency

Both the project cost and period exceeded the plan (ratio against the plan: 141% and 126% respectively). This is due to one-year extension of the project period for one more cycle of the PSIP Process, in order to secure self-reliant management by the PSIP Unit. Project’s Outputs were produced as planned. Therefore, the efficiency of the Project is fair.

4 Sustainability

<Policy Aspect>

In January 2021, under the new administration, the National Planning Commission published the country’s long-term vision, namely “Malawi 2063”. The Vision states “All projects in the Public Sector Investment Programme (PSIP) shall be aligned to the aspirations of the Vision. This is to ensure that their implementation is translated through the medium-term strategies to avoid curtailing and/or inclusion of projects simply for political expediency.” Currently, the Ministry of Economic Planning and Development and Public Sector Reforms is working on PSIP Policy and PSIP Act, specifically addressing the challenges of unregulated inclusion of PSIP projects into the budget. Moreover, amendment to the Public Finance Management Act, for providing a legal framework for the PSIP, is expected to be tabled in next sitting of the parliament.

<Institutional/Organizational Aspect>

The institutional setting remains unchanged, and the PSIP Unit (with 10 staff) plays the pivotal role to appraise development projects. At the beginning of every financial year, the PSIP Unit in collaboration with the Budget Division conducts a review meeting on the PSIP Process. The PSIP Unit conducts not only orientation workshops but also hands-on training for planners of ministries who are responsible to submit proposals to the PSIP Unit. One issue is that those staff to prepare/submit proposals are not sufficient. To fill in the high vacancy rate of planners, 40 economists have been recruited since June 2019, and oriented on the PSIP Process. Moreover, there are hardware issues such as inadequacy of computers and internet connectivity, and there is no plan to solve this issue at the time of ex-post evaluation.

<Technical Aspect>

The technical skills developed and transferred by the Project have been adequately utilized by the PSIP Unit and ministries. For example, all the developed tools for the PSIP Process, including the templates, database and manuals, have been used and functioning. On the other hand, the PSIP Unit considers that they lack in skills in appraisal, especially on how to conduct feasibility studies of large-scale projects. The intensive training is needed for such area, but there is no plan.

<Financial Aspect>

According to the PSIP Unit, regular funding is provided to ministries, but, due to general lack of government funding, the amount is not adequate enough to promote the PSIP Process. On the other hand, the evaluator observes the change of Government Administration has indicated more funding on the PSIP, since the PSIP is emphasized in “Malawi 2063”.

<Evaluation Result>

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

5 Summary of the Evaluation

The Project achieved the Project Purpose (i.e., PSIP is operated with increased efficiency and enhanced harmonization). The project effects have been partially continued, and the Overall Goal (i.e., The development project cycle will be efficient and effective.) has been achieved. Regarding the Sustainability, some problems have been observed in terms of the institutional/organizational, technical and financial aspects of the implementing agency, while the PSIP is being promoted in the policy aspect. 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 satisfactory.

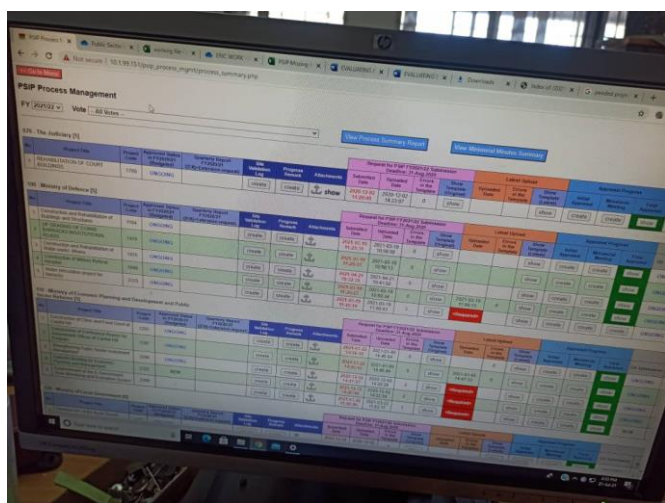
III. Recommendations & Lessons Learned

Recommendations for the National Government:

- It is recommended for the Ministry of Finance to increase funding which is necessary to sustain the PSIP Process. Although the templates and database developed by the project are well utilized, there is an issue of insufficient planners in ministries who are in charge of preparing and submitting proposals for the PSIP Unit, which impedes timely appraisal of development projects. To fill in the high vacancy rate of planners, 40 economists have been recruited since June 2019 and trained in the PSIP templates/database. Such countermeasures need to be continued and expedited. In addition, inadequacy of computers and internet connectivity is another issue to be resolved with more funding.

Lessons Leaned for JICA:

- This project aimed to harmonize the PSIP Process with planning and budgeting processes in the area of development projects. The PSIP Process with the planning process has been increasingly harmonized, and currently almost all the development project proposals are submitted to PSIP Unit for appraisal. On the other hand, since project commencement, it has been an issue the PSIP Process and budgeting process has not been fully harmonized. In other words, each ministry submits development project proposals to the PSIP Unit, whereas requesting development budget to the Budget Division. This structural issue of the Government of Malawi was not resolved during or after the project. As a lesson of this project, it is important to check the system of budget request by each ministry before implementing a project.



A Screen of PSIP Database



Hands-on Training for Encoding a PSIP Template

| | |
|--------------------|---|
| Country Name | [Phase 2] The Project on Strengthening of Mathematics And Science in Secondary Education (SMASSE) INSET Malawi Phase 2 |
| Republic of Malawi | [Phase 3] Project for Strengthening of Mathematics And Science in Secondary Education in Malawi |

I. Project Outline

| | | | |
|--|--|--|--|
| Background | <p>In Malawi, the quality of education suffered numerous challenges including lack of qualified secondary school teachers resulting in low Malawi School Certificate of Education (MSCE) pass rates. To address such issues, the Government of Malawi and JICA implemented a series of technical cooperation projects, SMASSE Phase 1 piloted 2004–2007 and scaled up as SMASSE Phase 2 (2008–2012). Both phases aimed to assist in developing Malawi's In-service Education and Training (INSET) system based on the concept of ASEI-PDSI (Activity, Student, Experiment and Improvisation-Plan, Do, See, and Improvement), which were developed under SMASSE projects in Kenya and then extended to other African countries.</p> <p>The Terminal Evaluation of SMASSE Phase 2 in 2012 documented successes. However, there remained significant challenges in improving the teaching capacity of most underqualified teachers and increasing the number of qualified teachers who know how to use practical teaching methodologies. Thus, SMASSE Phase 3 (2013–2017) was implemented to disseminate and sustain the outcomes of the preceding phases. While continuing to implement high-quality INSETs based on teachers' needs, SMASSE Phase 3 added a new components of Action Research and implementing practical methodology training for undergraduate students (trainees undergoing teaching practices) in pre-service teacher training (PRESET) institutions. This ex-post evaluation is for SMASSE Phase 2 and Phase 3.</p> | | |
| Objectives of the Project | <p>The project (Phase 2 and 3 combined) aimed to enable teachers in secondary mathematics and science education in Malawi to apply skills and knowledge acquired from INSET and PRESET through (1) strengthening Divisional Trainers' capacity, (2) strengthening National and Divisional INSET Centres, (3) implementing National and Divisional INSET as well as monitoring and evaluation (M&E), (4) strengthening the INSET management system, (5) incorporating the SMASSE approach in PRESET, and (6) conducting Action Research on INSET and PRESET at pilot schools, thereby improving the quality of teaching mathematics and science in secondary schools in Malawi.</p> <p>[Phase 2]</p> <ol style="list-style-type: none"> Overall Goal: The quality of teaching mathematics and science is improved in secondary schools in Malawi. Project Purpose: Quality INSETs for secondary mathematics and science teachers at Divisional level are provided. <p>[Phase 3]</p> <ol style="list-style-type: none"> Overall Goal: The quality of teaching mathematics and science is improved in secondary schools in Malawi. Project Purpose: The teachers in secondary mathematics and science education in Malawi apply skills and knowledge acquired through INSET and PRESET. | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Malawi Main activities: <ul style="list-style-type: none"> [Phase 2] <ol style="list-style-type: none"> Recruit and train National and Divisional Trainers Designate and launch National and Divisional INSET Centres Develop curriculum for-, implement and monitor & evaluate National and Divisional INSETs Establish INSET Committees; sensitize stakeholders; publicize INSET activities [Phase 3] <ol style="list-style-type: none"> Train National Trainers; review curriculum and training materials; and implement and monitor & evaluate National and Divisional INSETs Train or sensitize stakeholders from national to school levels; equip with National and Divisional INSET Centres with necessary materials; develop manuals/guidelines Sensitize PRESET institutions; incorporate the redefined ASEI/PDSI into course outlines of math and science education methodology Develop tests; conduct an assessment on students' perception in teaching and learning at pilot schools; prepare research documents and share them in Malawi and internationally Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> <p>Japanese Side</p> <p>[Phase 2] * As of Terminal Evaluation</p> <ol style="list-style-type: none"> Experts:(Long-term) 2 persons; (Short-term) 2 persons Trainees received: (Japan) 4 persons; (Malaysia, Kenya) 39 persons Equipment: Science equipment and chemicals, stationery, reference books, etc. Local cost <p>[Phase 3] * As of Terminal Evaluation</p> <ol style="list-style-type: none"> Experts: (Long-term) 4 persons; (Short-term) 4 persons Trainees received: (Japan) 55 persons; (Kenya, </td> <td style="width: 50%;"> <p>Malawian Side</p> <p>[Phase 2]</p> <ol style="list-style-type: none"> Staff allocated: 40 persons Land and facilities: Project office for the SMASSE Secretariat in Department of Teacher Education and Development (DTED), national INSET centre in Domasi College of Education, and divisional INSET centres (19 secondary schools nation-wide) Local cost: Cost for M&E and allowance and transportation for participants <p>[Phase 3]</p> <ol style="list-style-type: none"> Staff allocated: 23 persons Land and facilities: Project office (DTED), National INSET Centre (DCE), Divisional INSET Centres (19 </td> </tr> </table> | <p>Japanese Side</p> <p>[Phase 2] * As of Terminal Evaluation</p> <ol style="list-style-type: none"> Experts:(Long-term) 2 persons; (Short-term) 2 persons Trainees received: (Japan) 4 persons; (Malaysia, Kenya) 39 persons Equipment: Science equipment and chemicals, stationery, reference books, etc. Local cost <p>[Phase 3] * As of Terminal Evaluation</p> <ol style="list-style-type: none"> Experts: (Long-term) 4 persons; (Short-term) 4 persons Trainees received: (Japan) 55 persons; (Kenya, | <p>Malawian Side</p> <p>[Phase 2]</p> <ol style="list-style-type: none"> Staff allocated: 40 persons Land and facilities: Project office for the SMASSE Secretariat in Department of Teacher Education and Development (DTED), national INSET centre in Domasi College of Education, and divisional INSET centres (19 secondary schools nation-wide) Local cost: Cost for M&E and allowance and transportation for participants <p>[Phase 3]</p> <ol style="list-style-type: none"> Staff allocated: 23 persons Land and facilities: Project office (DTED), National INSET Centre (DCE), Divisional INSET Centres (19 |
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| | | | |
|-----------------------------|--|-------------------------------------|--|
| | Zambia, and Malaysia) 43 persons 3) Equipment: Laptop computers, projectors, printers, photocopiers, video cameras, lab apparatus, etc. 4) Local cost | Secondary Schools) 3) Local cost | |
| Project Period | [Phase 2] (ex-ante) August 2008 – August 2012 (actual) August 2008 – August 2012 [Phase 3] (ex-ante) April 2013 – March 2017 (actual) August 2013 – August 2017 | Project Cost | [Phase 2] (ex-ante) 321 million yen (actual) 346 million yen [Phase 3] (ex-ante) 424 million yen (actual) 263 million yen |
| Implementing Agency | Ministry of Education, Science and Technology (MoEST) | | |
| Cooperation Agency in Japan | – | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 pandemic, we were unable to conduct a field survey. Therefore, this evaluation is based on the information provided by the implementing agency and secondary data. For the same reason, detailed information was not available. Therefore, indicators for which sufficient data for verification were not available were determined to be “not verifiable.”

<Special Perspectives Considered in the Ex-Post Evaluation>

- Based on the logical relationship between the two phases and following the JICA’s framework of phase-integrated evaluation, this evaluation handled Phase 2 and Phase 3 as an integrated intervention (one project) and used the Overall Goal and Project Purpose of Phase 3 as those of the integrated intervention. To assess the achievement level of these objectives, used the indicators of Phase 3.
- The continuation status of project effects was assessed based on the status of the Project Purpose Indicator (including qualitative assessment) and key outputs, i.e., INSET, PRESET, and Action Research.

1 Relevance

<Consistency with the Development Policy of Malawi at the Time of Ex-Ante Evaluation >

At the time of Phase 2 ex-ante evaluation, this project was consistent with the Policy and Investment Framework 2000–2015, which aimed to improve education quality as one of the five objectives. The institutionalization of INSET and the continuous development of teachers for secondary education are included in the scope of the National Education Sector Plan (NESP) 2008–2017, the Education Sector Implementation Plan (ESIP) 2009–2013, and the National Strategy for Teacher Education and Development 2007–2017.

At the time of Phase 3 ex-ante evaluation, the project was consistent with the Malawi Growth and Development Strategy (MGDS) II 2011–2016. Also, SMASSE is stated as one of the national policies in ESIP II 2013–2018 (Policy 3.3 Teacher Training) and in the NESP (2008–2017).

<Consistency with the Development Needs of Malawi at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation of both Phases, this project was consistent with the needs for teacher training as mentioned in “Background” above.

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

At the time of Phase 2 ex-ante evaluation, the Japanese aid policy towards Malawi included “human resource development” as one of the three priority areas of assistance. This priority area included a subcomponent of “the dissemination and quality improvement of education.”¹

At the time of Phase 3 ex-ante evaluation, the Country Assistance Policy for the Republic of Malawi (2012) included “improvement of basic social services” as one of the two priority areas of assistance. The central components of this priority area were education and water. In the education sector, the Policy stated that “While most donor support is concentrated on primary education, the enrollment rate and quality of education in secondary education is overwhelmingly low. Therefore, Japan will focus on supporting the development and expansion of secondary education, in which Japan has a comparative advantage, and contribute to the creation of leaders for national development.”

<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 partially achieved by the time of the Phase 3 completion. First introduced to Southeast Education Division under Phase 1, INSET was in place nationwide by the end of Phase 2. Under Phase 3, PRESET and Action Research were introduced as planned. As a result, the ASEI/PDSI Index, a measure introduced by the project to assess the degree of teachers’ application of the ASEI/PDSI approach in lessons, showed steady improvement from 1.10 in 2009 to 2.15 in 2016 against the target of 2.50. However, it should be noted that this result does not reflect the effect of PRESET, which was newly introduced in Phase 3. Students in the teacher training institutions who studied under the new curriculum with the ASEI/PDSI principles had yet to become teachers since the related project activities had been delayed.

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

The project effects partially continued to the time of ex-post evaluation. Regarding INSET, the Ministry of Education, Science and Technology (MoEST) conducted National and Divisional INSETs every year. The number of participants in National INSETs was higher than during project implementation. Both National and Divisional INSET continued to have certain number of participants, it, however, was in decreasing trend in recent years. It may be suggested that such trend could lead to decrease in the number of teachers applying or getting new knowledge to continue the ASEI/PDSI principles. The 2020 INSETs failed and were postponed to 2021 due to the COVID-19 pandemic.

Regarding PRESET, with the continued incorporation of the ASEI/PDSI principles in their curriculum, the three teacher training institutions, namely, Chancellor College, Nalikule College of Education, and Domasi College of Education, assure that teachers who go

¹ ODA country data collection (2008)

through the PRESET programs have an opportunity to acquire and apply this practice in their teaching.

Action Research, which was envisaged to feed into and inform the designing of INSET and PRESET program, did not continue at the school or cluster level after the project, although there is a revival effort in the Research, Monitoring and Evaluation Department of DTED to bring it back. This would entail limited improvement in the designing of the INSET and PRESET programs because the basis for doing that was missing.

The continuation status of the Project Purpose Indicator could not be verified quantitatively as measurements for the ASEI/PDSI Index were not performed after project completion. However, it was somehow inferred qualitatively that teachers continued to use the ASEI/PDSI approach in lessons. Through the monitoring visits by DTED, most teachers were using ASEI/PDSI approach with confidence and applied knowledge gained from INSET and PRESET.

Implementation status of INSET and PRESET (Unit: persons)

| | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Number of teachers who participated in National INSET | 192 | 177 | 244 | - | 254 | - | 216 | 194 | 287 | 275 | 271 | - |
| Number of teachers who participated in Divisional INSET | - | 2,931 | 2,756 | - | 2,744 | | 2,962 | 3,107 | 2,912 | 2,484 | 2,637 | - |
| Number of teachers who learned methodologies with the syllabus including ASEI/PDSI in PRESET at Chancellor College | - | - | - | - | - | - | - | - | 63 | 62 | 73 | 112 |

Source: Phase 2 Terminal Evaluation Report, Phase 3 Terminal Evaluation Report, DTED, and Chancellor College

Note: INSET or PRESET were not conducted in some years due to lack of budget. The Divisional INSET in 2013/14 and 2014/15 constitute one batch.

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

The Overall Goal was partially achieved. The fact that teachers and head teachers ensure they do not miss INSET is an indication that they have seen and appreciated the benefits of the skills and knowledge they get from the INSETs. The teachers' longing for more trainings is an indication that they are willing to see more improvement in the way they teach and address any difficult areas and approaches in their teaching practices (Indicator 1). The results of the nationwide inspection conducted by Directorate of Quality Assurance Services (DQAS) in 2019 showed that the science and mathematics lessons are at least partially meeting the target achievement levels of the National Education Standards set by the project (Indicator 2).

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

No negative impacts have been observed. Regarding positive impacts, we collected data of Malawi School Certificate Examination (MSCE) pass rates, which is the indicator for the Super Goal of this project of improving students' achievement in secondary mathematics and science in Malawi.² A growing improvement in the MSCE results is seen for both boys and girls. Although it is difficult to examine correlation, this can be partly attributed to the quality teaching that teachers practice in the schools, as advocated by the project. The fact that majority of secondary school learners are in community day secondary schools which have the least qualified teachers, it is important to note that the improvement in the results of the MSCE could be an indication that more teachers in those schools have acquired confidence and improved their skills in the teaching of science subjects as a result of the project's initiatives.

| Year | MSCE (%) | | |
|------|----------|-------|-------|
| | Boys | Girls | All |
| 2016 | 62 | 50 | 57 |
| 2017 | 59 | 50 | 56 |
| 2018 | 66 | 53 | 60 |
| 2019 | 69 | 57 | 63 |
| 2020 | 47.32 | 34.64 | 41.42 |

Source: NESP, 2000

Note: Data on performance in mathematics and science by gender is not available.

<Evaluation Result>

Therefore, the combined effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source | | | | | | | | | | |
|--|---|--|--|------|------|------|------|------|------|-----------------|-----|-----|-----|
| (Project Purpose) The teachers in secondary school mathematics and science education in Malawi apply skills and knowledge acquired through INSET and PRESET teaching. | Indicator | Status of the Achievement (Status of the Continuation): Partially achieved (Not verifiable) | source: Phase 3 Terminal Evaluation Report, DTED | | | | | | | | | | |
| | Secondary mathematics and science lessons sampled nationally obtain a mean score of over 2.5 on a scale of 0 to 4 in the ASEI/PDSI Index, administered by the Project Monitoring and Evaluation (M&E) Team. | (Project Completion) | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>2009</th> <th>2010</th> <th>2011</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>ASEI/PDSI Index</td> <td>1.1</td> <td>1.7</td> <td>1.8</td> <td>1.92</td> <td>2.15</td> </tr> </tbody> </table> | | | 2009 | 2010 | 2011 | 2015 | 2016 | ASEI/PDSI Index | 1.1 | 1.7 | 1.8 |
| | 2009 | 2010 | 2011 | 2015 | 2016 | | | | | | | | |
| ASEI/PDSI Index | 1.1 | 1.7 | 1.8 | 1.92 | 2.15 | | | | | | | | |
| (Overall Goal) The quality of teaching mathematics and science is improved in secondary schools in Malawi. | Indicator 1 The degree of attitude change (in teaching) of secondary mathematics and science teachers assessed by; (i) secondary mathematics and science teachers (ii) secondary school head teachers. | (Ex-Post Evaluation) Partially achieved i) The attitude of teachers changed. Teachers are no longer skipping difficult topics. They are also demanding more training both at the national and divisional levels. Teachers have seen that the trainings improve their teaching skills, giving them the confidence to handle any topic. ii) The measurement of head teachers' assessment of mathematics and science teachers was not done during the monitoring visits. HOWEVER, the DTED team believes that head teachers' support | source: DTED Monitoring Visits | | | | | | | | | | |

² The Phase 2 Super Goal: "The abilities of secondary school students in mathematics and science are improved in Malawi." The Phase 3 Super Goal: "Students' achievement in secondary mathematics and science is improved in Malawi."

| | | | |
|-------------|--|--|--------------|
| | | towards the teaching of mathematics and science through the provision of necessary equipment and lab materials is an indication that they appreciate and promote the skills the teachers get from the training. | |
| Indicator 2 | Secondary mathematics and science lessons sampled nationally obtain the mean of 2.5 or better on the scale of 1 to 4 according to the National Education Standard. | (Ex-Post Evaluation) Partially achieved In 2019, the DQAS embarked on National Wide inspection for science and mathematics lessons. Over 30% of the lessons observed were rated above minimum standard. Results from Education Division Inspection is not different to the above findings. National Education Standards' scale has 4 levels with the Level 1 being below minimum standards; Level 2 being Meets minimum standards, Level 3 being Exceeds Minimum Standards and Level 4 being Effective Practice. The average value of the levels rated in the above-mentioned inspection, assuming equal level intervals, is calculated to fall between the lower limit of Level 3 x 30% + Level 1 x 70% = 1.6 and the upper limit of Level 4 x 30% + Level 2 x 70% = 2.6. | source: DTED |

3 Efficiency

The project cost and the project period were both within the plan (ratio against the plan: 82% and 100%, respectively).³ The Outputs were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The MoEST continues to regard mathematics and science as core fields for knowledge acquisition by both teachers and learners, as evidenced in featuring them in the National Education Sector Investment Plan (NESIP) 2020–2030, Malawi Vision 2063 and the Continuing Professional Development (CPD) Framework for Teachers and Teacher Education 2019.

<Institutional/Organizational Aspect>

The DTED has a full-fledged structure to ensure efficient leadership and delivery of the SMASSE program at both the national and school levels. The MoEST has made an effort to fill all the important positions, such as Director and Deputy Directors for INSET and Deputy Director for PRESET. However, this does not rule out the possibility of some of them falling vacant again since turnover is high in the Ministry. The number of National Trainers for SMASSE has decreased from eight to five due to promotions to other institutions. For PRESET activities, the required number of eight is in place.

<Technical Aspect>

For INSET, Lecturers, National and Divisional Trainers still facilitate in National and Divisional INSET every year. For PRESET, Lecturers use the skills in their day-to-day work since the SMASSE principles have been incorporated in their curriculum. Manuals and materials have been developed and used in various contexts. For example, INSET manuals have been used during INSET sessions and teaching in schools as references. Monitoring tools have been adapted and used by officers in the DQAS during monitoring sessions.

<Financial Aspect>

The INSET program was completely adopted by the MoEST, and it receives a budget for the implementation of its activities. Although the PRESET institutions incorporated the project principles, it is not clear whether there is a budget at these institutions specifically for implementing principles introduced by the project. All educational institutions receive funding from the government through the MoEST, and it is up to them to fund activities deemed necessary including Action Research. However, Action Research was not institutionalized and decentralized to schools yet by the time the project ended making it difficult for schools to recognize it into their budget.

<Evaluation Result>

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

5 Summary of the Evaluation

This project (Phase 2 and 3 combined) partially achieved the Project Purpose by the end of Phase 3. The measurement results of the indicator showed that secondary mathematics and science teachers had improved the application of skills/knowledge acquired from INSET, but the measurement did not reflect the effects of PRESET due to delays of related activities. Both National and Divisional INSETs and PRESET incorporating the ASEI/PDSI approach continued to the time of ex-post evaluation, while Action Research did not continue. The Overall Goal of providing quality lessons was partially achieved at the time of ex-post evaluation as the attitude change in teaching was qualitatively verified to some extent and a recent measurement of the National Education Standard shows a certain degree of achievement of the target. Regarding sustainability, there are some concerns, such as potential understaffing of SMASSE-related personnel and lack of budgeting for Action Research. However, policies and the organizational structure to support SMASSE activities are in place, and the technical aspect has no problem.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

Continuation of reporting on classroom and school practices would be effective if schools or clusters are given this responsibility. Action Research has to be mainstreamed and budgeted as an integral part of SMASSE activities that receive government funding. For these purposes, the SMASSE Secretariat and schools are recommended to include monitoring of SMASSE practices, including Action Research, before the next budgeting session, by introducing a calendar of SMASSE and Action Research to ensure that there is continuity of these activities.

³ Total for Phase 2 and 3.

Lessons Learned for JICA:

SMASSE was effectively mainstreamed as the MoEST took ownership of the project because of the positive impact it has shown over the years on improving the quality of teaching science and mathematics. Phase 3 of the project enabled the MoEST to introduce critical complementary support components to teacher development, such as the PRESET curriculum and Action Research, which were not conceived in the previous phases. It, however, became difficult for stakeholders to continue with Action Research possibly because of their limited knowledge on linkages among project components. The ministry did not fully integrate Action Research activities into SMASSE, although they knew its role in informing the INSET/PRESET programs. This problem led to their failure to introduce Action Research on the SMASSE budget effectively.

Because Action Research came as an after-thought to strengthen the model of teacher development established through Phase 2, it might be more difficult for all the stakeholders to understand a comprehensive map of the various actors and their role for the sustainability of the different project activities.

From these experiences, it is learned when new activities are to be incorporated in the later phases of long-term cooperation, such as SMASSE, care should be taken to ensure that they are fully integrated into the already established system.



(2016) A SMASSE Expert and a Biology Teacher Discussing Progress of a Lab Session



SMASSE Divisional Trainers Discussing Challenges in Teaching and Ways of Tackling Them

| | |
|---------------------|---|
| Country Name | Project for the Support of Waste Minimization and 3R Promotion |
| Republic of Albania | |

I. Project Outline

| | | | | | | | | | | | | | |
|--|---|--------------|---|---------------|---------------|-----------------------|--|--|---|--------------------------------------|--|--|--|
| Background | <p>The Republic of Albania (hereinafter referred to as “Albania”) set a national goal to be entitled as a member of the European Union (EU). In line with EU Directive, “National Waste Management Strategy (issued in 2010)” stipulated the goals of waste reduction by 25% till 2015 and by 55% till 2020. To achieve such goals, introduction of a new waste reduction system to promote 3R (Reduce, Reuse and Recycle) was essential, since waste segregation at source had not been implemented in the country, and solid waste was constantly increasing to overload existing disposal sites. Upon the request for technical cooperation by the Government of Albania, JICA conducted a survey in 2013, namely “Data Collection Survey of the Waste Management Sector”, and it was found necessary to develop administrative capacity to formulate and implement action plans in accordance with the National Waste Management Strategy.</p> | | | | | | | | | | | | |
| Objectives of the Project | <p>The project aimed to strengthen the capacity of the Ministry of Environment (MOE) on 3R in developing policy and providing support to local governments¹; through 1) identifying status of solid waste management in each local government, 2) developing the 3R Guideline, 3) conducting pilot projects in 3 municipalities with different scales, and 4) strengthening MOE’s supports to municipalities; thereby introducing 3R at local governments for waste reduction in Albania.</p> <ol style="list-style-type: none"> Overall Goal: 3R framework is introduced in sustainable solid waste management at local governments in Albania for waste reduction as a nationwide effort. Project Purpose: MOE’s capacity is strengthened in terms of 3R policy development as well as providing support for local governments in order to implement the National Waste Management Strategy and Action Plan in Albania. | | | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Tirana (the headquarters-cum-a pilot project site), Cerrik and Vau i Dejes (pilot project sites) Main Activities: <ol style="list-style-type: none"> To collect/analyse existing information on municipal solid waste management and to disseminate the results. To draft the 3R Guideline, and improve it by reflecting pilot projects and discussions. To support the 3 pilot municipalities for implementing pilot projects: <ol style="list-style-type: none"> Tirana (the capital) for discharging/collecting recyclables in schools; Cerrik (a medium-scale municipality) for providing door-to-door waste/recyclables collection; and Vau i Dejes (a small-scale municipality) for improving agricultural waste discharge and for composting. To conduct workshops/seminars to municipalities on 3R Guideline and formulation of 3R Action Plans. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Albanian Side</td> </tr> <tr> <td>1) Experts: 8 persons</td> <td>1) Staff Allocated (cumulative): 15 persons (5 from MOE, 1 from the Ministry of Transport and Infrastructure, 9 from the 3 pilot municipalities)</td> </tr> <tr> <td>2) Trainees Received: 11 persons in Japan, 8 persons in Kosovo</td> <td>2) Office space with furniture/internet connection till relocation of MOE (August 2014 – July 2015)</td> </tr> <tr> <td>3) Equipment: Office equipment, etc.</td> <td></td> </tr> <tr> <td>4) Operational expenses including pilot projects</td> <td></td> </tr> </table> | | | Japanese Side | Albanian Side | 1) Experts: 8 persons | 1) Staff Allocated (cumulative): 15 persons (5 from MOE, 1 from the Ministry of Transport and Infrastructure, 9 from the 3 pilot municipalities) | 2) Trainees Received: 11 persons in Japan, 8 persons in Kosovo | 2) Office space with furniture/internet connection till relocation of MOE (August 2014 – July 2015) | 3) Equipment: Office equipment, etc. | | 4) Operational expenses including pilot projects | |
| Japanese Side | Albanian Side | | | | | | | | | | | | |
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| 3) Equipment: Office equipment, etc. | | | | | | | | | | | | | |
| 4) Operational expenses including pilot projects | | | | | | | | | | | | | |
| Project Period | (ex-ante) May 2014 – May 2017 (actual) Same as above. | Project Cost | (ex-ante) 250 million yen, (actual) 252 million yen | | | | | | | | | | |
| Implementing Agency | Ministry of Environment (MOE)* * Currently the Ministry of Tourism and Environment (MoTE), through merging with the Ministry of Tourism in September 2017. | | | | | | | | | | | | |
| Cooperation Agency in Japan | Kokusai Kogyo Co., Ltd.; Ex Research Institute Ltd. | | | | | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- [Information Collection on the Overall Goal Indicators] The indicators for the Overall Goal are related to the whole 61 municipalities in Albania, such as Indicator 2: “A part of 3R activities stipulated in 3R Action Plan are put into practice in 20% of total local governments by 2020”. Considering the time consumption for collecting information from the total 61 municipalities, questionnaires were sent to the 3 pilot municipalities and 26 non-pilot municipalities which had drafted 3R Action Plans by project completion. Out of the 26 non-pilot municipalities, 13 replied to the questionnaire².
- [How to Evaluate Continuation Status of Project Effects] This ex-post evaluation verified the continuation status of project effects by checking: i) the level of the capacity sustained not only by MoTE but also by the 3 pilot municipalities; and ii) achievements of Indicators 1 and 2 of the Overall Goal.

1 Relevance

<Consistency with the Development Policy of Albania at the Time of Ex-Ante Evaluation>

The project aligned with Albania’s “National Waste Management Strategy (2010)” and “National Waste Management Plan: 2010-2025

¹ The total number of Local Government Units (LGUs) in Albania was 373 prior to the territorial reform in September 2015, but they were integrated into 61 municipalities under the 12 counties in the midst of this project.

² A local consultant interviewed MoTE and municipalities, and conducted site-visits to 2 pilot municipalities (Tirana and Cerrik), and 5 non-pilot municipalities (Sarande, Patos, Gjirokastr, Tepelene and Himare). Himare was not included in the 26 non-pilot municipalities to which a questionnaire was sent, but was implementing 3R activities by utilizing the 3R Guideline.

(2010)". The latter specifically aimed to promote recycling and composting of municipal solid waste.

<Consistency with the Development Needs of Albania at the Time of Ex-Ante Evaluation>

The project was consistent with Albania's development needs in terms of introducing 3R, since waste segregation at source had not been implemented in Albania, and solid waste was constantly increasing to overload existing disposal sites.

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

The project was consistent with Japan's ODA policy toward Albania. One of the two priority areas was environmental protection through improving infrastructure and management, including capacity development for solid waste management³.

<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 achieved at the time of project completion. In March 2017, a two-day seminar was organized by MOE for municipalities, where the finalized draft 3R Guideline was introduced together with the results of the pilot projects (Indicator 1), and the final version was published by MOE in April 2021. Out of all the 61 municipalities in Albania, 29 municipalities (including 3 pilot municipalities) drafted 3R Action Plans (Indicator 2). For achieving Indicator 2, workshops were conducted in 7 out of the 12 counties with participation of 32 municipalities, and individual visits to 24 municipalities for hands-on training were conducted to identify current situations of solid waste management and to draft 3R Action Plans. Those workshops/training were conducted mainly by the Japanese Experts through collaboration with counties/municipalities. On the other hand, the staff assigned by MOE were not technical but rather administrative and overloaded with other work, hence could not allocate enough time for this project.

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

The project effects have been partially continued, considering the current capacity of MoTE. Neither workshop nor monitoring has been conducted by MoTE itself, due to the issues described later in "4. Sustainability <Institutional/Organizational Aspect>". Instead, series of workshops on 3R have been conducted in municipalities with assistance of donors and NGOs. Regarding the 3 pilot municipalities, they have continued most of the 3R activities introduced by the project. While composting has been suspended in Vau i Dejes, it has been largely developed in Cerrik with assistance of the German Agency for International Cooperation (GIZ). With NGOs, Tirana continued recycling at schools, and commenced awareness raising on waste segregation for 44 entities until January 2020, when the whole waste management (including awareness raising) was contracted out to a private company.

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

The Overall Goal has been partially achieved. The total of 37 municipalities prepared action plans on 3R with the increase of 8 municipalities from project completion. Under the current policy (as described later), each municipality is required to prepare the Local Plan for Integrated Waste Management with a focus of 3R, which is supported by 3 main donors i.e., GIZ, Swiss Agency for Development and Cooperation (SDC) and EU (Indicator 1). Out of the 13 non-pilot municipalities answered to the questionnaire, 7 have implemented activities planned in the 3R Acton Plans drafted under this project. The remaining 6 non-pilot municipalities, who have not continued 3R activities, rather focus on increasing the waste collection coverage as a challenge brought by the territorial reform in 2015 as mentioned in the 1st footnote (Indicator 2).

On the other hand, "reducing by 25% of municipal solid waste amount per person at the final disposal stage (Indicator 3)" was achieved by only 6 out of the 16 municipalities (including the 3 pilot municipalities) having replied to the questionnaires. Out of these 6 municipalities, 3 municipalities (Patos, Belsh and Divjake) attributed to the reduction to 3R activities, while others (and also Divjake) attributed it to decrease in tourists due to covid-19 pandemic, etc. Regarding Indicator 3, there is another issue of data accuracy. Even pilot municipalities mentioned that they did not monitor the final disposal amount as introduced by the project. Reasons for this can be: i) No surveys are conducted by municipalities or concessionaires (e.g., Tirana); and ii) The focus of waste management is shifted from "disposal amount at landfills" to "treatment amount at incinerators or composting facilities" (e.g., Cerrik).

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

Introduction and achievement of 3R under this project attracted donors and NGOs. For example, successful door-to-door collection in Cerrik gained GIZ's support to expand it to a larger scale, and also to develop composting with a new facility. Moreover, the project brought impacts on women and children, since extensive awareness raising activities were conducted especially for them. With regards to a negative impact, such possibility was concerned for waste pickers at the time of ex-ante evaluation. Through the project, however, Tirana and Cerrik Municipalities changed their positions to "co-exist" with waste pickers, and hired them for recycling activities. At present, waste pickers still serve schools with collecting recyclables in Tirana, and work for waste sorting in Cerrik and Himare.

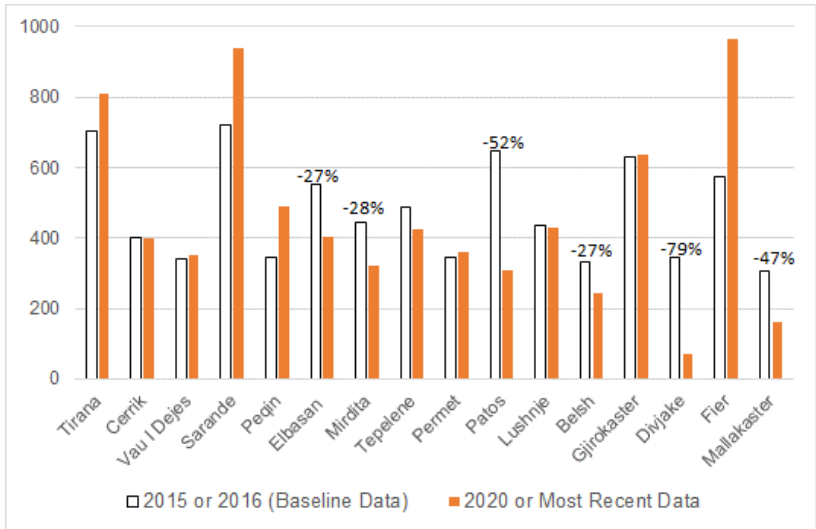
<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|--|--|---|--|
| (Project Purpose) MOE's capacity is strengthened in terms of 3R policy development as well as providing support | Indicator 1: A workshop for introducing the finalized draft 3R Guideline to LGUs is carried out by MOE. | Status of the Achievement (Status of the Continuation): achieved (not continued) (Project Completion) - A seminar on introducing the finalized draft 3R Guideline was organized by MOE in March 2017. (Ex-Post Evaluation) - Neither workshops nor monitoring by MoTE has been conducted. | Final Report, Questionnaires/ interviews with MoTE/ municipalities |

³ Source: Ministry of Foreign Affairs, "ODA Country Data Collection in 2014"

| for local governments in order to implement the National Waste Management Strategy and Action Plan in Albania. | Indicator 2: Through the above-mentioned workshop, more than 25 LGUs will have preliminary drafts of 3R Action Plans for respective LGUs. | Status of the Achievement (Status of the Continuation): Achieved (continued) (Project Completion) - 29 municipalities (including the 3 pilot municipalities) drafted 3R Action Plans. (Ex-Post Evaluation) - The 3 pilot municipalities have continued most of the activities introduced by the pilot projects. - Refer to Indicator 1 and 2 of the Overall Goal. | Final Report, Questionnaires/ interviews with pilot municipalities | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|------------------------|--------|--|--------|-------------------------------------|-------------|--|---------|--|-------|---------------------------------------|-------|---|-------|------------------------------|------------|-------------------------------------|---------|--|------|----------------------------|--|
| (Overall Goal) 3R framework is introduced in sustainable solid waste management at local governments in Albania for waste reduction as a nationwide effort. | Indicator 1: 3R Action Plans are drafted by 35 local governments across the country by 2020. | (Ex-Post Evaluation) achieved - In total, 37 municipalities prepared action plans on 3R. | A questionnaire to MoTE | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2: A part of 3R activities stipulated in 3R Action Plans are put into practice in 20% of total local governments by 2020. | (Ex-Post Evaluation) achieved - Aside from the 3 pilot municipalities, at least, 7 non-pilot municipalities (out of 13 replied to the questionnaire) have implemented 3R Action Plans. - The totaled 10 municipalities are more than 80% of the targeted 12 (20% of all the 61 municipalities), and thus this indicator is achieved. 3R Activities by 3 Pilot and 7 Non-Pilot Municipalities <table border="1"> <thead> <tr> <th>Municipality</th> <th>Examples of Activities</th> </tr> </thead> <tbody> <tr> <td>Tirana</td> <td>Recycling at schools, awareness raising towards entities</td> </tr> <tr> <td>Cerrik</td> <td>Door-to-door collection, composting</td> </tr> <tr> <td>Vau i Dejes</td> <td>Improving agricultural waste discharge</td> </tr> <tr> <td>Sarande</td> <td>Processing recyclable waste at a center, door-to-door collection</td> </tr> <tr> <td>Peqin</td> <td>Waste segregation at schools and home</td> </tr> <tr> <td>Patos</td> <td>3R in schools, a pilot project on waste segregation</td> </tr> <tr> <td>Belsh</td> <td>Segregation of plastic waste</td> </tr> <tr> <td>Gjirokastr</td> <td>Training in 3R and waste management</td> </tr> <tr> <td>Divjake</td> <td>Composting of agricultural waste, segregation of recyclables</td> </tr> <tr> <td>Fier</td> <td>Segregation of recyclables</td> </tr> </tbody> </table> | Municipality | Examples of Activities | Tirana | Recycling at schools, awareness raising towards entities | Cerrik | Door-to-door collection, composting | Vau i Dejes | Improving agricultural waste discharge | Sarande | Processing recyclable waste at a center, door-to-door collection | Peqin | Waste segregation at schools and home | Patos | 3R in schools, a pilot project on waste segregation | Belsh | Segregation of plastic waste | Gjirokastr | Training in 3R and waste management | Divjake | Composting of agricultural waste, segregation of recyclables | Fier | Segregation of recyclables | Questionnaires/ interviews with municipalities |
| Municipality | Examples of Activities | | | | | | | | | | | | | | | | | | | | | | | | |
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| Cerrik | Door-to-door collection, composting | | | | | | | | | | | | | | | | | | | | | | | | |
| Vau i Dejes | Improving agricultural waste discharge | | | | | | | | | | | | | | | | | | | | | | | | |
| Sarande | Processing recyclable waste at a center, door-to-door collection | | | | | | | | | | | | | | | | | | | | | | | | |
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| Divjake | Composting of agricultural waste, segregation of recyclables | | | | | | | | | | | | | | | | | | | | | | | | |
| Fier | Segregation of recyclables | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 3: Municipal solid waste amount per person at the final disposal stage is reduced by 25 % from the amount at the beginning of the project (2014*), in local governments working on 3R Action Plan. *No baseline data were available for 2014. | (Ex-Post Evaluation) not achieved Final Waste Disposal Amount per Person (g/day) in 3 Pilot and 13 Non-Pilot Municipalities  | 3R Guideline (Baseline), Questionnaires to municipalities (2020) | | | | | | | | | | | | | | | | | | | | | | |

3 Efficiency

Although the project period was as planned, the project cost slightly exceeded the plan (ratio against the plan: 100% and 101% respectively). The project outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The policy to promote to 3R has been strengthened with new policy documents. In May 2016, “National Strategy for Development and Integration (NSDI) (2015-2020)” was issued, aiming to establish “efficient and effective system of integrated waste management”, and to promote public-private partnership and regionalization of services. To comply with the NSDI and the European Union integration process, MoTE prepared “Policy Document and Action Plan for Integrated Waste Management (2020-2035)”, and it was approved in May 2020. This policy document emphasizes 3R, and requires each municipality to prepare the Local Plan for Integrated Waste Management, which promotes supports of main donors (GIZ, SDC and EU) through the IPA (Instrument for Pre-Accession Assistance) funds.

<Institutional/Organizational Aspect>

In September 2017, the Ministry of Environment (MOE) and the Ministry of Tourism were merged to the Ministry of Tourism and Environment (MoTE). This restructuring resulted in no specific section dedicated to waste management in MoTE, and thus MoTE has no function of technical guidance to and monitoring on municipalities regarding waste management. This issue, however, has rather been

continued from the time of MOE, since the staff assigned from MOE to the project were not technical but rather administrative, which hindered effective technical transfer to MOE. On the other hand, out of the 3 pilot municipalities, Tirana (with 20 staff) and Cerrik (with 17 staff) have enough human resources responsible for waste management including 3R. Vau i Dejes and 13 non-pilot municipalities (who replied to the questionnaire) have 1-3 staff for waste management, and only Divjake has one staff dedicated to 3R. Although these municipalities are relatively small, most of them reported that a dedicated staff for 3R would be a must to implement the Local Plan for Integrated Waste Management.

<Technical Aspect>

While MoTE does not have the functions of technical guidance and monitoring, Tirana and Cerrik Municipalities maintain the staff having worked for this project to sustain/develop their skills and knowledge. Also, both pilot and non-pilot municipalities have opportunity of training with assistance of donors and NGOs. The 3R Guideline was the key deliverable of this project, and distributed to all the 61 municipalities. The 3R Guideline is not used by MoTE any more, but is used at the municipal level. Especially, the 3R Guideline is often utilized for preparation of the Local Plan for Integrated Waste Management, which is mandatory under the new policy document.

<Financial Aspect>

Since MoTE does not have the specific sector for waste management, it does not have specific budget for it either. Municipalities have funds for waste management from taxes and waste collection fees, and grants from the central government are provided to supplement the funds. However, these funds/grants aim for basic services of waste collection/disposal, and do not cover 3R activities. (Tirana is a special case, since it contracted out all the waste management including 3R to a private company.) Currently, MoTE and the municipalities depend on donors for funding 3R activities. MoTE staff having engaged in this project are currently coordinating with donors for waste management projects.

<Evaluation Result>

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

5 Summary of the Evaluation

The project achieved the Project Purpose, but the project effects have partially continued due to failing to strengthening the monitoring functions of the implementing agency. The Overall Goal has been partially achieved, since limited cases were found for municipal waste reduction through 3R. Regarding the Sustainability, problems have been observed in terms of the institutional/organizational, technical and financial aspects of the implementing agency, while the current policy on integrated waste management has further developed 3R in Albania. As for the Efficiency, the project period was as planned, but the project cost slightly 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 and Pilot Municipalities:

- It is recommended for the Ministry of Tourism and Environment (MoTE) to dedicate additional human resources to deal with the waste management sector and, in particular, 3R promotion and implementation. At the same time, MoTE needs to enhance communication with municipalities related to i) conveying the development policies, obligations and regulations related to integrated waste management, and ii) ensuring appropriate reporting manners from municipalities. Moreover, it is desirable to allocate budget for 3R activities at both central and municipal governments.
- It is recommended for Vau i Dejes Municipality (one of the 3 pilot municipalities) to incorporate experience and know-how of this project into its Local Plan for Integrated Waste Management, which is under preparation with assistance of SDC. The municipal staff who engaged in the project have been replaced, but the project's legacy remains in the 3R Guideline, which includes the 3R Action Plan of Vau i Dejes based on detailed data. Also, good practices of composing in Cerrik Municipality could be applicable to Vau i Dejes.
- It is recommended for Tirana Municipality to enhance monitoring the private company to which the whole waste management was contracted out in January 2020. For achieving waste reduction in Albania, it is especially important for the company to provide the municipality with data on solid waste disposal, since the population of Tirana comprises 40% of the country.

Lessons Learned for JICA:

- During the implementation of the project, technical transfer to MOE (Ministry of Environment) was not effectively done, although strengthening of MOE's capacity was set as the Project Purpose. This is because the staff assigned by MOE were not technical but rather administrative, and also overburdened by other tasks. This technical weakness of MOE in waste management remains as a continuous issue of MoTE after the merger. As a lesson for the project formulation phase, it is important to closely check the priorities, capacity and real work situations of an implementing agency, so that effective technical transfer would be enabled to appropriate organizations/staff.
- Despite the above-mentioned issue of MOE (currently MoTE), impact of this project at the municipal level has been enhanced after project completion, through coordination by municipalities with donors and NGOs. As a lesson of this project, technical cooperation would sustain effects, through i) producing tangible results for attracting donors and NGOs, and ii) being consistent with a highly prioritized policy area, i.e., following the EU Directive on waste management in this case.
- Under this project, 3R (Reduce, Reuse and Recycle) approaches and a waste quantification/composition methodology were documented in the 3R Guideline, and it was distributed to all the 61 municipalities. The Guideline is currently used by municipalities as a reference to develop their Local Plans for Integrated Waste Management, which is mandatory under a new policy document. The waste quantification/composition methodology applied by this project is considered as the best way to reach the correct data at the local level, as the basis for a realistic sustainable planning. Also, documenting the methodology as written instructions would be a good practice for future similar projects.



A Lid of Bins Distributed to High Schools for Waste Segregation (Tirana Municipality)



An On-Site Demonstration of Composting Process for MoTE, Municipalities and the Media (Cerrik Municipality in June 2021)



Awareness Raising for Recycling through a Display Made of Reused Materials (Patos Municipality)

| | |
|----------------------|---|
| Country Name | Project on Capacity Development on Information Security Management of Land Information System for Land Restitution Policy Promotion |
| Republic of Colombia | |

I. Project Outline

| | | | | | | | | | | | |
|--|---|--------------|---|---------------|----------------|----------------------------------|--------------------------------|----------------------------------|--|--|---|
| Background | <p>In Colombia, internal conflicts caused by uprisings of illegal armed groups were going on and there were many internally displaced people (IDP). Many IDPs were forced not to execute their rights over their land after being evacuated due to the illegal armed group. The Government of Colombian, as a part of efforts to solve the conflicts and to support IDPs, established the Special Administrative Unit for the Management of Despoiled Lands Restitution (URT) under the Ministry of Agriculture and Rural Development in order to promote the land restitution process. URT was working on developing the Land Information System to execute a series of land restitution process safely and efficiently and to provide IDPs with appropriate services. The Forcibly Despoiled and Abandoned Lands Registry and Information System (SRTDAF in Spanish) includes personal information, and information leaking to anti-government groups should be strictly avoided, and thus, appropriate information security management was required.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through strengthened information security infrastructure, capacity development of URT, developed an institutional framework for information security management, the project aimed at strengthening the capacity on information security management of related organizations in charge of the Land Information System, thereby contributing to efficient and safe utilization of the system in the land restitution process.</p> | | | | | | | | | | |
| | <p>1. Overall Goal: Land Information System is utilized efficiently and safely in the Land Restitution Process. 2. Project Purpose: Capacity on information security management of counterpart organizations in charge of Land Information System is strengthened.</p> | | | | | | | | | | |
| Activities of the project | <p>1. Project site: Bogota 2. Main activities: Improvement of the existing information security infrastructure (programming, PC, network line, etc.), training of the personnel of the related organizations on information security, development of the policy and guidelines on information security, etc. 3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Colombian Side</td> </tr> <tr> <td>1) Experts from Japan: 9 persons</td> <td>1) Staff allocated: 48 persons</td> </tr> <tr> <td>2) Training in Japan: 29 persons</td> <td>2) Land and facilities: Office space, seminar room, etc.</td> </tr> <tr> <td>3) Local cost: Seminar materials, etc.</td> <td>3) Local cost: transportation and per diem for training for staff at regional offices, etc.</td> </tr> </table> | | | Japanese Side | Colombian Side | 1) Experts from Japan: 9 persons | 1) Staff allocated: 48 persons | 2) Training in Japan: 29 persons | 2) Land and facilities: Office space, seminar room, etc. | 3) Local cost: Seminar materials, etc. | 3) Local cost: transportation and per diem for training for staff at regional offices, etc. |
| Japanese Side | Colombian Side | | | | | | | | | | |
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| 3) Local cost: Seminar materials, etc. | 3) Local cost: transportation and per diem for training for staff at regional offices, etc. | | | | | | | | | | |
| Project Period | July 2013 to June 2016 | Project Cost | (ex-ante) 206 million yen, (actual) 253 million yen | | | | | | | | |
| Implementing Agency | <p>Principal counterpart (C/P) organization: Unit for the Management of Despoiled Lands Restitution (URT) Other C/P organizations: Unit for the Comprehensive Care and Reparation for the Victims (UARIV), Geographic Institute "Agustín Codazzi" (IGAC), Superintendence of Notary and Registry (SNR), Superior Council of the Judiciary (CSJ) and Colombian Institute for Rural Development (INCODER) (dismantled in 2016)</p> | | | | | | | | | | |
| Cooperation Agency in Japan | Japan Development Service Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- At the time of ex-post evaluation, there were organizations including the Special Administrative Unit for the Assistance and Comprehensive Reparation of Victims which handled the information related to the land restitution other than the project C/P organizations. However, in the survey, data and information were collected only from the project C/P organizations excluding INCODER which had been dismantled.

1 Relevance

<Consistency with the Development Policy of Colombia at the time of Ex-ante Evaluation>

The Law 1448, commonly known as the Victims and Land Restitution Law, was enacted in 2011, which clearly mentions projects implementation for the land restitution and support for the victims. Thus, the project was consistent with the development policy of Colombia at the time of ex-ante evaluation.

<Consistency with the Development Needs of Colombia at the time of Ex-ante Evaluation>

In Colombia, many IDPs were forced to be unable to execute their rights over their land after being evacuated due to the illegal armed groups. The information security is very important and fundamental in the land restitution process. As the information on the land restitution process includes sensitive information, it was necessary that related organizations could manage information in a reliable manner. In this regard, the project was consistent with the development needs of Colombia at the time of ex-ante evaluation.

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

In the "Country Assistance Policy for Colombia" (2013), one of the priority areas was equitable economic development. Related to this, it was described that support would be provided or the economic and social reintegration of IDP, demobilized combatants (former guerrilla members), and landmine victims arising from the effects of many years of the internal conflict, in order to stabilize local communities at the regional level. Thus, the project was consistent with Japan's ODA policy at the time of 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 time of project completion. A total of 342 personnel including technicians on the system development at C/P organizations obtained the certificate from 17 seminars on the strengthening of information security (Indicator 1). The information security policy was formulated at URT and the other five C/P organizations (UARIV, IGAC, SNR, CSJ and INCODER) in a customized way that was relevant to each organization (Indicator 2). The security policy was implemented at all organizations and constantly reviewed. On the developed information security policy, the guidelines were formulated and implemented at all C/P organizations (Indicator 3). Each organization revised six to eleven contents of guidelines per ISO27001. For example, at URT, nine guidelines were issued, which covered aspects such as E-mail management, removable device management, credential (ID) management, and workstation management.

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

The project effects have partially continued. Since the project completion, few staff have remained in URT and other C/P organizations because of the frequent turnover, but the information security policy and the information security management guidelines which were developed by the project have been effective and included in the institutional processes in all of the organizations. In these organizations, the security policy has been incorporated in the Integrated Security Management System. Also, it was confirmed that they have sustained the processes, procedures, handbooks, and guidelines developed by the project. INCODER was dismantled in 2016, but its functions related to the information security management have been transferred to the newly established organizations, namely the Rural Development Agency and the National Lands Agency.

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

The Overall Goal has been achieved. No critical incident (malware infection, unauthorized access, leakage of confidential information, etc.) which affects the land restitution has been reported (Indicator 1). The Land Information System has been constantly utilized among the related institutions (Indicator 2). The land information has been managed in the Information Security Management Subsystem, as part of the Integrated Security Management System, consisting of (i) information security policies, (ii) established procedures, (iii) methodology and information asset inventory, (iv) methodology for security risk management, as well as (v) risk treatment plans. According to URT, due to this subsystem, trust has been created for information transmission and sharing among the related organizations.

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

Firstly, as the project promoted the interaction and communication among the related organizations and helped their agreement on the land information security. According to URT, these efforts have contributed to the establishment of the Land Node, which started in 2018, supported by international partners including USAID. Its main function, as a technological platform, is to integrate the information systems of the 12 institutions related to the land restitution process. It has facilitated Internal Displaced Peoples' land restitution application. Secondly, the project has changed the government's concept of information security, according to URT. It used to be recognized as something strictly related to the technology infrastructure, but through and after the project activities, the concept evolved to the importance of knowledge and recognition by the public servants regarding that information security would be rather something about the human strengthening of the security process. This perception has brought better security indexes to the C/P organizations compared to other government institutions.

<Evaluation Result>

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

Achievement of the Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|-------------------------------|-----------------|---|------------------------------|---|-----|----------------------------------|---|----|------------------------------------|---|----|-------------------|---|----|-------|----|-----|-------------------------------|-----------------------------------|--|-----|-----|---|------|----|---|-----|----|---|-------|----|---|-----|----|---|-------|-----|----|
| (Project Purpose) Capacity on information security management of Counterpart organizations in charge of Land Information System is strengthened. | 1. Number of C/P personnel who obtained a certificate. | <p>Status of achievement: Achieved (Partially continued) (Project Completion)</p> <p>- A total of 342 C/P personnel obtained a certificate. It was judged by the Terminal Evaluation Team that through these training and seminars, the capacity of C/P personnel was improved.</p> <table border="1"> <thead> <tr> <th>Classification of certificate</th> <th>No. of seminars</th> <th>Total No. of C/P personnel certificated</th> </tr> </thead> <tbody> <tr> <td>Technology transfer seminars</td> <td>6</td> <td>194</td> </tr> <tr> <td>Institutional framework seminars</td> <td>7</td> <td>92</td> </tr> <tr> <td>Information security audit seminar</td> <td>1</td> <td>27</td> </tr> <tr> <td>Training in Japan</td> <td>3</td> <td>29</td> </tr> <tr> <td>Total</td> <td>17</td> <td>342</td> </tr> </tbody> </table> <p>Note: The total number was an accumulated number. (Ex-post Evaluation)</p> <p>- Among 287 personnel of four C/P organizations that got certified in the project, only 12 have continued working in the same position. However, it is confirmed that training and information sharing have been conducted continuously at each organization for the personnel who did not get certified in the project (including those who did not have chance to participate in the seminars) in order to sustain and strengthen the knowledge for promoting the land restitution process at each organization even after the project completion.</p> <table border="1"> <thead> <tr> <th>Classification of certificate</th> <th>No. of C/P personnel certificated</th> <th>No. of C/P certified and remaining personnel</th> </tr> </thead> <tbody> <tr> <td>URT</td> <td>109</td> <td>4</td> </tr> <tr> <td>IGAC</td> <td>54</td> <td>1</td> </tr> <tr> <td>SNR</td> <td>37</td> <td>4</td> </tr> <tr> <td>UARIV</td> <td>46</td> <td>2</td> </tr> <tr> <td>CSJ</td> <td>41</td> <td>1</td> </tr> <tr> <td>Total</td> <td>287</td> <td>12</td> </tr> </tbody> </table> | Classification of certificate | No. of seminars | Total No. of C/P personnel certificated | Technology transfer seminars | 6 | 194 | Institutional framework seminars | 7 | 92 | Information security audit seminar | 1 | 27 | Training in Japan | 3 | 29 | Total | 17 | 342 | Classification of certificate | No. of C/P personnel certificated | No. of C/P certified and remaining personnel | URT | 109 | 4 | IGAC | 54 | 1 | SNR | 37 | 4 | UARIV | 46 | 2 | CSJ | 41 | 1 | Total | 287 | 12 |
| Classification of certificate | No. of seminars | Total No. of C/P personnel certificated | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technology transfer seminars | 6 | 194 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Institutional framework seminars | 7 | 92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| URT | 109 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IGAC | 54 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SNR | 37 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UARIV | 46 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Total | 287 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|---|--|--|
| | | Note: The number of certified personnel is an accumulated number, while the number of remaining personnel is not. The number of C/P certified personnel (287) is smaller than the number at the project completion (342), because the former does not include the number of personnel of the dismantled INCODER. |
| | 2. Formulation and implementation of information security policy. | <p><u>Status of achievement: Achieved (continued).</u> (Project Completion)</p> <ul style="list-style-type: none"> - The information security policy was formulated and implemented at all six C/P organizations. <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> - The information security policy formulated in the project has been effective at URT. - The information security policy established by the project has been continuously updated at IGAC. Also, the Integral Risk Management Policy has been updated to include the integral administration of managing risks, corruption, and information security. - The information security policy built by the project has been formalized at SNR. - The information security policy developed by the project has been effective at UARIV. Efforts have been made for information security, such as gathering of information inventories, identification and control of risks, development of risk treatment plans, control of ethical hacking, and so on. - The information security policy developed by the project has been effective at CSJ as well, implementing prevention of attacks within the organization, security of physical information, shredding of physical documents and the protection of information available to the public. |
| | 3. Completion and implementation of information security management guidelines. | <p><u>Status of achievement: Achieved (continued).</u> (Project Completion)</p> <ul style="list-style-type: none"> - The information security guidelines were formulated based on the developed information security policy and implemented at all six C/P organizations. <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> - The information security management guidelines have been utilized at the organizations. |
| (Overall goal) Land Information System is utilized efficiently and safely in the Land Restitution Process. | 1. The violations on information integration by Land Information System is not reported. | <p><u>Status of achievement: Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> - No violation of information integration by the Land Information System has been reported. |
| | 2. Land Information System is constantly utilized among related institutions. | <p><u>Status of achievement: Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> - The Land Information System has been constantly utilized among related institutions. |

Source: Project Completion Report and information provided by URT, IGAC, SNR, UARIV and CSJ.

3 Efficiency

Although the project period was as planned, the project cost exceeded the plan (ratio against the plan: 100% and 129%, respectively). Outputs were produced as planned. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

The Law 1448 of 2011 was originally set to expire in June 2021, which would have changed the guidelines and activities defined by the Government of Colombia and the Congress for promoting the land restitution process through URT. However, in December 2019, the Constitutional Court instructed the Congress to extend the period of this law until 2030, mainly because its goals have not been yet fulfilled. At the time of ex-post evaluation, it was being analyzed what would happen with URT during this extension period.

<Institutional/Organizational Aspect>

URT and other C/P organizations have assigned an office for sustaining the Information Security Management Subsystem, and there has been a platform that integrates their information systems, as mentioned above. URT has assigned 503 staff and 1,500 contracted persons, because it has required growing in number of workers in the years after project completion, in order to meet the objectives and commitments related to the compliance of its goals. SNR answered that the number of staff has been sufficient, too. CSJ has outsourced the overall information security process to its branches and accordingly, it has been appropriately managed. On the other hand, UARIV and IGAC answered that they would need to increase more staff to meet the requirements of land restitution. Before the Law 1448 of 2011 expires in 2030, it needs to be considered: (i) How URT's (and UARIV's) functions would be taken over by any existing organizations for the land restitution, unless all the victims' necessities for the land restitution and the livelihood support are fully addressed; and (ii) If it is necessary to apply for another period extension.

<Technical Aspect>

There has been a system to sustain and strengthen the knowledge for promoting the land restitution process at each organization, even though many of the trained personnel left the organizations. For example, at URT, there has been the "URT Schools" where technical contents and knowledge of each division have been organized based on which training and workshops have been conducted for the staff. At IGAC, practices of the cadastral management process and topics of the land restitution have been documented and updated, and these are accessible to all its staff. At SNR, training on the regulations and lessons learned have been provided to the staff and also to the contractors hired related to the patrimonial protection and land restitution. The guidelines developed by the project have been used for the training purpose.

<Financial Aspect>

URT, IGAC and UARIV have been secured a specific budget for the information security management, as shown in the tables, and the budget has been sufficient at URT and UARIV for their activities and maintenance and improvement of the technological and information security infrastructure. URT's budget was much bigger in 2017 because it had to acquire a security platform to manage data with the license for the coming three years. IGAC has had difficulty in disbursing the budget. According to IGAC, this is because the budget from the Ministry of Finance has been affected each year by external factors such as inflation, tax collections, gross domestic product (GDP), and emergency responses to infectious diseases. While land restitution has been important to IGAC, if funds have not been sufficient, the budget allocation for the information security management has been smaller in it than in other organizations with an institutional mission more related to land restitution. UARIV, besides the national budget, also received support from Microsoft to develop a tool to monitor cybersecurity threats. The detailed budget of CSJ and SNR could not be confirmed because they do not have a specific budget item for information security which is part of the broader budget item related to information technology, but the budget has been sufficient to meet the requirements of the land restitution process.

Budget for the information security management (million Colombian pesos)

1. URT (cut-off data at May 2020)

| | 2017 | 2018 | 2019 | 2020 (plan) |
|----------|-------|------|------|-------------|
| Budget | 4,450 | 650 | 990 | 754 |
| Executed | 2,194 | 412 | 901 | 546 |

2. IGAC

| | 2017 | 2018 | 2019 | 2020 (plan) |
|----------|------|------|------|-------------|
| Budget | 962 | 703 | 274 | 131 |
| Executed | 481 | 703 | 13 | 0 |

3. UARIV

| | 2017 | 2018 | 2019 | 2020 (plan) |
|----------|------|-------|-------|-------------|
| Budget | 847 | 1,591 | 3,704 | 2,036 |
| Executed | 628 | 1,519 | 2,587 | 1,922 |

<Evaluation Result>

In the light above, there have been some issues in the institutional/organizational and financial aspects. Therefore, the sustainability of the effects is fair.

5 Summary of the Evaluation

The Project Purpose and the Overall Goal were achieved. The capacity on information security management of the organizations in charge of the Land Information System was strengthened, as their staff were trained and the policy and guidelines were developed. No critical incident which affects the land restitution has been reported. Regarding sustainability, there has been a staff shortage at some organizations, but all the organizations have sustained the necessary knowledge for promoting the land restitution process. As the Law 1448 has been extended, URT would function at least until 2030. 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

Recommendations for Implementing agency:

- The Land Node would continue to function as an important platform for attending the land restitution issues. Each of the Land Node institutions should have an independent budget for the information security issues. It is recommended to SNR and CSJ which have not secured a specific budget for the information security management to assign a budget dedicated to information security. It is recommended to URT to convey the same recommendation should be directed to other Land Node institutions.

Lessons Learned:

- The knowledge and system strengthened by the project have been sustained regardless of the high turnover of the staff at all of the organizations. This has been possible, because, for example, technical contents and knowledge gained from the project have been documented and referred to the new staff, since the importance of information security has been fully recognized by the organizations. For capacity development projects in countries where the government staff are frequently transferred, it is important to (i) include the training topic for the mindset (significance and necessity of the topic for achieving the objectives, such as the information security management for the land restitution in this case) of the staff and (ii) develop the activity outputs such as a handbook which summarize the step-by-step activities, to be consulted by the new staff that arrives to work at the organizations, so it is necessary to make it digital-archived so that the staff could refer to it easily even after the project completion.



Technical seminar given by JICA expert in 2014



C/P organizations' staff attending in the technical seminar in 2014.

| | |
|------------------------|---|
| Country Name | Project for Promoting Participatory Biodiversity Conservation |
| Republic of Costa Rica | |

I. Project Outline

| | | | | | | | | | | | | | |
|--|--|--------------|---|---------------|------------------|-----------------------------------|--------------------------------|----------------------------------|--|--|--|--|--|
| Background | <p>The forest coverage ratio of Costa Rica decreased to 21% by 1987 from 75% of total land of the country in 1940. The Government of Costa Rica implemented policies and activities for pioneering forest and biodiversity conservation since the latter half of the 1980's. As a result of these efforts, the forest area recovered to approximately 52% of the total land by 2010. On the other hand, the management system of the nature conservation areas focused to control illegal activities within Conservation Areas and their vicinities, as a management model based on elimination of human activities. . Due to such circumstance, there were some cases of conflicts between residents within the Conservation Areas and their vicinities and the government authorities in charge of administration of the Conservation Areas. In that situation, JICA conducted the "Project for Participatory Management of the Barra del Colorado National Wildlife Refuge" (2008-2011), and it brought about outcomes such as establishing a basic system of participatory management and the Barra del Colorado National Wildlife Refuge was deemed as a kind of model Conservation Area with implementation of the participatory management. It was also hoped that the Costa Rican experience could be used effectively as knowledge to promote effective biodiversity conservation in the world, especially in the Mesoamerican hotspot of Central America. This project was requested in order to diffuse Costa Rica's experiences on biodiversity conservation to other countries in Central America and make international contributions.</p> | | | | | | | | | | | | |
| Objectives of the Project | <p>Through improved the implementation and verification of the participatory management method in wildlife refuges, preparation of the manuals and guidelines on the participatory biodiversity conservation, recommendation of the policies and tools, and sharing the knowledge¹ in and outside the country, the project aimed at establishing a mechanism to share the knowledge of the participatory approach of Costa Rica, thereby contributing to strengthening of the policy and systems of participatory biodiversity conservation.</p> <p>1. Overall Goal: The policy and systems of participatory biodiversity conservation will be strengthened by making good use of knowledge in Costa Rica and Central American countries 2. Project Purpose: A mechanism to share the knowledge of the participatory approach of Costa Rica is established in and outside Costa Rica.</p> | | | | | | | | | | | | |
| Activities of the project | <p>1. Project site: Barra del Colorado National Wildlife Refuge, the Conservation Areas, and neighboring areas. 2. Main activities: implementation and verification of the participatory management method in wildlife refuges, preparation of the manuals and guidelines on the participatory biodiversity conservation, recommendation of the policies and tools, and sharing the knowledge in and outside the country, etc. 3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Costa Rican Side</td> </tr> <tr> <td>1) Experts from Japan: 10 persons</td> <td>1) Staff allocated: 85 persons</td> </tr> <tr> <td>2) Training in Japan: 41 persons</td> <td>2) Land and facilities: Office space, etc.</td> </tr> <tr> <td>3) Equipment: Vehicles, environment monitoring equipment, etc.</td> <td>3) Local cost: travel expenses, maintenance costs of the offices, etc.</td> </tr> <tr> <td>4) Local cost: cost for hiring local consultants, seminar expenses, etc.</td> <td></td> </tr> </table> | | | Japanese Side | Costa Rican Side | 1) Experts from Japan: 10 persons | 1) Staff allocated: 85 persons | 2) Training in Japan: 41 persons | 2) Land and facilities: Office space, etc. | 3) Equipment: Vehicles, environment monitoring equipment, etc. | 3) Local cost: travel expenses, maintenance costs of the offices, etc. | 4) Local cost: cost for hiring local consultants, seminar expenses, etc. | |
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| 4) Local cost: cost for hiring local consultants, seminar expenses, etc. | | | | | | | | | | | | | |
| Project Period | April 2013 to March 2018 | Project Cost | (ex-ante) 457 million yen, (actual) 517 million yen | | | | | | | | | | |
| Implementing Agency | National System of Conservation Areas (Sistema Nacional de Área de Conservación: SINAC) | | | | | | | | | | | | |
| Cooperation Agency in Japan | None. | | | | | | | | | | | | |
| Related Project | <p>Technical cooperation:</p> <ul style="list-style-type: none"> - Participatory Management Project in National Refuge Barra Del Colorado (2008-2011) - Capacity Development on Integrated Management and Conservation of Biodiversity at regional level in SICA Region (2019-2024) | | | | | | | | | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Indicator 2 of the Project Purpose was the same as Indicator 2 of the Overall Goal. In the ex-post evaluation, it was used for verifying not the continuation of the Project Purpose but the achievement status of the Overall Goal.

1 Relevance

<Consistency with the Development Policy of Costa Rica at the time of Ex-ante Evaluation>

In Costa Rica's "National Development Plan" (2010-2014), one of the priority issues was the "environment and sustainable development," and biodiversity conservation was included as the target. In the "National Biodiversity Strategy" (2000), collaboration among relevant institutions and sectors, information exchange, and capacity development in biodiversity management were included in

¹ In this project, knowledge was defined as "a systematic organization of the background to the implementation of policies and frameworks for biodiversity conservation, the subsequent implementation process, the status of implementation and its results, biological, social and economic effects and impacts, challenges, lessons learned, and directions for future improvement."

the basic strategy. Thus, the project was consistent with the development policy of Costa Rica at the time of ex-ante evaluation.

<Consistency with the Development Needs of Costa Rica at the time of Ex-ante Evaluation>

In Costa Rica, while progress was made for biodiversity conservation in national parks, there were conflicts between residents and government authorities over the use and management of natural resources in conservation areas where human habitation and production activities were allowed. There was a need for systematization and documentation of knowledge so that the participatory and collaborative management system in conservation areas established in the previous project could be shared both domestically and internationally. In this regard, the project was consistent with the development needs of Costa Rica at the time of ex-ante evaluation.

<Consistency with Japan’s ODA Policy at the time of Ex-ante Evaluation>

In the “Country Assistance Policy for Costa Rica” (2012), the basic policy included “support for sustainable development especially in the environment sector,” and one of the priority areas was the environment. Thus, the project was consistent with Japan’s ODA policy at the time of 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 partially achieved by the time of project completion. The knowledge consolidated by the project was utilized in all of the target Conservation Areas (Indicator 1), and the network for exchanging and discussion was established (Indicator 2). The network had participation from the counterpart organization, NGOs, universities, the officers of environmental ministries from other countries. On the other hand, the responsible section was not officially designated at SINAC (Indicator 3), and the mechanism for regional knowledge sharing was not established (Indicator 4).

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

The project effects have continued. SINAC has been engaged in systematization for the knowledge sharing as a part of their tasks. In 2019, the knowledge management program for promoting knowledge sharing and positioning it in the organization (Gestión del Conocimiento en el SINAC: GECOS) has started. In this program, a working group was established and it is expected to update related data for knowledge sharing. Three of the former counterpart personnel of the project have worked as Directors of SINAC Conservation Area offices, and other personnel has been in other managerial posts for Conservation Area offices. They have been a driving force for participatory biodiversity management. It has been also expected that the experiences and knowledge in each conservation area would be reviewed and shared and fed back in order to improve operations. Regarding the implementation of the action plan developed by the Citizen’s Participation and Governance Department of SINAC during the project period, SINAC has planned to implement the plan, since the number of staff has increased again to five, though it had decreased after the project completion.

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

The Overall Goal has been achieved. The knowledge accumulated in this project has been inherited to the national program and donor projects (Indicator 1). In addition, "citizen’s participation and governance" has been positioned as an important policy in the “National Development Plan” (2018-2022). Although other Central American countries have not yet developed specific policies and projects, they have shared the project outputs and knowledge. For example, SINAC has conducted four JICA Local Training Programs on "Ecosystem Conservation through Collaborative Management of Protected Areas" since 2016. The majority of the trainers are former counterpart personnel of the Project, and they have contributed to the dissemination of knowledge and methods of participatory biodiversity conservation in the region. In addition, Costa Rica's knowledge has been shared with other Central American countries in the "Capacity Development on Integrated Management and Conservation of Biodiversity at regional level in SICA Region" (2019-2024).

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

Several positive impacts have been confirmed in the ex-post evaluation. First, collaboration with other ministries in the country has been strengthened for participatory environmental management. The Ministry of Agriculture and Livestock has promoted agriculture and livestock programs from the perspective of participatory environmental management and recognized the significance of collaboration with SINAC. In the Ministry of Education, environmental education has been mainstreamed. The knowledge accumulated in the project has been compiled as educational materials for environmental education which have been used in some schools. In addition, SINAC has implemented the action plan on the matters stipulated in the Biodiversity Law, in collaboration with the National Commission for Biodiversity Management (CONAGEBIO). Second, as mentioned above, the knowledge and outputs obtained from the project have utilized in JICA's overseas supplementary training program of the training course, "Ecosystem Conservation through Collaborative Management of Protected Areas" as well as in the projects of SINAC and the German Agency for International Cooperation (GIZ). Thirdly, community cooperatives were established and led by female leaders. They have continued participatory biodiversity conservation activities and contributed to more participation of local women. This has been realized because many of the counterpart personnel have continuously supported women’s entrepreneurship and got involved in establishing cooperatives.

<Evaluation Result>

Therefore, the effectiveness/impact of the Project is high.

Achievement of the Project Purpose and Overall Goal

| Aim | Indicators | Results |
|---|---|---|
| (Project Purpose) A mechanism to share the knowledge of participatory approach of Costa Rica is established in and outside Costa Rica. | 1. In each Conservation Area, at least one case of utilizing the knowledge consolidated by the Project. | <u>Status of achievement: Achieved (Continued).</u> (Project Completion) - In all of the Conservation Areas, there was at least one case of utilizing the knowledge. (Ex-post evaluation) - The knowledge on the citizen’s participation and governance, environmental monitoring, environmental education, and zoning has been utilized in all Conservation Areas. |
| | 2. At least 50 persons in relevant | <u>Status of achievement: Achieved.</u> |

| | | |
|--|--|---|
| | <p>agencies to biodiversity participated in network established by the Project, exchanging the knowledge and discussing the issues on participatory biodiversity conservation.</p> | <p>(Project Completion) - The Facebook group page “Systematizing the Participatory Biodiversity Conservation Management (Sistematizando la Gestión Participativa de la Conservación de la Biodiversidad)” was established, and active information sharing and discussion were conducted. There were 175 members (March 2018). (Ex-post evaluation) - Verified as the achievement of Indicator of the Overall Goal.</p> |
| | <p>3. A responsible section of SINAC for knowledge sharing is determined and develops a mechanism (e.g. homepage) to keep updating relevant data.</p> | <p><u>Status of achievement: Partially achieved (Continued).</u> (Project Completion) - It was agreed that the technical director of the SINAC Executive Secretariat would be responsible for sharing information, but the formalities were not completed by the time of project completion. (Ex-post evaluation) - Any Department of SINAC has not yet designated as responsible for sharing information at SINAC, but instead, the working group consisting of six members has been established for information sharing. The working group has planned to update the relevant data as part of the knowledge management activities.</p> |
| | <p>4. The responsible section for SINAC for knowledge sharing with foreign countries develops a partnership and establishes a mechanism (e.g. homepage) to share knowledge with regional initiatives such as CCAD.</p> | <p><u>Status of achievement: Partially achieved (Partially continued).</u> (Project Completion) - The partnership among SINAC, the Central American Commission for Environment and Development (CCAD) and other organizations was developed through organizing international events and information sharing activities. It was agreed that the link to the page featuring the project outputs in the SINAC web site is created in the CCAD website, but it was not completed by the time of project completion. (Ex-post evaluation) - All of the project outputs have been uploaded in the SINAC website, but it has not been linked to the CCAD website. - SINAC has implemented information-sharing activities for knowledge sharing by participating in international events, conducting training, and receiving visitors.</p> |
| <p>(Overall goal) The policy and systems of participatory biodiversity conservation will be strengthened making good use of knowledge in Costa Rica and Central American countries.</p> | <p>1. Existence of projects and/or policies in Costa Rica and Central American countries that contributed to participatory biodiversity conservation.</p> | <p><u>Status of achievement: Achieved.</u> (Ex-post evaluation) - In Costa Rica, projects related to participatory biodiversity conservation have been implemented based on the project outputs and experiences, with support of donors including GIZ. Also, the knowledge and methodologies for participatory environmental monitoring promoted by the project have been sustained in the National Program of Ecological Monitoring.” - In Central American countries, no project or policy for participatory biodiversity conservation which reflects the project outputs has not been formulated. However, the project outputs and experiences have been shared in international meetings and training.</p> |
| | <p>2. Network established by the project in and outside Costa Rica will be sustained, with 50 participants and more and introduction of new issues on participatory biodiversity conservation.</p> | <p><u>Status of achievement: Achieved.</u> (Ex-post evaluation) - The Network established by the project, “Systematizing the Participatory Biodiversity Conservation Management,” has been sustained, where latest efforts for participatory biodiversity conservation in each country have been shared. There were 177 members (April 2021).</p> |

Source: Project Completion Report and information provided by SINAC (Executive Secretariat and Conservation Areas Offices).

3 Efficiency

Although the project cost exceeded the plan (ratio against the plan: 113%), the project period was as planned (ratio against the plan: 100%). Outputs were produced as planned. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

The importance of citizen’s involvement in participatory biodiversity conservation is mentioned in the “National Development Plan” (2018-2022). Also, the “National Biodiversity Policy” (2015-2030) includes the promotion of economically, socially, inclusively, and environmentally sustainable development and social participation in biodiversity management.

<Institutional/Organizational Aspect>

In order to promote participatory biodiversity conservation, the Citizen’s Participation and Governance Department, which was established in SINAC during the project period, has been maintained. The department has been staffed with five personnel to conduct operations under the themes of biological corridors, environmental education and volunteer, indigenous people, inter-organizational collaboration, councils, and governance. According to SINAC, due to the trend of budget and staff reduction, the number of personnel has not been sufficient. The Department responsible for systematizing and sharing knowledge has not yet been determined. Liaison officers responsible for coordination between the executive secretariat and conservation area offices have been in place. In each conservation area office, there has not been sufficient personnel in charge of systematizing knowledge on biodiversity conservation. Due to budget cuts, it has been difficult to fill the positions that have been retired.

SINAC has used the “Citizen’s Participation and Governance Action Plan” developed by the Project to guide the planning of activities

of the Citizen's Participation and Governance Department. SINAC also has maintained the network with other donors: it has received support from GIZ in the areas of biological corridors, urban environmental improvement, and organizational reform of protected area councils, and collaborated with CCAD on ecosystem and landscape restoration projects.

<Technical Aspect>

Since there have been personnel transfer and retirements in the Citizen's Participation and Governance Department of SINAC, it has been necessary to impart the knowledge and skills necessary for promoting participatory biodiversity conservation to the newly assigned personnel. In the knowledge management program mentioned above (GECOS), 45 members have been involved in systematizing and sharing knowledge. In each Conservation Area office, the personnel trained by the Project have been able to train other personnel. The manuals and technical standards developed by this project have been utilized in each Conservation Area.

<Financial Aspect>

The budget of SINAC has been allocated from the Ministry of Environment and Energy. Besides this, there have been dividends from the National Parks Fund and environmental NGOs, as well as donor funding and the Environmental Swap Fund. The systematization of experience has been funded by the knowledge management program (GECOS), but according to SINAC, the budget for participatory environmental monitoring has not been sufficient. Each Conservation Area office has not necessarily secured a sufficient budget for biodiversity conservation. Due to budget cuts by ministries and agencies, there has been no significant prospect of an increase in the future.

<Evaluation Result>

In the light above, slight problems have been observed in terms of the institutional/organizational 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 partially achieved by the time of project completion, but the project effects have continued, and the Overall Goal has been achieved. The knowledge accumulated by the project has been utilized in Conservation Areas, and the national and international networks have been developed. Also, the project experiences have been reflected in the Costa Rican policies and programs. Regarding sustainability, although the personnel and financial allocation have not been necessarily sufficient for promoting participatory biodiversity conservation, the coordination between the Executive Secretariat and Conservation Area offices and the network with other organizations has been a driving force for implementing activities. As for efficiency, the project budget exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

- Conservation Area offices have not been staffed with sufficient personnel responsible for promoting participatory biodiversity conservation, and their understanding and practice have differed among the offices. It is recommended that the Citizen's Participation and Governance Department take the lead in further strengthening the capacity of existing personnel by sharing good practices among Conservation Area offices and encourage other sections to take on the role of participatory biodiversity conservation.
- Under the circumstances where it is difficult to expect an increase in budgets and the assignment of new personnel in the future, it is recommended to reflect opinions and requests of residents and the general public in biodiversity conservation by strengthening the functions of local councils. Another idea is to strengthen participatory environmental monitoring of SINAC by exchanging agreements with private corporations and recruiting citizen volunteers.

Lessons Learned for JICA:

- In the project, knowledge on participatory biodiversity conservation and management has been consolidated and utilized in the Conservation Area offices even since the time of the project completion. This is because a section in charge was established in SINAC during the project period and knowledge systematization activities have continued. This is also attributed to the fact that the counterpart personnel became familiar with the knowledge systematization methods and the contents of the manuals. These have been made possible because, in the project, the future vision of the implementing agency from the organizational, technical, and financial perspectives was analyzed and the project activities were planned in line with the long-term plan of the organization. Furthermore, in preparing manuals and other outputs, the counterpart personnel took the initiative in collecting and analyzing information and consolidating them. Based on these experiences, in technical cooperation projects implemented in countries such as Costa Rica that can play a leading role to neighboring countries, it is important to plan activities after thoroughly examining the long-term plans and capacities of the implementing agency. And, Japanese experts need to do the process management as facilitators so that counterpart personnel is proactively involved in producing outputs, rather than only transfer their expertise.



Participatory Environmental Monitoring



Information Sharing from ex trainees of JICA training at SINAC

| | |
|-------------------|---|
| Country Name | Project for Capacity Development of GLOF and Rainstorm Flood Forecasting and Early Warning |
| Kingdom of Bhutan | |

I. Project Outline

| | | | | | |
|--|--|--------------|---|--|---|
| Background | Bhutan was experiencing an increase in the number of disasters related to hydro-meteorological hazards, such as flash floods and rainstorms, which had not been observed before. Since 1960s, a number of glacial lake outburst floods (GLOFs) had been recorded concurrently with shrink of glaciers and expansion of glacial lakes due to the effects of climate change. The preceding JICA/Japan Science and Technology (JST)'s project ("Study on GLOFs in the Bhutan Himalayas" (2009-2012)) assessed GLOF risks in the Mangdechhu basin and recommended continuous monitoring of the glacial lakes and development of early warning system (EWS). However, capacity of Department of Hydro-met Service (DHMS) under Ministry of Economic Affairs for flood and GLOF forecasting and monitoring was limited. Emergency response capacity of other stakeholders was also insufficient. | | | | |
| Objectives of the Project | <p>The project aimed to enhance capacity of DHMS and relevant stakeholders on emergency response against GLOF/rainstorm flood in Bhutan through (i) enhancement of capacity of related agencies on GLOF/rainstorm flood risk assessment, development planning, disaster prevention, flood forecasting and warning as well as emergency information sharing among relevant agencies, (ii) development and maintenance of EWSs for GLOF/rainstorm in the pilot basins of the Mangdechhu and the Chamkharchhu, and (iii) enhancement of emergency response capacity against GLOF/rainstorm flood at central and local levels in the pilot basins, thereby realizing nationwide disaster resilient society against natural disasters such as GLOF and rainstorm flood for Climate Change Adaptation in Bhutan.</p> <ol style="list-style-type: none"> Overall Goal: Nationwide disaster resilient society against natural disasters such as GLOF and rainstorm flood for Climate Change Adaptation is realized in Bhutan. Project Purpose: Capacity of DHMS and relevant stakeholders on emergency response against GLOF/rainstorm flood is enhanced. | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Thimphu and the Mangdechhu and the Chamkharchhu basins (as the pilot basins). Main activities: Discussions on Mainstreaming Disaster Risk Reduction, preparation of GLOF/rainstorm flood risk zonation maps of the pilot basins, improvement of weather/flood forecasting system of DHMS, development of standard operation procedure (SOP) on emergency information sharing at central level, development and maintenance of the EWSs for GLOF/rainstorm in the pilot basins, planning and implementation of EWS operation drills in the pilot basins, planning and implementation of warning and evacuation drills at the high-risk target communities/schools through Community Based Disaster Risk Management (CBDRM) and developing awareness-raising plans about the EWS at the low-risk target communities in the pilot basins¹, development of the SOP for GLOF/rainstorm flood in the pilot basins. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side 1) Experts: 9 persons 2) Trainees received: 29 persons 3) Equipment: Equipment for Global Telecommunication System (GTS)/Message Switching System (MSS) and HimawariCast Receiving System in DHMS, and equipment for EWS (Automatic Weather Station (AWS), Automatic Water Level Stations (AWLSs), etc.), and evacuation drills in the pilot basins, etc. 4) Local cost </td> <td style="width: 50%; vertical-align: top;"> Bhutanese Side 1) Staff allocated: 46 persons (40 from DHMS, 1 each from Department of Disaster Management (DDM), Department of Geology and Mines, and National Land Commission Secretariat, and 3 from Department of Engineering Service) 2) Building and facilities: Office space for experts at DHMS, etc. 3) Local cost </td> </tr> </table> | | | Japanese Side 1) Experts: 9 persons 2) Trainees received: 29 persons 3) Equipment: Equipment for Global Telecommunication System (GTS)/Message Switching System (MSS) and HimawariCast Receiving System in DHMS, and equipment for EWS (Automatic Weather Station (AWS), Automatic Water Level Stations (AWLSs), etc.), and evacuation drills in the pilot basins, etc. 4) Local cost | Bhutanese Side 1) Staff allocated: 46 persons (40 from DHMS, 1 each from Department of Disaster Management (DDM), Department of Geology and Mines, and National Land Commission Secretariat, and 3 from Department of Engineering Service) 2) Building and facilities: Office space for experts at DHMS, etc. 3) Local cost |
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| Project Period | (ex-ante) October 2013-September 2016 (actual) October 2013-September 2016 | Project Cost | (ex-ante) 401 million yen, (actual) 550 million yen | | |
| Implementing Agency | Implementing agency: Department of Hydro-met Service (DHMS) /Ministry of Economic Affairs. * Sub-implementing agency: Department of Disaster Management (DDM), Department of Geology and Mines (DGM), Department of Engineering Service, and National Land Commission Secretariat. *After the project completion, DHMS was reorganized into an autonomous agency called National Center for Hydrology and Meteorology (NCHM). | | | | |
| Cooperation Agency in Japan | Earth System Science Co. Ltd. | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- The target area for the Project Purpose Indicator 1 was not specified in the logical framework, but it was interpreted to be the pilot basins based on the description of "Project Site" of the logical framework.
- The Project Purpose Indicator 2 ("Early warning and evacuation drills in the pilot basins are regularly conducted by use of developed EWS (at least

¹ The high-risk target communities/schools consisted of 1 community in the Mangdechhu and 2 communities and 2 schools in the Chamkharchhu basin. The low-risk target communities consisted of 2 communities in the Chamkharchhu basin.

once in a year”) was not feasible because the drills in the pilot basins were planned only once in the final year of the project according to the original/latest schedule. The terminal evaluation of the project pointed out that it was difficult/too early to verify regular implementation of the drills and, took into account the prospects for the regular implementation based on the changes before and after the project in making evaluation judgement. This ex-post evaluation verified this indicator with the same perspective as that of the terminal evaluation.

- As the Overall Goal was defined as the goal to be achieved 3-5 years after the project completion in the project completion report (PCR), the target year was set to be September 2021, 5 years after the project completion.
- The description of the Overall Goal Indicator 1 (“GLOF/rainstorm flood forecasting and early warning is properly disseminated based on accumulation of hydro-met data to relevant agencies at central and local levels as well as outside of pilot river basins”) was considered to have meant that “...in the pilot river basins as well as outside of pilot river basins” In addition, definition of the phrase “properly disseminated” was not clear in the existing documents related to the project. In this ex-post evaluation, it was defined to be “reliable information is shared following the protocols laid down in the developed SOP” according to the understanding of NCHM at the time of the project implementation, which was confirmed through the field survey.

1 Relevance

<Consistency with the Development Policy of Bhutan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the development policy of the Bhutanese government, which included GLOF as a priority issue in the 10th Five Year Plan (FYP) (2008-2013). In addition, measures against GLOF were regarded as a top priority in the National Adaptation Program of Actions (NAPA) (2006) and the National Disaster Risk Management Framework (2006).

<Consistency with the Development Needs of Bhutan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the needs of Bhutan for capacity development for GLOF and rainstorm flood forecasting and early warning as described in the “Background”.

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

At the time of ex-ante evaluation, the project was consistent with the Japanese ODA policy for South Asia Region, which included assistance to address environmental and climate change issues caused by population growth and economic development under the basic policy².

<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 achieved at the time of project completion judging from the achievement status of 2 indicators (“achieved” and “partially achieved”). The GTS/MSS and HimawariCast Receiving System were installed at the National Weather Forecasting and Warning Center (NWFWC)/DHCM (currently NCHM) and the EWS for GLOF/rainstorm flood was installed in the 2 pilot basins³ in March 2016. After the training on the installed systems, DHMS (currently NCHM) started operation of the EWS in the 2 pilot basins in May 2016. From then, the GLOF/rainstorm flood forecasting and early warning (EW) was in place for 24 hours a day, 7 days a week (24/7) in accordance with the SOP developed under the project⁴ (Indicator 1). Using the EWS developed under the project, the evacuation drills were conducted at the target communities/schools for CBDRM in the 2 pilot basins once in March 2016, the final year of the project, as scheduled (target: regular implementation of the drills in the 2 pilot basins). Although the progress was observed, it was difficult/too early to verify the regular implementation of the drills. Meanwhile, the target communities were committed to the CBDRM activities including the preparation for the drills. Additionally, in the Chamkharchhu basin, DDM was planning to incorporate the evacuation plans including regular drills into the District Disaster Management Plan (DDMP) for Bumthang District, where the basin was located. The commitment shown by the above-stated local stakeholders suggested the drills in the 2 pilot basins could be conducted regularly based on the experiences of the project (Indicator 2).

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

The project effects were continued at the time of ex-post evaluation. As discussed by the relevant agencies in the project, the Inter-Ministerial Task Force was established in 2018 and functioning as an institute for mainstreaming disaster risk assessment information into development plans. Utilizing the EWS developed under the project, the GLOF/rainstorm flood forecasting and EW was continuously in place for 24/7 in the 2 pilot basins in accordance with the developed SOP⁵. In the Mangdechhu basin, the EW and evacuation drill for GLOF/rainstorm flood at the target community was conducted only once in 2018. NCHM was not able to coordinate the EW and evacuation drills in the other years mainly because the district administration for Trongsa, where the basin was located, prioritized the evacuation drills for the most recent hazards/the hazards with the most recently perceived risks such as earthquake and fire and the new District Disaster Management Officer (DDMO)⁶ assigned in 2020 was not sufficiently aware of the importance of the drills for the GLOF/rainstorm flood. It is noted that the Disaster Management Contingency Plan (DMCP), formerly known as the DDMP, for Trongsa District developed after the project completion (also see <Other Impacts>) covered the GLOF/rainstorm flood along with other disasters.

² ODA data collection (2013).

³ The installed EWS composed of automatic hydro-meteorological observation stations (AWS/ALWS), a control room which integrated data from the observation stations, and siren towers to warn the floods to the target communities/schools.

⁴ In the Chamkharchhu basin, all the EWS warning sirens were activated on July 26, 2016, upon the water level reaching the Alarm Level because of the extraordinary continuous monsoon rain. After that, the EWS was operated appropriately using the O& M manual developed under the project and the emergency information was communicated to the local government and local DDM according to the SOP. That appropriate procedure resulted in the safety evacuation of the target community people.

⁵ One of the 2 AWLSs installed in the Mangdechhu basin was not functional due to damage caused by a sudden flash flood in October 2020. The damaged AWLS had been used for flash flood forecasting and EW. As the interim measure until replacement of the damaged AWLS, 24/7 flood observation was conducted visually by NCHM and information was transmitted to the control room during the increase in water level based on the developed SOP.

⁶ A DDMO was a focal person in disaster management at district level. The DDMO was recruited by DDM and deputed to district administration. The DDMO also reported to DDM. During the project implementation, the DDMOs in charge of the pilot basins (then) participated in planning and implementation of the EW and evacuation drills.

Instead of the regular drills, public awareness campaign on the GLOF/rainstorm flood disasters was regularly conducted, utilizing the experiences of the project⁷. According to the DDMO, the public awareness for the GLOF/rainstorm flood raised through the campaign may have been one of the important factors that helped the target community people to evacuate safely during the flash flood in October 2020. The past experiences of the EW and evacuation drills also facilitated the safe evacuation of the target community people. Recognizing the importance of the EW and evacuation drills, the DDMO was planning to propose to the district administration an EW and evacuation drill or at least a public awareness activity before the monsoon season in the ongoing fiscal year (July 2021-June 2022). On the other hand, in the Chamkharchhu basin, regular evacuation drills were incorporated into the DMCP as planned at the time of project completion. According to the DMCP, the EW and evacuation drills at the 2 target schools were conducted once a year, but those at the 2 target communities could not be conducted in 2018 because of change of the DDMO for Bumthang District and from 2020 due to restriction of gathering imposed by the COVID-19 pandemic. Based on the fact that the regular drills were incorporated in the DMCP and the trend prior to the COVID-19 pandemic, it can be reasonably assumed that the regular drills at the target communities would have continued without the COVID-19 pandemic. It should be also noted that, when the drills could not be conducted, the DDMO along with volunteers organized awareness campaigns against GLOF/rainstorm flood disasters as an alternative measure, using the experiences and the materials and human resources developed from the project.

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

The Overall Goal was achieved at the time of ex-post evaluation. GLOF/rainstorm flood forecasting and EW was properly disseminated based on accumulation of hydro-met data to the relevant agencies at central and local levels in the 2 pilot basins well as outside of pilot river basins. In the 2 pilot basins, GLOF/rainstorm flood forecasting and EW was shared to the relevant agencies, following the protocols laid out in the developed SOP. Outside the 2 pilot basins, NCHM in collaboration with DDM established an interim community flood EWS for a temporary resettled community at a newly constructed shelter in the Ammochhu basin⁸ and developed the SOP for the flood EWS in 2020, utilizing the capacity and experiences acquired in the project⁹. Rainstorm flood forecasting and EW was shared to the relevant agencies, following the protocols laid out in the SOP for the flood EWS. The information shared to the stakeholders in the above-mentioned 3 basins was reliable because NCHM staff gained practical experiences which helped to make judgement when to issue advisory and warning to them through continuous observation at 24/7 operation of the NWFWC and the EWSs as well as availability of more accumulated hydro-met time-series data from the fields (Indicator 1). For the above-mentioned resettled community in the Ammochhu basin, NCHM and DDM had a plan to conduct an annual EW and evacuation drill before the monsoon season. The drill was conducted in 2020 based on the experiences gained from the project together with awareness campaign against flood disasters. NCHM and DDM planned the drill in 2021 but could not implement it due to restriction of gathering imposed by the COVID-19 pandemic. It can be reasonably assumed that the drill in 2021 would have conducted without the COVID-19 pandemic (target: evacuation drills at least in one community outside the pilot basins) (Indicator 2).

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

Some other positive impacts were observed. For example, NCHM conducted the water line survey of the Thimpuchhu, the Parochhu and the Hachhu for flood hazard mapping, utilizing the acquired skills and knowledge. In the Mangdechhu basin, Mangdechhu Hydro Power Authority (MHPA) utilized the EWS established under the project in conducting its mandatory evacuation drills¹⁰. There were synergetic effects between this project and NAPA II project (2014-2018) financed by Least Developed Countries Fund (LDCF) through United Nations Development Programme. A staff member from NCHM and the DDMO for Trongsa District (then), who had participated in the project as the Project Manager and the key focal person in disaster management at district level, were involved in the training program conducted by DDM under NAPA II project, which included development of the DMCP for Trongsa District and the SOP for the CBDRM activities. Meanwhile, negative impacts were not observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|---|--|---|
| (Project Purpose) | Indicator 1: GLOF/rainstorm flood forecasting and early warning is in place in accordance with developed SOP. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -From 2016, GLOF/rainstorm flood forecasting and early warning was in place in the 2 pilot basins in accordance with the SOP for emergency information sharing, utilizing the EWSs developed under the project. (Ex-post Evaluation) -Utilizing the developed EWSs, GLOF/rainstorm flood forecasting and early warning was continuously operational 24/7 in the 2 pilot basins in accordance with the developed SOP. | Project Completion Report (PCR), questionnaire and interview survey to NCHM |
| Capacity of DHMS and relevant stakeholders on emergency response against GLOF/rainstorm | Indicator 2: Early warning and evacuation drills in the | Status of the Achievement (Status of the Continuation): partially achieved (partially continued) | Terminal Evaluation |

⁷ The awareness campaigns would provide all the relevant information such as the evacuation sites, paths and the other Dos and Don'ts during a GloF or rainstorm flooding, which was derived from the experience of the project.

⁸ The interim EWS was established based on the urgency during the monsoon by using the existing available network of hydrological and meteorological observing stations upstream on the Ammochhu as well as GTS/MSS and HimawariCast Receiving System provided under the project. The flood warning levels were marked at 2 bridges with levels of threshold warning (Alert and Alarm). A temporary 24/7 Control Room was established to monitor and communicate with upstream field stations. The system was operated during the monsoon season from May to October. Warnings were disseminated to the community through the local government and other focal points identified.

⁹ In addition, utilizing the capacity and the experiences of the project, 2 more rainstorm flood EWSs were being established in the basins of the Thimpuchhu and the Parochhu under the succeeding project of JICA ("Project for Capacity Enhancement of Meteorological Observation, Forecasting and Flood Warning, for Disaster Preparedness and Response in Thimphu and Paro River Basins" (2020-2023)), which were expected to be operational in 2023.

¹⁰ During the project implementation, the control room of the EWS was installed at the MHPA dam colony and MHPA participated in the workshop for the SOP for GLOF/flood in the Mangdechhu basin.

| <p>flood is enhanced.</p> | <p>pilot basins are regularly conducted by use of developed EWS (at least once in a year).</p> <p>*Please see the 2nd point of <Special Perspectives Considered in the Ex-post Evaluation>.</p> | <p>(Project Completion)</p> <p>-Using the EWSs developed under the project, EW and evacuation drills were conducted once at the target communities/schools in the 2 pilot basins in March 2016, the final year of the project as scheduled. Although the progress was made, it was difficult/too early to verify the regular implementation of the drills.</p> <p>-The target communities/schools in the 2 pilot basins were committed to the CBDRM activities including preparation for the drills. Additionally, in the Chamkharchuu basin, DDM was planning to incorporate the evacuation plan including regular drills into the DDMP. The commitment shown by the above-stated local stakeholders suggested the drills could be conducted regularly in the 2 pilot basins based on the experiences of the project.</p> <p>(Ex-post evaluation)</p> <table border="1"> <thead> <tr> <th rowspan="2">Pilot basins</th> <th rowspan="2">Target community/school</th> <th colspan="5">No. of EW and evacuation drills conducted</th> </tr> <tr> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>Mangdechhu</td> <td>Bjizam Village</td> <td>0*¹</td> <td>1</td> <td>0*¹</td> <td>0*^{1,2}</td> <td>0*¹</td> </tr> <tr> <td rowspan="3">Chamkharchhu</td> <td>Wangdicholing Village</td> <td>1</td> <td>0*¹</td> <td>1</td> <td>0*^{1,2}</td> <td>0*¹</td> </tr> <tr> <td>Chamkhar Town</td> <td>1</td> <td>0*¹</td> <td>1</td> <td>0*^{1,2}</td> <td>0*^{1,2}</td> </tr> <tr> <td>Chokhortoe Primary School</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td></td> <td>Gangrithang Primary School</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>*1: GLOF/rainstorm flood disaster awareness campaign was implemented as an alternative measure. *2: The drills were planned before the monsoon season but could not be implemented due to restriction of gathering posed by the COVID-19 pandemic.</p> | Pilot basins | Target community/school | No. of EW and evacuation drills conducted | | | | | 2017 | 2018 | 2019 | 2020 | 2021 | Mangdechhu | Bjizam Village | 0* ¹ | 1 | 0* ¹ | 0* ^{1,2} | 0* ¹ | Chamkharchhu | Wangdicholing Village | 1 | 0* ¹ | 1 | 0* ^{1,2} | 0* ¹ | Chamkhar Town | 1 | 0* ¹ | 1 | 0* ^{1,2} | 0* ^{1,2} | Chokhortoe Primary School | 1 | 1 | 1 | 1 | 1 | | Gangrithang Primary School | 1 | 1 | 1 | 1 | 1 | <p>Report, PCR, questionnaire and interview survey to DDM</p> |
|--|---|--|---------------------------------|------------------------------|---|-------------------------------|--|------|------|----------|------|---|------|------|---|----------------|-----------------|---|-----------------|-------------------|-----------------|--------------|-----------------------|---|-----------------|---|-------------------|-----------------|---------------|---|-----------------|---|-------------------|-------------------|---------------------------|---|---|---|---|---|--|----------------------------|---|---|---|---|---|---|
| Pilot basins | Target community/school | No. of EW and evacuation drills conducted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2017 | 2018 | 2019 | 2020 | 2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mangdechhu | Bjizam Village | 0* ¹ | 1 | 0* ¹ | 0* ^{1,2} | 0* ¹ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chamkharchhu | Wangdicholing Village | 1 | 0* ¹ | 1 | 0* ^{1,2} | 0* ¹ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chamkhar Town | 1 | 0* ¹ | 1 | 0* ^{1,2} | 0* ^{1,2} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chokhortoe Primary School | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Gangrithang Primary School | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>(Overall Goal)</p> <p>Nationwide disaster resilient society against natural disasters such as GLOF and rainstorm flood for Climate Change Adaptation is realized in Bhutan.</p> | <p>Indicator 1: GLOF/rainstorm flood forecasting and early warning is properly disseminated based on accumulation of hydro-met data to relevant agencies at central and local levels (in the pilot river basins) * as well as outside of pilot river basins.</p> <p>*Please see the 4th point in <Special Perspective Considered in the Ex-post Evaluation>.</p> <p>Indicator 2: Evacuation drills are conducted at least in one community outside of pilot river basin with EWS.</p> | <p>(Ex-post Evaluation) achieved</p> <p>-In the 2 pilot basins, GLOF/rainstorm flood forecasting and EW was shared to the relevant agencies at central and local levels based on the accumulated hydro-met data, following the protocols laid out in the developed SOP.</p> <p>-In 2020, NCHM in collaboration with DDM established an interim community flood EWS for a temporary resettled community in the Ammochhu basin and developed the SOP for the flood EWS, utilizing the capacity and the experience gained from the project. Rainstorm flood forecasting and EW was shared to the relevant agencies at central and local levels during the monsoon season based on the accumulated hydro-met data, following the protocols laid out in the developed SOP.</p> <p>-The information shared to the stakeholders in these 3 basins was reliable because NCHM staff gained practical experiences which helped to make judgement when to issue advisory and warning through continuous observation and 24/7 operation of the NWFCs and the EWSs as well as availability of more accumulated hydro-met time-series data from the fields.</p> <p>(Ex-post Evaluation) achieved</p> <table border="1"> <thead> <tr> <th rowspan="2">Basin outside the pilot basins.</th> <th rowspan="2">Year of establishment of EWS</th> <th rowspan="2">Community</th> <th colspan="2">(Ref) No. of drills conducted</th> </tr> <tr> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>Ammochhu</td> <td>2020</td> <td>Temporary resettled community in Phuentsholing City</td> <td>1</td> <td>0*</td> </tr> </tbody> </table> <p>*NCHM and DDM planned to conduct a drill before the monsoon in 2021 but could not carry it out due to restriction of gathering posed by the COVID-19 pandemic.</p> | Basin outside the pilot basins. | Year of establishment of EWS | Community | (Ref) No. of drills conducted | | 2020 | 2021 | Ammochhu | 2020 | Temporary resettled community in Phuentsholing City | 1 | 0* | <p>Questionnaire and interview survey to NCHM</p> <p>Questionnaire and interview survey to NCHM and DDM</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basin outside the pilot basins. | Year of establishment of EWS | Community | | | | (Ref) No. of drills conducted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 2020 | 2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ammochhu | 2020 | Temporary resettled community in Phuentsholing City | 1 | 0* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

3 Efficiency

Although the project cost exceeded the plan (ratio against the plan: 137%), the project period was within the plan (ratio against the plan: 100%). The outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

NAPA (2016) and the National Disaster Risk Management Framework (2006) mentioned in “Relevance” are still effective. In addition, promotion of emergency response against GLOF/rainstorm flood was supported by the 12th FYP, which included “carbon neutrality, climate and disaster resilient” in one of the National Key Result Areas.

<Institutional/Organizational Aspect>

The Inter-Ministerial Task Force established in 2018 was functioning as an institute for mainstreaming disaster risk assessment information into development plans. Reorganization of DHMS into NCHM strengthened its roles in GLOF/rainstorm flood forecasting and EW because NCHM was designated as the Hydro-met Hazard EW Service Provider in the country in 2019 vide the Government Order issued by the Prime Minister. Organizational structure of DDM for emergency response preparedness for natural disasters remained unchanged and functioning. The number of staff of NCHM was increased compared to erstwhile DHMS. As of August 2021, the number of staff of NCHM was 192, which was 87% of the quota. NCHM stated that number of staff was sufficient compared with erstwhile DHMS for delivery of basic services. DDM also considered that the number of staff was sufficient because it also expanded its human resources both in the department and the districts.

<Technical Aspect>

NCHM sustained/updated the acquired skills and knowledge through applying them in their daily operations as well as conducting field works, workshops and hands-on training. In addition, it was made mandatory for any staff who would take a long-term study leave to conduct

necessary training and hands on exercise to the successor. DDM also sustained the acquired skills and knowledge through conducting evacuation drills, disaster awareness campaigns etc. in collaboration with NCHM. The manuals and materials developed under the project were continuously used by them. The equipment provided under the project was maintained in good condition and utilized except for one of the AWLS installed in the Mangdechuu basin, which was damaged by the sudden flash flood in October 2020. The damaged AWLS was not replaced yet mainly because NCHM was conducting the full-season-cycle site survey to identify the new location for the AWLS¹¹. NCHM was already in contact with the Japanese manufacturer and discussing with the government and MHPA for replacement of the damaged AWLS. Once the exact location for the new site for the AWLS was identified, the budget would be deliberated further and full-scale discussions on the replacement would start. It is noted that, the effect of the breakdown of the AWLS was minimized because the EWS in the Mangdechuu basin continued functioning by the visual observation as the interim measure until the replacement¹².

<Financial Aspect>

The budget for NCHM had been increasing since 2016 to support the activities relating to GLOF/rainstorm flood forecasting and EW. NCHM secured the necessary budget to sustain the project effects, including the budget for operation and management of the EWS established in the 2 pilot basins and the Ammochhu basin. DDM secured the budget for emergency response preparedness for natural disasters in general, including GLOF and rainstorm flood, for all 20 districts from the national budget and international organizations such as LDCF/UNDP, World Food Programme, and Save the Children.

<Evaluation Result>

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

5 Summary of the Evaluation

The project achieved the Project Purpose of enhancing the capacity of DHMS (presently NCHM) and relevant stakeholders on emergency response against GLOF/rainstorm flood. The effects of the project continued and the Overall Goal of realization of nationwide disaster resilient society against natural disasters such as GLOF and rainstorm flood for Climate Change Adaptation was achieved. As for the sustainability, no problems were observed in terms of the policy, institutional/organizational, technical and financial aspects. Regarding the efficiency, the project cost 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:

-After the relaxation of the restrictions that are currently imposed due to COVID-19 pandemic, NCHM and DDM are recommended to conduct regular EW and evacuation drills at the high-risk community (i.e., Bijezam Village) in the Mangdechhu basin in collaboration with the district administration of Trongsa to enhance the preparedness of the community against GLOF/rainstorm flood disasters. For this, DDM and NCHM are recommended to assist the new DDMO to raise the awareness of the district disaster management committee on the risks of the GLOF/rainstorm flood and the importance of the EW and evacuation drill, an effective way would be to revisit the example of the recent flash flood at Bijezam on 1st October 2020. Such awareness can help the district disaster management committee to prioritize the evacuation drills for the GLOF/rainstorm flood disasters along with other disasters. In the future, if there is a change of DDMO, NCHM and DDM are recommended to discuss with a new DDMO on the risks of GLOF/rainstorm flood and the needs of the EW and evacuation drills. This is to make sure that the EW and evacuation drills or at least public awareness campaign be carried on. Or DDM is recommended to modify the /DMCP for Trongsa to include regular EW and evacuation drills and awareness campaign so that they could be carried on even if there is a change in DDMO in the future.

Lessons Learned for JICA:

- In the projects pertaining to disaster preparedness in Bhutan, it is important to ensure that the preparedness activities like evacuation drills and awareness programs should be made part of the project work plan for any target districts as in the case of this project. Before the project completion, the importance of evacuation drills and awareness campaigns must be made part of the DMCPs for the target districts (or their equivalents for the target disasters) as in the case of Bumthang District, a target district of this project. . For example, this lesson should be applied to the ongoing technical cooperation project “Capacity Enhancement of Meteorological Observation, Forecasting and Flood Warning, for Disaster Preparedness and Response in Thimpu and Paro River Basins” (2020-2023). For this project, the JICA experts and the central implementing agencies like the DDM and NCHM will need to include the aspects of evacuation drills and awareness campaigns like the hazard map familiarization, evacuation centers identification, community roles in evacuation in the flood SOPs to be formulated during the project implementation to ensure that these activities are carried on even after the project.

¹¹ The flash flood did not only damage the AWLS but changed the river flow and profile, thereby requiring the site survey to see the feasibility of the new location for AWLS along with costs for equipment replacement.

¹² Also see footnote 5.



24/7 Manned Control Room at Kurjey
in the Chamkharchhu Basin.



24/7 Manned Control Room at MHPA Dam Colony
in the Manngdechhu Basin.

| | |
|----------------------|--|
| Country Name | Project for Strengthening Integrated Management of Yguazú Lake Watershed |
| Republic of Paraguay | |

I. Project Outline

| | | | | | | | | | | | | | | | |
|--|---|--------------|---|---------------|-----------------|----------------------------------|--------------------------------|----------------------------------|--|---|--|--|--|--|--|
| Background | <p>The Lake Yguazú watershed (503,300ha) in Paraguay has been important for stable power supply in the country, as it has been used as a regulating reservoir for the Acaray hydropower plant. On the other hand, in the watershed, immigrants began large-scale agricultural development in the 1970s, and a vicious cycle was created in which deforestation and traditional agriculture (slash-and-burn agriculture, etc.) caused by the expansion of farmland resulted in the devastation of the watershed, and the associated poverty brought about the further deforestation. There was a concern that the vicious cycle would lead to sediment deposition in the Lake Yguazú, which would reduce the power generation volume in the future. Watershed management was urgently needed to improve that situation so that the capacity of the Acaray hydropower plant could be utilized at the maximum level.</p> | | | | | | | | | | | | | | |
| Objectives of the Project | <p>Through development of reforestation and forest rehabilitation techniques, establishment of the multidisciplinary team in the National Administration of Electricity (ANDE) and municipality-level platforms, etc. in the target sites of the Yguazú Lake watershed, the project aimed at strengthening ANDE's institutional mechanism for watershed management, thereby contributing to the appropriate land use management.</p> <p>1. Overall Goal: Appropriate land use is realized through watershed management in Yguazú Lake watershed. 2. Project Purpose: Institutional mechanism is strengthened for the management of Yguazú Lake watershed.</p> | | | | | | | | | | | | | | |
| Activities of the project | <p>1. Project site: Six Municipalities in Caaguazú Department (Nueva Toledo, R. A. Oviedo, J. D. Ocampos, D. J. Eulogio Estegarríbia, Mariscal F. S. Lopez, and Tembiaporá) and four Municipalities in Alto Parana Department (Yguazú, D. J. L. Mallorquín, J. E. O'Leary, and Minga Guazú)</p> <p>2. Main activities: Establishment of the multidisciplinary team in ANDE and the technical committee, municipality-level platforms, development of the annual plan of watershed management activities, development of reforestation and forest rehabilitation techniques, training of ANDE staff, support for residents' watershed management activities, etc.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Paraguayan Side</td> </tr> <tr> <td>1) Experts from Japan: 9 persons</td> <td>1) Staff allocated: 16 persons</td> </tr> <tr> <td>2) Trainees in Japan: 20 persons</td> <td>2) Land and facilities: Office space, etc.</td> </tr> <tr> <td>3) Trainees in the third country (Panama): 33 persons</td> <td>3) Local cost: Fuel, vehicle maintenance cost, office maintenance cost, etc.</td> </tr> <tr> <td>4) Trainees in the third country (Honduras): 8 persons</td> <td></td> </tr> <tr> <td>5) Equipment: Vehicles, boats, outboard motors, mowers, water level gauges, etc.</td> <td></td> </tr> </table> | | | Japanese Side | Paraguayan Side | 1) Experts from Japan: 9 persons | 1) Staff allocated: 16 persons | 2) Trainees in Japan: 20 persons | 2) Land and facilities: Office space, etc. | 3) Trainees in the third country (Panama): 33 persons | 3) Local cost: Fuel, vehicle maintenance cost, office maintenance cost, etc. | 4) Trainees in the third country (Honduras): 8 persons | | 5) Equipment: Vehicles, boats, outboard motors, mowers, water level gauges, etc. | |
| Japanese Side | Paraguayan Side | | | | | | | | | | | | | | |
| 1) Experts from Japan: 9 persons | 1) Staff allocated: 16 persons | | | | | | | | | | | | | | |
| 2) Trainees in Japan: 20 persons | 2) Land and facilities: Office space, etc. | | | | | | | | | | | | | | |
| 3) Trainees in the third country (Panama): 33 persons | 3) Local cost: Fuel, vehicle maintenance cost, office maintenance cost, etc. | | | | | | | | | | | | | | |
| 4) Trainees in the third country (Honduras): 8 persons | | | | | | | | | | | | | | | |
| 5) Equipment: Vehicles, boats, outboard motors, mowers, water level gauges, etc. | | | | | | | | | | | | | | | |
| Project Period | August 2013 to July 2017 | Project Cost | (ex-ante) 356 million yen, (actual) 316 million yen | | | | | | | | | | | | |
| Implementing Agency | National Administration of Electricity (ANDE) | | | | | | | | | | | | | | |
| Cooperation Agency in Japan | None. | | | | | | | | | | | | | | |
| Related Project | <p>Loan: Yguazú Hydropower Station Construction Project (2015)</p> <p>Other donor: Rehabilitation and Modernization Project of Acaray Hydropower Station (2019) (Inter-American Development Bank)</p> | | | | | | | | | | | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Indicator 2 of the Project Purpose was to measure the level of understanding of the stakeholders of the developed watershed management plan. In the ex-post evaluation, the level of understanding of the plan by the stakeholders was not confirmed, but the status of utilization was confirmed.
- For Indicator 3 of the Project Purpose (securing budget for the watershed management plan), the budget allocation status was confirmed from the financial aspect of sustainability in the time of ex-post evaluation, but not as a continuation of the project effects.

| |
|---|
| 1 Relevance |
| <p><Consistency with the Development Policy of Paraguay at the time of Ex-ante Evaluation></p> <p>The "Socio-Economic Strategic Plan" (2008-2013) aimed at the equitable livelihood improvement of all citizens, and in particular to improve social services for the poor. One of the strategic objectives was "diversification of production structure", which aimed to "diversify the production structure while being environmentally friendly and fully utilizing existing energy and human resources." Thus, the project was consistent with the development policy of Paraguay at the time of ex-ante evaluation.</p> <p><Consistency with the Development Needs of Paraguay at the time of Ex-ante Evaluation></p> <p>In the Lake Yguazú watershed, large-scale farming was started by immigrants in the 1970s, and a vicious cycle of deforestation and traditional agriculture caused by the expansion of farmland, resulting in the devastation of the watershed, poverty, and further expansion of farmland. There was a concern that this vicious cycle would lead to sediment deposition in the Lake Yguazú, which would decrease the amount of power generation in the future. In this regard, the project aiming at the appropriate watershed management was consistent with these development needs of Paraguay at the time of ex-ante evaluation.</p> <p><Consistency with Japan's ODA Policy at the time of Ex-ante Evaluation></p> <p>The basic principle of the "Country Assistance Policy for the Republic of Paraguay" (2012) was to achieve "sustainable economic and social development without disparities by improving the quality of life of the poor and enhancing social services," and priority areas were</p> |

reduction of economic and social disparities and sustainable economic development. Regarding the reduction of disparities, support for the diversified needs of small farmers were targeted, while development and enhancement of the economic and social infrastructure were aimed at for sustainable economic development. Thus, the project was consistent with Japan's ODA policy at the time of 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 time of project completion. The Watershed Management Department was established in ANDE Technical Division (Indicator 1). In addition, the multidisciplinary team to facilitate activities related to the "Yguazú Lake Watershed Management Plan" was established by the President's order, and meetings were held. The "Yguazú Lake Watershed Management Plan" was approved by the President's resolution. The plan was explained to the stakeholders such as relevant departments of ANDE, ministries and Municipal Mayors, and it was judged that 75% of the stakeholders understood the plan (Indicator 2). However, it was found that the understanding level of the municipality stakeholders was not much high while ANDE officers showed the high understanding. At the time of project completion, ANDE explained that they considered to secure the budget planned in the watershed management plan through self-financing and support from domestic and international donors (Indicator 3). According to ANDE, the budget for reforestation and afforestation, hydrology, assignment of technicians and staff for community awareness raising, and procurement of equipment such as water level gauges would be added to the budget request for the financial year of 2018 and that it would be disbursed the following year. In addition, as an approach to link watershed conservation activities with income generation, ecotourism was introduced using existing knowledge (livestock rearing and rural experience) and lifestyles (handicrafts, dance) that are commonplace to local residents, leading to cash income.

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

The project effects have continued. The "Yguazú Lake Watershed Management Plan" has continuously been an official document of ANDE and has been incorporated into the Operation Manual of ANDE. The multidisciplinary team formed during the project implementation was dismantled, but the Watershed Management Department under the Environmental Management Directorate has worked for implementing the watershed management plan in collaboration with other sections. ANDE has carried out activities including tree planting, weed control, and nursery maintenance¹), etc. based on the annual plan, after confirming the land properties. Reforestation activities have been conducted by the green space cleaning staff under coordination of the Watershed Management Department. ANDE also organized training workshops for local residents on environmental conservation including soil management in three municipalities from 2018 to 2021 based on an annual plan (municipalities of Mallorquín, O'Leary, and Yguazú).

<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. The watershed management activities based on the "Yguazú Lake Watershed Management Plan" have been continuously implemented (Indicator 1). As shown in the table below, results of the watershed management activities have been confirmed in six municipalities. The municipality-level platform has served as the base for the implementation of the activities, and the activities have been carried out in collaboration with other municipality-level platforms, schools, Municipality Government, agricultural cooperatives, and Japanese Associations. These watershed management activities have been annually monitored (Indicator 2).

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

Several positive impacts have been confirmed. First, the local residents (teachers, members and leaders of women's groups that hold vegetable markets, etc.) have taken initiatives in implementing the activities of the watershed management plan, which has led to a change in the awareness of the local residents. This has also led to the participation of many women in the activities. As part of the environmental education at the school, evaluations have been conducted for the students, and it has been confirmed through the evaluations that the students have raised awareness of the importance of the environment. Second, ANDE has made briefings to municipality mayor and others based on the "Manual for the Establishment of Municipality-level Platforms" developed by the project, in order to provide opportunities where relevant organizations and residents in municipalities located in the watershed would recognize the importance of the watershed management and make actions. As a result, platforms were newly established in two municipalities by the municipality decree in 2018 after the project completion (Municipalities of Mariscal F. S. Lopez and D. J. Eulogio Estegarríbia).

<Evaluation Result>

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

Achievement of the Project Purpose and Overall Goal

| Aim | Indicators | Results |
|---|---|---|
| (Project Purpose) Institutional mechanism is strengthened for the management of Yguazú Lake watershed. | 1. The section for watershed management which leads the watershed management plan within ANDE. | <u>Status of achievement: Achieved (Continued).</u> (Project Completion) • The Watershed Management Department was established under the Technical Directorate. (Ex-post Evaluation) • The Watershed Management Department under the Environmental Management Directorate of ANDE has taken responsibility for the watershed management plan. |
| | 2. 70% of the stakeholders such as the officers of relevant sections of ANDE, Ministries and Agencies, municipalities mayors understand the contents of the elaborated "Yguazú Watershed Management | <u>Status of achievement: Achieved (Continued).</u> (Project Completion) • 75% of the stakeholders scored more than 60 points (understood as the satisfactory understanding level) in the oral examination on the watershed management plan. (Ex-post Evaluation) |

¹ Seedling cultivation, ant control, use of bokashi and nircic acid.

| | | |
|---|---|---|
| | Plan.” | <ul style="list-style-type: none"> The “Yguazú Lake Watershed Management Plan” has been regarded as an official document of ANDE and incorporated into the Operation Manual of ANDE. |
| | 3. Progress of the activities for allocating budgets necessary for the implementation of the “Yguazú Watershed Management Plan” at ANDE. | <p><u>Status of achievement: Achieved (Continued)</u> (Project Completion)</p> <ul style="list-style-type: none"> It was considered by ANDE that the budget would be allocated for the planned activities and experts to achieve the goals set in the watershed management plan from 2019. ANDE was planning its revenue and financial support from the domestic and international donor agencies. <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> Refer to the financial aspect of sustainability. |
| (Overall Goal) Appropriate land use is realized through watershed management in Yguazú Lake watershed. | 1. Watershed management activities are implemented in a sustainable way based on the “Yguazú Watershed Management Plan.” | <p><u>Status of achievement: Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> The following activities have been implemented based on the watershed management plan. <ul style="list-style-type: none"> ✓ Planting trees in public areas, conducting workshops for local residents (forestry, waste management), constructing a furnace to produce pyroligneous acid, cleaning up the watershed (J. L. Mallorquín) ✓ Constructing a furnace to produce pyroligneous acid, tree planting, conducting the environmental education, implementing workshops on water and tree planting at school (J. E. O’Leary) ✓ Conducting workshops for local residents (efficient use of water, forest, and electricity), cleaning up and reforestation near the watershed (Yguazú) ✓ Conducting workshops for local residents (watershed conservation), reforestation and cleaning in public areas and near watersheds (J. D. Ocampos) ✓ Sandbagging, forest and water management, and reforestation in the conservation area (Mariscal F. S. Lopez) ✓ Conducting workshops for schools (water cycle and protected areas) (D. J. Eulogio Estegarríbia) |
| | 2. ANDE monitors the implementation of the “Yguazú Watershed Management Plan,” and carries out the revision and make recommendations to the relevant institutions at the central level. | <p><u>Status of achievement: Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> ANDE has monitored the implementation of the watershed management plan each year. As of the time of ex-post evaluation, there was no necessity for the revision. ANDE has submitted advices and comments to the Technical Committee at the central level (Ministry of Environment and Sustainable Development, National Forestry Institute, Ministry of Agriculture and Livestock, and Technical Secretariat for Economic and Social Development Planning) on the implementation of the annual plan activities of the watershed management plan. |

Source: Project Completion Report and information provided by ANDE.

3 Efficiency

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

4 Sustainability

<Policy Aspect>

One of the activity pillars has been poverty reduction and social development in the “National Development Plan” (2014-2030), and watershed management of Yguazú Lake has been relevant with two of the strategic objectives that are participatory regional development and appropriate and sustainable residential areas.

<Institutional/Organizational Aspect>

Since ANDE was reorganized in 2019, the Watershed Management Department of the Environmental Management Directorate has taken the initiative in the Watershed Management Plan. It has worked in collaboration with the Property Management Division, the Ownership and Easement Office, and the Topography Management Division. In September 2020, the Watershed Management Department moved its office to Alto Paraná Department, near Lake Yguazú, to allow for quicker response. ANDE has continued to monitor sedimentation, soil erosion, and water levels, and used the data to identify and improve problems. The technical committee at the central level for collaboration on the watershed management of Yguazú Lake has continued its meetings, but as of the time of ex-post evaluation it was temporarily suspended as a precautionary measure against the COVID-19 pandemic. Municipality-level platforms have continued in three of the five municipalities established during the project period. Clear reasons of non-continuity in two municipalities could not be confirmed. ANDE has planned to survey the status of municipalities that have stopped the platform and share good practices from other municipalities in FY2021.

<Technical Aspect>

According to the Director of the Environmental Management Directorate, ANDE staff has maintained the knowledge and skills necessary for the activities of the watershed management of Yguazú Lake, such as reforestation and vegetation recovery (including soil conservation), participatory development, and survey of sediment and lake shore erosion. New staff members have received training from the Environmental Management Directorate and have conducted activities related to watershed management step by step. In addition, the Training Department of the Professional Development Department of the Human Resource Directorate has planned and implemented the annual training plan based on the requests from the sections including the Watershed Management Department. Manuals developed by the

project ("Watershed Management Manuals" and "Municipality-level Platform Establishment and Operation Manual") have been used for training and as reference materials.

<Financial Aspect>

ANDE has been financed by its own resources from the electricity tariff and also by financial support from external agencies. However, the budget is not sufficient for further development of the activities.

<Evaluation Result>

In the light above, there have been issues in the institutional and financial aspects. Therefore, the sustainability of the effects is fair.

5 Summary of the Evaluation

The Project Purpose was achieved, and the project effects have continued. The "Yguazú Watershed Management Plan" was developed, and the responsible section was established within ANDE. Since the time of project completion, technical committee meetings at the central level and municipality-level platforms have been sustained, and activities based on the watershed management plan have been implemented. Regarding sustainability, there has been issues in institutional/organizational aspect and financial aspect, but there was no issue in policy and technical aspects..

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 introduce activities for diversifying income sources supported by the project as good practices which were combined to the environmental protection at the technical committee meetings and diffuse them to other areas.
- It is recommended to further support local residents' activities for diversifying income sources for reducing deforestation near Yguazu Lake. It is desirable to work with local residents for selling local products and folk crafts produced by small farmers in eco-friendly activities, and presenting their activities at the tourist information center opened at the Pikypo Park in Yguazú Municipality in 2016, and at the Circuito Vivencial del Mundo Guaraní.

Lessons Learned for JICA:

- Although ANDE has not had much experience in implementing projects directly with local residents, the following factors contributed to the success of the participatory project. First, JICA experts acted as facilitators to support ANDE to lead the process of planning, implementation, and monitoring of the project while coordinating with other ministries and agencies. This fostered not only project know-how but also ownership. Second, instead of directly reaching out to the local residents, participation in the activities was promoted through the local government (county government office), which led to their better understanding of environmental conservation as an issue of their own community. Third, by linking the existing knowledge and lifestyles of local residents to environmental conservation as an income-generating activity, the understanding and motivation for environmental conservation was enhanced. Thus, when an implementing agency that does not have a lot of experience implements a project with the participation of local residents, it is important for the Japanese experts to act as facilitators, not standing out, in the design of the project, to utilize existing organizations as a medium, and to take an approach which brings benefits to the beneficiaries.



Development of the Annual Activity Plan of FY2021 at Yguazú Municipal Platform



Technical workshop on the soil conservation

| | |
|---------------------|---|
| Country Name | Science Teacher Education Project (STEPSAM2) (2008-2012 Project) |
| Kingdom of Cambodia | The Project for Educational Resource Development in Science and Mathematics at the Lower Secondary Level (2013-2016 Project) |

I. Project Outline

| | | | | | | | | | | | | | | | |
|---|---|---------------|----------------|---------------------|---------------------|------------------------|--------------------------------|----------------------------------|--|---|--|---|--|--|---------------------------------|
| Background | <p>In Cambodia, the education sector reform had been promoted under the Sector-wide Approach since 2000, and the net enrolment rate in primary education dramatically improved to 92%, which was the highest level among the Association of Southeast Asian Nations (ASEAN) countries. However, the retention rate in primary education was only 59.7%, which was the lowest level among the ASEAN countries. In addition, lack of logical and critical thinking and application ability and the low quality of science and mathematics lessons, which would have hampered industrial and economic development as well as other opportunities in the long run, were identified through the program formulate study conducted by JICA. In response, it was necessary to improve the quality of science and mathematics lessons in primary and lower secondary education in the country.</p> | | | | | | | | | | | | | | |
| Objectives of the Project | <p>[2008-2012 Project]</p> <p>Through trainings on Lesson Study (LS) and Inquiry-Based Lesson (IBL) for national trainers, trainer's trainings on science by national trainers at all Provincial Teacher Training Centers (PTTCs) and Regional Teacher Training Centers (RTTCs), implementation of LS and experiment by RTTC and PTTC trainers, formulation of In-service Training (INSET) Implementation Plan, and development of handbooks about LS and IBL, the project aimed at improving the quality of teacher training on science in target areas, thereby contributing to enhancement of the quality of teaching capacity of science teachers in the areas.</p> <ol style="list-style-type: none"> Overall Goal: The quality of teaching capacity of science teachers is enhanced in target areas. Project Purpose: The quality of Teacher Training (Pre-service Training (PRESET) and INSET) on science is improved in target areas. | | | | | | | | | | | | | | |
| | <p>[2013-2016 Project]</p> <p>Through development of Teacher's Guide, trainings for the introduction of the Guide for teachers, revision of the Guide based on its practice at a field level, and formulation and implementation of INSET programmes, the project aimed at strengthening the foundation for Ministry of Education Youth and Sports (MoEYS) to support teachers for science and mathematics lesson improvement at the lower secondary school level, thereby contributing to dissemination of the educational resources developed by the project to other areas through training programmes conducted by MoEYS.</p> <ol style="list-style-type: none"> Overall Goal: The educational resources developed by the project are disseminated to other areas through training programmes conducted by MoEYS. Project Purpose: The Foundation for MoEYS to support teachers for science and mathematics lesson improvement at the lower secondary level is strengthened. | | | | | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: <ul style="list-style-type: none"> [2008-2012 Project] <ul style="list-style-type: none"> 18 PTTCs (Phnom Penh Special Economic Zone, provinces of Kampong Cham, Kandal, Prey Veng, Takeo, Siem Reap, Banteay Meanchey, Kompong Chhang, Pursat, Svay Rieng, Kampot, Preah Sihanouk, Kampong Speu, Kratie, Kampong Thom, Preah Vihear, Stung Treng, Battambang) 6 RTTCs (Phnom Penh Special Economic Zone, provinces of Kampong Cham, Battambang, Kandal, Prey Veng, Takeo) [2013-2016 Project] <ul style="list-style-type: none"> 6 RTTCs (Phnom Penh Special Economic Zone, provinces of Kampong Cham, Battambang, Kandal, Prey Veng, Takeo) Main activities: <ul style="list-style-type: none"> [2008-2012 Project] <ol style="list-style-type: none"> Trainings on LS and IBL for national trainers, Trainer's trainings on science by national trainers at all RTTCs and PTTCs, Implementation of LS and experiment by RTTC and PTTC trainers, Formulation of INSET Implementation Plan, Development of handbooks about LS and IBL, etc. [2013-2016 Project] <ol style="list-style-type: none"> Development of Teacher's Guide, Trainings for the introduction of the Guide for teachers, Revision of the Guide based on its practice at a field level, Formulation and implementation of INSET programmes, etc. Inputs (to carry out above activities) <table border="0"> <tr> <td>Japanese Side</td> <td>Cambodian Side</td> </tr> <tr> <td>[2008-2012 Project]</td> <td>[2008-2012 Project]</td> </tr> <tr> <td>1) Experts: 18 persons</td> <td>1) Staff allocated: 24 persons</td> </tr> <tr> <td>2) Trainees received: 12 persons</td> <td>2) Land and facilities: an office space in MoEYS and meeting/ class rooms for training, seminars, and workshops in National Institute of Education, RTTCs, and PTTCs</td> </tr> <tr> <td>3) Training in the third country: 5 persons (Indonesia)</td> <td></td> </tr> <tr> <td>4) Equipment: PCs, projector, laser printer, etc.</td> <td></td> </tr> <tr> <td>5) Local expenses: cost for project activities</td> <td>3) Local expenses: utility cost</td> </tr> </table> | Japanese Side | Cambodian Side | [2008-2012 Project] | [2008-2012 Project] | 1) Experts: 18 persons | 1) Staff allocated: 24 persons | 2) Trainees received: 12 persons | 2) Land and facilities: an office space in MoEYS and meeting/ class rooms for training, seminars, and workshops in National Institute of Education, RTTCs, and PTTCs | 3) Training in the third country: 5 persons (Indonesia) | | 4) Equipment: PCs, projector, laser printer, etc. | | 5) Local expenses: cost for project activities | 3) Local expenses: utility cost |
| Japanese Side | Cambodian Side | | | | | | | | | | | | | | |
| [2008-2012 Project] | [2008-2012 Project] | | | | | | | | | | | | | | |
| 1) Experts: 18 persons | 1) Staff allocated: 24 persons | | | | | | | | | | | | | | |
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| 3) Training in the third country: 5 persons (Indonesia) | | | | | | | | | | | | | | | |
| 4) Equipment: PCs, projector, laser printer, etc. | | | | | | | | | | | | | | | |
| 5) Local expenses: cost for project activities | 3) Local expenses: utility cost | | | | | | | | | | | | | | |

| | | | |
|-----------------------------|---|--------------|---|
| | [2013-2016 Project] 1) Experts: 12 persons 2) Equipment: PCs, copy machine, etc. 3) Local expense: cost for project activities | | [2013-2016 Project] 1) Staff allocated: 115 persons 2) Land and facilities: a project office in MoEYS and facilities for training sessions/seminars in Regional Teacher Training Centers 3) Local expenses: utility cost |
| Project Period | [2008-2012 Project] September 2008 – August 2012 [2013-2016 Project] June 2013 – May 2016(Extended period- May 2016) | Project Cost | [2008-2012 Project] (ex-ante) 385 million yen, (actual) 438 million yen [2013-2016 Project] (ex-ante) 551 million yen, (actual) 519 million yen |
| Implementing Agency | [2008-2012 Project] Ministry of Education Youth and Sports (MoEYS), National Institute of Education (NIE), Regional Teacher Training Center (RTTC), Provincial Teacher Training Center (PTTC) [2013-2016 Project] MoEYS, RTTC, NIE | | |
| Cooperation Agency in Japan | [2008-2012 Project] PADECO Co., Ltd., Hiroshima University [2013-2016 Project] PADECO Co., Ltd. | | |

II. Result of the Evaluation

[Special Perspectives to be considered]

(Verification of Continuation Status of the Project Effects for the 2013-2016 Project)

The status of the verifiable indicators for the Project Purpose of the 2013-2016 Project at the ex-post evaluation were verified as the verifiable indicators for the Overall Goal since the project aimed at approval of the Teacher's Guide and the contents of in-service training for teachers by MoEYS as the Project Purpose at the time of project completion and the utilization of the Guide and the performance of training programs using the contents at the time of ex-post evaluation.

1 Relevance

<Consistency with the Development Policy of Cambodia at the Time of Ex-Ante Evaluation >

The projects were consistent with Cambodia's development policies such as the "Rectangular Strategy-Phase II" (2008) positioning human resource development as one of its strategies and emphasizing education sector as a priority, the "Education Strategic Plan (2006-2010) and the "Education Sector Support Project" (2006-2010) clarifying the importance of teacher trainings to improve the quality and efficiency of education, and the "Education Strategic Plan" (2009-2013) putting capacity development of education staff at all levels as the key component and highlighting "Development of Pre and In-service Teacher Training" as one of five prioritized programs.

<Consistency with the Development Needs of Cambodia at the Time of Ex-Ante Evaluation >

The projects were consistent with Cambodia's development needs of improving the quality of science and mathematics lessons in primary and lower secondary education.

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

The projects were consistent with the "Country Assistance Program for the Kingdom of Cambodia" (2002) setting "support to socially vulnerable people" including education, as one of the priority areas, and also with the "Country Assistance Program for the Kingdom of Cambodia" (2012) listing "promotion of social development" as one of the priority areas.

<Evaluation Result>

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

2 Effectiveness/Impact

[2008-12 Project]

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

The Project Purpose was achieved by the time of project completion. Through the project, lesson plans and handbooks about IBL and LS on science were developed, and national trainers were fostered enough to provide lessons about IBL and LS on science following the plans and the handbooks. As a result, the quality of science lessons by RTTC and PTTC trainers was improved (Indicator 1), and the quality of science lesson plans of schools in INSET target schools was also considered to be enhanced (Indicator 2).

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

The project effects have continued since project completion. Upon interviewing project stakeholders about science lessons at Teacher Education Colleges (TECs), NIE, RTTCs, and PTTCs, all reported that the quality of the lessons has been significantly enhanced. For instance, before the project, Cambodia faced a difficulty in defining the notion of science education, and national trainers provided science lessons without enough knowledge in the subject. The project addressed such problems by introducing IBL and LS with their lesson plans and handbooks. Furthermore, it was also reported that teachers at INSET-introduced schools have continuously conducted INSET and that the quality of their science lessons and plans has been notably improved.

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

The achievement status of the Overall Goal could not be verified at the time of ex-post evaluation. Although being recorded for teaching and learning purposes such as online lessons, videotaped lessons have not rigorously used to assess the lessons. However, it was presumed that the Overall Goal has been achieved to a certain extent, as the interviewees for the ex-post evaluation reported that the quality of teaching capacity of science trainers and teachers at primary and lower secondary levels has been enhanced. The reason for this was because the project effects have still continued, which produced the following positive impacts: 1) development of innovative habit for teachers to utilize all available materials in their classes, 2) heightening of basic teaching capacity of teachers, 3) positive feedbacks or reactions from primary and lower secondary students, 4) more opportunities to discuss and exchange teaching experiences among teachers of LS and IBL in regular working group meetings, and 5) integration of LS and IBL into New Generation Schools (NGSs)¹ and education

¹ NGSs were established in 2014 as autonomous public schools with a mandate to innovate education system and improve educational quality. With financial

curriculum.

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

Some other positive impacts were observed at the time of ex-post evaluation. To illustrate, TEC in Phnom Penh has been developing a co-teaching method based on the project outputs, spending one year already. Moreover, the project successfully created a positive culture in Cambodia's science education. As the result of the project, national trainers and teachers came to understand the importance of delivering science lessons with preparation, implementing experiments in science classes, and applying a student-centered method. With such enthusiasm, teachers have continuously conducted research about science and expanded its knowledge individually or in a group (MoEYS has allowed each school to have a group of teachers to discuss and exchange teaching experiences). It should be further noted that there are even some teachers who have replicated LS and IBL to other subjects such as geography and history, according to TEC in Phnom Penh.

[2013-16 Project]

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

The Project Purpose was achieved by the time of project completion. Through the project, Teachers' Guide and INSET contents (a training implementation manual and a set of handouts) were developed, and MoEYS officially approved the use of them (Indicator 1 and 2). Then, the Guide and INSET contents were distributed to all schools in the target provinces.

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

The project effects have continued since project completion. The Teacher's Guide and INSET developed by the project and approved by MoEYS have been continuously used at all schools in the target provinces.

<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. After project completion, 5,000 copies of Teacher's Guide were produced and distributed to non-target schools by MoEYS with a support of the World Bank. INSET contents were also distributed to all RTTCs and TECs and further to teachers who attended trainings there. As a result, the Guide and INSET contents have been used at lower secondary institutions (Indicator 1). However, it should be noted that there are some teachers, particularly in rural schools, who need to spend their own money on photocopying these documents. Training programmes based on the Teacher's Guide and INSET contents have been also performed at all lower secondary institutions (Indicator 2). Furthermore, through observations at the field survey, it was confirmed that LS, IBL, their handbooks, and the Guide have positively influenced teachers' performance and motivation in classrooms at primary and secondary education. On the other hand, it should be noted that the quality of science class at schools in rural areas has been relatively low, regardless of teachers' quality, due to the shortage of labs and experiment materials brought by the lack of the budget.

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

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

<Evaluation Result>

Therefore, the effectiveness/impact of the two projects is high.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|----------|-----------|--------------|-----------------|--|-----|---------------|-----|-----------------|-----|-----|-----|----------|-----|-----|-----|--|--|--|--|--------------|-----|-----|-----|
| [2008-12 Project] | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Project Purpose) The quality of Teacher Training (Pre-service Training (PRESET) and INSET) on science is improved in target areas. | 1. The quality of science lesson of RTTC and PTTC trainers marks more than 3 points on a 1-4 scale. | <p>Status of the Achievement: Achieved (Continued) (Project Completion)</p> <ul style="list-style-type: none"> As shown in the table below, the quality of science lessons of RTTC and PTTC trainers marked more than 3 points. <table border="1"> <thead> <tr> <th></th> <th>RTTC</th> <th>PTTC</th> </tr> </thead> <tbody> <tr> <td>2008 (baseline)</td> <td>3.0</td> <td>2.4</td> </tr> <tr> <td>2012 February</td> <td>3.2</td> <td>3.2</td> </tr> </tbody> </table> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> Upon interviewing project stakeholders about science lessons at TECs, NIE, RTTCs, and PTTCs, all reported that the quality of the lessons has been significantly enhanced. | | RTTC | PTTC | 2008 (baseline) | 3.0 | 2.4 | 2012 February | 3.2 | 3.2 | | | | | | | | | | | | | | | |
| | | RTTC | PTTC | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 (baseline) | 3.0 | 2.4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 February | 3.2 | 3.2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2. The quality of science lesson plan of schools in target schools for INSET | <p>Status of the Achievement: Achieved (Continued) (Project Completion)</p> <ul style="list-style-type: none"> The quality of science lesson plan of schools in INSET target schools was considered to be enhanced. <p>[Quality of science lesson plan of schools in INSET target schools]</p> <table border="1"> <thead> <tr> <th></th> <th>Objective</th> <th>Organization</th> <th>Activity</th> </tr> </thead> <tbody> <tr> <td colspan="4">Results of lesson observation by the project</td> </tr> <tr> <td>2008 (baseline)</td> <td>2.3</td> <td>1.5</td> <td>1.8</td> </tr> <tr> <td>2011 May</td> <td>2.1</td> <td>1.4</td> <td>1.6</td> </tr> <tr> <td colspan="4">Results of lesson plan assessment by national trainers</td> </tr> <tr> <td>2012 January</td> <td>2.7</td> <td>2.5</td> <td>2.5</td> </tr> </tbody> </table> <p>Note: As lesson plan assessment by national trainers was conducted in 2012 for the first time, the results were compared to that of lesson observation by the project.</p> <p>(Ex-post Evaluation)</p> | | Objective | Organization | Activity | Results of lesson observation by the project | | | | 2008 (baseline) | 2.3 | 1.5 | 1.8 | 2011 May | 2.1 | 1.4 | 1.6 | Results of lesson plan assessment by national trainers | | | | 2012 January | 2.7 | 2.5 | 2.5 |
| | Objective | Organization | Activity | | | | | | | | | | | | | | | | | | | | | | | |
| Results of lesson observation by the project | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2008 (baseline) | 2.3 | 1.5 | 1.8 | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 May | 2.1 | 1.4 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | |
| Results of lesson plan assessment by national trainers | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 January | 2.7 | 2.5 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--|--|--|
| | | <ul style="list-style-type: none"> According to the interviewees for the ex-post evaluation, teachers at INSET-introduced schools have continuously conducted INSET and the quality of their science lessons and plans has been notably improved |
| (Overall Goal) The quality of teaching capacity of science teachers is enhanced in target areas. | 1. The scores of the assessment of videotaped lessons (of trainers and teachers at primary and lower secondary level) are improved based on the scores of Feb. 2010. | Status of the Achievement: Not verified (Ex-post Evaluation) <ul style="list-style-type: none"> As videotaped lessons have not rigorously used to assess the lessons, the indicator could not be verified. However, according to the interviewees for the ex-post evaluation, the quality of teaching capacity of science trainers and teachers at primary and lower secondary levels has been enhanced. |
| [2013-16 Project] | | |
| (Project Purpose) The Foundation for MoEYS to support teachers for science and mathematics lesson improvement at the lower secondary level is strengthened. | 1. Teacher's Guide for science and mathematics lesson improvement at the lower secondary level is approved by MoEYS. | Status of the Achievement: Achieved (Continued) (Project Completion) <ul style="list-style-type: none"> MoEYS officially approved the use of Teacher's Guide in PRESET, INSET, and lower secondary schools. (Ex-post Evaluation) <ul style="list-style-type: none"> Refer to the Indicator 1 for the Overall Goal |
| | 2. In-service training contents to introduce Teacher's Guide to lower secondary science and mathematics teachers is approved by MoEYS. | Status of the Achievement: Achieved (Continued) (Project Completion) <ul style="list-style-type: none"> MoEYS officially approved INSET contents (a training implementation manual and a set of handouts). (Ex-post Evaluation) <ul style="list-style-type: none"> Refer to the Indicator 2 for the Overall Goal |
| (Overall Goal) The educational resources developed by the project are disseminated to other areas through training programmes conducted by MoEYS. | 1. Status of the use of developed Teacher's Guide | (Ex-post Evaluation) Achieved <ul style="list-style-type: none"> 5,000 copies of Teacher's Guide were produced and distributed to non-target schools by MoEYS with a support of the World Bank, and they have been used at all lower secondary institution by teachers who participated in orientation trainings. |
| | 2. Performance of training programmes implemented by RTTC trainers | (Ex-post Evaluation) Achieved <ul style="list-style-type: none"> Training programmes based on the Teacher's Guide and INSET contents have been performed at all lower secondary institutions in both the target provinces and non-target provinces. |

Source : Terminal Evaluation Report, Project Completion Report, Consultation Report, Questionnaire and interview to TTD, TEC, and RTTCs.

3 Efficiency

For the 2008-12 Project, although the project period was within the plan (ratio against plan: 100%), the project cost slightly exceeded the plan (ratio against plan: 114%). For the 2013-16 Project, even though the project cost was within the plan (ratio against plan: 94%), the project period slightly exceeded the plan (ratio against plan: 103%). The outputs were produced as planned.

Therefore, the efficiency of the overall projects is fair.

4 Sustainability

<Policy Aspect>

The "Education Strategic Plan" (2019-2023) assures that the improvement of the quality of science and mathematics education, especially at primary and lower secondary education, is the sectoral development and reform priority of the government of Cambodia and MoEYS. Additionally, the higher policy framework, such as the "Education Road Map 2030" (2019-2030), supports the "Education Strategic Plan" in the long run. As the project aimed to enhance the quality of science and mathematics lessons, it has been endorsed by such national policies.

<Institutional/Organizational Aspect>

Since project completion, there have been some changes in the organizational structure/setting to improve the quality of teaching at primary and lower secondary education. For example, Phnom Penh and Battambang RTTCs were upgraded into TECs in the period of the "Education Strategic Plan" (2014-2018) to accommodate developed basic teacher trainings from 12+2 (primary school to college) to 12+4 (primary school to university). Moreover, the government of Cambodia expanded NGS system to existing 9 model schools in provinces of Kandal, Kampong Cham, Kampong Speu, and Svay Rieng. NGSs adopt LS and IBL methods. To keep solving its pedagogy issue, the government of Cambodia invested on New Generation Pedagogical Research Center (NGPRC) in 2019 to keep research and provide on-time innovation of teaching methods and trainer networks. Social Communication Networks (SNS) usage among teachers, especially Telegrams, one of SNS application, and improved salary since 2013 are also the key setting institutional environment to promote the sustainability of the project outputs. As can be seen from the continuous status of the project effects and the achievement status of the Overall Goal, Cambodia's primary and lower secondary education have been functional without any major problems in terms of the Institutional/Organizational Aspect, and according to education stakeholders interviewed for the ex-post evaluation, the number of staff in the education has been sufficient overall even though there are some gaps in the number between urban areas and rural areas.

<Technical Aspect>

Nearly 90% of the education stakeholders interviewed for the ex-post evaluation confirmed that the necessary skills and knowledge to improve the quality of teaching at primary and lower secondary education have been sustained. In the background, there are some reasons, such as observations of teacher trainees' classes by RTTC and PTTC trainers after teacher training programs, establishment of a group of teachers in schools to discuss and exchange teaching experiences, holding of regular working group meetings among teachers from schools in the network schools of RTTCs or PTTCs, and introduction of a co-teaching method at TEC in Phnom Penh that allows teachers to teach in team and complement each other for the better quality of education.

<Financial Aspect>

According to the education stakeholders interviewed for the ex-post evaluation, the sufficient amount of budget for teacher training programs has been allocated by MoEYS every year. On the other hand, the budget for experiment in science classes has been relatively low at 2 million Riels per year, and only two experiments per school and per year can be done. Additionally, the budget to follow up the teachers who joined teacher training programs has been provided only in the initial year after the programs so that monitoring and

evaluation of their actual performance in classes beyond the initial year have not been conducted. Also, because of scarce budget, schools in remote areas do not have enough labs and experiment materials. Therefore, it can be concluded that there is room for improvement from the financial perspective.

<Evaluation Result>

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

5 Summary of the Evaluation

The 2008-2012 project achieved the Project Purpose aiming to improve the quality of teacher training on science in target areas. The Overall Goal aiming to enhance the quality of teaching capacity of science teachers in the areas was not exactly verified with the indicator, but it was judged as partially achieved in the interview. The 2013-2016 project achieved the Project Purpose aiming to strengthen the foundation for MoEYS to support teachers for science and mathematics lesson improvement at the lower secondary level and the Overall Goal aiming to disseminate the educational resources developed by the project to other areas through training programmes conducted by MoEYS. As for sustainability, the lack of budget was confirmed in terms of labs, experiments, experiment materials, and teachers' follow-up. As for efficiency, in the 2008-2012 project, the project cost slightly exceeded the plan, and in the 2013-2016 project, the project period 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:

- The annual budget for experiment at each school is a welcoming public expenditure under program-based budgeting of the education sector executed by MoEYS. Such allocation links to the strategic purpose of the “Education Strategic Plan” (2019-2023) and results in science education promoted by all RTTCs, PTTCs, TECs, teachers, and schools. At present, MoEYS should rationally address the low level of the budget and should produce a clear incremental commitment/plan.
- MoEYS should consider allocating more budget for post-monitoring and inspection of the teacher training programs in the third or fifth year after the program to ensure that the implementation of LS, IBL, Teacher's Guide, and others such as INSET IP are useful and produce correctly actions on time.
- Teachers have been benefited from the published Teacher's Guide and other manuals developed by the projects. These materials have been regarded as very useful for their capacity development and service delivery. The limited number of the published materials can pose a small motivational problem in the long run, especially when teachers face such an issue and solve it either by photocopying it from other teachers at their expense or by telegram sharing. Thus, MoEYS should consider the support to the publication in the near time to fill the immediate needs. To make the distribution plan appropriately, MoEYS should know deficiencies of the materials beforehand by setting a mechanism to regularly check available resources at the school level. In the medium to long run, MoEYS can consider the digitalization of these materials for the convenient access of RTTCs, PTTCs, TECs, schools, teachers, and other related parties like NGSs.
- Beyond 2023, School-Based Management (SBM) will be intensified to reach its nation-wide target by 2030. At the same time, NGSs will reach 50 schools and the activities of NGPRC will become mature in the pedagogical research and teacher trainer network. In this regard, it is necessary for MoEYS to address a good integration of the project outputs in that changing environment.

Lessons Learned for JICA:

- MoEYS has recently committed to strengthening the teaching method by adopting the student-centered approach. The elements/approaches introduced/developed by JICA project such as IBL, LS, Teacher's Guide have been used and integrated into their official documents. For example, LS has been integrated into the School-Based Mentoring Approach in the Cambodia's Education System. Therefore, in order to secure the sustainability of project effects even after the end of projects, it should be carefully considered at the time of project planning if there is a high likelihood that the effects are actually incorporated into government's policies, not only endorsed by the policies. Also, merits of the project elements/approaches should be explained to the authorities of the implementing agency during the project period.



Biology class at Kandal RTTC



Science class at Dangko Primary School

| | |
|------------------------------|---|
| Country Name | Capacity Development of Technical and Vocational Centers in Khyber Pakhtunkhwa |
| Islamic Republic of Pakistan | |

I. Project Outline

| | | | | | | | | | | | |
|--|---|--------------|---|---------------|---------------|-----------------------|-------------------------------|--|-----------------|-------------------|--|
| Background | <p>In Pakistan, industries and infrastructure in Khyber Pakhtunkhwa (KP) province were underdeveloped in comparison to Sindh and Punjab. Its conditions were further aggravated by the army's cleanup operation in 2009 and floods in 2010. Due to less opportunity for education and/or vocational training, unemployment rate in KP province was high particularly among young men. Therefore, empowerment of the youth was an urgent need but technical and vocational education and training (TVET) was not appropriately implemented at the technical and vocational centers in KP, due to capacity of teachers, lack of appropriate materials, deteriorated equipment, and curriculum that did not meet the needs of labor market.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through (1) development of new supplementary teaching guides for electrician and machinist courses, (2) improvement of technical skills, knowledge and pedagogical methods in providing training of teachers (TOT) of master trainers (MT) and lead trainers (LT) from 3 GTVCs* of machinist and electrician courses, and (3) upgrading of teaching skills and knowledge of all teachers of 3 GTVCs through TOT by MTs and LTs, the project aimed at providing students at 3 GTVCs in Mingora, Gulbahar and Ghazi with quality vocational and skill training in machinist and electrician courses, thereby contributing to improvement of the technical skill level of GTVC graduates in KP to meet the needs of the labor market.</p> <p>*GTVC: Government Technical & Vocational Centers</p> <ol style="list-style-type: none"> Overall Goal: Technical skill level of GTVC graduates in KP is improved to meet the needs of the labor market. Project Purpose: Students at 3 GTVCs in Mingora, Gulbahar and Ghazi are able to receive quality vocational and skill training in machinist and electrician courses. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Khyber Pakhtunkhwa province (Location of project activities: Haripur, Swat and Peshawar districts) Government Technical Teacher Training College (GTTTC) is located in Hayatabad, Peshawar district. 3 target GTVCs are located in Ghazi (Haripur district), Gulbahar (Peshawar district) and Mingora (Swat district) Main Activities: <ol style="list-style-type: none"> Development of new supplementary teaching guides, Confirmation of the list of necessary equipment, etc. Training of MTs of GTTTC and LTs from GTVCs, Review and finalization of the contents and modules of supplementary teaching guides, Development of TOT guideline, etc. Provision of TOT for teachers of machinist and electrician courses, Review and revision of the guideline for TOT, Assessment of TOT, etc. Inputs (to carry out above activities) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Japanese Side</td> <td style="width: 50%; border: none;">Pakistan Side</td> </tr> <tr> <td style="border: none;">1) Experts: 2 persons</td> <td style="border: none;">1) Staff Allocated: 3 persons</td> </tr> <tr> <td style="border: none;">2) Equipment: Training equipment for machinist course (universal milling machines, lathe machines, etc.), training equipment for electrician course (electric power & machine training system, basic electricity & electronics trainer system, etc.)</td> <td style="border: none;">2) Office space</td> </tr> <tr> <td style="border: none;">3) Local expenses</td> <td style="border: none;">3) Local expenses: Repair of workshop building</td> </tr> </table> | | | Japanese Side | Pakistan Side | 1) Experts: 2 persons | 1) Staff Allocated: 3 persons | 2) Equipment: Training equipment for machinist course (universal milling machines, lathe machines, etc.), training equipment for electrician course (electric power & machine training system, basic electricity & electronics trainer system, etc.) | 2) Office space | 3) Local expenses | 3) Local expenses: Repair of workshop building |
| Japanese Side | Pakistan Side | | | | | | | | | | |
| 1) Experts: 2 persons | 1) Staff Allocated: 3 persons | | | | | | | | | | |
| 2) Equipment: Training equipment for machinist course (universal milling machines, lathe machines, etc.), training equipment for electrician course (electric power & machine training system, basic electricity & electronics trainer system, etc.) | 2) Office space | | | | | | | | | | |
| 3) Local expenses | 3) Local expenses: Repair of workshop building | | | | | | | | | | |
| Project Period | April 2014 – June 2016 (Extension period: April 2016 – June 2016) | Project Cost | (ex-ante) 198 million yen, (actual) 233 million yen | | | | | | | | |
| Implementing Agency | Technical Education and Vocational Training Agency (TEVTA), Government of KP (KPTEVTA)* *Directorate of Technical Education and Manpower Training (DoTE) at the time of signing of R/D. KPTEVTA from April 2014 | | | | | | | | | | |
| Cooperation Agency in Japan | UNICO International Corporation Asia Engineering Consultant, Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- In this Ex-Post Evaluation, an evaluation judgment was made primarily by analyzing information acquired by sending and collecting questionnaires, and through telephone and e-mail interviews with persons concerned due to the impact of COVID-19. Field survey was not conducted.

1 Relevance

<Consistency with the Development Policy of Pakistan at the Time of Ex-Ante Evaluation>

KP government compiled "Khyber Pakhtunkhwa Comprehensive Development Strategy (2010-2017)", where development of human resources in industrial sector was one of the pillars as an important strategy to create employment, improve livelihood, and promote economic development in KP.

<Consistency with the Development Needs of Pakistan at the Time of Ex-Ante Evaluation>

As described in "Background" above, the project was consistent to the needs of quality vocational and skill training in KP at the time of ex-ante evaluation.

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

In the Japanese assistance policy to Pakistan as of 2013, one of the three priority areas was assistance to improve human security and social infrastructure, including assistance in technical education towards employment¹.

<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 partially achieved by the project completion. Although the target was not defined for each indicator, there was a general tendency of increase of the number of students enrolled at target GTVCs and certification was granted to all the graduates who graduated GTVC as well as to teachers who participated in the TOT. During the project, supplementary teaching guides were developed, printed in May 2016 and distributed to GTVCs in May and June 2016. The supplementary teaching guides were adopted by the TVET institutes. The number of students enrolled in machinist and electrician courses at the three target GTVCs was increased from 2014 to 2016 except that of electrician course at Ghazi and Mingora GTVCs (indicator 1). The decrease of the students was attributed to the decrease of the graduates who passed the exam of 10 grade, which was the requirement for the electrician course. At all the three target GTVCs, where the supplementary teaching guides were introduced, all the students who graduated in 2016 were certified for both the machinist and the electrician courses (indicator 2). During the project, a total of 4 MTs and 12 LTs (8 machinist and 8 electrician) were trained from each GTVCs/GTTTC and TOT was conducted at each GTVC by project completion. Among the target GTVCs, all the teachers were certified, according to the available data, although the data were not obtained as planned (indicator 3). At the target GTVCs, it was considered that the majority of the students were satisfied with the courses provided based on the results of the student evaluation at the end of course and comments by students, although the specific quantitative data was not clear (indicator 4).

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

The project effects have partially continued to the time of ex-post evaluation. After the supplementary teaching guides were adopted by the institutes, a major reform took place in vocational stream in 2018, which resulted in adoption of curricula based on the Competency Based Training & Assessment (CBT&A). Nevertheless, the supplementary teaching guides developed by the project were equally beneficial in CBT&A trainings and are still utilized. The number of students enrolled has been increasing at Mingora GTVC but slightly decreasing at Ghazi GTVC due to the influence of the reform of vocational training system². The data was not available at Gulbahar GTVC (indicator 1). At Ghazi GTVC, the rate of students certified has been maintained at 100% for both machinist and electrician courses since project completion. At Gulbahar and Mingora GTVCs, sufficient data was not obtained but the majority of students were certified as far as the obtained data show (indicator 2). The teachers certified during the project have been continuously and appropriately providing vocational training of machinist and electrician courses at the three target GTVCs, utilizing the supplementary teaching guides, according to the questionnaire to the GTVCs (indicator 3)³. According to the questionnaire, the three target GTVCs consider that the most of students were satisfied with the courses provided at their GTVCs through the good results of exams as well as favorable comments and active responses of students in classroom (indicator 4).

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

The Overall Goal has been partially achieved. According to KPTEVTA, the new supplementary teaching guides developed by the project have been implemented in machinist and electrician courses at all GTVCs in KP. In KP province, although sufficient data of the whole KP was not available, according to the information through GTVCs, the majority of the students in machinist and electrician courses were certified in accordance with the new supplementary teaching guides in 2020 (indicator 1). In regard to the number of GTVC graduates who are employed, no data was available (indicator 2). GTVCs do not have the statistics on the employment of their graduates currently. However, as follow-up of students for job placement is currently stated as a part of TVET policy in KP, the data will be available in near future.

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

No negative impact has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | | | |
|---|---|---|-------------|------|------|------|------|------|------|
| (Project Purpose) Students at 3 GTVCs in Mingora, Gulbahar and Ghazi are able to receive quality vocational and skill training in machinist and electrician courses. | (Indicator 1) Number of students enrolled in 3 GTVCs which offer machinist and electrician courses in accordance with the new supplementary teaching guides | Status of the Achievement: achieved (partially continued) | | | | | | | |
| | | No. of students enrolled (for 1-year course) | | | | | | | |
| | | Course/year | | 2014 | 2016 | 2017 | 2018 | 2019 | 2020 |
| | | Ghazi | Machinist | 19 | 44 | 41 | 41 | 37 | 38 |
| | | | Electrician | 70 | 58 | 65 | 69 | 44 | 48 |
| | | Gulbahar | Machinist | 13 | 46 | N/A | N/A | N/A | N/A |
| | | | Electrician | 30 | 146 | N/A | N/A | N/A | N/A |
| Mingora | Machinist | 0 | 10 | N/A | N/A | 3 | 10 | | |
| | Electrician | 30 | 27 | 23 | 45 | 46 | 48 | | |

¹ Source: Ministry of Foreign Affairs, "ODA Country Data Book in 2013"

² During the project, there were two trades for both machinist and electrician courses, that is, one-year course and two-year course. In 2019, this system was reformed and currently there are two trades in machinist course (Basic Machinist (six month), Computerized Numerical Control (CNC) (six months)) and three trades in electrician course (General Electrician (six months), Solar TV Electrician (six months), Industrial Electrician (one year)). After the reform, the number of applicants for GTVCs is decreasing in general, and, thus, the number of students enrolled is decreasing at some courses/institutes.

³ The indicator 3 is defined as the number of teachers certified during the project. As the certified teachers are providing courses with capacities recognized during the project, it is considered that the effects aimed by the indicator 3 have been continued as a result of TOT by MTs and LTs.

| | <p>(Indicator 2) Number and percentage of students of 3 GTVCs who were certified in machinist and electrician courses with the new supplementary teaching guides</p> | <p>Status of the Achievement: achieved (partially continued) (Project Completion) No. and percentage of students graduated/certified (2016, for 1-year course)</p> <table border="1"> <thead> <tr> <th rowspan="2">GTVC</th> <th colspan="3">Machinist course</th> <th colspan="3">Electrician course</th> </tr> <tr> <th>Graduated</th> <th>Certified</th> <th>%</th> <th>Graduated</th> <th>Certified</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Ghazi</td> <td>44</td> <td>44</td> <td>100</td> <td>58</td> <td>58</td> <td>100</td> </tr> <tr> <td>Gulbahar</td> <td>46</td> <td>46</td> <td>100</td> <td>146</td> <td>146</td> <td>100</td> </tr> <tr> <td>Mingora</td> <td>10</td> <td>10</td> <td>100</td> <td>27</td> <td>27</td> <td>100</td> </tr> </tbody> </table> <p>(Ex-post Evaluation) <ul style="list-style-type: none"> Ghazi: 100% for both machinist and electrician courses since project completion (until 2020) Gulbahar: 80% students (127 out of 158) of the electrician course were certified in 2017*. Mingora: More than 90% of students (the No. of total students is approximately 70) of the electrician course were certified in 2020*. *The data other than this was not available for Gulbahar and Mingora GTVCs.</p> | GTVC | Machinist course | | | Electrician course | | | Graduated | Certified | % | Graduated | Certified | % | Ghazi | 44 | 44 | 100 | 58 | 58 | 100 | Gulbahar | 46 | 46 | 100 | 146 | 146 | 100 | Mingora | 10 | 10 | 100 | 27 | 27 | 100 |
|---|--|--|------|-----------------------|--------------------------|-----|--------------------|--|--|-----------------------|--------------------------|---|-----------------------|--------------------------|---|-------|-----|-----|-----|-----|-----|-----|----------|----|----|-----|-----|-----|-----|---------|----|----|-----|-----|-----|-----|
| GTVC | Machinist course | | | Electrician course | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Graduated | Certified | % | Graduated | Certified | % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ghazi | 44 | 44 | 100 | 58 | 58 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulbahar | 46 | 46 | 100 | 146 | 146 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mingora | 10 | 10 | 100 | 27 | 27 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>(Indicator 3) Number of GTVC teachers who are certified by GTTTC to provide vocational training of machinist and electrician courses, utilizing the new supplementary teaching guides</p> | <p>Status of the Achievement: partially achieved (continued) (Project Completion) No. of teachers certified (2016)</p> <table border="1"> <thead> <tr> <th rowspan="2">GTVC</th> <th colspan="3">Machinist course</th> <th colspan="3">Electrician course</th> </tr> <tr> <th>Total No. of teachers</th> <th>No of teachers Certified</th> <th>%</th> <th>Total No. of teachers</th> <th>No of teachers Certified</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Ghazi</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Gulbahar</td> <td>2</td> <td>2</td> <td>100</td> <td>4</td> <td>4</td> <td>100</td> </tr> <tr> <td>Mingora</td> <td>1</td> <td>1</td> <td>100</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>*Whether the teachers in the above table are MTs or LTs is not identified. Although the data were not obtained as planned, all the teachers were certified, according to the available data. (Ex-post Evaluation) <ul style="list-style-type: none"> The teachers certified during the project have been continuously and appropriately providing vocational training of machinist and electrician courses at the three target GTVCs, based on the supplementary teaching guide, according to the questionnaire to GTVCs. </p> | GTVC | Machinist course | | | Electrician course | | | Total No. of teachers | No of teachers Certified | % | Total No. of teachers | No of teachers Certified | % | Ghazi | N/A | N/A | N/A | N/A | N/A | N/A | Gulbahar | 2 | 2 | 100 | 4 | 4 | 100 | Mingora | 1 | 1 | 100 | N/A | N/A | N/A |
| GTVC | Machinist course | | | Electrician course | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Total No. of teachers | No of teachers Certified | % | Total No. of teachers | No of teachers Certified | % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ghazi | N/A | N/A | N/A | N/A | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gulbahar | 2 | 2 | 100 | 4 | 4 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mingora | 1 | 1 | 100 | N/A | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>(Indicator 4) Number of satisfied students</p> | <p>Status of the Achievement: partially achieved (partially continued) (Project Completion) <ul style="list-style-type: none"> According to the student evaluation at the end of course and comments by students, the majority of the students were satisfied with the courses provided at the three target GTVCs. (Ex-post Evaluation) <ul style="list-style-type: none"> According to the questionnaire to GTVCs, the most students have been satisfied with the courses provided at the three target GTVCs. </p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>(Overall Goal) Technical skill level of GTVC graduates in KP is improved to meet the needs of the labour market.</p> | <p>(Indicator 1) Number of students who are certified in machinist and electrician courses in accordance with the new supplementary teaching guides</p> | <p>(Ex-post Evaluation) partially achieved <ul style="list-style-type: none"> In 2020, at least the following number of students were certified, according to the available data*. According to GTVCs, the majority of the students were certified. Machinist course: 77 students Electrician course: 318 students *The data that covers the whole KP province was not available due to survey limitation caused by COVID-19.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>(Indicator 2) Number of GTVC graduates who are employed</p> | <p>(Ex-post Evaluation) not verifiable <ul style="list-style-type: none"> Data not available </p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Source: JICA documents, Questionnaire and interview to KPTEVTA, GTTTC and GTVCs (Ghazi, Gulbahar, Mingora)

3 Efficiency

Both the project cost and the project period exceeded the plan (ratio against the plan: 118% and 113%, respectively). The project period exceeded the plan because the finalization of the specification change of equipment for electrician course was delayed, due to the delay of the provision of precise specification of equipment by local suppliers, which caused the delay of the installation of equipment, and then, delay of the start of training. The outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

In the National “Skills for All” Strategy (2018), which defines the targets in TVET by 2023, lists action plans such as TVET sector governance, enhancing TVET capacity, quality assurance in TVET, access and equity in TVET, enhancing engagement, and skill development for international markets.

<Institutional/Organizational Aspect>

KPTEVTA is an autonomous public sector TVET entity working under the administration of Industries, Commerce and Technical Education Department, KP government, and is entrusted with the responsibility to impart TVET-related trainings to the youth of KP province in demand-driven trades and technologies. It is a well-established body with 3,500 of staff, which is sufficient to execute its mandate. GTVCs are located in all districts in KP province with GTTTC as in-service teachers training institutes. There are no major obstacles to implement their duties at GTTTC and GTVCs.

<Technical Aspect>

At GTTTC, the staff have required skills such as institutional and financial management as well as ICT, and they have trained teachers in various areas including ICT. Also trained MTs are allocated to GTTTC for teachers' training. At GTVCs sufficient number of trained teachers are allocated (1 to 4 in each course at each GTVC) and providing student teaching properly. KPTEVTA has made it mandatory for teachers to participate in three-month TVET Institute Management Training prior to promotion on next higher grade, although one GTVC surveyed and GTTTC consider that it would be desirable to have more training opportunities. The materials developed by the project have been still used and helpful for teacher training and student training. These materials are parts of institutes libraries and are made available to the students of new batches. The equipment provided by the project has been still utilized. To verify the maintenance of the equipment, Monitoring & Evaluation section of KPTEVTA is mandated with the responsibility to monitor and regulate the utilization and maintenance of available resources.

<Financial Aspect>

KPTEVTA is provided with sufficient budget by the KP provincial government. KPTEVTA allocates sufficient budget to institutes for various purposes like training materials, consumables, staff salary, and developmental budget, etc. KPTEVTA has been also allocating operation & management (O&M) budget as per demand of each GTVC.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional/organizational, technical, and financial aspects of the implementing agency. Therefore, the sustainability of the project effects is high.

5 Summary of the Evaluation

The project partially achieved the Project Purpose of quality vocational and skill training as the number of students enrolled at the target GTVCs increased and all the students in machinist and electrician courses were certified and satisfied with the course. Regarding the certified teachers, although expected data were not obtained, all the teachers surveyed were certified. At the time of the ex-post evaluation, although the number of students is slightly decreasing, the trained teachers have been providing courses and, as a result, the majority of the students are satisfied with the course. Therefore, the project effects have been partially continued. The Overall Goal of improvement of technical skill level of GTVC graduates in KP has been partially achieved as the most of the students were certified although there is no data to show the employment of graduates. Sustainability is high in terms of the policy, institutional/organizational, technical and financial aspects. In 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:

- Currently, the budget for O&M of equipment is allocated on demand basis. To further improve long-term sustainability of equipment use, it is recommended that TEVTA headquarter allocates the budget in a timely manner, with the budget available at the start of every fiscal year. It is necessary that KPTEVTA actively consults with the principal of each GTVC to know the budget required by each GTVC for O&M of equipment, to have maintenance budget included in TEVTA annual plan, and to timely allocate the budget to each GTVC.

Lessons learned for JICA:

- During the ex-post evaluation, one principal of GTVC and the principal of GTTTC commented that there are needs for training for teachers to further improve teaching skills to cope with new technology in the market and curriculum development, as the market needs sometimes change and GTVC has a mission to cultivate the human resources who meet the market needs. In the areas of TVET, it would be helpful to promote the efforts of the relevant organizations such as vocational training schools and teacher training institutes to enhance the teachers' capacity in training and, if necessary, to support capacity development of those organizations in curriculum/material development to cope with changing market needs in the future assistance.
- In the ex-post evaluation of this project, the statistics on the employment of the graduate were not available. In the vocational training project, it is desirable to consolidate the system of graduate students' statistical data such as their future career after graduation and to implement some activities to activate the alumni circle during the project.



(Ghazi Electrician Workshop at a classroom)
Class Teacher having activities with students

| | |
|----------------------------|---|
| Country Name | The Project for Development of the Capacity in rural waste water treatment |
| People's Republic of China | |

I. Project Outline

| | | | | | |
|---|---|--------------|---|---|--|
| Background | <p>In China, the volume of domestic waste water discharged in rural areas amounted to 9 billion m³ per year, and most of the waste water was discharged without treatment. Such uncontrolled discharge of the waste water became a threat to the environment as well as the health of the people in the rural area. However, as of 2010, waste water treatment projects/programs in the rural areas were not yet implemented except for some water source protection areas. The Ministry of Housing and Urban-Rural Development (hereinafter referred to as the MHURD), which was in charge of formulation and implementation of policies related to waste water treatment projects/programs, had less experiences and technical knowledge on waste water treatment in the rural areas because the rural areas had different characteristics from urban areas, where the MHURD had concentrated their implementation efforts (figures at the time of ex-ante evaluation).</p> | | | | |
| Objectives of the Project ¹ | <p>The project aimed to develop the model on rural waste water treatment techniques and management², which is to be referred to, when making the 13th Five-Year Plan (FYP), in China through (i) studying laws, institutions, implementation system etc. for improvement of rural waste water treatment and showing the future direction, (ii) studying application methods, design and maintenance techniques on rural waste water treatment and showing the future direction, and (iii) strengthening the system to optimize operation and management of rural waste water treatment projects/programs, thereby starting waste water treatment model projects in rural area on the basis of the technical guidelines by the project.</p> <ol style="list-style-type: none"> Overall Goal: Waste water treatment model projects are started in rural area on the basis of the technical guidelines by the project. Project Purpose: The model on rural waste water treatment techniques and management is developed, which is to be referred to, when making the 13th FYP. | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Rural area in China³. Main Activities: (i) studying laws, institutions, implementation system etc. for improvement of rural waste water treatment and showing the future direction, (ii) studying application methods, design and maintenance techniques on rural waste water treatment and showing the future direction, and (iii) strengthening the system to optimize operation and management of rural waste water treatment projects/programs. Inputs (to carry out above activities) <table border="0"> <tr> <td style="vertical-align: top;"> <p>Japanese Side</p> <ol style="list-style-type: none"> Experts: 5 persons and 9 times of study missions (4 persons) Trainees Received: 47 persons Equipment: Electromagnetic flowmeters, portable ultrasonic flowmeters, office equipment, etc. Local Cost </td> <td style="vertical-align: top; text-align: center;"> <p>Chinese Side</p> <ol style="list-style-type: none"> Staff Allocated: 5 persons from the MHURD and 8 persons from the Research Center for Eco-Environmental Science (hereinafter referred to as the RCEES) Building and facilities: Project office at the RCEES etc. Local cost </td> </tr> </table> | | | <p>Japanese Side</p> <ol style="list-style-type: none"> Experts: 5 persons and 9 times of study missions (4 persons) Trainees Received: 47 persons Equipment: Electromagnetic flowmeters, portable ultrasonic flowmeters, office equipment, etc. Local Cost | <p>Chinese Side</p> <ol style="list-style-type: none"> Staff Allocated: 5 persons from the MHURD and 8 persons from the Research Center for Eco-Environmental Science (hereinafter referred to as the RCEES) Building and facilities: Project office at the RCEES etc. Local cost |
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| Project Period | (ex-ante) December 2013-December 2016 (actual) September 2014-September 2017 | Project Cost | (ex-ante) 255 million yen, (actual) 260 million yen | | |
| Implementing Agency | The Ministry of Housing and Urban-Rural Development (the MHURD); The Research Center for Eco-Environmental Science (the RCEES)/Chinese Academy of Science | | | | |
| Cooperation Agency in Japan | IDEA Consultants, Inc.; Institute for Global Environmental Strategies; Kabushiki Gaisha Data Sekkei; National Institute for Environmental Studies; The Japan Association of Rural Solutions for Environmental Conservation and Resource Recycling; Ohmi Environment Conservation Foundation; Shiga Prefecture | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- A part of the Project Purpose (“(the model on rural waste water treatment techniques and management) is to be referred when making the 13th FYP”) meant “(the above model) is of such high quality that it would be utilized in making the 13th FYP” according to the existing documents related to the project. As the project was implemented from September 2014 to September 2017, the 13th FYP (2016-2020) was prepared without waiting for the model to be developed by the project; however, the description of the Project Purpose was not modified. The reason for this was not available in the existing documents related to the project. In this ex-post evaluation, the effectiveness of the project was evaluated based on the degree of achievement

¹ The English text of the Objectives are based on the English version of the terminal evaluation summary of the project, which is partly adjusted to be consistent with the Japanese text used in the official documents signed by both Japanese and Chinese sides such as the Minutes of the Meeting on the Joint Terminal Evaluation (July 2017)

² “(T)he model on rural waste water treatment techniques and management” in the Project Purpose referred to the techniques, institutional and organizational systems, etc. that could be applied to other areas. The Overall Goal (“Waste water treatment model projects are started”) aimed that development and renovation of facilities, operation of institutional systems, etc. would be actually started.

³ The target areas for the current situation survey included Changshu City in Suzhou City in Jiangsu Province, Xiamen City in Fujian Province, Chongqing City, Beijing City, etc. The applicability assessment of the manual and the recommendation prepared in the project were conducted in Changshu City, Xiamen City, and Chongqing City.

- of the indicators, without verifying the above-mentioned part of the Project Purpose (“(the model) is to be referred when making the 13th FYP”), in accordance with the judgment made in the terminal evaluation of the project.
2. The Overall Goal was defined as the goal to be achieved in 3-5 years after the project completion in the terminal evaluation summary; therefore, achievement status at the time of ex-post evaluation, which was 4 years after the project completion, was confirmed. As for the indicator in the latest logical framework (“Model projects are started in the rural area”), the ex-post evaluation checked whether the contents of the rural waste water treatment projects started were in line with the definition of “model projects” agreed in the logical framework (i.e., projects for planning, design, operation, and management of waste water treatment facilities etc. utilizing the Manual of Application Methods of Rural Wastewater Treatment and Design and Maintenance and the Recommendation on the Proper Operation and Management of the Rural Waste Water Project developed by this project) and description of the Overall Goal (“Waste water treatment model projects are started in rural area on the basis of the technical guidelines by the project”).

1 Relevance

<Consistency with the Development Policy of China at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the Government of China set forth a policy of “promoting the comprehensive development and improvement of the rural environment” in the Outline of the 12th FYP (2011-2015) announced in March 2011, and waste water treatment in rural area was recognized as one of the priority issues.

<Consistency with the Development Needs of China at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with the development needs of China for improvement of rural waste water treatment as described in the “Background”.

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

At the time of ex-ante evaluation, the project was consistent with Japan’s ODA policy because it was positioned as “cooperation towards resolving environmental and other global issues”, one of the priority areas and issues of the Economic Cooperation Program for China (2001) of the Government of Japan.

<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 achieved at the time of project completion. As the technical and management guidelines on rural waste water treatment, the Technical Guide of Domestic Wastewater Treatment in Rural Area (hereinafter referred to as the Technical Guide) was developed by the MHURD, reflecting information and knowledge on rural waste water treatment both in Japan and China acquired through a series of project activities (Indicator 1 and Indicator 2).

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

The project effects were continued at the time of ex-post evaluation. After the project completion, the Technical Guide was updated to and promulgated as a national standard (the highest level of technical standard in China) i.e., the Technical Standard for Domestic Waste Water Treatment Projects in Rural Area (hereinafter referred to as the Technical Standard) in 2019. The results of the project as well as the knowledge on the relevant standards in Japan obtained in the project were reflected in the Technical Standard as the staff of the implementing agency allocated to the project served as the chief editor, and two other staff were members of the editing group of the Technical Standard⁴ (also see <Status of Achievement for Overall Goal at the Time of Ex-post Evaluation>). In addition, the contents of the Manual of Application Methods of Rural Wastewater Treatment and Design and Maintenance (hereinafter referred to as the Manual) and the Recommendation on the Proper Operation and Management of the Rural Waste Water Project (hereinafter referred to as the Recommendation), which were prepared in this project, were introduced at the Waste Water Treatment Forum Meeting for Rural Area and Townships in China annually held by the MHURD although they were not distributed because they were not officially published. The forum was open to local government officials, researchers and companies involved in rural waste water treatment projects/programs across the country, with 700 participants in 2019 and 500 in 2020. In 2021, it was scheduled to be held in September and presentation of the results of the project would be continued.

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

The Overall Goal was achieved at the time of ex-post evaluation. In rural areas across the country, model projects as defined by the indicators (i.e., projects for planning, design, operation, and management of waste water treatment facilities using the Manual and the Recommendation) were started. As mentioned above, the contents of the Manual and the Recommendations were introduced on a nationwide scale every year and the Technical Guide that the project had been involved in preparing was updated to a national standard (i.e., the Technical Standards) so that their contents became the reference for rural waste water treatment projects/programs that were started after the project completion across the country and the standard in implementation of those projects/programs. For example, in Xiamen City, where the site survey was conducted in this ex-post evaluation, the methods recommended in the Technical Standard were referred and used when designing new rural waste water treatment facilities. As an example, the septic tanks recommended in the Technical Standard were adopted for the waste water treatment of farms scattered in mountainous areas (Indicator).

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

According to the implementing agencies, the project promoted understanding about Japanese decentralized domestic waste water treatment system, which became an important reference for establishment and improvement of regulations and management systems for domestic waste water treatment in the rural area in China. For example, the MHURD was considering establishment of a water quality monitoring system for treated water from decentralized waste water treatment facilities, mainly in the rural area, based on the Japanese third-party supervision system introduced through the project. The implementing agencies also stated that, through implementation of waste water treatment projects using the results of the project, the living environment and water quality of public water bodies in the rural area were already improved although it was difficult to grasp the current situation with detailed data. Referring to the Japanese system of

⁴ For example, contact oxidation method was introduced for waste water treatment in villages and by farmers, referring to the decentralized treatment methods in Japan.

the qualified Johkaso (septic tank) Operator and Installation Worker introduced at the time of the Detailed Planning Survey of the project, the RCEEC initiated training for the related staff who had not studied waste water treatment technology professionally in China to be the staff in charge of operation and maintenance of the facilities. Since 2018, training was conducted 3 times, and a total of 240 people participated in the training over the past 3 years. The training curriculum was developed by the RCEES. Meanwhile, negative impacts were not observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|---|---|---|
| (Project Purpose) The model on rural waste water treatment techniques and management is developed, which is to be referred when making the 13th FYP. | Indicator1: Draft technical guidelines of rural waste water treatment techniques are prepared by the MHURD. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -As the technical and management guidelines on rural waste water treatment, the Technical Guide of Domestic Wastewater Treatment in Rural Area was developed by the MHURD through a series of project activities. (Ex-post Evaluation) -After the project completion, the above-mentioned Technical Guide was updated and promulgated as a national standard i.e., the Technical Standard for Domestic Waste Water Treatment Projects in Rural Area. | source: Project Completion Report, questionnaire and interview survey to the implementing agencies. |
| | Indicator2: Draft management guidelines of rural waste water treatment techniques are prepared by the MHURD. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) *Refer to the Results of Indicator 1. (Ex-post Evaluation) *Refer to the Results of Indicator 1. | source: ditto. |
| (Overall Goal) Waste water treatment model projects are started in rural area on the basis of the technical guidelines by the project. | Indicator: The model projects are started in rural area. *See No.2 of <Special Perspectives Considered in the Ex-post Evaluation>. | (Ex-post Evaluation) achieved -The model projects were started in the rural area across the country. The contents of the Manual and the Recommendation prepared by the project were introduced on a nationwide scale every year, and the Technical Guide that the project had been involved in preparing was updated to the Technical Standard, which was a national standard. Therefore, their contents were utilized as reference for the rural waste water treatment projects that were started after the project completion and became the standard in implementation of those projects. | source: Questionnaire and interview survey to the implementing agencies. |

3 Efficiency

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

4 Sustainability

<Policy Aspect>

Rural waste water treatment projects/programs continued to be one of the priorities in the national policy of China. The 14th FYP (2021-2025) prioritized development of agriculture and rural areas and fully promoted development of townships and villages. It included improvement of the living environment in rural areas in the related projects/programs and set forth promotion of rural domestic waste water treatment, focusing on locations of township governments and main villages. Following the above, the MHURD continued the Rural Waste Water Treatment Model Project, which had been launched under the 13th FYP (2015-2020)⁵, in the 14th FYP. In addition, there were relevant technical standards, and as noted in “Effectiveness/Impact”, the Technical Standard for Rural Domestic Wastewater Treatment Project, a national standard, was promulgated in 2019, updating the Technical Guide developed under this project.

<Institutional/Organizational Aspect>

There was no change in the organizational structure of the implementing agencies for promotion of rural waste water treatment projects in rural areas. The MHURD was jointly in charge of rural waste water treatment projects with the Ministry of Agriculture and Rural Affairs and the Ministry of Ecology and Environment, while the RCEES was responsible for consultation and technical research related to rural domestic waste water treatment. As of June 2021, the MUHRD and the RCEES respectively allocated 4 and 10 staff members to rural waste water treatment projects and, according to them, the necessary number of staff was allocated to fulfill their respective roles. In fact, judging from the recent steady progress of rural waste water treatment projects/programs as described in “Effectiveness/Impact” and <Policy Aspect> above, it is considered that there were no serious problems in the organizational structure and staffing.

<Technical Aspect>

The MUHRD and the RCEES maintained and updated the knowledge and skills related to rural waste water treatment enhanced through the project by applying them to the related works, participating in training and exchange programs of cooperating organizations overseas such as European Union and International Water Association, and self-study⁶. In addition, as stated in “Effectiveness/Impact”, the

⁵ At the time of the ex-post evaluation, the project were implemented in 120 model prefectures.

⁶ For example, at the RCEES, as a research institute under the Chinese Academy of Sciences, researchers had to set aside 30 hours of study time every year. The researchers updated their knowledge through study online and at university and kept abreast of the latest research results and topics by reading

Technical Standard, the updated version of the Technical Guide, as well as the Manual and the Recommendation, which had been prepared under the project, were utilized to promote rural waste water treatment projects.

<Financial Aspect>

As the MUHRD and the RCEES had respectively conducted rural waste water treatment projects and the related technical research and consultation continuously after the project completion, it is presumed that they had secured or basically secured the necessary budget. The MHURD secured the necessary budget for the rural waste water treatment projects from the national budget, and the RCEES secured the financial resources for research and consultation on the rural waste water treatment projects from the project expenses of the Ministry of Science and Technology and the consulting expenses of the MUHRD.

<Evaluation Result>

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

5 Summary of the Evaluation

The project achieved the Project Purpose (“The model on rural waste water treatment techniques and management is developed, which is to be referred when making the 13th FYP”) at the project completion. The effects of the project continued and the Overall Goal (“Waste water treatment model projects are started in rural area on the basis of the technical guidelines by the project”) was also achieved. Regarding Sustainability, no problems were observed in terms of policy, institutional/organizational, technical, and financial aspects. As for 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 that the RCEES devise a way to ensure that the contents of the Manual and the Recommendation be always available for viewing as early as possible, such as posting the Manual and the Recommendation on its website, in order to ensure continuation of the effects and impacts of the project.

Lessons Learned for JICA:

-The period of this project, targeting rural waste water treatment, coincided with the period when the Chinese government was making efforts to improve the living environment in the rural area, and the implementing agencies had been conducting activities and research on the related topics before the implementation of the project. Because of this, it was possible to develop the Technical Guide in the project, which not only incorporated Japanese technology but also fully reflected the situation of rural waste water treatment in China, and this led to updating of the Technical Guide to a national technical standard after the project completion. The implementation of the project that fully considered the needs and timing of rural waste water treatment in China contributed to continuation and expansion of the project effects.



A village waste water treatment station built in 2019 in Tong'an District, Xiamen City. (It is possible that reference was made to the promulgated Technical Standard, which were compiled based on the Technical Guide that this project had been involved in preparing.)

| | |
|------------------|--|
| Country Name | The Project for the Planning of the Nadi River Flood Control Structures |
| Republic of Fiji | |

I. Project Outline

| | | | | | | | | | |
|---------------------------------|--|--------------|---|---------------|-----------|--------------------------------|--------------------------------|---------------------------------|--|
| Background | <p>The Nadi River Basin in Fiji is vulnerable to flood disaster, however, systematic and comprehensive flood control planning and/or flood control projects were not formulated for a long time, and the Nadi River Basin was facing a natural disaster risk. JICA implemented “The Study on Watershed Management and Flood Control for the Four Major Viti Levu Rivers in the Republic of Fiji Islands” from 1996 to 1998. Nevertheless, no actual measures were taken due to the Government of Fiji’s decision not to implement this Project. In addition, together with the economic development of the target area, land utilization greatly changed as well as the targeted flood and the expected amount of rainfall and its spatial distribution. Therefore, it was necessary to formulate the master plan and projects for flood management that took into consideration the actual recent flood damage situation.</p> | | | | | | | | |
| Objectives of the Project | <p>This project aims to develop the Master Plan of the flood management of the Nadi River Basin and to implement the Feasibility Study on urgent and/or priority project(s), thereby contributing to mitigation of flood damage in the Nadi River Basin in Fiji.</p> <p>1. Expected Goals through the proposed plan¹: Flood damage in the Nadi River Basin is mitigated</p> | | | | | | | | |
| Activities of the Project | <p>1. Project Site: The Nadi River Basin</p> <p>2. Main Activities: (Stage 1-Basic Study) Review of existing data and collection of basic data, Evaluation of existing flood control plan and activity, Investigation of topography, riverbed materials, flood damage, etc. Analysis of rainfall and preliminary analysis of flood inundation, beach profile change, etc., Research and proposal for implementation of project/operation and maintenance management framework, etc. (Stage 2-Master Plan Study) Collection of additional data, Evaluation of major environmental and social impact items, Additional investigation of river facilities and coastal facilities, Analysis of flood inundation, river bed variation, beach profile change, etc., Formulation of the Master Plan, Selection of priority projects, etc., (Stage 3-Feasibility Study) Implementation of the Feasibility Study, Suggestions for improvement related to disaster risk, (Entire period-Technical Transfer) On-the-job training, Technical seminars and workshops, Training courses in Japan</p> <p>3. Inputs (to carry out above activities)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Fiji Side</td> </tr> <tr> <td>1) Mission members: 19 persons</td> <td>1) Staff Allocated: 15 persons</td> </tr> <tr> <td>2) Trainees Received: 7 persons</td> <td></td> </tr> </table> | | | Japanese Side | Fiji Side | 1) Mission members: 19 persons | 1) Staff Allocated: 15 persons | 2) Trainees Received: 7 persons | |
| Japanese Side | Fiji Side | | | | | | | | |
| 1) Mission members: 19 persons | 1) Staff Allocated: 15 persons | | | | | | | | |
| 2) Trainees Received: 7 persons | | | | | | | | | |
| Project Period | July 2014 – June 2016 | Project Cost | (ex-ante) 392 million yen, (actual) 320 million yen | | | | | | |
| Implementing Agency | Land and Water Resources Management Division (LWRM), Ministry of Agriculture (MOA) *Currently it is reorganized into the Ministry of Waterways and Environment. | | | | | | | | |
| Cooperation Agency in Japan | Yachiyo Engineering Co., Ltd. CTI Engineering International Co., Ltd. | | | | | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

• In the ex-ante evaluation sheet, while the indicator to assess the expected goal through the proposed plan is defined, the indicators to assess the actual status of the utilization of the proposed plans is not specified. Therefore, the progress of budget formulation toward implementation of projects proposed by the Master Plan and the Feasibility Study Report is examined to evaluate the expected utilization (Supplemental Information 1 for expected utilization). Also, the status of implementation of the proposed plans in the Master Plan and the Feasibility Study Report is examined to see the expected utilization (Supplemental Information 2 for expected utilization).

1 Relevance

<Consistency with the Development Policy of Fiji at the Time of Ex-Ante Evaluation >

“The Roadmap for Democracy and Sustainable Socio-Economic Development” (2010-2014) described that disaster risk reduction was essential for sustainable development and greater community resilience. Strong emphasis was placed on the analysis and evaluation of hazards, formulation of effective disaster prevention plans, and implementation of effective projects of risk reduction.

<Consistency with the Development Needs of Fiji at the Time of Ex-Ante Evaluation >

After the development study implemented from 1996 to 1998, large scale floods caused serious damages. Therefore, it was necessary to redefine the scale of flood to be targeted and to re-examine the structural measures (retarding basin, dam and river improvement, etc.) proposed by the development study and their priorities.

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

¹ The degree of achievement of expected goals is not to be taken into consideration for the rating of effectiveness/impact in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plans (“output” of the project).

The project was consistent with Japan's ODA Policy. In the priority areas in Japanese ODA policy toward Fiji (environment and climate change), assistance to strengthen the capacity to cope with natural disaster and climate change was listed².

<Evaluation Result>

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

2 Effectiveness/Impact

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

The project was implemented in 3 stages, Basic Study, Master Plan Study and Feasibility Study. The development study project was successfully carried out and the following reports were developed: (1) The Master Plan of the flood management of the Nadi River Basin, (2) The Feasibility Study Report on urgent and/or priority projects. The Master Plan and the Feasibility Study Report were completed by the end of the project and discussed during the Joint Coordination Committee (JCC) Meeting. At the JCC, the Government of Fiji (GoF) provided confirmation of their plans to submit the Master Plan and the Feasibility Study Report to the Cabinet for its approval to enable implementation of the projects proposed under the Project³.

< Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The Master Plan and the Feasibility Study Report were accepted by the GoF for the implementation. The actual implementation of the proposed plans is still under deliberation at the time of ex-post evaluation. The Government of Fiji is holding extensive discussions with various development partners relating to funding of different components of the project and as per budget (Supplemental Information 1). As the proposed plans require substantive investments in infrastructure works, the GoF is still looking at options for funding from different partners to support different aspects of the plans. The whole project plan proposed for Nadi River flood alleviation consists of 3 components, Project A, B and C and the GoF has had ongoing discussions with possible donors for the implementation of each component. As various stakeholders are involved in the proposed projects, coordination and discussion amongst the stakeholders has been challenging and has resulted in further delays.

The GoF will be implementing certain aspects of the components of the project plans through the Ministry of Waterways and Environment's Watershed Management program once funding is secured. While the GoF had placed the projects for proposed plans for Nadi River flood alleviation as high priority, with the current COVID-19 pandemic being the top priority for the whole nation, implementation of the project has become a lesser priority. As a result, the proposed plans have not been launched yet (Supplemental Information 2).

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

As the project plans proposed by the Master Plan and the Feasibility Study Report have not been implemented yet, there is no achievement with regard to the Expected Goal. As this is the medium-to-long-term goals, the achievement of the Expected Goal is not taken into consideration for the evaluation judgment of Effectiveness/Impact (refer to the footnote 1).

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

The project was classified as Category B based on the JICA Guidelines for Environmental and Social Considerations (April, 2010). During the implementation of the development study⁴, no negative impact has been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is fair.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results | | | | | | | |
|--|---|---|-----------|--------|---|---|--|--|-----------|
| (Utilization Status of the Proposed Plan) The Master Plan and the results of Feasibility Study are approved by GoF. | Progress of deliberation of proposed Master Plan and the results of the Feasibility Study toward approval | (Ex-post Evaluation) achieved • The Master Plan and the Feasibility Study Report were accepted by the GoF. | | | | | | | |
| | Progress of budget formulation toward implementation of plans proposed by the Master Plan and the Feasibility Study Report (Supplemental Information 1) | (Ex-post Evaluation) Not achieved • The budget is under deliberation. The GoF is seeking funding from different partners to support different aspects of the proposed plans. | | | | | | | |
| | Status of implementation of the proposed plans in the Master Plan (Supplemental Information 2) | (Ex-post Evaluation) not achieved • The proposed plans have not been launched yet. The whole project plan proposed consists of 3 components and the GoF continuously holds discussion with possible donors for the implementation of each component. | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>Component</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Project A (Implementation of surrounding dikes and Inland drainage)</td> <td>-The GoF is currently having discussions with possible donor agencies, including the Japanese government for grant aid. GoF is in the stage of finalizing all the undertakings and waiting for official approval or confirmation by the donor agencies.</td> </tr> <tr> <td>Project B (River widening, construction of bridge, ring dikes and retention ponds)</td> <td>-Discussions are currently being held with the Asian Development Bank (ADB) and other possible donors. The GoF is collaborating with ADB for survey for the Project B and currently having discussions to finalize the plan of river widening.</td> </tr> <tr> <td>Project C</td> <td>-GoF is currently carrying out internal reviews of the</td> </tr> </tbody> </table> | Component | Status | Project A (Implementation of surrounding dikes and Inland drainage) | -The GoF is currently having discussions with possible donor agencies, including the Japanese government for grant aid. GoF is in the stage of finalizing all the undertakings and waiting for official approval or confirmation by the donor agencies. | Project B (River widening, construction of bridge, ring dikes and retention ponds) | -Discussions are currently being held with the Asian Development Bank (ADB) and other possible donors. The GoF is collaborating with ADB for survey for the Project B and currently having discussions to finalize the plan of river widening. | Project C |
| Component | Status | | | | | | | | |
| Project A (Implementation of surrounding dikes and Inland drainage) | -The GoF is currently having discussions with possible donor agencies, including the Japanese government for grant aid. GoF is in the stage of finalizing all the undertakings and waiting for official approval or confirmation by the donor agencies. | | | | | | | | |
| Project B (River widening, construction of bridge, ring dikes and retention ponds) | -Discussions are currently being held with the Asian Development Bank (ADB) and other possible donors. The GoF is collaborating with ADB for survey for the Project B and currently having discussions to finalize the plan of river widening. | | | | | | | | |
| Project C | -GoF is currently carrying out internal reviews of the | | | | | | | | |

² Source: Ministry of Foreign Affairs, "ODA Country Data Book in 2014"

³ The Master Plan and the Feasibility Study Report were actually submitted to the implementing agency after the JCC.

⁴ Pilot projects were not included in the development study.

| | | | |
|--|--|---|--|
| | | (Watershed management) | concept paper on the National Drainage Guidelines and the Watershed Management Act. This includes upstream and catchment area. One donor agency has presented the findings of the Survey for Component C to the GoF and now waiting for confirmation from GoF. |
| (Expected Goals through the Proposed Plan) Flood damage in the Nadi River Basin is mitigated. | Difference between the inundation area assumed for the design scale (e.g., 50-year flood) and the actual inundation area after the implementation of priority projects | (Ex-post Evaluation) Not achieved • As the project plans proposed by the Master Plan and the Feasibility Study Report have not been implemented yet, there is no achievement with regard to the Expected Goal. | |

Source : Final Report, Questionnaire and interview with Ministry of Waterways and Environment

3 Efficiency

Both the project cost and the project period were within the plan (ratio against the plan: 82% and 100%, respectively). The outputs of the project were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The Ministry of Waterways and Environment have developed the Ministry Strategic Plan (2020-2024), which aligns to Fiji's 5- and 20-Year National Development Plans and other related plans. In the Strategic Plan (2020-2024), building resilience to climate change and waterways-related hazards through irrigation, improved drainage, flood control, and riverbank and coastal protection is highlighted as the strategic objective.

< Institutional/Organizational Aspect>

After the project completion, through government reshuffle, the Ministry of Waterways and Environment was created and is responsible for daily operations related to flood control. The Department of Waterways under the Ministry is responsible for the provision of flood mitigation measures, improved drainage, riverbank protection, coastal protection and smart irrigation technologies throughout the country. Although the number of employed staff is rather limited, there is not major problem in daily operation.

<Technical Aspect>

The daily operation has been carried out without major problem but there is a need for additional technical staff to meet the demand for services. Out of 135 staff members at the Ministry, there is only three engineers. Due to budget limitation, the Ministry cannot recruit new staff or renew the contract of its engineers. In addition, there is significant difference in the level of technical capacity amongst the Principal Engineer, Engineers and Technical Officers⁵. The data included in the Master Plan and the Feasibility Study Report are extensively used.

<Financial Aspect>

The budget allocated to the Ministry of Waterways and Environment has decreased over the years however the Ministry is implementing its activities with the reduced budget. For example, the budget allocated to drainage and flood protection was decreased from FJD7,000,000 in the fiscal year 2017/2018 to FJD1,423,386 in 2019/2020 and further reduced to FJD880,000 in 2020/2021. The budget allocation to the Ministry has been also affected by the COVID-19 pandemic.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational, 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 objective of the project was achieved by the time of project completion as planned, by submitting the Master Plan and the Feasibility Study Report. The Master Plan and the Feasibility Study Report were accepted by GoF, although actual implementation of the proposed plans in the Master Plan and the Feasibility Study Report is still under discussion. However, the proposed plans are the priority projects of the GoF and the GoF is trying all avenues to implement the proposed plans. Therefore, the effectiveness/impact is fair. On sustainability, further strengthening of manpower and technical capacity is required at the Ministry of Waterways and Environment and the allocation of the budget is decreasing, therefore, the sustainability of related agencies is fair. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Currently the government places a top priority on the countermeasures against the COVID-19 pandemic, and the implementation of the proposed project plans for Nadi River flood alleviation has been shifted to lower priority. Furthermore, Fiji has also been affected by Tropical Cyclones therefore priority has again now shifted to rehabilitation and recovery, consequently, this has again shifted GoF's priorities. Taking into consideration the current challenging situation relating to COVID-19 and aftermath of cyclones, it is recommended that the Government of Fiji should realize the importance of implementing the project and its implementation is made a higher priority again.
- The Project is being coordinated and managed by the Ministry of Economy who is responsible for securing funds and stakeholder coordination for this proposed projects while the implementation of the proposed project is being managed by the Ministry of Waterways and Environment. Therefore, GoF should be encouraged to more effectively facilitate the coordination among stakeholders as well as donors. For example, regular meetings should be initiated by the GoF between all the stakeholders to see the progress of the components under project A, B and C.

Lessons Learned for JICA:

⁵ The Ministry has the structure with the principal Engineer on the top, then Engineer, and then Technical Officers, based on qualification, years of service and experience.

• Due to number of reasons the launch of the proposed plans has been delayed. It is desirable that the proposed plans be commenced soon after the submission of the master plan and related reports. For this, coordination amongst stakeholders is important. It may be useful to provide recommendations to establish a coordinated implementation system by the end of the development study to ensure effective approval and implementation process of the proposed plan.

| | |
|---------------------------------------|--|
| Country Name | The Project for Capacity Development of Department of Transport in Port Policy and Administration |
| Independent State of Papua New Guinea | |

I. Project Outline

| | | | | | | | | | | | |
|---|---|--------------|---|---------------|----------|------------------------|--|---|-----------------|--------------------|--------------------|
| Background | Papua New Guinea (PNG) is composed of more than 600 small and large islands with steep mountains, and movement of people and goods largely depends on maritime transport. However, existing facilities of major ports in PNG, constructed in the 1960s-70s, had been deteriorated and did not meet the growing traffic volume or the trend of growing size of ships such as container vessels. In addition, government's responsibilities and decision-making process in port administration were not clear, since administrative and regulatory functions had been delegated or transferred from the Department of Transport (DoT) to PNG Ports Corporation Limited (PNGPCL) and the National Maritime Safety Authority (NMSA). Under such circumstances, the Government of PNG requested the Government of Japan to assist in developing capacity for port policy and administration. | | | | | | | | | | |
| Objectives of the Project | <p>The project aimed to enhance the capacity of the Department of Transport (DoT) as the national port administrator; through i) clarifying the roles and responsibilities of DoT and other organization, ii) enhancing basic skills and knowledge to execute port administration, and iii) collecting and analysing basic information on port facilities; thereby contributing to smooth execution of national port administration in PNG.</p> <ol style="list-style-type: none"> Overall Goal: National port administration in PNG is executed smoothly through strengthening the capacity of government officials of PNG. Project Purpose: Capacity of the Department of Transport (DoT) to reassume the national port administrator to develop policy, plans and enforce law/regulation is enhanced. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: i) Project Head Office in Port Moresby, ii) Target areas covering the 15 Maritime Provinces¹. Main Activities: <ol style="list-style-type: none"> To review the current organizational status of port administration, and to prepare expected institutional structure for port administration. To conduct lectures on i) port inventory, ii) port governing system², iii) port statistics, iv) criteria/guidance for port development, and v) other themes related to port policy and administration. To compile a port inventory through collecting information by physical surveys, and analysing the obtained data. Inputs (to carry out above activities): <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">PNG Side</td> </tr> <tr> <td>1) Experts: 12 persons</td> <td>1) Staff Allocated: 8 persons (6 from DoT and 2 from PNGPCL)</td> </tr> <tr> <td>2) Trainees Received: 12 persons in Japan, 4 persons in the Philippines</td> <td>2) Office space</td> </tr> <tr> <td>3) Operation costs</td> <td>3) Operation costs</td> </tr> </table> | | | Japanese Side | PNG Side | 1) Experts: 12 persons | 1) Staff Allocated: 8 persons (6 from DoT and 2 from PNGPCL) | 2) Trainees Received: 12 persons in Japan, 4 persons in the Philippines | 2) Office space | 3) Operation costs | 3) Operation costs |
| Japanese Side | PNG Side | | | | | | | | | | |
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| 2) Trainees Received: 12 persons in Japan, 4 persons in the Philippines | 2) Office space | | | | | | | | | | |
| 3) Operation costs | 3) Operation costs | | | | | | | | | | |
| Project Period | (ex-ante) Jan. 2014 – Jan. 2017 (actual) Jan. 2014 – Mar. 2018 | Project Cost | (ex-ante) 199 million yen, (actual) 267 million yen | | | | | | | | |
| Implementing Agency | Department of Transport (DoT) | | | | | | | | | | |
| Cooperation Agency in Japan | The Overseas Coastal Area Development Institute of Japan | | | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

[Project Purpose and Its Indicators]

Under this project, the original Project Purpose and indicators were revised during the Joint Coordination Committee (JCC) meeting dated September 7th 2016. According to the minutes of the meeting, this revision was meant for “aligning with the actual project activities”. The evaluator, however, observes some sort of discrepancy between the Project Purpose and its two indicators. While the Project Purpose³ was elevated to a higher level, which could not be achieved only by this project, the two indicators were set as rather achievable ones as shown in the next paragraph. Nonetheless, as per the general rules of JICA's internal evaluation, this ex-post evaluation adopted the revised Project Design Matrix (PDM, a matrix to describe the project framework) and made judgement based on the revised indicators.

[How to Examine Continuation Status of Project Effects]

Regarding the Project Purpose, both Indicator 1 (the result of an achievement test) and Indicator 2 (presenting a proposal) show rather one-time achievement. Therefore, “sustainability of developed capacity” and “utilization of the presented proposal” were examined for continuation of Indicators 1 and 2 respectively.

¹ “Maritime Province” is defined as a province where 59% of the population do not have access to land or air transportation and depend on maritime transportation. The project covered the all 15 Maritime Provinces namely: Western Province, Gulf Province, National Capital District, Central Province, Milne Bay Province, Oro Province, Morobe Province, Madang Province, East Sepik Province, West Sepik Province, Manus Province, New Ireland Province, East New Britain Province, West New Britain Province, and the Autonomous Region of Bougainville.

² “A port governing system” is a system to categorize ports based on certain standards for administrative purposes.

³ The original Project Purpose was “The Project Team understands the purpose of national port administration, the functions, organizations and policy measures for executing national port administration as a national government organization”, which was revised to “Capacity of DoT to reassume the national port administrator to develop policy, plans and enforce law/regulation is enhanced”.

1 Relevance

<Consistency with the Development Policy of PNG at the Time of Ex-Ante Evaluation>

The project aligned with PNG policy, “Papua New Guinea Development Strategic Plan (2010-2030)”, emphasizing maintenance and development of port facilities and strengthening administrative capacity. As a strategy to focus on the transport sector, “National Transport Strategy” was prepared with assistance of the Asian Development Bank, and approved and issued by the Government of PNG in July 2013. Based on the Strategy, “Medium Term Transport Plan (2014-2018)” was formulated as a mid-term action plan.

<Consistency with the Development Needs of PNG at the Time of Ex-Ante Evaluation>

As mentioned in “Background”, government’s responsibilities and decision-making process in port administration were not clear at the time of Ex-Ante Evaluation. “National Transport Strategy (2013)” proposed the DoT legal team to prepare legislation for the management and operation of declared (main) and undeclared ports, while centralizing the functions of port administration and regulation at newly established “National Maritime Administration”. Under this transforming stage of the port sector, the project focused on basic knowledge/skills on port policy and inventory. Such assistance was considered to be the basis of port administration, regardless of which agency would be in charge of. (On the other hand, the area of port legislation was assisted by the Australian Agency for International Development.)

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

The project was consistent with “Japan’s ODA Policy for the Independent State of Papua New Guinea (2012)”, focusing on transport infrastructure development, under a priority area, i.e., “Strengthening of Foundation of Economic Growth”. Capacity development under this priority area was also focused.

<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 achieved at the time of project completion. The average score on the final achievement test for the assigned eight (8) staff was 78% against the target of 70% (Indicator 1). Two (2) project assigned staff from DoT were members of the Working Group for National Maritime Administration Steering Committee, and they proposed ideas to the Committee on port sector governance, management and functional alignment of each maritime agency, based on what was learned from the project (Indicator 2). The project covered areas on i) port inventory, ii) port governing system, iii) port statistics, iv) criteria/guidance for port development, and v) national port administration. Series of workshops/seminars were conducted not only for DoT but also other maritime agencies. It is notable that the project compiled a port inventory through field surveys of as many as 115 ports. At project completion, such surveys were conducted solely by project assigned staff without assistance of Japanese Experts.

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

The project effects have been continued till the time of ex-post evaluation. Most of the project assigned staff have remained in port-related positions, and have transferred knowledge gained during the project. For example, the textbooks developed by the project have been utilized and referred to, and the port inventory compiled under the project has been utilized to check facilities of each port. Update of the port inventory was recommended at project completion, and DoT has been conducting surveys for this purpose. With regards to port sector reform, the idea of establishing National Maritime Administration was abandoned in 2018, due to withdrawal of the foreign consulting firm leading this subject. Based on proposals made by this project, however, the maritime agencies have kept discussing how to administer the port sector. The proposals made by the project are continuously discussed by the Maritime Expert Group, which was organized by the Government of PNG in the end of 2020.

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

The Overall Goal has been partially achieved. Under the project, roles and responsibilities of DoT and other maritime agencies were proposed. The project pointed out the issue of duplication of roles, and recommended proper demarcation among agencies. For example, DoT was proposed to have regulatory roles, but they were often implemented by PNG Port Corporation Limited (PNGPCL) responsible for operation of each port. Although port sector governance has been discussed since project completion, prevalence of functional duplications among the maritime agencies is yet to be resolved. (Refer to 4. Sustainability <Policy Aspect> below.) To resolve this issue, duplications of laws/regulations in the port sector are currently discussed by the Maritime Expert Group, and a detailed planning survey for the phase two project by JICA is being conducted to support this process.

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

No negative impacts have been observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|--|--|--|
| (Project Purpose) Capacity of the Department of Transport (DoT) to reassume the national port administrator to develop policy, plans and enforce law/regulation is enhanced. | Indicator 1: Average 70% is scored on final achievement tests by project members. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) - The average score on the achievement test taken by the eight (8) assigned staff was 78%. (Ex-Post Evaluation) - Most of the project assigned staff have remained in port-related positions, and have transferred knowledge gained during the project. | Project Completion Report, Questionnaire/ interview with DoT |

| | Indicator 2: Proposal presented by DoT to National Maritime Administration Steering Committee for institutional reform of port sector (roles and responsibilities taken by DoT). | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) - DoT proposed ideas on port sector governance, management, and functional alignment of each maritime agency, based on what was learned from the project. (Ex-Post Evaluation) - Although the idea of establishing National Maritime Administration was abandoned, proposals by DoT based on the project have been discussed among the stakeholders. | ditto | | | | | | | | |
|---|---|---|----------|----------------------------|-------------------------------|---|--|---|---|--|--------------------------------------|
| (Overall Goal) National port administration in PNG is executed smoothly through strengthening the capacity of government officials of PNG. | Confirmed roles and responsibilities of DoT and other organizations in the port sector. | (Ex-Post Evaluation) partially achieved - The following table summarizes the general distribution of roles among main maritime agencies, which was explained in detail by the project, and has been discussed after project completion. In the reality, however, functional duplications are still on the way of being resolved. Main Maritime Agencies' Roles <table border="1"> <thead> <tr> <th>Agencies</th> <th>Roles and Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Department of Transport (DoT)</td> <td>Sector policy, coordination, monitoring and regulatory roles as a lead agency overseeing all maritime transport activities.</td> </tr> <tr> <td>PNG Ports Corporation Limited (PNGPCL)</td> <td>Management of all declared ports under their delegated jurisdiction, movement and handling of cargos, charges and fees collected on ports dues, stevedoring, etc.</td> </tr> <tr> <td>National Maritime Safety Authority (NMSA)</td> <td>Safety of navigations aids, search and rescue, oil spill response and pilotage, etc.</td> </tr> </tbody> </table> | Agencies | Roles and Responsibilities | Department of Transport (DoT) | Sector policy, coordination, monitoring and regulatory roles as a lead agency overseeing all maritime transport activities. | PNG Ports Corporation Limited (PNGPCL) | Management of all declared ports under their delegated jurisdiction, movement and handling of cargos, charges and fees collected on ports dues, stevedoring, etc. | National Maritime Safety Authority (NMSA) | Safety of navigations aids, search and rescue, oil spill response and pilotage, etc. | Questionnaire/ interview with DoT |
| Agencies | Roles and Responsibilities | | | | | | | | | | |
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| National Maritime Safety Authority (NMSA) | Safety of navigations aids, search and rescue, oil spill response and pilotage, etc. | | | | | | | | | | |

3 Efficiency

Both the project cost and period exceeded the plan (ratio against the plan: 134% and 139% respectively). This is due to one-year extension of the project period for further enhancing the basic skills and knowledge of the trained staff, while closely monitoring the port sector reform in PNG. The project's Outputs were produced as planned.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Instead of "National Transport Strategy (2013)", "Medium Term Transport Plan II (2019-2022)" is currently effective as the policy to sustain the project effects. The Plan points out the prevalence of functional duplications among the maritime agencies, which was addressed by the project, and prioritizes policy and legislation programs to resolve this issue.

<Institutional/Organizational Aspect>

Since the idea of establishing National Maritime Administration did not materialize, there has been no change in the institutional arrangement in the port sector. In the Department of Transport (DoT), Maritime Transport Division has the overall responsibility of the port sector, and 10 staff are allocated. According to DoT, the number of staff at the Division is insufficient, but DoT is planning to recruit more staff and to prioritize the Division for assignment.

<Technical Aspect>

Knowledge and skills gained by the project are well utilized. For example, staff are using the port inventory not only for checking port facilities but also discussing with provincial governments on port facilities. Textbooks developed by the project are used not only for daily work in the maritime agencies, but also for quarterly seminars for new officials of DoT.

<Financial Aspect>

According to DoT, necessary funding is secured for Maritime Transport Division with monthly allocation of around PGK 5,000.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the policy and institutional/organizational aspects of the implementing agency. Therefore, the sustainability of the project effects is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose (i.e., Capacity of the Department of Transport (DoT) to reassume the national port administrator to develop policy, plans and enforce law/regulation is enhanced.) The project effects have been continued, and the Overall Goal (i.e., National port administration in PNG is executed smoothly through strengthening the capacity of government officials of PNG.) has been "partially achieved", since functional duplications among maritime agencies are still on the way of being resolved. Regarding the Sustainability, some problems have been observed in terms of the policy and institutional/organizational aspects of the implementing agency, while no major problem has been observed in terms of technical and financial aspects. 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 satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended for the Department of Transport (DoT) to update the port inventory and textbooks developed by this project. Through updating these documents, DoT can check the latest information and also remark that DoT has the main responsibility for the port sector. As an example of DoT's such efforts, DoT has been implementing surveys by visiting provinces and ports for the purpose of updating the port inventory. However, compiling the survey results in the form of an updated inventory is still to be done. It would be desirable that making updates of these documents as DoT's fiscal year goal and thus staff's mandates.

Lessons Learned for JICA:

- It is important to set the Project Purpose and its indicators in an appropriate manner, considering the logic and the current situation, when revising them during project implementation. As mentioned in <Special Perspectives Considered in the Ex-Post Evaluation>, the evaluator observes some sort of discrepancy between the Project Purpose and its two indicators which were revised during a JCC meeting. The Project Purpose was elevated to a higher level, which was not under the control of this project especially at the transforming stage of the port sector. On the other hand, the two indicators were revised as rather achievable ones. As per the general rules of internal evaluation, the judgement was made based on the revised indicators, and thus the Project Purpose was judged as "achieved". This judgement, however, would raise a question if taking the Project Purpose literally.
- Under this project, the Overall Goal was set as "National port administration in PNG is executed smoothly through strengthening the capacity of government officials of PNG". To verify the achievement, the indicator for this Overall Goal was set as "Confirmed roles and responsibilities of DoT and other organizations in the port sector." Since the words, "confirmed roles ...", did not clearly indicate the targeted status, it was difficult to examine the achievement of the Overall Goal. For appropriate project evaluation, it is important to set a clear indicator. It is also necessary to give attention to a difference in nuance between English and Japanese languages, and to scrutinize sentences for goals and indicators in both languages.
- It is important to review the duplication of relevant laws and regulations, when demarcating the roles and responsibilities among maritime agencies. For this purpose, collaboration with stakeholders across projects is essential. When this project was implemented, legislative assistance was conducted by another development partner, but duplication of functions among maritime agencies is yet to be resolved. Having learnt from this project, JICA is planning to tackle duplication of laws/regulations in the phase two project through collaboration with the development partner, DoT and other maritime agencies.



Visited Milne Bay Province in May 2020 for Inventory Update
(With Province Transport Coordinators)



Visited Madang Province in February 2021 for Inventory Update
(Inspection on PNGPCL Wharf)

| | |
|-----------------------|--|
| Country Name | Project on Enhancement of Metalworking Capacity for Supporting Industries of Construction Machinery |
| Republic of Indonesia | |

I. Project Outline

| | | | | | | | | | | | | | |
|---|---|--------------|---|---------------|-----------------|-----------------------------------|--------------------------------|----------------------------------|---|---|---|---|--|
| Background | Indonesia had the largest market for the construction machine industry in Southeast Asia. Despite decreasing the demand on construction machinery in the country, the total annual domestic demand reached 21,000 machineries in 2011. Furthermore, it was projected that it was going to increase to 50,000 machinery in 2013 due to the high demand on infrastructure. Therefore, the government of Indonesia had a policy to promote export of construction machinery and localization of machine parts. The development of supporting industries of construction machinery which were able to process the machine parts became a key challenge for the country. At the same time, it was essential to improve technical capacity for the supporting industries of construction machinery sector. | | | | | | | | | | | | |
| Objectives of the Project | <p>Through delivering trainings and extension services on casting and production management for supporting industries of construction machinery as well as drafting a future action plan for service provision on metalworking for supporting industries of construction machinery, the project aimed at providing improved technical services for supporting industries of construction machinery by targeted working organizations, thereby contributing to improvement of metalworking technology of supporting industries of construction machinery.</p> <ol style="list-style-type: none"> Overall Goal: Metalworking technology of supporting industries of construction machinery will be improved. Project Purpose: Technical services with improved quality for supporting industries of construction machinery will be provided by targeted metalworking organizations. | | | | | | | | | | | | |
| Activities of the project | <ol style="list-style-type: none"> Project site: Jakarta and Bandung (Extension services), Ceper, Tegal, and suburb areas of Jakarta (Bekasi, Karawang and Bogor) (metal processing) Main activities: 1) Trainings and extension services on casting for supporting industries of construction machinery, 2) Trainings on production management for supporting industries of construction machinery, 3) Drafting a future action plan for service providing on metalworking for supporting industries of construction machinery, and so on. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Indonesian Side</td> </tr> <tr> <td>1) Experts from Japan: 11 persons</td> <td>1) Staff allocated: 69 persons</td> </tr> <tr> <td>2) Training in Japan: 64 persons</td> <td>2) Land and facilities: Office space for Japanese experts, MIDC's vehicle</td> </tr> <tr> <td>3) Equipment: Heat treatment furnace for steel making, office furniture, and so on.</td> <td>3) Local cost: Administration costs, operation and maintenance costs, costs for training programs, costs for extension services, costs for materials for casting training, etc.</td> </tr> <tr> <td>4) Local cost: Cost for training programs, remuneration and travel expenses for external lecturers, materials for casting trainings, etc.</td> <td></td> </tr> </table> | | | Japanese Side | Indonesian Side | 1) Experts from Japan: 11 persons | 1) Staff allocated: 69 persons | 2) Training in Japan: 64 persons | 2) Land and facilities: Office space for Japanese experts, MIDC's vehicle | 3) Equipment: Heat treatment furnace for steel making, office furniture, and so on. | 3) Local cost: Administration costs, operation and maintenance costs, costs for training programs, costs for extension services, costs for materials for casting training, etc. | 4) Local cost: Cost for training programs, remuneration and travel expenses for external lecturers, materials for casting trainings, etc. | |
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| 4) Local cost: Cost for training programs, remuneration and travel expenses for external lecturers, materials for casting trainings, etc. | | | | | | | | | | | | | |
| Project Period | May 2014 to March 2017 | Project Cost | (ex-ante) 290 million yen, (actual) 378 million yen | | | | | | | | | | |
| Implementing Agency | Ministry of Industry (ILMATE: Directorate General of Metal, Machinery, Transportation Equipment & Electronic Industries), Metal Industry Development Center (MIDC), Politeknik Manufaktur Negeri Bandung (POLMAN Bandung), Heavy Equipment Manufacturer Association of Indonesia (HINABI), DINAS Perindustrian dan Tenaga Kerja Kabupaten Tegal (Agency of Industry and Manpower of Tegal Regency: DINAS Tegal), Politeknik Manufaktur Negeri Ceper (POLMAN Ceper) | | | | | | | | | | | | |
| Cooperation Agency in Japan | UNICO International Corporation, Japan Development Service Co., Ltd. | | | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on the Ex-Post Evaluation>

Because of the outbreak of COVID-19, information was collected through a questionnaire survey and phone interviews in order to make evaluation judgement in the ex-post evaluation. The data collection process took longer than expected since COVID-19 limited accesses to the information, which might have not been the challenge if the interview respondents were not working from home. Site visits were not conducted. The responses are based on the experience mainly up to 2019 where the business activities were conducted normally without the effect of COVID-19. Follow-up interviews were mainly gathered from HINABI and POLMAN Ceper who had relatively better accesses to the internet connection and working from home environment. Challenges were faced when collecting information due to the change and retirement of the staff in charge of the construction industry within the relevant directorates of ILMATE, Ministry of Industry.

<Special Perspectives Considered in the Ex-Post Evaluation>

(Verification of Continuation Status of the Project Effects)

For verifying the continuation of the project effects, the ex-post evaluation did not use the verifiable indicator 3 for the Project Purpose because those indicators were not applicable to verify the current technical level of the target companies on casting. The technical level of the target companies was analyzed as key factors for the achievement level of the Overall Goal to improve metalworking technologies in Indonesia and for sustainability of the project effects.

1 Relevance

<Consistency with the Development Policy of Indonesia at the time of Ex-ante Evaluation>

The project was consistent with the Indonesia's development policies such as "the National Industrial Policy" (2008) aiming at development of industrial clusters composed of supporting and related industries including the machinery industry and "the Ministry of Industry Strategic Plan" (2010-2014) for growth and enhancement of the heavy machinery industry. In addition, the "Country Assistance

Policy for the Republic of Indonesia" (April 2012) prioritized "Support for Further Economic Growth" including the business and investment environment and human resource development at higher level.

<Consistency with the Development Needs of Indonesia at the time of Ex-ante Evaluation>

The project was consistent with the Indonesia's development needs for localization of machine parts for construction machinery in order to promote export of construction machinery through improvement of technical capacity of the supporting industries for construction machinery.

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

The project was consistent with the Japan's ODA policy for Indonesia. The "Indonesia-Japan Economic Partnership Agreement (IJEPA)" (2008) prioritized support manufacturers in the 14 prioritized industrial sectors under the Initiative for Manufacturing Industry Development Center (Initiative for MIDECE). In addition, in November 2011, the government of Japan agreed to support for improvement of metalworking technologies in supporting industries to supply parts for construction machinery at the high level meeting of MIDECE.

<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 results of the feedback surveys on the training programs for both of casting and production management, the targeted companies were highly satisfied with the training programs since all the responses to the questions in the surveys were the top two levels scaled by three to five levels (Indicator 1). In total, 43 companies received the technical services on casting (Indicator 2). The technical level of target casting partially reached to the target level: one of six samples passed the quality assessment by HINABI and all the six samples met the chemical composition and mechanical properties (Indicator 3). 31 companies received technical services on production management (Indicator 4).

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

The project effects have partially continued. The technical services have been continuously provided by four out of five implementing agencies of MIDC, Tegal regency¹, POLMAN Bandaung, POLMAN Ceper and HINABI. In terms of casting, HINABI and POLMAN Ceper have provided technical services to 4 companies and 15 companies in 2019, respectively. The responses were not obtained for 2020 due to the decreased economic activities as a result of the COVID-19 pandemic. For production management, the number of companies receiving the technical services increased from 10 in 2017 to 26 in 2019. HINABI responded that since these training were well-received by their member companies as it helps motivating and setting disciplines among their sub-contractors, the provision of technical services for the supporting industries of construction machinery has been continued. On monthly basis, sub-contractor development activities for casting and production management have been continued. The objective of these activities is to maintain the quality standard. In Ceper metal industry, the increase was because technicians attained education and training though some of the companies are still asking for new technicians with higher education to meet the latest market demand. The sustainment of the technical level of the targeted companies on casting was verified as a key factor for the Overall Goal and sustainability from the technical aspect.

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

The Overall Goal has been partially achieved at the time of ex-post evaluation based on the data collected for three indicators.

Indicator 1 was achieved the target except 2020. However, it was reported by HINABI, who were in position of setting the standard and evaluating the firms against the standards, for casting and metal work companies since the project completion, that the number of casting companies producing acceptable parts for construction machinery manufacturers did not change. The number of the firms supported by POLMAN Bandung, but not evaluated by HINABI, ranged from 3-6 for the period from 2017 to 2020. According to POLAMN Bandung, the COVID-19 pandemic in the country constrained the growth of the casting companies in Bandung as well as in Indonesia since 2020. .

Indicator 2 was achieved the target except 2020. Only one company started producing steel casting parts for construction machinery industry in Ceper in 2017. HINABI reported that the number of the firms who met the standard by HINABI was one firm at the time of the project completion and the number did not change over the three years. HINABI reported that the result was due to the fluctuated growth of the steel casting for construction machinery market and the sufficient capacity of the existing sub-contractors to meet the market demand. On the other hand, the number of companies producing steel casting in Bandung increased to 5 from 2017 to 2018 and decreased to none in 2020. In Bandung, it was because of the adequate quality and delivery time fitting to the production and processing capacity but the decrease in 2020 was probably attributed to the pandemic of COVID 19.

Indicator 3 was achieved the target in 2019 only. The number of steel casting parts newly produced for construction machinery manufacturers, such as collar, transmission system for lite part and so on, has been increased from 4 in 2017 to 6 in 2019. The government policy supported the domestic production of cast iron parts for the heavy equipment industry but the industry has been experiencing the downtime due to the COVID 19 pandemic. According to DINAS of Tegal Regency, in terms of the technical level of metal working technologies, the small and medium size companies have more experience about good production system and production management. It is because the number of companies with the technical services on production management has increased from 5 in 2017 to 8 in 2020. While only one company has produced acceptable casting products for the period from 2017 to 2020, 5-8 companies have produced acceptable metalworking products for the same period.

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

Some positive impacts have been observed at the time of ex-post evaluation. According to HINABI, employees became more disciplined and their capability to improve has increased through the technical services. POLMAN Ceper reported that small and medium firms were more clean, efficient and used more modern melting furnaces. POLMAN Bandaung has a plan to produce small heavy vehicles (tractor) with functions such as for land clearing, digging and transporting. This idea came after attending in training and visits to the industry in Japan and Indonesia as well (the construction machine manufacturers in Indonesia such as Komatsu and so on.) In addition, according to the DINAS of Tegal Regency, the project has contributed to develop and promote the technical service programs, including 5R application system².

¹ The activities conducted by Tegal Regency were part of the SMI support activities at large conducted by the Regency

² 5R (reduce, reuse, recycle, recovery, dan repair) program development: advisory on the implementation of 5R on the SMI development

No negative impact on natural and social environment has been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of the Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|---------------------|--------|------|-----------------------|---------|--------|---------|--------|--------|----|------|---------------|--------------|----|----|----|---|------|----------------|--|---|---|---|---|---------------|--|---|---|---|---|--------------|----|----|----|----|------|--------|--|----|----|----|----|---------------|--|---|---|---|---|
| (Project Purpose) Technical services with improved quality for supporting industries of construction machinery will be provided by targeted metalworking organizations. | 1. Satisfaction level of companies in supporting industries of construction machinery with the technical services provided by the Project (will be measured by feedbacks from the targeted companies of extension services) | <p><u>Status of achievement: Achieved (Not verified).</u> (Project Completion)</p> <ul style="list-style-type: none"> - In the feedback surveys on the training programs for both of casting and production management, positive answers were obtained for all question items to satisfaction. According to the survey results, those trainings achieved generally high levels of satisfaction. <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> - Not verified. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2. Number of companies which receive technical services on casting:30 companies | <p><u>Status of achievement: Achieved (Partially continued).</u> (Project Completion)</p> <ul style="list-style-type: none"> - Number of companies which received technical services on casting reached 43 companies in total. <p>(Ex-post Evaluation)</p> <p>[No. of companies receiving technical services]</p> <table border="1"> <thead> <tr> <th>Type</th> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>Casting</td> <td></td> <td></td> <td></td> </tr> <tr> <td>HINABI</td> <td>2</td> <td>4</td> <td>4</td> </tr> <tr> <td>POLMAN Ceper</td> <td>13</td> <td>15</td> <td>15</td> </tr> </tbody> </table> | Type | 2017 | 2018 | 2019 | Casting | | | | HINABI | 2 | 4 | 4 | POLMAN Ceper | 13 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Type | 2017 | 2018 | 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Casting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HINABI | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POLMAN Ceper | 13 | 15 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Technical level of target casting which targeted metalworking organizations can develop (will be measured by JICA experts and feedbacks from the construction machinery manufacturers having been supplied target castings) | <p><u>Status of achievement: Achieved (Continued).</u> (Project Completion)</p> <ul style="list-style-type: none"> - 1 of 6 samples passed the quality assessment set by HINABI. All the 6 samples met the chemical composition and mechanical properties. - A total 6 target castings were developed at MIDC and PALMAN Bandung. 5 samples were evaluated the trial products by Sumitomo Construction Machinery Co., which provided drawings. The other one was evaluated by Komatsu Construction Machinery which provided the drawings for it. <p>(Ex-post Evaluation)</p> <p>Refer to the Overall Goal and Sustainability.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Number of companies which receive technical services on production management: 30 companies | <p><u>Status of achievement: Achieved (Continued).</u> (Project Completion)</p> <ul style="list-style-type: none"> - Number of companies which received technical services on production management was 31. - Participation in the trainings was obliged to the companies to receive the extension services. <p>(Ex-post Evaluation)</p> <p>[No. of companies receiving technical services]</p> <table border="1"> <thead> <tr> <th>Type</th> <th>2017</th> <th>2018</th> <th>2019</th> </tr> </thead> <tbody> <tr> <td>Production Management</td> <td></td> <td></td> <td></td> </tr> <tr> <td>HINABI</td> <td>10</td> <td>15</td> <td>26</td> </tr> <tr> <td>Tegal Regency</td> <td>5</td> <td>6</td> <td>7</td> </tr> </tbody> </table> | Type | 2017 | 2018 | 2019 | Production Management | | | | HINABI | 10 | 15 | 26 | Tegal Regency | 5 | 6 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type | 2017 | 2018 | 2019 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HINABI | 10 | 15 | 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tegal Regency | 5 | 6 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Overall goal) Metalworking technology of supporting industries of construction machinery will be improved. | 1. Number of supporting industry companies which the metalworking technology and management is high evaluated* by construction machinery manufacturers and/or user companies of construction machinery: 5 casting companies/10 metalworking companies. *Items of evaluation assume to be amount of productions and delivery, rejection rate and so on. | <p><u>Status of achievement: Partially achieved.</u> (Ex-post Evaluation)</p> <p>[No. of companies in supporting industry for producing acceptable parts for construction machinery manufacturers]</p> <table border="1"> <thead> <tr> <th>Implementing Agency</th> <th>Target</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Casting</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HINABI</td> <td></td> <td>3</td> <td>3</td> <td>3</td> <td>N.A.</td> </tr> <tr> <td>POLMAN Bandung</td> <td></td> <td>4</td> <td>4</td> <td>6</td> <td>3</td> </tr> <tr> <td>Tegal Regency</td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Metalworking</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>N.A.</td> </tr> <tr> <td>HINABI</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>Tegal Regency</td> <td></td> <td>5</td> <td>6</td> <td>8</td> <td>5</td> </tr> </tbody> </table> | Implementing Agency | Target | 2017 | 2018 | 2019 | 2020 | Casting | 5 | | | | | HINABI | | 3 | 3 | 3 | N.A. | POLMAN Bandung | | 4 | 4 | 6 | 3 | Tegal Regency | | 1 | 1 | 1 | 1 | Metalworking | 10 | 10 | 10 | 10 | N.A. | HINABI | | 10 | 10 | 10 | 10 | Tegal Regency | | 5 | 6 | 8 | 5 |
| | Implementing Agency | Target | 2017 | 2018 | 2019 | 2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Casting | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HINABI | | 3 | 3 | 3 | N.A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POLMAN Bandung | | 4 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tegal Regency | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Metalworking | 10 | 10 | 10 | 10 | N.A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HINABI | | 10 | 10 | 10 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tegal Regency | | 5 | 6 | 8 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Number of companies in supporting industries which can newly produce steel casting parts that meet the needs of construction machinery industry: 4 companies | <p><u>Status of achievement: Achieved.</u> (Ex-post Evaluation)</p> <p>[No. of companies which started producing steel casting parts for construction machinery industry]</p> <table border="1"> <thead> <tr> <th>Implementing Agency</th> <th>Target</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>HINABI</td> <td>4</td> <td>1</td> <td>1</td> <td>1</td> <td>N.A.</td> </tr> <tr> <td>POLMAN Ceper</td> <td></td> <td>1</td> <td>1</td> <td>1</td> <td>-</td> </tr> </tbody> </table> | Implementing Agency | Target | 2017 | 2018 | 2019 | 2020 | HINABI | 4 | 1 | 1 | 1 | N.A. | POLMAN Ceper | | 1 | 1 | 1 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implementing Agency | Target | 2017 | 2018 | 2019 | 2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HINABI | 4 | 1 | 1 | 1 | N.A. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POLMAN Ceper | | 1 | 1 | 1 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|---|---|----------------|------|------|------|------|---|
| | | POLMAN Bandung | | 4 | 5 | 3 | 0 |
| 3. Number of kinds of steel casting parts which can be newly produced by supporting industries and which meet the needs of construction machinery industry: 6 kinds of parts. | Status of achievement: Partially Achieved. (Ex-post Evaluation) | | | | | | |
| | [No. of kinds of steel casting parts newly produced for construction machinery manufacturers] | | | | | | |
| | Implementing Agency | Target | 2017 | 2018 | 2019 | 2020 | |
| HINABI | 6 | 3 | 3 | 5 | None | | |
| POLMAN Ceper | | 1 | 1 | 1 | - | | |

Source: Project Completion Report and responses for questionnaire surveys to HINABI, POLMAN Bandung and Tegal Regency

3 Efficiency

Although the project period was within the plan (ratio against the plan: 97%), the project cost exceeded the plan (ratio against the plan: 130%). Outputs were produced as planned. Therefore, the project efficiency is fair.

4 Sustainability

<Policy Aspect>

The government policy supported the domestic production of cast iron parts for the heavy equipment industry. "NATIONAL INDUSTRIAL DEVELOPMENT MASTER PLAN" for the period of 2015-2035 mentions that the machinery and equipment Industry as one of the priority industries. In addition, in Tegal Regency, the programs, including 5R program development, K3 program³ development, Cost calculation program⁴, Basic Manufacture Management⁵ and ISO program development⁶, have enhanced the promotion of the technical services to the supporting industries.

<Institutional/Organizational Aspect>

There have been limited changes in the organizational structure/setting to promote the technical services for the supporting industry of construction machinery introduced by the project. Due to the budget constraint, technical service provision through MIDC did not continue. ILMATE was not well informed about the extension work through MIDC, HINABI, POLMANs and Tegal Regency due to the change and retirement of the staff in charge of the construction industry within ILMATE. The major activities of technical service provisions have been continuously offered by two POLMANs and newly provided through a training center supported by HINABI. Three organizations are expected to continue providing the technical service provisions to the supporting industries of construction machinery. POLMAN Ceper will continue to apply the strategy of the industrial development by applying 30% of theory and 70% of practice. They have 8 teaching staff who manage promoting the technical services for the supporting industries; however, it was informed that there are additional staffing needs to meet the market needs. POLMAN Bandung will focus the improvement of precision casting for the future plan of the technical services. They have 2-3 lecturers in the Department of Foundry Engineering and the number of staff has been sufficient. HINABI has a training centre called "Takumi" which is accessible for their member companies. There are 4 technical staff working at Takumi today and one of their program is in partnership with JITCO (Japan International Trainee & Skilled Worker Cooperation Organization). The DINAS of Tegal Regency has 20 staff members to promote the technical services to SMEs in the regency.

<Technical Aspect>

The staff and the members of POLMAN Bandung have sustained their necessary skills by knowledge sharing and brainstorming between lecturers and students. POLMAN Bandung has tried to maintain and to improve skills and knowledge of the lecturer to meet the standard of education program. However, they have not used the training materials developed by the project because the revisions have been needed to meet the present requirement.

On the other hand, MIDC has utilized the manuals as training materials for casting technology and POLMAN Ceper also responded that the manual produced by the project remains relevant, supplemented by international standard handbooks as a reference to achieve the project target. HINABI has used for the manuals developed by the project for work reference.

At the regency level, 5S⁷ trainings have been conducted for the staff of the DINAS of Tegal Regency in order to sustain skills and knowledge to promote the technical services for the supporting industries.

<Financial Aspect>

According to HINABI, the member companies have kept their budgets for human resource development, including not only specific technical services but also trainings related to the technical capacity development. Also, the two POLMANs of Bandung and Ceper have made efforts to secure their budget for the provisions of the technical services. However, MIDC have not secured the budget for the provision of the technical services because there has been lack of coordination between MIDC and ILMATE regarding the provision of technical service of this project. ILMATE could allocate budget for technical services, if MIDC delivers a proposal for the technical services needed. For the DINAS of Tegal Regency, the budget for the technical service has been allocated from the Regional Revenue and Expenditure Budget of the government of Tegal Regency.

<Evaluation Result>

In the light above, there have been some issues in the institutional/organizational, technical and financial aspects. Therefore, the sustainability of the effects is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and partially achieved the Overall Goal to improve the metalworking technologies of the supporting industry for construction machinery industry through the improved technical services. Regarding sustainability, although there has been a financial constraint to continue the extension work through MIDC, HINABI and two POLMANs as well as Tegal Regency have

³ Introduction on the application of K3 (Occupational Health and Safety/OHS) program.

⁴ Technical training on how to do cost calculation and business management

⁵ Introduction on supply chain of the component in the manufacture industry ecosystem.

⁶ Advisory in the formulation of quality document (pre ISO certification)

⁷ "sort", "set in order", "shine", "standardize", and "sustain"

sustained the necessary knowledge and skills and secured budgets. As for 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:

While HINABI and two POLMANs of Bandung and Ceper have continued the technical services for the supporting industries of construction machinery, MIDC ceased the provision of the technical service. On the other hand, the coverages of the firms by HINABI and POLMANs have been limited by the membership or the geographical demarcation. It is expected that MIDC could play a role in strengthening the standardization and quality control of the parts for construction machinery industries covering across the different geographical locations. Therefore, it is recommended MIDC request ILMATE necessary budget for the technical services for the industries in order to enhance the coverage of the service provision.

Lessons Learned:

While the technical service provisions discontinued at MIDC, the provisions were continued by the two educational institutions and an industry association which had been working closely with the end-beneficiaries. It was anticipated that MIDC would have had difficulty to continuously provide the technical service due to the chronic budget constraint at the time of project planning and the implementing arrangement to deliver the technical service was flexibly changed through the participation of the DINAS of Tegal Regency during the project implementation. That arrangement enhanced effectiveness and sustainability of the technical service delivery. Those institutions have self-generating revenue sources, aside from the governmental support, to continue their activities after the project completion. Thus, it is essential to carefully conduct the stakeholder analysis on the technical service providers at the project formulation and planning stage in order to come up with the sustainable implementing arrangement for the useful technical services for the industries based on the market demand under the ideal collaboration among the key parties, including government authorities, educational institutions, and industrial stakeholders.



Training for Custom Officers at HINABI



Annual Summit of HINABI in 2019

| | |
|--------------------|---|
| Country Name | The Project for Selected Market Centres and Rural Water Supply in Mchinji and Kasungu District |
| Republic of Malawi | |

I. Project Outline

| | | | | |
|---------------------------|---|-----------------|-----------------|--|
| Background | In Malawi, the access to safe water supply was low, especially in rural areas. As the water supply system in market centres, which are centres of local economic activities, still relied on boreholes with hand pumps and traditional shallow wells as in the case of rural areas, the number of water supply points was insufficient to cater for the population. Furthermore, many boreholes were broken down in addition to their general deterioration without any care, lowering the actual water supply rate. The poor state of water supply facilities had serious adverse socio-economic impacts in Malawi, which was closely connected to the development of rural areas, basic education and health care as well as the local economy. | | | |
| Objectives of the Project | The project aimed to improve the local residents' access to safe water in Mchinji and Kasungu districts in Malawi, by construction of piped water supply system in Mkanda area in Mchinji district and Santhe area in Kasungu district, rehabilitating existing boreholes and construction of new boreholes in Mchinji district, and conducting training on awareness raising activities for local people toward operation and maintenance (O&M), thereby contributing to the socio-economic development in the project sites. | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: Mkanda market centre in Mchinji district and Santhe market centre in Kasungu district, water points in Mchinji district 2. Japanese side <ol style="list-style-type: none"> 1) Provision of grant necessary for constructing piped water supply system (Mchinji district: reservoir (1), water distribution facility (1), boreholes (2), common faucet (6), buildings (2); Kasungu district: water tank (1), water distribution facility (1), boreholes (5), common faucet (8), buildings (2)) 2) Provision of grant necessary for rehabilitating existing boreholes and construction of new boreholes (rehabilitation of 280 existing boreholes, construction of 54 new boreholes)* *Equipment for rehabilitation of boreholes was included in the initial plan at the time of the ex-ante evaluation but it was cancelled in the grant actually provided. 3) Technical assistance (soft component of grant aid for O&M of water supply facilities, etc.) 3. Malawian side: land acquisition, convening participants in the training provided by the soft component | | | |
| Project Period | E/N Date | August 30, 2012 | Completion Date | July 9, 2015 (completion date of the soft component) |
| | G/A Date | August 30, 2012 | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: 563 million yen, Actual Grant Amount: 562 million yen | | | |
| Executing Agency | Ministry of Agriculture, Irrigation and Water Development (MOAIWD)* *MOAIWD during the project. Ministry of Water Development and Irrigation (MOWDI) at the time of the ex-ante evaluation and reorganized into the Ministry of Forestry and Natural Resources in July 2020. | | | |
| Contracted Agencies | Main Contractor: Koken Boring Machine Co., Ltd. Main Consultant: Eight-Japan Engineering Consultants Inc. | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

• In this Ex-Post Evaluation, an evaluation judgment was made primarily by analyzing information acquired by sending and collecting questionnaires, and through telephone and e-mail interviews with persons concerned due to the impact of the COVID-19. Field survey was not conducted.

<Special Perspectives Considered in the Ex-Post Evaluation>

• In the Ex-ante Evaluation Sheet, (i) decrease of water-borne diseases and (ii) increase of education opportunities for children and employment opportunities for women through decreased labor of fetching water were listed as qualitative effects. Since these effects are considered as logical consequences of the improved access to safe water, this ex-post evaluation verified them as impacts. As more direct qualitative effects of this project before reaching the defined qualitative effects, the frequency of malfunction of water facilities, including the status of operation and maintenance activities of Water Point Committees (WPC), which is mentioned in the Preparatory Survey Report, and the status of labor of fetching water, which is mentioned as a prerequisite of the (ii) above, were additionally examined to evaluate effectiveness (supplemental information 1 and 2, respectively).

• Due to the electricity issue, the project completion was delayed. As a result, the target year for the Effectiveness, which is three years after the project completion as stated in the ex-ante evaluation sheet, is shifted to 2018.

1 Relevance

<Consistency with the Development Policy of Malawi at the Time of Ex-Ante Evaluation>

In the Malawi Growth and Development Strategy (MGDS) I (2006-2011), emphasis was placed on the development of small-scale towns and market centres in rural areas. In MGDS II (2011-2016), water resource development was listed as one of the key priority areas.

<Consistency with the Development Needs of Malawi at the Time of Ex-Ante Evaluation >

The Government of Malawi promoted construction of boreholes nationwide. At the same time, however, it was found that many boreholes had broken down without any care in addition to their general deterioration, lowering the actual water supply rate.

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

One of the two priority areas of Japan's assistance for Malawi was improvement of basic social services and in water sector, renovation of the facilities and enhancement of their management system were mentioned¹.

<Evaluation Result>

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

¹ Source: Ministry of Foreign Affairs, "ODA Country Data Book in 2012", "Country Assistance Policy for the Republic of Malawi" in April 2012.

2 Effectiveness/Impact

<Effectiveness>

The objective of the project has been achieved. The population served with safe water through rehabilitation and construction of boreholes reached the target, and the total population receiving safe water supply, through both piped water and boreholes, significantly increased. In addition, sufficient qualitative effects have been observed. With these facts, it is considered that the objective of the project has been achieved. All the planned facilities have been completed and utilized in good condition, according to monitoring reports by Central Region Water Board (CRWB) and monthly reports by WPCs to District Water Officer. Regarding the quantitative effects, the served population through construction of piped water supply system (Mchinji district and Kasungu district) has been increased, almost twice as the served population before the project, although it has not reached the target in the target year and at the time of ex-post evaluation. (Quantitative Indicator 1). As the water tariff has been considerably increased since the ex-ante evaluation, some community people found running individual connections expensive and have reservations in owning their own water connection². Furthermore, while they use the water from the common faucets for drinking, they use unprotected water sources for other purposes like washing clothes. The number of served population through rehabilitation and construction of boreholes in Mchinji district reached the target as the boreholes were constructed and rehabilitated as planned³, (Quantitative Indicator 2). Regarding the qualitative effects, as a result of the soft component, WPC has been newly established to each borehole constructed by the project (total: 54). Out of 54 WPCs established, about 10% of the WPCs are not active while 90% implement their duties actively and appropriately. Active WPCs have records of the households who contribute the water tariffs as well as records on how they use the money⁴ and it is considered that the O&M capacity of WPCs has been improved. In addition, due to availability of multiple boreholes, malfunction of boreholes has decreased, as pumps are given a break in operation (supplemental information 1). Even if some pumps malfunctioned, they were replaced thanks to the improved O&M capacity. In addition, the labor of fetching water has been decreased (supplemental information 2). Most people, especially women, girls, and the elderly, can now access water at closer distances than before.

<Impact>

Various positive impacts are observed as expected. As to the education opportunity for children, due to decreased travel time and distance to water sources, more children now have a chance to go to school in good time and active since they do not hustle travelling long distances fetching water as it was previously when they were going to school already tired., according to the questionnaire to the Mchinji District Water Office, although the District Water Office has not specifically conducted a detailed quantitative survey to ascertain this. Regarding the employment opportunity for women, as time spent on fetching water has reduced greatly since the provision of the boreholes, now recovered time is spent on other economic activities. Some women have benefitted in terms of increased business opportunities in relation to water supply. For example, the increased number of hand pumps has enabled some women who work as Area Mechanics to earn additional income as entrepreneurs because they have some ample time to do other economic generating activities since water points are easily reachable and they spend less energy and time to fetch water. In addition, access to safe water has reduced the disease burden that caused school children to miss classes and also some mothers to stay home nursing their sick children. As a result of the improved water supply, no health issues caused by the water supply have been reported or recorded since the commissioning of the project and no outbreak of any water-borne diseases has been recorded. With all these facts, the qualitative effects defined at the ex-ante evaluation have been observed, although the indicators may involve some factors other than the project. No negative impacts have been reported. The project entailed land acquisition but CRWB worked in cooperation with District Offices using the applicable Land Laws to administer compensation and land acquisition according to the laws of Malawi.

<Evaluation Result>

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

Quantitative Effects

| Indicators | | Baseline 2010 Baseline Year | Target 2017 3 Years after Completion | Actual 2015 Completion Year | Actual 2018 3 Years after Completion | Actual 2020 5 Years after Completion |
|--|---|-----------------------------------|---|-----------------------------------|---|---|
| Population receiving safe water supply (persons) | Indicator 1: Construction of piped water supply system in Mkanda (Mchinji district) and Santhe (Kasungu district) | 5,250 | 14,536* | No information | 9,238 | 9,789 |
| | Indicator 2: Rehabilitation and construction of boreholes in Mchinji district | 52,250 | 83,500 | 56,000 | 73,480 | 85,170 |

* This figure is the planned figure for 2020 in line with the design target year.

Source : Ex-ante Evaluation Sheet, Questionnaire to MOAIWD, CRWB, and District Water Office in Kasungu and Mchinji

3 Efficiency

² During the Detailed Planning Study, it was estimated that approximately 80% of population were willingly to pay the water tariff and use the piped water facilities. The water tariff at that time (in 2010) was MK400/ Cubic meter. However, currently the water tariff is MK700/Cubic meter, which greatly affected the number of population using the water supply facilities. This fact is taken into consideration in evaluation judgment of effectiveness/impact.

³ During the Detailed Planning Study, the target was calculated with the population basis of 250 per borehole. In the actual statistics, per borehole was set as 220 in 2018 and 255 in 2020. With this calculation basis, although the actual data in 2018 (target year) was slightly below the target set at the Detailed Planning Study, because of the population per borehole set below the planned target, it is considered that the target was completely achieved in the target year since all the boreholes were constructed and rehabilitated as planned.

⁴ The project was partly benefitted from another technical cooperation project (Project for Enhancement of Operation and Maintenance for Rural Water Supply), which in a way strengthened O&M as a part of intervention.

While the project cost was within the plan, the project period significantly exceeded the plan (ratio against the plan: 100% and 164%, respectively). A part of planned output i.e., equipment for rehabilitation of boreholes, was cancelled⁵. The project period was extended due to the preparation of electricity required for the project. For the project to run there was need for electricity at the sites, but unfortunately the sites were not electrified at the time the project was supposed to start and it took some time for Electricity Supply Commission of Malawi (ESCOM) to connect the sites. After connection of electricity the transformers developed faults, which delayed the project further. Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional/Organizational Aspect>

The organizational structure related to water, sanitation and hygiene (WASH) is well developed among relevant agencies. At MOAIWD, under Water Supply and Sanitation Services, there are divisions responsible for Planning, Design, and Construction (PDC) and for Operations and Maintenance, Monitoring and Evaluation (OMME). District Coordination Teams (DCT) are responsible for implementation at district level following the national policy guidelines. The DCT comprises the Director of Planning & Development (DPD), the District Water Development Officer (DWDO), the District Monitoring & Evaluation (M&E) Officer and other officers. However, the number of government staff is not sufficient at the district level, and the overall leadership, monitoring and follow-up of the activities of WASH is affected. CRWB is responsible for actual implementation of O&M of piped water supply system and metered boreholes which were constructed by the project.

<Technical Aspect>

The staff at relevant agencies have the technical capacity to manage the water supply points and to train WPCs. Most WPCs have the capacity to maintain the water points. For WPCs, there are training manuals for O&M for boreholes which include repairing of the boreholes when they develop a fault, as well as bookkeeping to make sure that they have enough money to buy spare parts to maintain the boreholes. Trainings are provided for WPCs and shop owners who sale spare parts. These trainings are supposed to be implemented yearly not only for new members who join the committees, but also for old members to refresh the knowledge. The trainings are not sufficiently implemented at Mchinji district due to the lack of funding for refresher courses to the WPC. However, when choosing committee members, some old members usually teach new members how they manage the boreholes. The manuals provided by the project have been utilized in both Kasungu district and Mchinji district.

<Financial Aspect>

At the district level agencies, in both Kasungu district and Mchinji district, the government funds to cater for refresher trainings and monitoring for WPCs are not sufficient, but daily activities are conducted without major problem. In communities, most WPCs are collecting fee from the community and the O&M is conducted without major problem although there is no government funding. Financial management has been a challenge to some of the WPCs.

<Current Status of Operation and Maintenance>

O&M activities are conducted as planned at both Kasungu district and Mchinji district. However, some water users in communities have been experiencing financial challenges to contribute to O&M because adverse climatic conditions (droughts and dry spells) have affected their earnings from farm production. The situation has been made worse by the COVID-19, which, too, is eroding people's income earning opportunities at the moment. WPCs have the technical skills for simple faults but if the problem is complicated, Area Mechanics are involved to help them, which usually needs some budget since they have to pay the Area Mechanics and to buy a spare part to replace the damaged part, if any. Therefore, securing financial bases is an issue at WPCs. Moreover, the spare parts supply chain is not properly coordinated at the district level.

<Evaluation Result>

Slight problems have been observed in terms of the institutional/organizational aspect, financial aspect, and current status. Therefore, sustainability of the project effects is fair.

5 Summary of the Evaluation

The project achieved the objective of improved access by local residents to safe water. The number of served population through the constructed and rehabilitated boreholes has reached the target, the O&M capacity of WPCs has been improved, and malfunction of boreholes has been reduced. Regarding the sustainability, sustainability is high in technical aspect, but slight problems are observed in the institutional/organizational, financial aspects and current status, as the number of staff at relevant agencies is not sufficient and the budget for refresher training and O&M is not sufficient. As for the efficiency, the project period significantly exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

- It was found out that there is the issue of lack of funding for O&M component in boreholes at district level agencies. Hence the government of Malawi should consider putting aside some budget to enhance sustainability of the project interventions. MOAIWD should ensure that the district could receive funding especially for O&M of rural water supply system which will enable the district staff to supervise and monitor the WPCs more often. Strengthening of funding would also enable the staff to conduct refresher courses for the WPCs.

Lessons Learned for JICA:

- During the implementation of O&M for rural water supply facilities in targeted sites of the project, it was noted that neighbouring villages began to copy the concept and replicate the activities in their villages without formal trainings as they saw the activities were useful and wanted to introduce in their own villages. This has demonstrated that the experiences of the project can be expanded easily and reached out to many communities and the concept is good and easy for locals to operate. Activities in the neighbouring villages go partially well, though not completely, and they are able to maintain the boreholes through contributions, which they contribute only when the borehole develops a fault and, the issues of bookkeeping are not well taken care of. The trainings provided by the project emphasized the importance

⁵ The planned cost included the cost of equipment for rehabilitation of boreholes (21 million yen), however the equipment for rehabilitation of boreholes was not actually included in the grant as adjustment against the change of exchange rate.

of monthly contributions and proper bookkeeping, which has been helpful to secure the capacity of the maintenance.

- The project did not achieve one of the quantitative indicators, due to the increased water tariff and the changed economic situations, which affected people's capacity to pay the connection fee. To appropriately verify the project effects and effectively take measures for future sustainability after project completion, it is necessary to carefully define indicators taking various factors into consideration, such as economic projection, including water tariff, and people's willingness and capacity to utilize the facilities to be constructed. It is also necessary to consider the possibility that people's willingness to utilize the facilities may be affected by these economic and social conditions.

- The ex-post evaluation revealed that some community people still have reservations in owning their own water connection, because most of the people are afraid of connection fees. In this regard, it may be effective to lobby with implementing agency (in this case CRWB) to make connections free, to attract more people to connect, with careful consideration of the current status and policy at the implementing agencies.



Molosiyo No. 2 Water Point in Mchinji, one of the boreholes constructed by the project. WPC has benefitted from the O&M training during the project.



Water tank at Santhe market centre in Kasungu constructed by the project

Internal Ex-Post Evaluation for Technical Cooperation Project and Grant-Aid Project combined

conducted by Laos Office: April, 2021

| | |
|----------------------------------|--|
| Country Name | Technical Cooperation Project (TC): Project for Strengthening Integrated Maternal, Neonatal, and Child Health Services in Lao PDR |
| Lao People's Democratic Republic | Grant-Aid Project (GA): Project for Strengthening Health Service Network in Southern Provinces |

I. Project Outline

| | |
|------------|--|
| Background | <p>In Laos, although the Maternal Mortality Rate (MMR) and the Under-5 Mortality Rate (U5MR) were improved, the indicators remained at the highest level in the Southeast Asian countries. According to the Population and Housing Census 2005, MMR was 405 per 100,000 live births and U5MR was 98 per 1,000 live births. In particular, MMR and U5MR of the four southern provinces, Champasak, Salavan, Sekong and Attapeu, were higher than the national average. The main causes were the limited access to the basic health services due to the underdeveloped transport infrastructure and cultural barriers and the low quality health service distrusted by the people. Under those situations, the extension of the health services to cover remote areas was the urgent issues for the four provinces. On the other hand, for better provision of Maternal and Child Health (MCH) services, the Ministry of Health prepared “the Health Strategy 2020” and promoted integration of services under the MCH Program and the Expanded Program on Immunization (EPI) as well as integration of coordination mechanism for service promotion. Many donors, including JICA, supported packaging of the Maternal, Neonatal and Child Health service (the Integrated MNCH Package).</p> |
|------------|--|

[TC Project]

| | | | | | | | | | |
|--|---|---------------|---|---------------------------------|--------------------------------|----------------------------------|---|--|--|
| Objectives of the Project | <p>Through capacity development of district health offices (DHOs) and health centers (HCs) for delivery of the integrated MNCH service package and enhancement of technical supervisions for DHOs and HCs, the project aimed at improvement of the coverage of MNCH services in the target southern provinces, and thereby contributing to reduction of maternal, neonatal and child mortality in the target southern provinces.</p> <ol style="list-style-type: none"> Overall Goal: Maternal, neonatal and child mortality is reduced in the four southern provinces, i.e. Champasak, Salavan, Sekong and Attapeu. Project Purpose: Coverage of the maternal neonatal and child health (MNCH) services is improved in the four southern provinces | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Four southern provinces of Champasak, Salavan, Sekong, and Attapeu. Main activities: i) Preparation of Provincial and District MNCH Annual Plans and provision of technical supervisions to DHOs by Provincial Health Office (PHOs) and to HCs by DHOs, ii) Delivery of trainings of Skilled Birth Attendant (SBA) for staff of district hospitals (DHs) and HCs and trainings of the outreach activities under the integrated MNCH service package for staff of DHOs and HCs, iii) Delivery of trainings of IEC (Information, Education and Communication) activities for staff of DHO and HCs and implementation of the IEC activities, etc.. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Lao Side</td> </tr> <tr> <td>1) Experts: persons: 15 persons</td> <td>1) Staff allocated: 81 persons</td> </tr> <tr> <td>2) Trainees received: 24 persons</td> <td>2) Land and facilities: Office spaces in PHOs in Champasak, Salavan, Sekong and Attapeu</td> </tr> <tr> <td>3) Equipment: Vehicles, PCs, Delivery beds, maternal health care tools, etc.</td> <td>3) Operation cost: cost for water supply, electricity, gas, office furniture, other running expenses</td> </tr> </table> | Japanese Side | Lao Side | 1) Experts: persons: 15 persons | 1) Staff allocated: 81 persons | 2) Trainees received: 24 persons | 2) Land and facilities: Office spaces in PHOs in Champasak, Salavan, Sekong and Attapeu | 3) Equipment: Vehicles, PCs, Delivery beds, maternal health care tools, etc. | 3) Operation cost: cost for water supply, electricity, gas, office furniture, other running expenses |
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| 3) Equipment: Vehicles, PCs, Delivery beds, maternal health care tools, etc. | 3) Operation cost: cost for water supply, electricity, gas, office furniture, other running expenses | | | | | | | | |
| Project Period | May, 2010 – May, 2015 | Project Cost | (ex-ante) 410 million yen, (actual) 359 million yen | | | | | | |
| Implementing Agency | Ministry of Health, Provincial Health Offices (PHOs) and District Health Offices (DHOs) in provinces of Champasak, Salavan, Sekong and Attapeu | | | | | | | | |
| Cooperation Agency in Japan | National Center for Global Medicine | | | | | | | | |

[GA Project]

| | |
|---------------------------|---|
| Objectives of the Project | <p>To improve access of primary health care, including the integrated maternal and child health services and health facilities and environment in the target provinces by provision of equipment for the district hospitals, new construction and renovation of health centers and staff houses, thereby contributing to enhancement and quality improvement of health service.</p> |
| Contents of the Project | <ol style="list-style-type: none"> Project Site: Provinces of Champasak, Salavan, Sekong, and Attapeu Japanese side: <ol style="list-style-type: none"> Construction of wells (21 sites) Construction and renovation of health centers and staff houses (47 sites) Procurement of equipment for health centers and district hospitals (delivery beds, delivery tools, auto craves, motorbikes etc.) (73 sites) Lao side: <ol style="list-style-type: none"> Securing the necessary land, |

| | | | | |
|---------------------|---|----------------|--------------------------------------|--|
| | ii) Securing UXO (Unexplored Ordinance)-free certificate iii) Site clearance iv) Connection of electric power, v) Provision of furniture and household equipment for staff houses, etc. | | | |
| Project Period | E/N Date | March 26, 2013 | Completion Date | January 7, 2016 (Handover of equipment of the lot 4 for the 3 rd batch) |
| | G/A Date | March 26, 2013 | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: 741 million yen | | Actual Grant Amount: 736 million yen | |
| Executing Agency | Department of Health Care, Ministry of Health | | | |
| Contracted Agencies | Main Contractor(s): (Construction of wells) Lot 1 and Lot 2: Phounethavy Construction Co., Ltd., (Construction of health centers) Lot 1: Sokxaisana Construction Co., Ltd., Lot 2 and Lot 3: Vannavong Constuction Ltd., Lot 4: ST Construction Co., Ltd., Lot 5: Samakhixay Construction Co., Ltd., Lot.6 Khamphouang Construction Co., ltd. Lot 7 Sokxaisana Construction Co., Ltd., Lot 8 Samakhixay Construction Co., Ltd., Lot 9 Khamphouang Construction Co., Ltd., Additional batch: Khamphouang Construction Co., Ltd., (Procurement of equipment) a) Medical equipment: (Batch 2) Lao Medical Services Co., Ltd., (Batch 3) CBF Pharma Co., Ltd., b) Motorbikes: (Batch 2 and 3) Santiphap Suzuki Lao Factory, c) Nameplate: (Batch 2 and 3) Central Sign-Trading Co., Ltd. Main Consultant(s): Oriental Consultants Global Co., Ltd, Fujita Planning Co., Ltd. (Joint Venture) | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

[Evaluation Framework]

This study evaluated the TC and GA projects together in the following way: for Relevance, evidence is confirmed for each project, based on which the two projects are evaluated as combined; for Effectiveness/Impact, the status of achievement of the project objectives was judged for each project using each whole set indicators mentioned in the terminal evaluation report (TC) and the Ex-ante Evaluation Sheet (GA), based on which the two projects are evaluated as combined; for Efficiency, plan vs actual comparison is made for each project, based on which the two projects are evaluated as combined; for Sustainability, the two projects are evaluated as combined.

[Continuation status of the Project Effects (Indicators for the Project Purpose of TC) and the Quantitative Effects and the Expected Impact by the GA Project]

Two indicators for the quantitative effects of the GA project, (Ante Natal Care (ANC) and Measles vaccination coverage) overlap with the indicator for the Project Purpose of the TC project. Those indicators were verified as the continuation of the Project Effects of the TC project because the coverage of HCs by the TC project was larger than the GA project but it was necessary to carefully analyze effects of the newly constructed HCs by the GA project on the changes in ANC and measles vaccination coverage. In addition, the expected impact by the GA project is “enhancement and improvement of health services” which is not clearly defined by any quantitative indicators but it can be interpreted as “enabling provision of the integrated MNCH services”. Therefore, the expected impact by the GA project was verified as a part of the continuation of the project effects by the TC project.

[Verification of achievement level of the Overall Goal]

The Overall Goal of the TC project is reduction of maternal and child mortality in the four target provinces. It was assumed that the GA project would have contributed to improvement of the MNCH services which was expected to improve the maternal and child health and to reduce the maternal and child mortality indirectly. Therefore, the Overall Goal of the TC project can be considered as a part of the indirect impacts by the GA project.

*Although the target value for U5MR is 55% by project design, U5MR should be expressed as “per 1,000 live birth” instead of percentage, the ex-post evaluation use “per 1,000 live birth”.

1 Relevance

<Consistency with the Development Policy of Lao PDR at the Time of Ex-Ante Evaluation (TC project) (GA project)>

The TC project was consistent with the Lao PDR’s development policies, including the “Strategy and Planning Framework for the Integrated Package of Maternal, Neonatal and Child Health Service” (2009-2015) and the “Skilled Birth Attendance Development Plan” (2008-2012) prioritizing improvement of the integrated package of MNCH services in particular in rural areas at the time of ex-ante evaluation.

The GA project was also consistent with the Lao PDR’s development policies prioritizing MCH, such as the “Strategy and Planning Framework for the Integrated Package of Maternal, Neonatal and Child Health Service” (2009-2015) and “The 7th National Health Sector Development Plan” (2011-2015) at the time of ex-ante evaluation.

<Consistency with the Development Needs of Lao PDR at the Time of Ex-Ante Evaluation (TC project) (GA project)>

The TC project and the GA project were consistent with the needs of improvement of maternal and child health in the target provinces through improvement of quality and access to MNCH service as mentioned in the background.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation (TC Project) (GA Project)>

The TC project was consistent with the “Country Assistance Program for Laos” (2006) prioritizing six areas such as support for improvement of health services including maternal and child health services in order to attain the Millennium Development Goals (MDGs) of 4 and 5.

The GA project was consistent with the “Country Assistance Policy for Laos” (2012) to support improvement of health services including MCH service in order to attain MDGs as one of the priority areas.

<Evaluation Result>

In light of the above, the relevance of the projects as combined is high.

2 Effectiveness/Impact

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

The Project Purpose was partially achieved at the time of project completion. In Champasak, Salavan and Attapeu, 9 out of 16 service coverage indicators achieved 80% of the MDG target. 8 indicators in Sekong achieved the 80% of the target.

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

The project effects have been partially continued since the project completion. The service coverage indicators in the four target provinces have been partially improved. Although the limited number of those indicators achieved the target of 2015 in the year of 2015, many indicators have improved and reached and/or exceeded the target of 2015 in the four target provinces in the year of 2018. In particular, the proportion of the pregnant women with ANC and the proportion of facility delivery and the birth assisted by health professionals have been improved to the target of 2015. The contraceptive prevalence rate in the four target provinces and Vitamin A distribution have been sustained at around the target of 2015 or further improved from the target of 2015. The immunization coverage for Measles rubella and Hep B improved in 2018 from the level in 2015. On the other hand, the proportion of women with PNC has limitedly improved and the coverage rate of Tetanus toxoid vaccine for pregnant women decreased in the four target regions. Also, the improvement level of those indicators has been slower in Sekong. Those improvements can be attributed to continuous implementation of the integrated outreach activities conducted by HCs and the education events by the health facilities which had been introduced by the TC project.

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

The Overall Goal has been achieved at the time of the ex-post evaluation. U5MR in the target four provinces greatly improved from the baseline data in 2005 to the data for the period from 2015 to 2018 and attained the target of 2015 (Indicator 1). The number of maternal deaths in the target four provinces shows the downward trend though it had fluctuated year by year (Indicator 2). According to the interviews with PHOs, DHOs, DHs and HCs, the project contributed to the improvements of child and maternal mortality through capacity development of health staff by the TC project as well as the construction of the health facilities by the GA project.

Table 1: Achievement of Project Purpose and Overall Goal of the TC Project

| Aim | Indicators | Results | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|----------------------------------|---|----------------|----------------|----------------|--|--|--|-----------|---------|-----------|---------|----------------------------------|---------|----------------------------------|----|------|----|--------------------|----------------------------------|--------------------|----------------------------------|----|------|--|------|--|----|------|------|-----------------------------------|------|--------------------------------------|----|-------|------|----------------------|------|----|----|----|----|---|----|----|----|----|----|------------------------------|----------|------------|------------|----------|---------|--|----------------|----------------|----------------|----------------|----------------|--|----|----|----|----|----|--|----|----|----|----|----|
| (Project Purpose) Coverage of the maternal neonatal and child health (MNCH) services is improved in the four southern provinces | Selected service coverage indicators for monitoring the integrated MNCH Strategy reach the target value of 2015: 1. Contraceptive Prevalence Rate 2. Antenatal Care (ANC) 1/ANC 4 3. TT for pregnant women 4. Iron tablet for pregnant women 5. Facility delivery 6. Birth assisted by health professionals 7. Postnatal Care (PNC) 1 week, 6 weeks 8. PNC Vitamin A* 9. Immunization coverage for Children, 10. Vitamin A deworming for children | Status of the Achievement: partially achieved (partially continued) (Project Completion) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>Target 2015</th> <th colspan="4">2014</th> </tr> <tr> <th></th> <th></th> <th>Champasak</th> <th>Salavan</th> <th>Sekong</th> <th>Attapeu</th> </tr> </thead> <tbody> <tr> <td>1. Contraceptive Prevalence Rate</td> <td>55</td> <td>71</td> <td>55</td> <td>63</td> <td>68</td> </tr> <tr> <td>2. ANC 1/ ANC 4</td> <td>60 *For 2018: 86.2 (ANC 1)</td> <td>75</td> <td>80</td> <td>75</td> <td>64</td> </tr> <tr> <td>3. Tetanus toxoid vaccine (TT 2+) for pregnant women</td> <td>80</td> <td>38</td> <td>25</td> <td>19</td> <td>56</td> </tr> <tr> <td>4. Iron tablet for pregnant women</td> <td>75</td> <td>N.A.</td> <td>80</td> <td>108</td> <td>63</td> </tr> <tr> <td>5. Facility delivery</td> <td>30</td> <td>43</td> <td>34</td> <td>26</td> <td>21</td> </tr> <tr> <td>6. Birth assisted by health professionals</td> <td>50</td> <td>53</td> <td>41</td> <td>28</td> <td>27</td> </tr> <tr> <td>7. PNC 1 week PNC 6 weeks</td> <td>50 60</td> <td>N.A. 55</td> <td>N.A. 55</td> <td>23 53</td> <td>7 18</td> </tr> <tr> <td>8. Immunization coverage for children DTP1 (Penta 1) Polio 1</td> <td>95 95 95</td> <td>80 74 74</td> <td>80 74 74</td> <td>59 71 71</td> <td>80 86 86</td> </tr> <tr> <td>9. Vitamin A distribution children <5 years (Round 1)</td> <td>95</td> <td>82</td> <td>82</td> <td>97</td> <td>95</td> </tr> <tr> <td>10. % Children 12-59 months received Deworming (Round 1)</td> <td>95</td> <td>82</td> <td>82</td> <td>97</td> <td>98</td> </tr> </tbody> </table> | | Target 2015 | 2014 | | | | | | Champasak | Salavan | Sekong | Attapeu | 1. Contraceptive Prevalence Rate | 55 | 71 | 55 | 63 | 68 | 2. ANC 1/ ANC 4 | 60 *For 2018: 86.2 (ANC 1) | 75 | 80 | 75 | 64 | 3. Tetanus toxoid vaccine (TT 2+) for pregnant women | 80 | 38 | 25 | 19 | 56 | 4. Iron tablet for pregnant women | 75 | N.A. | 80 | 108 | 63 | 5. Facility delivery | 30 | 43 | 34 | 26 | 21 | 6. Birth assisted by health professionals | 50 | 53 | 41 | 28 | 27 | 7. PNC 1 week PNC 6 weeks | 50 60 | N.A. 55 | N.A. 55 | 23 53 | 7 18 | 8. Immunization coverage for children DTP1 (Penta 1) Polio 1 | 95 95 95 | 80 74 74 | 80 74 74 | 59 71 71 | 80 86 86 | 9. Vitamin A distribution children <5 years (Round 1) | 95 | 82 | 82 | 97 | 95 | 10. % Children 12-59 months received Deworming (Round 1) | 95 | 82 | 82 | 97 | 98 |
| | | | Target 2015 | 2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Champasak | Salavan | Sekong | Attapeu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1. Contraceptive Prevalence Rate | 55 | 71 | 55 | 63 | 68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2. ANC 1/ ANC 4 | 60 *For 2018: 86.2 (ANC 1) | 75 | 80 | 75 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 3. Tetanus toxoid vaccine (TT 2+) for pregnant women | 80 | 38 | 25 | 19 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4. Iron tablet for pregnant women | 75 | N.A. | 80 | 108 | 63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 5. Facility delivery | 30 | 43 | 34 | 26 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6. Birth assisted by health professionals | 50 | 53 | 41 | 28 | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7. PNC 1 week PNC 6 weeks | 50 60 | N.A. 55 | N.A. 55 | 23 53 | 7 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 8. Immunization coverage for children DTP1 (Penta 1) Polio 1 | 95 95 95 | 80 74 74 | 80 74 74 | 59 71 71 | 80 86 86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 9. Vitamin A distribution children <5 years (Round 1) | 95 | 82 | 82 | 97 | 95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 10. % Children 12-59 months received Deworming (Round 1) | 95 | 82 | 82 | 97 | 98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | (Ex-post Evaluation) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th></th> <th>Target 2015</th> <th colspan="4">2018</th> </tr> <tr> <th></th> <th></th> <th>Champasak</th> <th>Salavan</th> <th>Sekong</th> <th>Attapeu</th> </tr> </thead> <tbody> <tr> <td>1. Contraceptive Prevalence Rate</td> <td>55</td> <td>54.4</td> <td>71</td> <td>60.9</td> <td>84.6</td> </tr> <tr> <td>2. ANC 1/ ANC 4</td> <td>60 *For 2018: 86.2 (ANC 1)</td> <td>90</td> <td>92.4</td> <td>72.7</td> <td>70.6</td> </tr> <tr> <td>3. Tetanus toxoid vaccine (TT 2+) for pregnant women</td> <td>80</td> <td>36.8</td> <td>11.9</td> <td>14.5</td> <td>35.3</td> </tr> <tr> <td>4. Iron tablet for pregnant women 90</td> <td>75</td> <td>102.2</td> <td>84.2</td> <td>53.8</td> <td>71.2</td> </tr> </tbody> </table> | | Target 2015 | 2018 | | | | | | Champasak | Salavan | Sekong | Attapeu | 1. Contraceptive Prevalence Rate | 55 | 54.4 | 71 | 60.9 | 84.6 | 2. ANC 1/ ANC 4 | 60 *For 2018: 86.2 (ANC 1) | 90 | 92.4 | 72.7 | 70.6 | 3. Tetanus toxoid vaccine (TT 2+) for pregnant women | 80 | 36.8 | 11.9 | 14.5 | 35.3 | 4. Iron tablet for pregnant women 90 | 75 | 102.2 | 84.2 | 53.8 | 71.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Target 2015 | 2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Champasak | Salavan | Sekong | Attapeu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1. Contraceptive Prevalence Rate | 55 | 54.4 | 71 | 60.9 | 84.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | 3. Tetanus toxoid vaccine (TT 2+) for pregnant women | 80 | 36.8 | 11.9 | 14.5 | 35.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4. Iron tablet for pregnant women 90 | 75 | 102.2 | 84.2 | 53.8 | 71.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*PNC Vitamin A was excluded because WHO changed their recommendations on the maternal health.

| | | | | | | | | |
|---|---|---|---------------|------------------|-------|------|-------|------|
| | | 5. Facility delivery | 30 | 48.3 | 50.7 | 41.3 | 31.9 | |
| | | 6. Birth assisted by health professionals | 50 | 57.6 | 52.2 | 43.9 | 34.5 | |
| | | 7. PNC 2 days | 50 | 31 | 48.3 | 39.1 | 35.7 | |
| | | PNC 3-42 days | 60 | 37.7 | 39.7 | 37.2 | 35 | |
| | | 8. Immunization coverage for children Measles rubella | 95 | *For 2018: 85.1% | 84.9 | 90.1 | 66.2 | 74.9 |
| | | DTP1 (Penta 1) | 95 | 88.8 | 89.8 | 70.1 | 81 | |
| | | DTP3 (Penta 3) | | 93.8 | 92.5 | 72 | 81.7 | |
| | | Polio 1 | 95 | 88.7 | 89.8 | 69.5 | 85.7 | |
| | | Polio 3 | | 93.2 | 92.8 | 71.5 | 84.5 | |
| | | BCG | 95 | 76.7 | 85.4 | 70.9 | 70 | |
| | | Hep B | 65 | 49.5 | 63.8 | 46.1 | 34.6 | |
| | | 9. Vitamin A distribution children <5 years (Round 1) | 95 | 81.3 | 104.3 | 83.3 | 74 | |
| | | Vitamin A distribution children <5 years (Round 2) | 95 | 66.9 | 120.1 | 44.1 | 63.8 | |
| | | 10. % Children 12-59 months received Deworming (Round 1) | 95 | 82.5 | 169.5 | 88.6 | 102.8 | |
| (Overall Goal) Maternal, neonatal and child mortality is reduced in the four southern provinces, i.e. Champasak, Slavan, Sekong and Attapeu. | Indicator 1. Under five mortality rates are reduced to 55 per 1,000 live birth by 2015 and maintained at the same level in 2020 in the target four provinces. (Baseline: LRHS 2005) | Status of the Achievement: Achieved. (Ex-post Evaluation) [U5MR] | | | | | | |
| | | | Baseline 2005 | Target 2015 | 2015 | 2016 | 2017 | 2018 |
| | | Champasak | 88 | 55 | 6 | 19 | 34 | 30 |
| | | Salavan | 56 | 55 | 18 | 29 | 30 | 31 |
| | | Sekong | 59 | 55 | 4 | 10 | 10 | 14 |
| | | Attpeu | 91 | 55 | 5 | 25 | 24 | 19 |
| | Indicator 2. Number of maternal deaths in the target four provinces turns to decreasing trend. | Status of the Achievement: Achieved. (Ex-post Evaluation) [Number of maternal deaths] | | | | | | |
| | | | 2015 | 2016 | 2017 | 2018 | | |
| | | Champasak | 8 | 12 | 8 | 6 | | |
| | | Salavan | 13 | 2 | 3 | 3 | | |
| | | Sekong | 10 | 5 | 14 | 8 | | |
| | | Attpeu | 7 | 3 | 4 | 6 | | |
| | | Total | 38 | 22 | 29 | 23 | | |

Source: Preparatory Survey Report of the GA project; Terminal Evaluation Report of the TC project; Data provided by PHOs, DHOs, DHs, HCs in Champasak, Salavan, Sekong and Attapeu.

[GA Project]

<Effectiveness>

The project objectives have been partially achieved at the time of ex-post evaluation. The proportion of the population covered by the newly constructed HCs in the four target provinces has not reached as a whole of the four target provinces nor each target province (Indicator 1). That might be due to the overestimated total population for year from 2016 to 2018 and problems of accessibility of the population in the target remote areas to HCs either by car or motorbikes. In addition, the lower proportion than the target value may be caused by the limited outreach and educational activities in the remote areas with difficult access, the insufficient budget allocation for those activities, and their customarily believes and traditionally behavior. On the other hand, the number of outpatients in the four target provinces dramatically increased and reached to the target value in 2018 (Indicator 2). The HCs constructed by the GA project and facilities and equipment installed by the GA project have been in good conditions to provide the MCH services. The improvement of health facilities and the health staff, in particular the increase in the number of skilled birth attendants, contributed to the increase in the number of outpatients.

The qualitative effects, which were expected improvements of the MCH services, have been achieved. The solar power systems which were installed in the HCs in Sekong and Attapeu only, have not been utilized anymore because the most of HCs have been connected to the national electricity grid. However, before that, the solar power system functioned for the medical treatment and services in the night time as well as for the storage of vaccines. Those solar power systems have been officially transferred to other HC or utilized for other purposes such as lighting. The water supply system constructed by the GA project have been utilized and improving hygiene environment of the target HCs.

<Impact>

As mentioned above, the health services at the four southern provinces as well as for mother and neonatal health services have been greatly improved at the time of ex-post evaluation study. Those circumstances can be attributed to improvement of the quality and availability of health facilities provided through the GA project in addition to the capacity development of the health staff by the TC

projects.

Table 2: Quantitative Effects of the GA project

| | Baseline before the Project (2009/2010) | Target Value (2018) | Actual 2016 | Actual 2017 | Actual 2018 |
|--|---|---------------------------|----------------|----------------|----------------|
| (Indicator 1) % of the population covered by the newly constructed HCs | 74.0%* | 79.4%* | 40.94% | 41.61% | 39.73% |
| (Indicator 2) No. of outpatients in the four target provinces | 376,978 | 536,535 | 734,761 | 866,000 | 978,348 |

Source: National health Statistics Report FY2009-2018

Note: The figures are different from the ex-ante evaluation sheet because of the decrease in the number of HCs newly constructed by the GA project.

[TC and GA Projects]

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

Some positive impacts by the TC and GA projects have been observed at the time of ex-post evaluation. For example, the “planning tools for outreach activities” developed by the TC project have been utilized by most of HCs as routine outreach planning process. There was no negative impact by the projects on natural and social environment at the time of ex-post evaluation.

<Evaluation Result>

Therefore, the effectiveness/impact of the projects as combined is high.

3 Efficiency

The efficiency of the TC project is high. The both of the project cost and the project period were within the plan (ratios against the plan: 100% and 88%, respectively). The Outputs of the project was produced as planned.

The efficiency of the GA project is fair. While the project cost was within the plan (ratio against the plan: 99%), the project period exceeded the plan (ratio against the plan: 135%). The number of sites for construction and renovation of the health centers and staff houses as well as the number of wells constructed decreased due to the changes in the exchange rate.

Combining these results, the efficiency of the two projects as combined is fair.

4 Sustainability

<Policy Aspect>

The MNCH care and services have been aligned to the “Health Sector Reform Phase II” (2016-2020) and “the 8th Five-year Health Sector Development Plan” (2016-2020). The main focus of these health sector policies is improvement of maternal and child health including maternal and child mortality.

<Institutional Aspect>

(Administrative Level)

PHOs in the four target provinces have conducted the managerial supervisions to all the DHOs and the technical supervisions on all the HCs. All the PHOs in the four target provinces have the sufficient number of staff for the managerial supervisions to DHOs (3 health staff in Attapeu and 4 each in Champasak, Salavan and Sekong) and PHOs of Sekong and Attapeu have the sufficient number of staff for the technical supervision to HCs (4 in Sekong and 7 in Attapeu). Although PHOs of Champasak and Salavan have 8 each of staff, the number of staff has not been sufficient against the volume of their activities for the MCH services to cover the larger population compared to the other two target provinces. . DHOs in the four target provinces have also conducted the technical supervisions to HCs on a quarterly basis with sufficient number of staff (8 each in Champasak and Salavan and 4 each in Sekong and Attapeu).

(Service Provider Level)

For the delivery of the integrated MNCH services, DHs in the four target provinces have deployed the staff (4 each in Champasak and Salavan, 3 each in Sekong and Attapeu). Also, HCs have deployed 3 for the integrated MNCH services in the four target provinces. DHs and HCs have the sufficient number of staff for the integrated MNCH services except DHs in Salavan.

(O&M of DHs and HCs)

All the DHs equipped by the GA project have sufficient number of staff for operation and maintenance (O&M) of the facilities and equipment. Also, all the HCs equipped by the GA project have sufficient number of staff for O&M of the facilities and equipment.

<Technical Aspect>

The PHO staffs in Champasak, Sekong and Attapeu have sustained the skills and knowledge for the managerial supervisions to DHOs and technical supervisions to HCs but not in Salavan. Also, while all the DHO staffs in Champasak, Seong and Attapeu have sustained the necessary knowledge and skills for the technical supervisions to HCs, 4 DHOs do not in Sekong because of the lack of specialist in the MNCH services. On the other hand, the technical level of the DH staff and HC staff for the integrated MNCH services differs by province. While some DHs in Sekong and Attapeu have the sufficient technical level but one each DH in Sekong and Attapeu has inadequate SBA, respectively, most of the DHs in Champasak and Salavan do not. At the HC level, only the HC staff in Champasak has the sufficient technical skill but the HC staff in other three provinces do not because of the lack of SBAs. For O&M of the DHs and HCs equipped by the GA project, they have no problem on their technical level.

<Financial Aspect>

All PHOs and DHOs in the four target provinces have continuously had sufficient budget allocation by MOH for both management and technical supervisions at the provincial and district level. Also, all the DHs and HCs have sufficient budget for O&M of the facilities and equipment installed by the GA project. However, while DHs and HCs in Salavan and Sekong have had sufficient budget for the integrated MNCH services including the outreach activities and educational events, DHs and HCs in Champasak and Attapeu have not.

The Sector-wide Coordination Mechanism has functioned effectively for budget allocation to the activities aiming to promote and improve the integrated MNCH services in the four target southern provinces of Laos. For example, in Salavan province, contributors included the Global Fund, the United Nations Children Fund (UNICEF), the World Bank (WB), the Asian Development Bank (ADB),

WHO, JICA, Plan, RAI and other donors with total budget allocated of 11,5 billion kips in 2017, slightly down in year 2018 with about 9,9 billion kips.

Table. Budget of PHOs for the management of the integrated MNCH services
(Unit million kip)

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------|------|-------|-------|-------|-------|
| Champasak | N/A | N/A | N/A | 2,213 | 1,987 |
| Salavan | N/A | N/A | 59.56 | 55.92 | N/A |
| Sekong | 272 | 345 | 533 | 473 | 303 |
| Attapeu | 200 | 1,017 | 1,133 | 389 | 365 |

<Current Status of Operation and Maintenance>

As mentioned above, the facilities and equipment installed in DHs and HCs by the GA project have been in good conditions and well maintained.

<Evaluation Result>

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

5 Summary of the Evaluation

The TC project partially achieved the Project Purpose for improving the coverage of MNCH services in the four target provinces and achieved the Overall Goal for reducing maternal, neonatal and child mortality in the four target provinces. The GA project partially achieved the project objectives for improving accessibility of the population to the health services in the four target provinces. The both projects have contributed to improvement of maternal, neonatal and child health. As for sustainability, the promotion of MNCH services has been endorsed by the national policy and the sufficient number of staffs have been deployed at each level of PHO, DHO, DH and HC but technical level and budget allocation have not been sufficient for delivery of the MNCH services. As for the efficiency, the project period of the GA project exceeded the plan. Considering all of the above points, these projects as combined is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Budget allocation for outreach and health educational activities by DHOs, DHs and HCs should be made to enable MNCH services to cover the targeted populations more effectively. In addition, the budget allocation for all health facilities (DHs and HCs) needs to cover the annual cost in order to allow the health staff for the MNCH services covering all the target population.
- Capacity building for health staffs at DHOs, DHs and HCs are necessary to improve their skills and knowledge on the integrated MNCH services. In addition, they should exchange experiences and learn learnt from good-practiced provinces to come up with more effective integrated outreach activities especially for customarily believes and traditionally behavior in local areas.

Lessons Learned for JICA:

- It is found that MOH as well as the central government of Laos take the TC and GA project as the important role for the health sector, especially MCH services in Lao PDR i.e. they have been adapted the results of the TC and GA Project to the development policies and strategy. Well-coordinated programmatic cooperation by technical cooperation for capacity development of service providers and grant aid for construction of health facilities is very effective and sustainable to improve integrated health services for better health status of the population.
- Good maintenance and well-functioning of medical equipment and facilities that provided by the GA project led to good sustainability. TC project also contributed to them through the capacity building of health staff. On the other hand, in this project, overestimation of the total population for the target setting made the project could not reach the target value of the indicator for the Overall Goal. Owing to this fact, at the project formation/planning stage, designing the expected project target in some indicators require to consider the weak reporting system of the country. In addition, it is preferable to carefully consider and review the related data affecting the performance of the indicators, including projected population at the time of project planning and the time to set the target values for the indicators. Also, it is essential to carefully monitor the performance of the indicators as well as such related data.
- Lao government as well as MOH have had allocated the budget effectively to the integrated MCH services using the Sector-wide Coordination Mechanism in some targeted provinces after project completion. JICA should continue to support the functioned Sector-wide Coordination Mechanism for MOH in order to sustain the integrated MNCH services including the outreach activities under the budget constraints.



Delivery Table at Donchan Health Center, Lamam District, Sekong Province



Examination lamps at Phonthong Health Center, Phonthong District, Champasak Province



Staff of PHO at Attepu province



Staff at the outpatient department at the Vang Peui Health Center, Laongam District, Salavan Province

| | |
|---------------------------------|---|
| Country Name | Project for Development of Economic Zones and Capacity Enhancement of Economic Zones |
| People's Republic of Bangladesh | Authority |

I. Project Outline

| | | | | | | | | | | | |
|--|--|--------------|---|---------------|------------------|---------------------------------|--|-----------------------------------|--|--|-------------------------------------|
| Background | <p>The government of Bangladesh started establishing Export Processing Zones (EPZs) in eight locations in the country on the government budget since 1990 and invited foreign direct investments (FDIs). A significant number of export-oriented companies moved to EPZs and greatly contributed to expansion of export and eventually to GDP growth of Bangladesh. On the other hand, because those companies were export processing companies targeting overseas markets, they had limited linkages with domestic industries resulting limited impacts on domestic industrial development and expansion of employment opportunities. In order to cope with those situations, the government of Bangladesh decided to establish new Economic Zones (EZs) aiming at diversification of industries through strengthening of linkage between FDIs and domestic industries, acceleration of economic growth in less-developed areas, formulation of industry clusters, and promotion of regional economic development. The Bangladesh Economic Zones Authority (BEZA) was established in 2011 as an authority to develop and manage EZs in the country.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through preparing a development plan and development guidelines for EZs, the project aimed at activating the economic activities in EZs, thereby contributing to economic growth in Bangladesh.</p> <p>Expected goals through the proposed plan¹: Projects in the EZ Development Basic Plan and EZ Development Master Plan will be implemented based on the EZ Development Guidelines.</p> | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> 1. Project Site: potential sites for EZs in Bangladesh 2. Main Activities: <ol style="list-style-type: none"> 1) survey on related legal systems and business environment, 2) formulation of EZ development concept and EZ Development Guidelines, 3) selection of the sites for short-term EZ development and formulation of the EZ Development Basic Plans for them, 4) selection of the sites for mid-term EZ development and formulation of the EZ Development Master Plan, and 5) planning and implementation of the Capacity Development Action Plan for BEZA. 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Bangladeshi Side</td> </tr> <tr> <td>(1) Mission members: 12 persons</td> <td>(1) Facilities and equipment: project office</td> </tr> <tr> <td>(2) Trainees received: 11 persons</td> <td>(2) Local cost: cost for utility of the office</td> </tr> <tr> <td>(3) Training in the third country (Vietnam, Thailand): 3 persons</td> <td>(electricity, water, and telephone)</td> </tr> </table> | | | Japanese Side | Bangladeshi Side | (1) Mission members: 12 persons | (1) Facilities and equipment: project office | (2) Trainees received: 11 persons | (2) Local cost: cost for utility of the office | (3) Training in the third country (Vietnam, Thailand): 3 persons | (electricity, water, and telephone) |
| Japanese Side | Bangladeshi Side | | | | | | | | | | |
| (1) Mission members: 12 persons | (1) Facilities and equipment: project office | | | | | | | | | | |
| (2) Trainees received: 11 persons | (2) Local cost: cost for utility of the office | | | | | | | | | | |
| (3) Training in the third country (Vietnam, Thailand): 3 persons | (electricity, water, and telephone) | | | | | | | | | | |
| Project Period | January 2015 - August 2016 (Extension: July 2016 - August 2016) | Project Cost | (ex-ante) 280 million yen, (actual) 226 million yen | | | | | | | | |
| Implementing Agency | Bangladesh Economic Zones Authority (BEZA) | | | | | | | | | | |
| Cooperation Agency in Japan | World Business Associates Co., Ltd., Japan Development Institute Ltd., RECS International Inc., Oriental Consultants Global Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

In this ex-post evaluation, JICA made an evaluation judgment by analyzing information acquired by sending and collecting questionnaires, and through telephone and e-mail interviews with persons concerned. No field survey was conducted due to the spread of COVID 19.

1 Relevance

<Consistency with the Development Policy of Bangladesh at the Time of Ex-Ante Evaluation>

The “Bangladesh Vision 2021” (Vision 2021), which was announced in 2010, was the supreme national development plan and envisioned transforming Bangladesh into a middle-income country by 2021. In particular, investment by the private sector which had accounted for approximately 19% of the total domestic investment at that time was expected to be increased to 25% by 2015. As one of the tactics to reach the target, BEZA was established in 2011 under the Bangladesh Economic Zones Act (2010) with the objective to license up to 100 EZs across the country to create 10 million new jobs and fetch additional annual exports of 40 billion US dollars by 2030. Therefore, the project was consistent with the development policies of Bangladesh at the time of ex-ante evaluation.

<Consistency with the Development Needs of Bangladesh at the Time of Ex-Ante Evaluation>

EZs were supposed to be developed mainly by BEZA employing the initiative of public-private partnership (PPP), private investments, government investments, or the partnerships between governments of Bangladesh and foreign countries. However, since BEZA was a newly established authority, knowledge and experience necessary for the development and operation of EZs had not been sufficiently accumulated in BEZA. Therefore, the project was consistent with the development needs of Bangladesh at the time of ex-ante evaluation.

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

In the “Country Assistance Policy for the Republic of Bangladesh” (June 2012), one of the two Priority Areas (Medium Objectives) was the acceleration of inclusive economic growth towards the realization of becoming a middle-income country. In order to achieve this

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

objective, it was planned to promote activities of the private sector which worked as a driving force of high economic growth, and support improvement of the investment climate to attract and increase more private investment. Therefore, the project was consistent with the Japan's ODA policy for Bangladesh at the time of 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 Objectives at the time of Project Completion>

The objectives of the project were achieved by the time of project completion by formulating the EZ Development Guidelines, EZ Development Basic Plan for short-term development, EZ Development Master Plan for mid-term development, and the Capacity Development Action Plan for improving the capacity of BEZA.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The guidelines and plans prepared by the project have been utilized at the time of ex-post evaluation. The guidelines and plans were approved by the BEZA Board Meeting in 2019. Three EZ sites out of four sites proposed in the Basic Plan and Master Plan, namely Araihaazar EZ, Seaboard EZ and General EZ except Nayanpur EZ, were approved to be implemented. The development of Nayanpur EZ was suspended because BEZA placed lower priority on it. As for the three sites, BEZA has developed specific development plans based on the plans prepared by the project, which were approved by the Prime Minister's Office in 2020, and been implementing them as national projects as stated below (Indicator 1). Out of 32 programs planned in the Capacity Development Action Plan, 3 programs have been implemented for 20 times in total in 4 years from 2017 to 2020. The total number of participants in the programs for 4 years were 43. Slow execution of the programs was due to insufficient human and financial resources of BEZA (Indicator 2).

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

The goals expected by the proposed plans have been achieved at the time of ex-post evaluation.

The Basic Plan prepared short-term development plans for the Araihaazar EZ and Nayanpur EZ to start construction works in 2016 and companies' start-up at the end of 2018. BEZA has suspended the development of Nayanpur EZ and focused on the Araihaazar EZ by updating the plan prepared by the project and renamed the Araihaazar EZ as the Bangladesh Special EZ. In the Bangladesh Special EZ, out of 34 tasks planned in the Basic Plan to be completed by 2019, 8 tasks (24%) of the tasks have been completed, 24 tasks (71%) of the tasks are on-going (8 tasks (24%) of the tasks are to be completed by end of 2022), 2 tasks (6%) of the tasks have not been commenced yet, and briefly most of the tasks are either completed or soon to be completed. Although the entry of companies has not started yet at the time of ex-post evaluation, it can be expected that around 20 companies may enter EZ from November 2022 to 2024. These delays from the original plans have been largely affected by restrictions on movements and travels after the terrorist attack in Dhaka in 2016 and COVID-19 from 2020. The Bangladesh Special EZ development is financed by the Japanese ODA loan "Foreign Direct Investment Promotion Project" (FDIPP).

The Master Plan prepared mid-term development plans for the Seaboard EZ and General EZ in Moheshkhali island. BEZA has updated the plans prepared by the project and formulated the Sector Development Plan as a part of the "Moheshkhali-Matarbari Integrated Infrastructure Development Initiative" (MIDI) which is the country's largest infrastructure project led by the Prime Minister's Office. The Sector Development Plan was approved by BEZA in January 2021, and preparatory works and construction works are on-going at the time of ex-post evaluation.

Although the implementation of the short-term development plans has been delayed, it is on-going with the financial support by the Japanese ODA loan. The mid-term development plans planned by the project did not set any specific timetable and have been implemented as a part of the large-scale national project. Although the entry of companies has not started yet, the development of EZs has been progressed as national projects. Based on this situation, the goals expected by the proposed plans are judged to be achieved at the time of ex-post evaluation.

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

Environmental impact assessment and environmental control in construction works of the projects have been executed complying with the Bangladeshi Environmental Preservation Ordinance (1989), the Environment Conservation Rules (1997) and other related laws and regulations along with the JICA Guidelines for Environmental and Social Considerations (April 2010). According to BEZA, no serious environmental issues associated with the construction works has been reported so far. No other negative impacts on natural, social and economic environment have been observed at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results |
|---|---|---|
| Utilization Status of the Proposed Plan: EZ Development Guidelines, Basic Plan and Master Plan prepared by the project are approved by the government of Bangladesh. Implementation status of the Capacity Development Action Plan for BEZA (the number of training | Indicator 1: EZ Development Guidelines, Basic Plan and Master Plan prepared by the project are approved by the government of Bangladesh. | (Ex-post Evaluation) Achieved The Guidelines, Basic Plan and Master Plan were approved by the BEZA Board meeting in 2019. BEZA has developed specific development plans based on the plans prepared by the project for three EZ sites out of four sites proposed in the Basic Plan and Master Plan, namely Araihaazar EZ, Seaboard EZ and General EZ except Nayanpur EZ. The plans were approved by the Prime Minister's Office in 2021 and have been implemented. |
| | Indicator 2: Implementation status of the Capacity Development Action Plan for BEZA (the number of training program and participants, etc.). | (Ex-post Evaluation) Partially achieved Out of 32 programs planned in the Capacity Development Action Plan prepared by the project, 3 programs have been implemented for 20 times in total in 4 years from 2017 to 2020. The total number of participants in the programs for 4 years were 43. The implementation timetable was not proposed in the Action Plan. Slow execution of the programs was due to insufficient human and financial resources of BEZA. |

| | | |
|--|---|---|
| program and participants, etc.). | | |
| Expected Goals through the Proposed Plan: Implementation status of the projects proposed by the EZ Development Basic Plan and EZ Development Master Plan, and the number of companies entered into the EZs. | Indicator: Implementation status of the projects proposed by the EZ Development Basic Plan and EZ Development Master Plan, and the number of companies entered into the EZs. | (Ex-post Evaluation) Achieved The Basic Plan prepared short-term development plans for the Araihaazur EZ and Nayanpur EZ to start construction works in 2016 and companies' start-up at the end of 2018. BEZA has suspended the development of Nayanpur EZ and focused on the Araihaazur EZ by updating the plan prepared by the project and renamed the EZ as the Bangladesh Special EZ. In the Bangladesh Special EZ, out of 34 tasks planned in the Basic Plan to be completed by 2019, 8 tasks have been completed, 24 tasks are on-going (8 tasks are completed by end of 2022), and the rest of 2 tasks have not been commenced yet. The entry of companies will start on November 2022 and around 20 companies will enter EZ until 2024. Restrictions on movements and travels after the terrorist attack in Dhaka in 2016 and COVID-19 from 2020 have largely affected the project schedule. The Bangladesh Special EZ development is financed by the Japanese ODA loan "Foreign Direct Investment Promotion Project" (FDIPP). The Master Plan prepared mid-term development plans for the Seaboard EZ and General EZ in Moheshkhali island. BEZA has updated the plans prepared by the project and formulated the Sector Development Plan as a part of the "Moheshkhali-Matarbari Integrated Infrastructure Development Initiative" (MIDI) which is the country's largest infrastructure project led by the Prime Minister's Office. The Sector Development Plan was approved by BEZA in January 2021, and preparatory works including feasibility studies and construction works are on-going at the time of ex-post evaluation. The entry of companies has not started yet due to the delay of infrastructure construction such as port, road, etc. around EZ. |

Source: BEZA

3 Efficiency

Although the project cost was within the plan (the ratio against the plan: 81%), the project period exceeded the plan (the ratio against the plan: 111%). The outputs were produced as originally planned by the end of extension period of the project. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

In 2020, the government of Bangladesh has adopted "Vision 2041" that is a continuation of "Vision 2021." Vision 2041 seeks to eliminate extreme poverty and reach upper middle-income country status by 2031 and high-income country status by 2041 with poverty approaching extinction. The export-led growth philosophy forms political, social, and economic undercurrent of Vision 2041 emphasizing export-oriented industrialization and manufacturing, labour-intensive and technology-intensive exports, and others. In the "Perspective Plan of Bangladesh 2021-2041" (PP 2041) prepared as a specific action plan to make Vision 2041 a reality, economic zones and export processing zones are identified as export bases to make the export-led growth a reality.

<Institutional/Organizational Aspect>

At the time of ex-ante evaluation of the project, for 72 posts in BEZA, 25 officials were assigned including 8 executive officers and 17 staff members, while the rest of 47 posts were vacant. BEZA had requested an increase of posts and staff members to the Ministry of Public Administration (MoPA). The request was approved by MoPA in 2017, and the total number of posts was increased to 130. While the officials' posts of 100 have been assigned since then, 30 office work positions remain vacant, and 56 out of 100 filled posts are temporary staffs transferred from other related organizations, from which, it is understood that it needs to be further strengthened institutionally. At the time of ex-post evaluation, BEZA is requesting MoPA for further increase of manpower from 130 to 253.

<Technical Aspect>

According to BEZA officials, technical level of the staff has been improved to some extent through the project and other capacity development programs assisted by development partners such as the "Support to Capacity Building of Bangladesh Economic Zones Authority Project" supported by the Department for International Development (DFID) and the International Development Association (IDA). However, though further capacity improvement has been required, the training has not been sufficiently provided to the staff of BEZA due to insufficient human and financial resources.

<Financial Aspect>

BEZA relies primarily on private capital and started collecting funds from zone owners as up-front and admission fees from 2016. BEZA also takes out long-term loans, for instance, from the Bangladesh Infrastructure Finance Fund Limited (BIFFL) that is a government-owned non-banking financial institution. However, funds have not been sufficient for the nation-wide work volumes of BEZA. As for the implementation of the projects planned by the Basic Plan and Master Plan, it is financially supported by the Japanese ODA loan "Foreign Direct Investment Promotion Project" (L/A signed in 2015).

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional/organizational, 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 objectives of the project were achieved by the time of project completion by preparing the EZ Development guidelines, EZ Development Basic Plan, EZ Development Master Plan, and Capacity Development Action Plan for BEZA. The plans were approved by BEZA. Although there are some delays, the EZs' development proposed by the plans are ongoing as a part of the national project of Bangladesh with a financial support by the Japanese ODA loan. As for sustainability, some problems have been observed in terms of institutional/organizational, technical, and financial aspects. As for efficiency, the project period exceeded the plan. Considering all the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- For prompt and smooth execution of the projects planned by the Basic Plan and Master Plan, especially the delayed projects in Arai hazar area proposed by the Sector Development Plan, it is recommended that BEZA continues to request MoPA and the Ministry of Finance (MoF) for the allocation of sufficient human and financial resources, and takes whatever possible actions to increase its staff and funds. For newly employed staff members, it is recommended that BEZA provides training based on the “Capacity Development Action Plan for BEZA” prepared by the project.

Lessons Learned for JICA:

- While the infrastructure development projects planned by the project have been progressing with external funding supports including the Japanese ODA loan, the capacity development activities for the staff of implementing agency planned to be implemented on the technical expertise and funds of the implementing agency has been significantly delayed due to insufficient human and financial resources. Although staffing and financing are out of the scope of a development planning project in many cases, it is recommended that a project includes possible tactics in its plan to improve staffing and financing of the counterpart agency and to mitigate negative effects on the projects’ implementations by the staffing and financing issues. If it is necessary and possible, a support by other scheme such as a policy advisor or a technical cooperation project for institutional strengthening, including project planning before the timing of implementation, could be one of the measures to deal with the issues.



Construction site in the Bangladesh Special EZ



Bulletin board of the Bangladesh Special EZ

| | |
|-----------------------------|---|
| Country Name | Project for Formulation of Power System Master Plan in Dar es Salaam and Review of the Power System Master Plan 2012 |
| United Republic of Tanzania | |

I. Project Outline

| | | | | | | | | | |
|---------------------------------|--|--------------|---|---------------|----------------|---------------------------------|---------------------------------|--|--|
| Background | <p>In Tanzania, the power demand supporting its economic growth was increasing by more than 10% every year. However, new installation of power facilities and maintenance of existing facilities were not necessarily properly performed. Because of that, many of the facilities owned by the Tanzania Electric Supply Company Limited (TANESCO), which was a sole power supplier throughout the country, became aged and placed under chronic overload. As a result, TANESCO was forced to purchase electricity from independent power producers (IPPs), and it caused serious deficit in its account. In 2007, the government of Tanzania developed a vision for 25 years period starting 2008 entitled the “Power System Master Plan (PSMP)” to improve the situation. However, despite its update in 2012, PSMP was inadequate as a master plan in terms of its power demand forecast, power supply development planning, power system analysis, and system planning due to insufficient solid data-based studies. As for Dar es Salaam, the capital city of Tanzania, JICA implemented a study of the “Rehabilitation of Power Distribution Facilities in Major Cities of Tanzania” in 2002 and formulated the master plan for upgrading the power transmission and distribution system in the city. However, the plan had not been updated since then, and has not responded to the increasing power demand in Dar es Salaam.</p> | | | | | | | | |
| Objectives of the Project | <p>Through reviewing PSMP 2012 and formulating PSMP for Dar es Salaam, the project aimed to contribute to smooth implementations of power development projects for stable power supply in Tanzania.</p> <p>Expected goals through the proposed plan¹: Through the implementation of projects planned in the updated PSMP, power supply in Tanzania will be stabilized, and financial status of TANESCO will be improved.</p> | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> 1. Project Site: whole of Tanzania and Dar es Salaam area 2. Main Activities: <ol style="list-style-type: none"> (1) Main activities for reviewing PSMP 2012; 1) basic data collection and analysis, 2) power demand forecast, 3) power development plan, 4) power system analysis, 5) environmental social consideration survey, and 6) update of PSMP 2012. (2) Main activities for formulating PSMP for Dar es Salaam; 1) basic data collection and analysis, 2) power demand forecast, 3) power system analysis, 4) environmental social consideration survey, and 6) formulation of PSMP for Dar es Salaam. 3. Inputs (to carry out above activities) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Tanzanian Side</td> </tr> <tr> <td>(1) Mission members: 10 persons</td> <td>(1) Staff allocated: 33 persons</td> </tr> <tr> <td></td> <td>(2) Facilities and equipment: project office</td> </tr> </table> | | | Japanese Side | Tanzanian Side | (1) Mission members: 10 persons | (1) Staff allocated: 33 persons | | (2) Facilities and equipment: project office |
| Japanese Side | Tanzanian Side | | | | | | | | |
| (1) Mission members: 10 persons | (1) Staff allocated: 33 persons | | | | | | | | |
| | (2) Facilities and equipment: project office | | | | | | | | |
| Project Period | May 2014 - March 2016 | Project Cost | Ex-ante: 309 million yen, Actual: 417 million yen | | | | | | |
| Implementing Agency | Ministry of Energy and Miner (MEM) (the current Ministry of Energy (MOE) restructured in October 2017), Tanzania Electricity Supply Company (TANESCO) | | | | | | | | |
| Cooperation Agency in Japan | Yachiyo Engineering Co., Ltd. | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- In this ex-post evaluation, JICA made an evaluation judgment by analyzing information acquired by sending and collecting questionnaires, and through telephone and e-mail interviews with persons concerned. No field survey was conducted due to the incidence of COVID 19.

1 Relevance

<Consistency with the Development Policy of Tanzania at the Time of Ex-Ante Evaluation>

The “National Energy Policy” was formulated in 2003. In order to implement the policy, PMSP was prepared in 2008 and updated in 2012. In line with PMSP 2012, the government of Tanzania announced the “Electricity Supply Industry Reform Strategy and Roadmap 2014-2025” in 2014. It specified various measures to improve the power supply in the country including the increase of generation capacity and electricity connection ratio, and others. Therefore, the project was consistent with the development policy of Tanzania at the time of ex-ante evaluation.

<Consistency with the Development Needs of Tanzania at the Time of Ex-Ante Evaluation>

Despite its updating in 2012, PSMP was not necessarily adequate as a master plan in terms of power demand forecast, power supply development planning, power system analysis, and system planning due to insufficient data-based analysis and unsophisticated analytical methods applied. Besides, the master plan for Dar es Salaam was formulated in 2002 and has not been updated. Updating of master plans for power system including expansion, rehabilitation, and new plans that reflected the increasing power demand was indispensable. Therefore, the project was consistent with the development needs of Tanzania at the time of ex-ante evaluation.

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

In the Japan’s “Country Assistance Policy for the United Republic of Tanzania” (June 2012), the infrastructure development in the areas including electricity and energy sustaining economic growth and poverty reduction was raised as one of the three priority areas. Special focus was given on the assistance considering environment conservation such as the reduction of greenhouse gas emissions and sustainable

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

use of resources. Therefore, the project was consistent with the Japan's ODA policy for Tanzania at the time of 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 Objectives at the time of Project Completion>

The objectives of the project were achieved by the time of project completion by reviewing and updating PSMP 2012 and formulating PSMP for Dar es Salaam.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The proposed plan by the project have been utilized. The updated PSMP 2012 (hereinafter PSMP 2016) and the PSMP for Dar es Salaam formulated by the project have been utilized after the completion of the project (Indicator 1). More than 80% of the feasibility studies for power development projects and a certain number of power system development projects planned in the PSMP 2016 have been conducted by TANESCO by the time of ex-post evaluation (Indicator 2). Moreover, power system development projects in the country and Dar es Salaam have been implemented based on the PSMPs.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

The expected goal through the proposed plan prepared by the project has been partially achieved. Out of 131 projects planned in the PSMPs to be operated by 2020, 47 projects (36%) have been completed and operating at the time of ex-post evaluation. The financial status of TANESCO has improved as stated below in '4. Sustainability'.

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

The project was classified as Category B according to the JICA's "Guidelines for Environmental and Social Considerations" (April 2010). No pilot project was implemented in the project. According to the interview survey of MOE, neither negative impact such as noise, dust, vibration, cutting tree nor land acquisition and resettlement associated with the construction works of the projects planned in PSMPs has been reported. As for a positive impact, due to the power system development including the projects planned in PSMPs, the total amount of power produced in the main grid in the country increased from 1,375.74 MW in 2012 to 1,601.84 MW in 2019, which was the growth of about 16 percent. No negative impact on natural, social and economic environment has been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Outputs, Utilization Status of the Proposed Plan, and Expected Goals through the Proposed Plan

| Aim | Indicators | Results |
|---|--|--|
| Utilization Status of the Proposed Plan: Updated PSMP is approved by MEM, and the feasibility studies for technical, economic, financial, and environmental aspects of the power development and power system development projects planned in the updated PSMP are conducted by TANESCO and other related agencies. | Indicator 1: Updated PSMP 2012 is approved by the government of Tanzania and published. | (Ex-post Evaluation) Achieved PSMP 2012 was reviewed and updated by the project and approved by MEM (current MOE) in 2016 and published on the website of MEM in 2017. In addition, PSMP for Dar es Salaam was also formulated by the project and approved and published by MEM in the same years. |
| | Indicator 2: Feasibility studies for the power development and power system development projects planned in the updated PSMP are started. | (Ex-post Evaluation) Achieved Out of 36 feasibility studies for the power development projects (power plant projects) planned in PSMP 2016, 29 feasibility studies (81%) have been started by the time of ex-post evaluation. Delays were caused by prolonged financing arrangements and project consultants' procurement procedures. Discussions with development partners for project financing have been continued. As for the feasibility studies for power system development projects (sub-stations, transmission lines and distribution lines), the information about the plans of feasibility studies and their cessions and additions has been changing and the fixed data were not available. However, more than 40 power system development projects were completed, from which it can be assumed that at least the feasibility studies required for those power system projects were conducted. |
| Expected Goals through the Proposed Plan: Through the implementation of projects planned in the updated PSMP, power supply in Tanzania will be stabilized, and financial status of TANESCO will be improved. (not to be assessed) | Indicator: Detail studies are conducted in the feasibility studies for economic, technical, environmental and social aspects of the projects, and power development and power system development are implemented. | (Ex-post Evaluation) Partially achieved In terms of power development and power system development projects planned in PSMP 2016, 20 projects out of 93 projects (22%) that were planned to be operated by 2020 have been completed and operated. Additionally, regarding those in PSMP for Dar es Salaam, 27 projects out of 38 (71%) have been completed and operating at the time of ex-post evaluation. Although it was not stated in the indicator, the financial status of TANESCO has improved as stated below in '4. Sustainability'. |

Source: MOE, TANESCO

3 Efficiency

While the project period was within the plan (the ratio against the plan was 100%), the project cost exceeded the plan (the ratio against the plan was 135%). The outputs were produced as originally planned by the end of extension period of the project. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

PSMP in itself is the power system development policy of the government of Tanzania, and it has been constantly updated every four years since 2008. Power system development projects in the county are ongoing at the time of ex-post evaluation based on PSMP 2016. Currently, MOE is undertaking necessary revisions on PSMP 2016 to update it to PSMP 2020. PSMP 2020 will prepare the plans for 25

years composed of the short-term (2020-2024), mid-term (2025-2034) and long-term (2035-2044) focusing on the improvement of availability and affordability of power through the introduction of new energy aiming at the expansion of access to electric power.

<Institutional/Organizational Aspect>

There has been no institutional change in TANESCO during and after the project. According to TANESCO and MOE, the total number of staff of TANESCO is over 7,000 and it's sufficient for its power system development activities.

<Technical Aspect>

The knowledge and skills learned in the project have been utilized in TANESCO for the revision of PSMP 2016, preparation and undertaking of feasibility studies, supervision and coordination of projects' implementations, discussion and negotiation for financing, and others. The revision of PSMP 2016 to update it to PSMP 2020 is conducted mainly by the staff members of TANESCO who were involved in the project and other technical staffs of the related government agencies without any foreign assistance. Technical and administrative staff members of TANESCO have been attending a variety of short-term and long-term training and study programs supported by development partners including JICA and seeking to maintain and improve their technical skills.

<Financial Aspect>

Production of electricity has increased due to executions of the projects planned in PSMP 2016 and PSMP for Dar es Salaam, thus the income from power selling has increased while the purchase of electricity from IPPs has decreased. In addition, TANESCO has implemented measures recommended in the PSMPs including the introduction of low-cost power generation such as natural gas and hydraulic power, and increase of power utility rate. Because of these, the financial status of TANESCO has been improved (see Table 1). As for financial resources for power system development, although the projects planned in PSMPs have been implemented by the budget from the government and concessional loans from JICA, the World Bank and others, significant number of projects have been delayed due to the limited funds. TANESCO keeps discussing and negotiating with various development partners including JICA and the World Bank, and seeking for other financing instruments including public-private partnership (PPP) and private finance initiative (PFI).

Table 1. Profit and loss of TANESCO

unit: million TSh*

| Year | 2016 | 2017 | 2018 | 2019 |
|-----------------------------|-----------|-----------|-----------|-----------|
| Total operating revenue | 1,544,210 | 1,557,063 | 1,639,530 | 1,765,097 |
| Total operating expenditure | 1,893,765 | 1,822,360 | 1,752,053 | 1,799,325 |
| Operating profit or loss | -349,555 | -265,297 | -112,523 | -34,228 |

* TSh: Tanzanian Shilling

<Evaluation Result>

In light of the above, some problems have been observed in terms 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 objectives of the project were achieved by the time of project completion by preparing PSMP 2016 and PSMP for Dar es Salaam. PSMPs have been utilized for power system development in the country, thus implementation of feasibility studies and projects planned in PSMPs have been steadily progressing although they tend to be delayed due to financial constraints. As for sustainability, although some problems have been observed in terms of the financial aspect, sustainability of other aspects are high. As for efficiency, the project cost exceeded the plan. Considering all the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- In order to accelerate implementations of the projects planned in PSMPs, it is recommended that MOE and TANESCO accelerate discussions and negotiations with international financiers including development partners, and try to find and employ all possible financing instruments including PPP, PFI, and others.

Lessons Learned for JICA:

- Implementations of the projects planned in the master plans have been delayed mainly due to financial constraints. Funding could be a critical factor in project implementations for most developing countries. For a development planning project, adding to technical and social analysis and planning, availability analyses, strategy formulations, and scheduling for financing would be indispensable components to draft a more concrete and viable master plan. If a project incorporates a specific financing strategy in a master plan including seeking various financing instruments such as PPP and PFI and starts its initial activities with the initiative of implementing agency, it might increase the feasibility of implementation of the projects planned in the master plan.
- Currently, five years after the completion of the project, TANESCO, the counterpart agency of the project, is updating its master plan without any foreign assistance but with the experience of the project. Since a master plan is subject to be updated periodically to cope with social, technical, and economic changes in the country and overseas, an agency in charge is expected to be able to revise and update a master plan by its own effort. Therefore, with a view to update the master plan in future, it is suggested that a development planning project includes capacity development component for the implementing agency to be able to revise a master plan by itself including social, technical, economic and financial analysis and planning.
- This project included, not only the increase of electric power selling and the decrease of purchase of electricity from other electric power providers, but also the introduction of low-cost power generation and review of power utility rate in the master plan with a view to improve the financial status of the implementing agency (electric company). After this project, the financial status of the implementing agency has improved, to which the execution of the projects planned in the master plan contributed. Since the electric power generation project is a business which directly produces income, it is recommended that a development planning project to formulate a power system development master plan also focuses on the financial effects in addition to social and technical development effects.



Cable laying at the site of
Shinyanga Backbone Transmission Investment Project



Tower erection at the site of
Kenya-Tanzania Power Interconnection Project

| | |
|---------------------------------------|--|
| Country Name | The Project for Formulation of Ramu System Power Development Master Plan and Lae Area Distribution Network Improvement Plan |
| Independent State of Papua New Guinea | |

I. Project Outline

| | | | | | | | | | | | |
|---|--|--------------|---|---------------|----------|--------------------------------|--------------------------------|---------------------------------|--|---|--|
| Background | <p>At the time of planning this project, Independent State of Papua New Guinea (hereinafter referred to as “PNG”) maintained high economic growth rate, which meant domestic power demand was also forecasted to increase in future. Especially, in Ramu System, which supplied power to provincial towns including Lae City, the second largest city in PNG, the peak demand was estimated to increase from 74.3 MW in 2012 to 104.8 MW in 2026. However, its power supply and network were insufficient and unstable, and unexpected power outages occurred frequently. In Lae City, the largest demand center in Ramu System, it suffered from frequent blackouts especially due to troubles of distribution network. Considering the future increase in power demand, it was necessary to develop a comprehensive power development master plan for Ramu System and a distribution network improvement plan in the Lae Area. (Figures at the time of ex-ante evaluation.)</p> | | | | | | | | | | |
| Objectives of the Project | <p>This project aimed to formulate: (i) “Ramu System Power Development Master Plan (2016-2030)” and (ii) “Lae Area Distribution Network Improvement Plan (2016-2030)”, thereby contributing to the stabilization of power supply in the Ramu System Coverage Provinces.</p> <p>1. Expected Goals through the proposed plan¹:</p> <p>(i) In Ramu System, power supply is stabilized, through sustainable power development to meet the increasing power demand.</p> <p>(ii) In the target area of “Lae Area Distribution Network Improvement Plan (2016-2030)”, power is efficiently used with high reliability.</p> | | | | | | | | | | |
| Activities of the Project | <p>1. Project Site:</p> <p>(i) “Ramu System Power Development Master Plan”: Ramu System Coverage Provinces (Morobe, Madang, East Highland, Western Highlands, Chimbu, Southern Highlands and Enga)</p> <p>(ii) “Lae Area Distribution Network Improvement Plan”: the Lae Area in Morobe Province (Lae City and Nadzab, Erap, Taraka, etc.)</p> <p>2. Main Activities: i) Formulating “Ramu System Power Development Master Plan (2016-2030)” consisting of the power generation development plan and the power network (transmission) expansion plan with environmental and social assessment²; ii-a) formulating “Lae Area Distribution Network Improvement Plan (2016-2030)” consisting of “short-term” and “long-term” development plans with Initial Environmental Examination, and ii-b) conducting on-the-job training for maintaining and managing the distribution network in the Lae Area.</p> <p>3. Inputs (to carry out above activities)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">PNG Side</td> </tr> <tr> <td>1) Mission Members: 19 persons</td> <td>1) Staff Allocated: 11 persons</td> </tr> <tr> <td>2) Trainees Received: 5 persons</td> <td></td> </tr> <tr> <td>3) Equipment: 1 printer and 1 WIFI router</td> <td></td> </tr> </table> | | | Japanese Side | PNG Side | 1) Mission Members: 19 persons | 1) Staff Allocated: 11 persons | 2) Trainees Received: 5 persons | | 3) Equipment: 1 printer and 1 WIFI router | |
| Japanese Side | PNG Side | | | | | | | | | | |
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| 2) Trainees Received: 5 persons | | | | | | | | | | | |
| 3) Equipment: 1 printer and 1 WIFI router | | | | | | | | | | | |
| Project Period | October 2014 – October 2016 | Project Cost | (ex-ante) 406 million yen, (actual) 421 million yen | | | | | | | | |
| Implementing Agency | PNG Power Limited (PPL); Department of Petroleum and Energy (DPE) | | | | | | | | | | |
| Cooperation Agency in Japan | NEWJEC Inc. | | | | | | | | | | |

II. Result of the Evaluation

| |
|---|
| I Relevance |
| <p><Consistency with the Development Policy of PNG at the Time of Ex-Ante Evaluation></p> <p>The project was consistent with “Development Strategic Plan (2010-2030)” which aimed to achieve a rural electrification rate of 70 % electricity access to households by 2030. It also aligned with “Vision 2050” which targeted the rate of 100% renewable energy generation by 2050.</p> <p><Consistency with the Development Needs of PNG at the Time of Ex-Ante Evaluation></p> <p>As mentioned in “Background” above, the project was consistent with the development needs of PNG for formulating a master plan for Ramu System as well as a distribution network plan in the Lae Area, so that the power supply could be stabilized in the coverage areas.</p> <p><Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation></p> <p>The project was consistent with “Japan’s ODA Policy for the Independent State of Papua New Guinea (2012)”, focusing on energy/electricity infrastructure development, under a priority area, i.e. “Strengthening of the Foundation of Economic Growth”.</p> <p><Appropriateness of Project Design/ Approach></p> <p>Projects based on “Lae Area Distribution Network Improvement Plan (2016-2030)” were planned to be implemented at the time of</p> |

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

² According to “JICA Guidelines for Environmental and Social Considerations (April 2010)”, this project is classified as “Category B”, i.e. with non-significant but potential adverse impacts.

ex-post evaluation, which was scheduled in three years after project completion. Accordingly, both short- and long-term plans were developed under “Lae Area Distribution Network Improvement Plan (2016-2030)”, and such project approach was appropriate. However, neither short- nor long-term plans were implemented at the time of ex-post evaluation. Especially for the short-term plan, the scope, target year and funding source of projects should have been clarified among stakeholders at project completion. Moreover, implementation of such projects with funding by donors could have been considered and discussed; considering a) power development in PNG had been promoted by donors, and b) the government’s procedure for approval of plans and budget appropriation tended to take a considerable time.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The project achieved the Objectives at the time of project completion. Both (i) “Ramu System Power Development Master Plan (2016-2030)” and (ii) “Lae Area Distribution Network Improvement Plan (2016-2030)” were formulated by reviewing existing facilities and forecasting the electricity demand up to 2030. Regarding (i), the existing “Fifteen-Year Power Development Plan (2014-2028)” was reviewed, and “Optimal Power Generation Development Plan” and “Mid- and Long-term Power System Development Plan” were proposed. Regarding (ii), aside from a long-term plan till 2030, a short-term plan was formulated. The short-term plan proposed four measures to reduce the duration to restore power, one of which was “installation of load-break switches” for de-energizing only damaged sections³. No target year was set for the short-term plan, but the estimated implementation period and cost of each measure ranged from nine to 12 months, and 21 to 134 million yen, respectively.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

At the time of ex-post evaluation, utilization status of the proposed plan has not achieved its aims, i.e. (i) approval of the Master Plan, and (ii) securing budget and implementing projects based on the Distribution Network Improvement Plan. Likewise, none of the three indicators set at the time of ex-ante evaluation have yet been achieved. Regarding Indicator 1, “Ramu System Power Development Master Plan (2016-2030)” is still under the review of PPL due to frequent changes of the Board members. Regarding Indicator 2, funding allocation for “Lae Area Distribution Network Improvement Plan (2016-2030)” has not yet been requested to the Central government by PPL. Regarding Indicator 3, neither plans developed under the project are updated, whereas study findings reported by the project were incorporated into “Least Cost Power Development Plan (2020-2023)”, which replaced the existing “Fifteen-Year Power Development Plan (2014-2028)”. In addition, none of the four measures proposed by the short-term distribution network plan under the project have yet been implemented. PPL can implement projects in case of using its own budget, but no proposals by the formulated plans have been implemented with PPL’s own budget due to its limited amount.

On the other hand, considering power development in PNG has been promoted by donors and the private sector⁴, and the above indicators (such as the Central government’s approval of the plan and budget) do not capture the whole picture of utilization of the proposed plan. Regarding funding by donors, “Lae Area Distribution Network Improvement Plan (2016-2030)” is being utilized to identify and propose projects for external funding by the Asian Development Bank (ADB), the World Bank and also Japan’s grant aid on rural electrification. For example, improvement of distribution network in the Lae Area is to be implemented as part of the PPL’s urgent rehabilitation project, whose funding is being proposed to ADB under “Power Sector Development Investment Project (PSDIP)”. The proposal for the PSDIP was approved by ADB in February 2019. According to PPL, the PSDIP is currently at the procurement design stage, and improvement of 11 kV distribution network and existing substations in the Lae Area is planned to be implemented. Also, Japan’s grant aid on rural electrification in the Lae Area is planned.

Thus, the proposed plan has been utilized to a certain extent, but project implementation based on the plan has not yet commenced, and therefore the targeted utilization status has not yet been achieved.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

The Expected Goals have been partially achieved. As mentioned above, funding plans have been partially put into shape, through identifying projects to propose for external funding. It is notable that development partners and PEP⁵ including the Government of Japan have formulated and implemented financial cooperation by utilizing the achievement of this project, although non-commencement of project implementation leads to evaluation judgement being still low at the time of ex-post evaluation.

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

This project is under the account of a Japanese ODA loan project, “Ramu Transmission System Reinforcement Project”, which plans installing the second 132 kV transmission line (138 km) to Ramu System as well as constructing/rehabilitating key substations along the grid. Being commenced in March 2019, the construction of these facilities will stabilize the transmission of power in Ramu System, while improvement of the distribution network is a pre-requisite to the stable power supply in the Lae Area. This project led PPL to include distribution network upgrading in the Lae Area as its urgent rehabilitation project, and the funding was proposed to the World Bank as well as ADB. Thus, the interrelationship between this project and the Japanese ODA loan project has been confirmed. At the time of ex-post evaluation, however, it is not yet clear if the transmission and distribution projects will complete in a timely manner to produce synergy effects.

It should be noted that no negative impact has been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is low.

³ The proposed four measures are: i) Installation of load-break switches (59 units), ii) Introduction of sequential switching systems (34 units), iii) Construction of an interconnection line (3.8 km), and iv) Upsizing of conductors for the trunk line (15.1 km). (Source: Final Report Part B, Chapter 4)

⁴ In 2011, the government of PNG adopted Electricity Industrial Policy, which focused on private-sector participation and competition, particularly in power generation activities. (Source: Final Report Part A, p.2-18)

⁵ PNG Electrification Partnership

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results |
|--|--|--|
| (Utilization Status of the Proposed Plan) (i) “Ramu System Power Development Master Plan (2016-2030)” is approved by the Electricity Management Committee and is made publicly available. (ii) Budget for projects based on “Lae Area Distribution Network Improvement Plan (2016-2030)” is secured by PNG Power Limited (PPL) and the projects are implemented. | 1. “Ramu System Power Development Master Plan (2016-2030)” is approved by the Electricity Management Committee, and is made publicly available. | (Ex-post Evaluation) not achieved - The plan has not yet been approved, and not yet made publicly available. |
| | 2. Based on “Lae Area Distribution Network Improvement Plan (2016-2030)”, the budget is requested by PPL appropriately and approved by the government each year. | (Ex-post Evaluation) not achieved - The funding allocation has not yet been requested. |
| | 3. The plans are updated as needed and appropriately, reflecting changes in the situation. | (Ex-post Evaluation) not achieved - Neither plans formulated under the project are updated. |
| (Expected Goals through the Proposed Plan) (i) In Ramu System, power supply is stabilized, through sustainable power development to meet the increasing power demand. (ii) In the target area of “Distribution Network Improvement Plan in the Lae Area (2016-2030)”, power is efficiently used with high reliability. | 1. Funding plan(s), etc. put into shape based on the formulated plans | (Ex-post Evaluation) partially achieved - Funding plans have been partially put into shape, through identifying projects to propose for external funding. |
| | 2. Proper facility standby power secured. | (Ex-post Evaluation) partially achieved - Munum Diesel Engine Generator (30 MW) was installed by an independent power producer, and was commissioned in 2017 as mentioned in the Master Plan. |
| | 3. Coverage of the improved distribution network (e.g. number of districts) | (Ex-post Evaluation) not achieved - Several districts are planned to be covered under the PPL’s urgent rehabilitation project, especially focusing the Lae Top Town area, which, however, is not yet implemented. |

Source : Final Report and other JICA documents, and responses to questionnaires to PPL and DPE.

3 Efficiency

While the project period was as planned, the project cost slightly exceeded the plan (ratio against the plan: 100% and 104%, respectively). The outputs of the projects were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Aside from “Development Strategic Plan (2010-2030)” and “Vision 2050” still being effective, “National Electrification Roll-Out Plan (NEROP)⁶” aims to increase electricity access from 12% (an estimate) to 70% of households by 2030 through both on- and off-grid connections.

<Institutional/Organizational Aspect>

Out of the two implementing agencies of this project, PNG Power Limited (PPL) is in charge of technical aspects of the power sector development, whereas Department of Petroleum and Energy (DPE) is in charge of its policy aspects. Accordingly, PPL is responsible for submission for the approval of the Master Plan formulated under the project through the PPL Board and then to the Central government. Regarding DPE, at the project planning and implementation stages, its roles remained unchanged as DPE was responsible for the overall policy aspects and approval of the Master Plan. After project completion until late 2020, however, DPE’s role and functions on the approval process became limited due to the fact that PPL takes the ownership of the Master Plan and PPL is under the Ministry of State Enterprises, which is responsible for the approval of the Master Plan. DPE at this stage is in the transition period to become National Energy Authority (NEA), most of whose functions will be on the policy and regulatory aspects of the energy sector. Once the Master Plan is approved by the Ministry of State Enterprises, funding through “Public Investment Program⁷” is considered. Despite of such institutional arrangement for approval and budget appropriation, procedure towards them has not taken place.

<Technical Aspect>

To this project, four officials were assigned from DPE, and seven from PPL as the counterpart staff. Those officials are still working with DPE and PPL respectively, and engage in policy development at DPE and planning work at PPL. It is notable that these PPL officials are currently preparing PPL’s “Least Cost Power Development Plan” for the next 15 years. Moreover, under the project, the distribution team members of PPL Lae Regional Office were trained on the job in maintenance and management of distribution network. Those trained staff still engage in maintenance work in the Lae Area, sustaining their skills and knowledge.

<Financial Aspect>

As mentioned above, no government funding was secured specifically for the two plans formulated under the project. According to DPE, the funds can be appropriated, once the plans are approved by the Ministry of State Enterprises. Even without such approval, PPL can implement proposed measures with its own budget, but the amount is quite limited. At the same time, proposals for external funding were made to implement some of the proposed measures by the project. PPL is planning to strengthen its coordination with donors, by establishing the Project Delivery Office.

<Evaluation Result>

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

⁶ Formulated with the assistance of the World Bank in 2013.

⁷ The government program for budgeting, planning and executing the medium- to large-scale impact projects in the country.

5 Summary of the Evaluation

The project achieved the Objectives at the time of project completion, by formulating (i) “Ramu System Power Development Master Plan (2016-2030)” and (ii) “Lae Area Distribution Network Improvement Plan (2016-2030)”. At the time of ex-post evaluation, utilization status of the proposed plan has not achieved its aims, i.e. (i) approval of the Master Plan, and (ii) securing budget and implementing projects based on the Distribution Network Improvement Plan. Nonetheless, both plans have been utilized to some extent: for updating PPL’s development plan, and for proposing projects for external funding. Regarding the Sustainability, problems have been observed in terms of the institutional/organizational and financial aspects of the implementing agencies. As for Efficiency, the project cost slightly exceeded the plan.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended that PNG Power Limited (PPL) expedite reviewing “Ramu System Power Development Master Plan (2016-2030)”, and request for the Minister for State Enterprises to approve the plan, which will enable to secure government funding through “Public Investment Program”.
- It is recommended that PPL implement the four short-term measures (including installation of load-break switches) to reduce the duration to restore power, which were proposed by “Lae Area Distribution Network Improvement Plan (2016-2030)”. Such measures are indispensable to better maintenance of existing and expanded distribution network in the Lae Area, and requires relatively short time and low costs. “Lae Area Distribution Network Improvement Plan (2016-2030)” also requires approval by the Minister for State Enterprises for the Central government’s funding. Due to much delay in the approval process, however, PPL is advised to take initiatives to seek funding or to incorporate the measures into the projects to be implemented with funding by ADB, etc.

Lessons Learned for JICA:

- For assuring the approval of a proposed plan by a Development Planning Project, the responsibility and procedures need to be confirmed before commencing the project. In case of this project, PPL was to seek approval through its Board for the Minister responsible to endorse this project. However, PPL is still reviewing the Master Plan due to frequent changes of the Board members, which was unexpected at the time of project implementation. In order to avoid such unexpected situations, it is necessary for JICA to continuously monitor the approval procedure including the internal procedures of PPL as well.
- For Development Planning Projects, approval and/or implementation of the formulated plans are often set as evaluation indicators, as in the case of this project. Even though the achievements of this project have been utilized to formulate and implement financial cooperation by development partners including Japanese government, the practical utilization was not set as an evaluation indicator. Also, it was necessary to set appropriate indicators that take into account of external factors identified at the time of ex-ante evaluation, such as delays/changes in the approval process due to frequent changes of officers of PPL and change of the agency which is responsible for the approval of the Master Plan. Aside from such indicators, it is also important to evaluate the aspects of capacity building through formulation of plans. Under this project, officials assigned from PPL and DPE still engage in policy development or planning work of respective organizations. Moreover, the distribution team members of PPL Lae Regional Office, who were trained on the job under this project, still sustain their skills and knowledge to maintain distribution network in the Lae Area. Thus, it would be meaningful to set indicators for confirming the degree of capacity building, when formulating a Development Planning Project, where applicable.

| | |
|------------------------------|--|
| Country Name | The Project for Capacity Development of Agriculture Extension Services in Khyber Pakhtunkhwa Province |
| Islamic Republic of Pakistan | |

I. Project Outline

| | | | | | | | | | | | |
|---|---|--------------|---|---------------|---------------|-----------------------|--------------------|---|---|---------------|---------------|
| Background | <p>In Khyber Pakhtunkhwa Province (hereinafter referred to as “KP”), located in the mountainous area of north-western Pakistan, more than 75% of the population was engaged in agriculture in some way, but agriculture did not effectively contribute to creation of income. It was urgently needed to improve agricultural production techniques, etc., so as to improve people’s livelihoods in the area. Department of Agriculture Extension (DoAE) in KP conducted 2-year training courses for extension workers at Agriculture Training Institute (ATI) in KP and the graduated extension workers (Field Assistants: FAs) implemented extension service activities under supervision of Agricultural Officers (AOs) assigned at district level. However, systematic in-service training for agriculture extension workers was not implemented, which made it difficult for extension activities to be effective enough to disseminate the latest agriculture techniques and information to farmers. (Figures at the time of Ex-ante Evaluation.)</p> | | | | | | | | | | |
| Objectives of the Project | <p>The project aimed to improve agricultural knowledge and extension skills of extension service staff in KP in Pakistan through (i) development of demand-based training curricula for capacity development of agriculture extension staff, i.e. AOs and FAs, (ii) acquirement of necessary skills by AOs to guide, supervise and monitor extension activities of FAs through training, and (iii) acquirement of necessary skills by FAs to conduct extension service activities through training, and (iv) strengthening of field implementation of the extension activities and monitoring, thereby extending appropriate knowledge and skills to improve agricultural productivity to farmers.</p> <ol style="list-style-type: none"> Overall Goal: Appropriate knowledge and skills to improve agricultural productivity are extended to farmers. Project Purpose: Agricultural knowledge and extension skills of extension service staff in KP are improved. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Whole area of KP. Main activities: Development of demand-based training curricula and training materials, training for the selected AOs and Subject Matter Specialists (SMSs) at National Agriculture Research Center (NARC) in Islamabad and monitoring of the field works (FWs) of the FAs under the training by the trained AOs in KP, training for the selected FAs at NARC and facilitation of the FWs of the FAs under the training in KP, facilitation of the field implementation of extension activities of the trained FAs in KP and monitoring of the field implementation in coordination with the trained AOs in KP. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Pakistan Side</td> </tr> <tr> <td>1) Experts: 4 persons</td> <td>1) Staff allocated</td> </tr> <tr> <td>2) Equipment: Equipment to organize training at NARC, equipment to organize extension service at Model Farm Service Centres in KP, etc.</td> <td>2) Building and facilities: Project Office at NARC, training facilities at NARC and in KP, etc.</td> </tr> <tr> <td>3) Local cost</td> <td>3) Local cost</td> </tr> </table> | | | Japanese Side | Pakistan Side | 1) Experts: 4 persons | 1) Staff allocated | 2) Equipment: Equipment to organize training at NARC, equipment to organize extension service at Model Farm Service Centres in KP, etc. | 2) Building and facilities: Project Office at NARC, training facilities at NARC and in KP, etc. | 3) Local cost | 3) Local cost |
| Japanese Side | Pakistan Side | | | | | | | | | | |
| 1) Experts: 4 persons | 1) Staff allocated | | | | | | | | | | |
| 2) Equipment: Equipment to organize training at NARC, equipment to organize extension service at Model Farm Service Centres in KP, etc. | 2) Building and facilities: Project Office at NARC, training facilities at NARC and in KP, etc. | | | | | | | | | | |
| 3) Local cost | 3) Local cost | | | | | | | | | | |
| Project Period | (ex-ante) January 2015-June 2017 (actual) January 2015-June 2017 | Project Cost | (ex-ante) 199 million yen (actual) 246 million yen | | | | | | | | |
| Implementing Agency | National Agriculture Research Center (NARC), Department of Agriculture Extension (DoAE) in KP | | | | | | | | | | |
| Cooperation Agency in Japan | Appropriate Agriculture International Co., LTD. | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 pandemic, field visits and face to face interview surveys could not be conducted. Information was collected through questionnaire and online interview surveys.

< Special Perspectives Considered in the Ex-Post Evaluation >

- During the project implementation, the data for the Project Purpose Indicator 2 (“At least 400 dissemination activities are conducted to deliver agricultural knowledge and/or production techniques to farmers by the trained FAs”) was collected through field work reports by the FAs and by the Monitoring and Evaluation officers employed by the project. As it was difficult to collect the data comparable to the one obtained during the project implementation in the internal ex-post evaluation, qualitative information on continuation of dissemination activities by the trained FAs was collected. In addition, the information collected for the Overall Goal Indicator was used as indirect information because the Overall Goal indicator was expected to be achieved through continuation of the dissemination activities by the trained FAs (please see the point below).
- The target year for the Overall Goal was set to be the end of Pakistan Fiscal Year (PFY) 2019/20 (i.e., June 2020) as the Overall Goal was defined as the goal to be evaluated at 3 years after the completion in the logical framework of the project. The Overall Goal indicator (“At least 15,000 farmers are extended with new knowledge and skills on agricultural production”) was interpreted to be “At least 15,000 farmers are extended with new knowledge and skills on agricultural production by the FAs trained by the project after the project completion” because the target figure was calculated “based on the assumption that each of the trained FAs would conduct extension activities with at least 20 farmers each year ... (i.e. 250 FAs X 20 farmers X 3 years)” according to the note in the logical framework.

1 Relevance

<Consistency with the Development Policy of Pakistan at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with the Pakistan Vision 2025 (2014), the national development plan for

Pakistan, which set forth bridging the vast yield and productivity gap between the national average and progressive farmers through multiple channels, including the provincial agriculture extension services, to educate and incentivize farmers to make efficient use of inputs, adopt leading farming techniques, optimize crop selection and maximize their yield.

<Consistency with the Development Needs of Pakistan at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with the needs of Pakistan for capacity development for agriculture extension services in KP as described in the “Background”.

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

At the time of ex-ante evaluation, the project was consistent with the Country Assistant Policy for the Islamic Republic of Pakistan (2012), which included assistance for “poverty reduction and improvement in productivity of the agricultural sector which accounts for a large portion of the working population” under one of the 3 priority areas of “Achievement of balanced regional socio-economic development”.

<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 achieved at the time of project completion. As many as 357 extension service staff (target: 350) was trained and certified (Indicator 1) and 761 dissemination activities (target: at least 400) were conducted by the trained FAs (497 activities through the FWs of the training and 264 activities after the training through implementation of action plans for extension services developed by the trained FAs)¹, through which agricultural knowledge and/or production techniques were delivered to 5,822 farmers in KP (Indicator 2).

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

The project effects were continued at the time of ex-post evaluation. According to DoAE, in general, the extension service staff trained and certified by the project maintained their skills and knowledge through applying them in their continuous agriculture extension service delivery to farmers, group training to farmers in the field by FAs etc., which was supported by positive feedbacks from farmers on their service deliveries, positive responses from farmers’ organizations and management committees of Model Farm Service Centers, and good results of performance evaluation conducted by each district. The trained FAs continuously implemented extension activities to deliver agricultural knowledge and/or production techniques to farmers, using the acquired skills and knowledge, not only by conventional field activities but also by tele-farming advisory services initiated after the project completion². (Also see <Status of Achievement for Overall Goal at the Time of Ex-post Evaluation> below.)

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

The Overall Goal was achieved at the time of ex-post evaluation. By the target year (PFY2019/20), as many as 47,876 farmers were extended with new knowledge and skills on agricultural production through the field activities of the trained FAs after the project completion. The actual result by the target year largely exceeded the target figure of the indicator (i.e., at least 15,000 farmers extended) mainly because DoAE advised all district offices to outreach the extension services to the maximum number of farmers and the district offices made their extension plans accordingly. After the target year, the same trend continued for the same reason: additional 41,644 farmers were extended through the field activities of the trained FAs in PFY2020/21 (Indicator).

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

Using the training curricula and materials developed under the project, Agriculture Service Academy (ASA) (formerly ATI)/DoAE started in-service training for the extension service staff in PFY2018/19. As of PFY2020/21, a total of 55 FAs were newly trained and certified. In addition, a total of 40 AOs were given on-field training by ASA. The newly trained FAs extended the skills and knowledge acquired through the training to farmers, but the number of farmers extended was not available. According to DoAE, most of the extension staff responding farmers’ queries via the above-mentioned tele-farming advisory services were those trained under the project. Computer training provided under the project helped the staff to use information and communication technology (ICT). Meanwhile, negative impacts were not observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|--|---|---|
| (Project Purpose) Agricultural knowledge and extension skills of extension service staff in KP are improved. | Indicator 1: A total of 350 extension service staff are trained and certified. Indicator 2: At least 400 dissemination activities are conducted to deliver agricultural knowledge and/or production | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -A total of 357 extension service staff (107 AOs/SMSs and 250 FAs) were trained and certified. (Ex-post Evaluation) -In general, the extension service staffs (AOs, SMSs and FAs) trained and certified by the project maintained the skills and knowledge through their dissemination activities, group training to farmers in the field, etc (also see the results of Indicator for Overall Goal below). | Project Completion Report (PCR); questionnaire and interview surveys to DoAE. |
| | | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -As many as 761 dissemination activities were conducted by the trained FAs through which agricultural knowledge and/or production techniques were delivered to 5,822 farmers in KP. (Ex-post Evaluation) | Ditto. |

¹ All FAs who participated in the training prepared 3 Action Plans of extension activities per each for the coming 12-months.

² In Oct 2017, DoAE initiated the tele-farming advisory services in KP and in 2020 United State Agency for International Development provided hardware support (Server, UPS) to strengthen the tele-farming program “Pakistan Agriculture Technology Transfer” (2017-2021), whereby farmers could get advice on agriculture technologies through short messages and robocalls. DoAE further strengthened the Tele-Farming Call Center in June 2021.

| | | | | | | | |
|--|---|--|--------------------------------|--|---|--|------------------------------------|
| | techniques to farmers by the trained FAs. | -The trained FAs continuously implemented extension activities to deliver agricultural knowledge and/or production techniques to farmers, using the acquired skills and knowledge, through field activities as well as tele-farming advisory services initiated after the project completion (also see the results of Indicator for Overall Goal below). | | | | | |
| (Overall Goal) | Indicator: At least 15,000 farmers are extended with new knowledge and skills on agricultural production by the FAs trained by the project *. | (Ex-post Evaluation) achieved <No of farmers extended by the FAs trained under the project after the project completion > | | | | Questionnaire and interview surveys to DoAE. | |
| Appropriate knowledge and skills to improve agricultural productivity are extended to farmers. | *See <Special Perspectives Considered in the Evaluation >. | Division | No. FAs trained by the project | (Ref) No. farmers extended by the trained FAs before the project completion | No. farmers extended* by the trained FAs after the project completion | | |
| | | | | | By the target year (PFY2017/18-PFY2019/20) | | After the target year (PFY2020/21) |
| | | Hazara | 39 | N/A | 7,527 | | 6,552 |
| | | Malakand | 55 | N/A | 10,615 | | 9,240 |
| | | Peshawar | 44 | N/A | 8,492 | | 7,392 |
| | | Mardan | 44 | N/A | 8,492 | | 7,392 |
| | | Kohat | 14 | N/A | 2,702 | | 2,352 |
| | | Bannu | 16 | N/A | 3,088 | | 2,688 |
| | | DI Khan | 38 | N/A | 6,948 | | 6,048 |
| | | Total | 250 | 5,822** | 47,864 | 41,664 | |
| | | *No. farmers extended through field activities. ** 4,022 farmers reached through FWs of the training and 1,800 farmers reached after the training. | | | | | |

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: 124%). The Outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The Pakistan Vision 2025 mentioned in “Relevance” was still effective. In addition, KP Agriculture Policy (2015-2025) set forth building on local skills and tradition by strengthening and empowering the various stakeholders, including farmers.

<Institutional/Organizational Aspect>

Organizational structure for agriculture extension was further strengthened in KP with introduction of tele-farming advisory services, including establishment of the Tele-farming Call Center in 2021, which helped to bring about 400,000 farmers linked to DoAE. DoAE stated that necessary staff was secured because the number of staff at DoAE headquarters and district offices was increased on a regular basis, including those involved in the tele-farming advisory services. As of June 2021, there were 761 extension service staff (111 SMSs/AOs and 650 FAs) in total. Furthermore, KP government was planning to recruit 750 more extension service staff (200 AOs and 550 FAs) in the future based on its 10-year Agriculture Transformation Plan launched in PFY2020/2021.

<Technical Aspect>

As shown in <Effectiveness/Impact>, the extension service staff of DoAE trained under the project sustained the necessary skills and knowledge to improve agricultural productivity of farmers. The training curricula and materials developed under the project were utilized for the in-service group training started by ASA Participation of FAs and AOs in the group training conducted by ASA after the project completion is encouraging for the sustainability of training/capacity building in the future. The handbooks and brochures for agriculture technologies developed under the project were utilized by the FAs during their field visits.

<Financial Aspect>

According to DoAE, the necessary budget for the extension service activities was secured from the federal, provincial and district governments, including Public Sector Development Program /Annual Development Program of the KP government.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional/organizational, technical, and financial aspects of the implementing agency. Therefore, the sustainability of the project effects is high.

5 Summary of the Evaluation

The project achieved the Project Purpose of improving agricultural knowledge and extension skills of extension service staff in KP. The effects of the project continued and the Overall Goal of extending appropriate knowledge and skills to improve agricultural productivity to farmers was achieved. As for the sustainability, no problems were observed in terms of the policy, institutional/organizational, technical, and financial aspects. Regarding the efficiency, the project cost 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:

1. Since the training was implemented in NARC which is a national agricultural research center, it took less time for latest research results and data to reach the farmers via AOs. Therefore, it is recommended for NARC to set up a collaboration system which helps to continue to cooperate with AOs in order to convey useful research results to farmers in a timely manner and so that NARC can acquire the needs in the field.

Lessons Learned for JICA:

1. In the project, the modules and the information which are not suitable with the ground situation in the field have modified repeatedly so that the implementation of the project to meet the demands. As these considerations and trial and errors are beneficial for the training

participants and it is considered to have good effects on the impact of trainings, it is worth emphasizing that modifications and amendment of the training plan is better be considered to meet the actual needs.

2. The reason why the actual result by the target year largely exceeded the target figure of the indicator mainly because DoAE advised all district offices to outreach the extension services to the maximum number of farmers, and then the district offices made their extension plans and implemented accordingly. This result shows the fact that synergy of the recipient's policy and the project will be seen due if the recipient's policy and the implementation policy match at an appropriate timing.

3. Many of AOs who received trainings under the project are giving advices to farmers under the tele-farming advisory service which started in 2017 by DoAE in KP after the completion of the project. Given this example, it can be said that the training participants will be more likely to sustainably utilize the expertise acquired through the project if the project is implemented with a look into the future of the recipient's policies.

| | |
|-------------------|--|
| Country Name | The Project for the Strengthening of Capacity on Roads Maintenance Management through Contracting (Phase 2) |
| Republic of Kenya | |

I. Project Outline

| | | | | | | | | | | | |
|---|---|--------------|---|---------------|-------------|------------------------|--------------------------------|--|-----------------------------|---|--|
| Background | The Government of Kenya had actively engaged in private contractors in road maintenance works, using traditional contract methods where road agencies instruct the details of maintenance work in tender documents and supervise the actual work through various processes. Contracting out road maintenance work to the private sector with a degree of authority within long time frame was one of the ways for road agencies to deliver efficient road services. Performance Based Contract (PBC) is one of such contracts in which a contractor is required to meet road maintenance service levels and payment is contingent on their successful achievements. Pilot projects using PBCs started in 2010 and JICA implemented a technical cooperation project (the Phase 1 project) to assist in various activities to introduce PBC for road maintenance works. In November 2013, the Phase 2 of the project was commenced to further strengthen capacity of road maintenance work with much focus on PBC. | | | | | | | | | | |
| Objectives of the Project | <p>Through (i) developing guideline and manuals, (ii) strengthening capacity to monitor and analyze road conditions by using DRIMs (Dynamic Response Intelligent Monitoring System) and ARICS (Annual Road Inventory and Condition Survey), and (iii) conducting training on PBC and DRIMS, the project aimed at strengthening capacity of implementing agencies on management of road maintenance through contracting, thereby contributing to improvement in performance level of roads maintenance operation by PBC and improvement in road conditions.</p> <p>1. Overall Goal: (1) Performance level of roads maintenance operation contracts by performance based contracts (PBC) is improved (Concept of PBC is understood widely both in RAs and in the related industry) (2) Existing roads network maintained in good condition (Appropriate maintenance of roads network is implemented through PBC).</p> <p>2. Project Purpose: The capacity of implementing agencies is strengthened on management of road maintenance through contracting out.</p> | | | | | | | | | | |
| Activities of the project | <p>1. Project site: Nairobi 2. Main activities: (i) developing guideline and manuals, (ii) strengthening capacity to monitor and analyze road conditions by using DRIMs in ARICS, and (iii) conducting training on PBC and DRIMS 3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Kenyan Side</td> </tr> <tr> <td>1) Experts: 11 persons</td> <td>1) Staff allocated: 19 persons</td> </tr> <tr> <td>2) Training in third countries: 10 persons</td> <td>2) Facilities: Office space</td> </tr> <tr> <td>3) Operation cost: project office management, drivers, travel in-country training and seminars.</td> <td></td> </tr> </table> | | | Japanese Side | Kenyan Side | 1) Experts: 11 persons | 1) Staff allocated: 19 persons | 2) Training in third countries: 10 persons | 2) Facilities: Office space | 3) Operation cost: project office management, drivers, travel in-country training and seminars. | |
| Japanese Side | Kenyan Side | | | | | | | | | | |
| 1) Experts: 11 persons | 1) Staff allocated: 19 persons | | | | | | | | | | |
| 2) Training in third countries: 10 persons | 2) Facilities: Office space | | | | | | | | | | |
| 3) Operation cost: project office management, drivers, travel in-country training and seminars. | | | | | | | | | | | |
| Project Period | November 2013-May 2016 (Extended period: November 2015-May 2016) | Project Cost | (ex-ante) approx.200 million yen, (actual) 284million yen | | | | | | | | |
| Implementing Agency | Ministry of Transport and Infrastructure (Currently, Ministry of Transport, Infrastructure and Urban Development: MOTIHUD), Kenya National Highways Authority (KeNHA), Kenya Rural Roads Authority (KeRRA), Kenya Urban Roads Authority (KURA), Kenya Wildlife Services (KWS) | | | | | | | | | | |
| Cooperation Agency in Japan | Hanshin Expressway Co., Ltd., Honshu Shikoku Bridge Expressway Co., Ltd., CTI Engineering International Co., Ltd. | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19 pandemic situation, it was not possible to do face to face interviews. Information was collected through e-mail/telephone interviews.

< Special Perspectives Considered in the Ex-Post Evaluation >

- Continuation of the project effects was analyzed as factors to achieve the Overall Goal.

I Relevance

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

The project was consistent with the development policy of Kenya. "Vision 2030" (2008-2030) prioritizes the economic development and poverty alleviation through infrastructure development. "First Medium Term Plan 2008-2012" in the Vision 2030 stipulated the expansion of roads, capacity development of road maintenance as priority issues in road sector.

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

The project was consistent with the development needs of Kenya for road maintenance. In Kenya, about 90% of all domestic transport relied on road transport. Road construction and maintenance was a key enabler for sustainable development, facilitating cross border and domestic trade as well as providing people with access to market, social services. Also, as described above ("Background"), contracting out road maintenance work to the private sector within long time frame was one of the ways for road agencies to deliver efficient road services.

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

The project was consistent with the Japan's ODA policy to Kenya. Infrastructure development was one of the priority areas in the "Country Assistance Policy to Kenya" (April 2012), with the strong focus on accurate planning, construction, improvement and maintenance of transportation.

<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 achieved at the project completion.

“Procurement and monitoring process of PBC in RAs are in line with the guideline and manuals developed by the project” (Indicator 1) was achieved. This was confirmed by the number of PBC projects and Kilometers coverage put under PBC process by the RAs. The increase in PBC concept utilization among the RAs would be attributed to the following factors: (a) There was extensive staff training and sensitization to promote PBC in all RAs. (b) There was successful piloting allowing testing and proof of concept, which led to better acceptance by the RAs and the industry players too.

“Roads conditions are monitored by DRIMS and the monitoring data (IRI) is analyzed by related RAs on their own (Indicator 2)” was achieved. Introduction of DRIMS into RAs system, through the project, was expected to support planning and implementation of PBC projects. KeNHA fully applied DRIMS to calculate IRI in their entire road network while its application for the KURA network was rapidly growing. On the other hand, KeRRA and KWS who had most of their road network largely unpaved had started applying DRIMS to all newly paved road networks. It can be deduced from the report under the project that staff training and acquisition of DRIMS equipment were attributable to the achievement of this indicator.

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

The project effects have partially continued, as the manual and guideline has been continuously utilized, and DRIMS monitoring has been conducted mainly at KeNHA As mentioned above, the status of continuation of the project effects at the time of ex-post evaluation were taken as the part of the verifiable indicators of the Overall Goal and the factors affecting the achievement levels of the verifiable indicators of the Overall Goal.

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

The Overall Goal has been achieved. “Concept of PBC is understood widely both in RAs and in the roads industry” (Indicator 1) has been achieved, as explained in the Project Purpose above. All RAs have trained some of their staff on the PBC concept. The PBC concept has been well understood and applied in KeNHA and KURA. At the time of ex-post evaluation, the awareness levels among board members in KeNHA and KURA was found to be high inferring from the board approved projects under PBC. KERRA has been however, yet to impress the concept. KWS has included PBC component in the rehabilitation contracts to begin after project completion.

As for “Over 80% of the proportion of total length of the DRIMS monitoring roads is either in excellent condition or in good condition” (Indicator 2), 68% of the DRIMS monitoring paved roads under PBC contracts was in good condition. KeNHA has applied DRIMS monitoring across its entire network including the unpaved roads. As for the unpaved roads, as DRIMS is a diagnostics tool to show the level of road deterioration, IRI has shown a different intervention beyond maintenance is needed in half the KeNHA network i.e. rebuilding. It is evident that more development budget is needed to improve the network to improve IRI.

The guidelines developed under the project have been continuously utilized and have been distributed to the regional staff for knowledge, and reference has been made during development of PBC work plans. The manuals have been distributed to the RAs and uploaded to the KRB website. There is evidence of the downloads from KRB website. However, no updates have been made to the developed manuals.

In addition to this project, a succeeding technical cooperation has contributed to the above situation.

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

No negative impact on the natural environment has been observed. There has been no land acquisition and resettlement.

There were positive impacts related to gender inclusion in project implementation. The PBC model was found to provide more women friendly activities that engage them on continuous basis. The women participation in the off-carriageway maintenance activities have increased due to government policy and sensitization. Overall, there is an estimated 33% increase of women participation in PBC projects/contracts for FY 2020-2021.

During project implementation, DRIMS was upgraded into iDRIMS with a positive impact. The DRIMS methodology uses the normal Personal Computer (PC) to compute the IRI algorithms and also requires a small car placement during operation. As part of DRIMS development, the University of Tokyo, the system developer, improved DRIMS and migrated the system into iPhone platform – hence the name iDRIMS (as an App). iDRIMS proved less cumbersome and more efficient equipment for road condition monitoring since it does not require a customized car for its use.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | | |
|--|--|---|---------|---------|---------|---------|---------|
| (Project Purpose) The capacity of implementing agencies is strengthened on management of road maintenance through contracting | Indicator 1: Procurement and monitoring process of PBC in RAs are in line with the guideline and manuals developed by the project. | Status of the Achievement: achieved (Project Completion) | | | | | |
| | | Length of PBC (PBC KM) | | | | | |
| | | RA | FY11/12 | FY12/13 | FY13/14 | FY14/15 | FY15/16 |
| | | KeNHA | | 0.0 | 283.8 | 374.0 | 553.47 |
| | | KeRRA | | 216.0 | 371.1 | 358.3 | 358.3 |
| | | KURA | 14.3 | 73.5 | 177.7 | 638.2 | 714.4 |
| | | KWS | | 39.4 | 39.4 | 362.0 | 53.0 |
| | | Total | 14.3 | 328.9 | 872.0 | 1,732.5 | 1,679.1 |
| | | (Ex-post Evaluation) Refer to the Overall Goal. | | | | | |

| | Indicator 2: Roads conditions are monitored by DRIMS and the monitoring data (IRI) is analyzed by related RAs on their own. | Status of the Achievement: achieved (Project Completion) - KeNHA fully applied DRIMS to calculate IRI in their entire network. - Application for the KURA's network was rapidly growing. - KeRRA and KWS, who had most of their road network unpaved had started applying DRIMS. (Ex-post Evaluation) Refer to the Overall Goal. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|----------|----------|----------|---------|-----------|---------|-------|---------|---------|---------------|---------|---------|------|-------|-------|------|-------|-------|-------|-------|------|------|---|---|-----|-------|-------|-------|---|---|-------|---------|---------|---------|---------|---------|
| (Overall Goal) (1) Performance level of roads maintenance operation contracts by performance based contracts (PBC) is improved. (Concept of PBC is understood widely both in RAs and in the related industry.) (2) Existing roads network maintain in good condition (Appropriate maintenance of roads network is implemented by PBC.) | Indicator1: Concept of PBC is understood widely both in RAs and in the roads industry. | (Ex-post Evaluation) achieved ¹ Length of PBC (PBC KM) <table border="1"> <thead> <tr> <th>RA</th> <th>FY/16/17</th> <th>FY/17/18</th> <th>FY18/19</th> <th>FY19/20</th> <th>FY20/21</th> </tr> </thead> <tbody> <tr> <td>KeNHA</td> <td>3,106.0</td> <td>4,082.0</td> <td>7,058.1</td> <td>6,418.0</td> <td>7,298.0</td> </tr> <tr> <td>KURA</td> <td>613.4</td> <td>596.8</td> <td>85.0</td> <td>484.4</td> <td>636.0</td> </tr> <tr> <td>KeRRA</td> <td>353.0</td> <td>58.5</td> <td>22.7</td> <td>-</td> <td>-</td> </tr> <tr> <td>KWS</td> <td>338.5</td> <td>338.5</td> <td>300.0</td> <td>-</td> <td>-</td> </tr> <tr> <td>Total</td> <td>4,410.9</td> <td>5,075.8</td> <td>7,465.8</td> <td>6,902.4</td> <td>7,934.0</td> </tr> </tbody> </table> <p>The general budget deficit of KeRRA led to budget cut to maintenance of rural road. Therefore, unfortunately, PBC for rural road decreased substantially.</p> | RA | FY/16/17 | FY/17/18 | FY18/19 | FY19/20 | FY20/21 | KeNHA | 3,106.0 | 4,082.0 | 7,058.1 | 6,418.0 | 7,298.0 | KURA | 613.4 | 596.8 | 85.0 | 484.4 | 636.0 | KeRRA | 353.0 | 58.5 | 22.7 | - | - | KWS | 338.5 | 338.5 | 300.0 | - | - | Total | 4,410.9 | 5,075.8 | 7,465.8 | 6,902.4 | 7,934.0 |
| | RA | FY/16/17 | FY/17/18 | FY18/19 | FY19/20 | FY20/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KeNHA | 3,106.0 | 4,082.0 | 7,058.1 | 6,418.0 | 7,298.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KURA | 613.4 | 596.8 | 85.0 | 484.4 | 636.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KeRRA | 353.0 | 58.5 | 22.7 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KWS | 338.5 | 338.5 | 300.0 | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 4,410.9 | 5,075.8 | 7,465.8 | 6,902.4 | 7,934.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indicator 2: Over 80% of the proportion of total length of the DRIMS monitoring roads is either in excellent condition or in good condition. (Appropriate maintenance of roads network is implemented by PBC.) | (Ex-post Evaluation) partially achieved Condition of the DRIMS monitoring paved roads per contracts <table border="1"> <thead> <tr> <th>CONDITION</th> <th>GOOD</th> <th>FAIR</th> <th>POOR</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Under PBC</td> <td>68%</td> <td>246%</td> <td>6%</td> <td>100%</td> </tr> <tr> <td>Not under PBC</td> <td>27%</td> <td>46%</td> <td>27%</td> <td>100%</td> </tr> </tbody> </table> | CONDITION | GOOD | FAIR | POOR | TOTAL | Under PBC | 68% | 246% | 6% | 100% | Not under PBC | 27% | 46% | 27% | 100% | | | | | | | | | | | | | | | | | | | | | | |
| CONDITION | GOOD | FAIR | POOR | TOTAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Under PBC | 68% | 246% | 6% | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Not under PBC | 27% | 46% | 27% | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Source : (1) KRB, Annual Public Roads Program (APRP), (2) KeNHA ARICS Report 2020 Summary for all regions/corridors, (3) RA databases, (4) Questionnaires and interviews with RAs

3 Efficiency

Both the project cost and project period exceeded the plan (the ratio against the plan: 142%, 124%). Outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

There has been policy support for promoting PBC. For example, the Public Procurement Authority (PPRA) has drafted and adopted PBC standard Tender Documents– awaiting official adoption. Kazi Mtaani (Work Estate), initiatives to help youth in the Estates (Areas where we live) to acquire job opportunities in the area in order to empower them economically, under the COVID-19 economic stimulus has prompted more off-carriage PBC work items. Contracts for road maintenance jobs within the estate will be given under PBC to the residents. The Circular was issued in July 2020.

< Institutional/Organizational Aspect>

A circular from MOTIHUD has been sent requiring RAs to establish Cost Estimation Units under the Maintenance Division. The Units have been, however, yet to be formally established and staffing due to the COVID-19 pandemic.

KeNHA noted that there is limitation due to staff/members not only for PBC but institution wide while for KeRRA they assessed that they have enough staff to promote PBC model and activities. The main reason for the above is due the government cap on new employment in all departments. Since for KeRRA, they have not started lots of PBC in most road works, no staff constraints is generally expected.

<Technical Aspect>

At all RAs, there has been established technical skills level to sustain project outputs: (i) The staff has sustained skills on the PBC model through On-the-Job Training (OJT). This has been through process of preparing project specifications for PBC components of projects. (ii) All new staff members have been given the requisite manuals/guidelines etc, to be able to prepare PBC contracts. (iii) The PBC Guideline, developed under the project, has been the most referred to since it has been indicated in pre-commencement meetings for PBC as a critical reference manual for procurement works.

<Financial Aspect>

There has been no drop of budget for maintenance works. The level of maintenance budget supportive of PBC has fairly remained the same through the Kenya Roads Board (KRB) Road maintenance levy fund.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational aspect 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 at the project completion, as the procurement and monitoring process of PBC were in line with

¹Among all the counterparts, the primary focus of the project were KeNHA and KURA. It is evident from the country assistance policy, indicating to provide the assistance in combination with soft and hard component. Historically, hard or grant/loan assistance is targeted to KeNHA (i.e. Mombasa Port Area Road Development Project) and KURA (Western Ring Road, Ngong Road (I and II)) and there is no history of providing “hard” assistance to KeRRA and KWS. Considering all the context above, the evaluation judgement was made with the strong focus on the result of the KeNHA and KURA.

the guideline and manuals developed under the project, and roads conditions were monitored by DRIMs. The Overall Goal has been partially achieved, as the concept of the PBC has been understood widely, and the road conditions monitored by the DRIMS have improved, however, have not reached the target.. As for the sustainability, slight problems have been observed in terms of the institutional/organizational aspect; however, no problem has been observed in terms of policy, technical and financial aspects. As for the efficiency, both project cost and project period exceeded the plan.

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

III. Recommendations & Lessons Learned

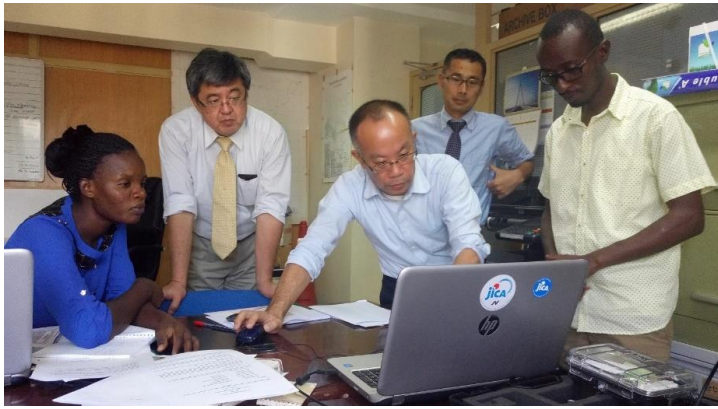
Recommendations for Implementing Agency:

1. There is need for the RAs to secure enough budget and staff for the wider spread of PBC contracts.
2. The Annual Road Inventory Conditions Survey (ARICS) should be mainstreamed in all RAs, on the basis of which road maintenance works should be planned.

Lessons Learned for JICA:

Although road maintenance under PBC contracts has progressed, there has been no clear data on the actual cost reduction as a result of the PBC contracts. Therefore:

1. Detailed baseline survey with data to measure effect and cost of introduction of PBC concepts in Kenya is critical to further demonstrate project outcomes.
2. As Kenya's intention is to promote PBC for road maintenance, JICA should consider doing an impact or cost effectiveness evaluation of the road maintenance program.



TC experts with counterpart training/technology transfer



Two counterparts showing off carriage way PBC activities – outcomes.

| | |
|--------------------------------|---|
| Country Name | Enhancing Corporate Finance Management Capacity to Implement SOE Restructuring |
| Socialist Republic of Viet Nam | |

I. Project Outline

| | | | | | | | | | | | |
|--|---|--------------|---|---------------|-----------------|--|--------------------------------|----------------------------------|-----------------|--|--|
| Background | <p>The global financial crisis in 2008-09 resulted in an alarming level of non-performing loans (NPLs) in the Vietnamese banking sector in the early 2010s. One of the causes behind mounting NPLs was lackluster business performance of state-owned enterprises (SOEs). The Prime Minister issued Decision No.450/QD-TTg on 18th April 2012 on “Strategy for Finance Development of Vietnam toward 2020”. In the Decision, the essential task for the short-term was to improve legal framework and corporate finance mechanism for restructuring SOEs. As an important policy to implement “SOE restructuring”, Decision No. 929/QD-TTg (dated 17th July 2012) approved the Program, “Restructuring SOEs with focus on the Economic Group and the General Corporation for the period of 2011-2015”. To support the task and program, this technical cooperation project was requested by Government of Viet Nam to Government of Japan¹.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through i) strengthening capacity of Ministry of Finance (MOF) and its related organizations on debt disposal and corporate governance, and ii) policy proposals and legislative recommendations for SOE restructuring; the project aimed to strengthen capacity of MOF in corporate finance management, thereby accelerating restructuring SOEs in Viet Nam.</p> <ol style="list-style-type: none"> Overall Goal: Restructuring SOEs is accelerated through accomplishing sound and efficient management of SOEs. Project Purpose: Strengthening capacity of Ministry of Finance (MOF) in corporate finance management, with focus on the development of SOEs’ debt disposal mechanism which closely connects with SOE restructuring and the improvement of SOEs’ corporate governance. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Hanoi, Viet Nam Main Activities: <ol style="list-style-type: none"> To assist Debt and Asset Trading Corporation (DATC) to strengthen its roles to purchase/dispose SOE’s debts for promoting equitization (i.e., transforming to a joint stock company); through developing the concept note of a new Decree on DATC, developing DATC’s mid-term strategy (2016-2020) and conducting various training. To assist State Capital Investment Corporation (SCIC) to strengthen its roles to manage State shareholdings and to enhance values of its portfolio companies for divestment; through preparing SCIC’s a) Corporate Governance Code (CGC)², b) Voting Guideline (VG)³ and c) key risk indicators (KRIs). To assist Ministry of Finance (MOF) to promote equitization and restructuring of SOEs, through the above i) ii) and a) preparing policy proposals and b) recommending amendments of existing decrees on equitization. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Vietnamese Side</td> </tr> <tr> <td>1) Experts: (long-term) 5 persons; (short-term) 17 persons</td> <td>1) Staff Allocated: 12 persons</td> </tr> <tr> <td>2) Trainees Received: 65 persons</td> <td>2) Office space</td> </tr> <tr> <td colspan="2">3) Operation costs including consultants’ fees</td> </tr> </table> | | | Japanese Side | Vietnamese Side | 1) Experts: (long-term) 5 persons; (short-term) 17 persons | 1) Staff Allocated: 12 persons | 2) Trainees Received: 65 persons | 2) Office space | 3) Operation costs including consultants’ fees | |
| Japanese Side | Vietnamese Side | | | | | | | | | | |
| 1) Experts: (long-term) 5 persons; (short-term) 17 persons | 1) Staff Allocated: 12 persons | | | | | | | | | | |
| 2) Trainees Received: 65 persons | 2) Office space | | | | | | | | | | |
| 3) Operation costs including consultants’ fees | | | | | | | | | | | |
| Project Period | (ex-ante) Mar. 2014 – Feb. 2017 (actual) Same as above | Project Cost | (ex-ante) 199 million yen, (actual) 964 million yen | | | | | | | | |
| Implementing Agency | <p>Corporate Finance Department (CFD) under Ministry of Finance (MOF) Related Organizations: Debt and Asset Trading Corporation (DATC); State Capital Investment Corporation (SCIC). Both are wholly owned by the State, and were under MOF at the time of project implementation. (SCIC was moved from under MOF to under the Committee for Management of State Capital (CMSC) in 2018.)</p> | | | | | | | | | | |
| Cooperation Agency in Japan | <p>Japan Economic Research Institute, Inc.; PricewaterhouseCoopers Arata LLC; Industrial Growth Platform, Inc.</p> | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to COVID-19 pandemic, the evaluation judgement was made by analyzing information acquired by sending and collecting a questionnaire, and through telephone/email interviews with officials concerned. No interviews by visiting the implementing agency were conducted.

<Special Perspectives Considered in the Ex-Post Evaluation>

- The indicators for the Project Purpose were set as “Self-assessment and experts’ assessment on the capacity ... among MOF officials and DATC/SCIC staff”. Since such manner of assessment cannot be replicated, this ex-post evaluation verified the continuation status of project effects

¹ A Japanese ODA Loan Program, namely “Economic Management and Competitiveness Credit (EMCC)”, was co-financed with the World Bank in three phases from 2013. Under the account of the Loan Program Phase I, the two projects, including this project, were implemented. The other technical cooperation project was “Vietnam Bank Restructuring Support Project (2014-2017)”. The same Chief Advisor was assigned for the two projects.

² A set of guiding principles (including the rights and equitable treatment of shareholders) for a company to realize effective corporate governance.

³ SCIC’s general philosophy and approach in executing voting rights to issues that may commonly arise in its portfolio companies’ general meetings of shareholders.

by checking: i) achievements of the Overall Goal indicators, or ii) the level of sustaining the developed capacity among MOF officials and DATC/SCIC staff.

- The Overall Goal Indicator 3 of this project is “The number of portfolio companies, to which SCIC’s Corporate Governance Code (CGC) is applied, increases from FY2017 to FY2020”. As Supplementary Information to this indicator, “application of SCIC’s Voting Guidelines (VG)” was also checked, since the CGC and the VG had been developed as the two main tools for enhancing cooperate governance of SOEs. Moreover, application of the CGC is not obligatory for SCIC’s portfolio companies, while SCIC is in the position to apply the VG to its portfolio companies as long as SCIC assigns its State capital representatives there.
- This project is not evaluated with the related ODA Loan Program in an integrated manner because the ODA Loan Program was co-financed with the World Bank and out of scope for the ex-post evaluation.

1 Relevance

<Consistency with the Development Policy of Viet Nam at the Time of Ex-Ante Evaluation>

The project was consistent with “Socio-Economic Development Plan (2011-2015)” issued in November 2011, which gave high priorities to economic structural reforms, including state-owned enterprises reform, to sustain long-term growth.

<Consistency with the Development Needs of Viet Nam at the Time of Ex-Ante Evaluation>

As mentioned in “Background” above, “improvement in legal framework and corporate finance mechanism for restructuring SOEs” was short-term essential tasks stipulated by Decision No.450/QD-TTg issued in April 2012.

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

The project was consistent with “Country Assistance Policy for the Socialist Republic of Viet Nam (2012)”, including support to “improve the market economy system” and “reform finance” under a priority area on “Promotion of Economic Growth and Strengthening International Competitiveness”.

<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 achieved at the time of project completion. The assessment results at project completion show the capacity of MOF/DATC/SCIC for corporate finance management was built as a whole (Indicator 1 and 2). Various training was conducted for DATC/MOF on debt disposal and business restructuring, aside from developing a DATC’s mid-term strategy (2016-2020). For SCIC, besides related training, the Corporate Governance Code (CGC) and the Voting Guideline (VG) were developed as tools for enhancing corporate governance of SCIC’s portfolio companies. The project also prepared a concept note for a new decree to strengthen DATC, and made recommendations on amendments of existing decrees on equitization of SOEs. Furthermore, in 2016, “JICA Policy Proposals on SOE Reform and Banking Restructuring” (hereinafter referred to as Policy Proposals) were submitted by JICA Experts to the Prime Minister of Viet Nam, some of which (e.g., developing a roadmap by each SOE on sale of shares) were incorporated into the Decision No. 58/QD-TTg effective on 15th February 2017.

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

The project effects have been continued till the time of ex-post evaluation. As shown in the next paragraph, the Overall Goal has been achieved, to which this project clearly contributed. Considering this achievement status, MOF’s capacity in legislation and DATC’s capacity in debt purchase/disposal have been strengthened. Also, SCIC’s capacity in corporate governance has been strengthened, since the CGC and the VG have developed general principles for SCIC to approach corporate governance issues of its 148 portfolio companies in a consistent manner. Moreover, the Government of Viet Nam/MOF promote corporate governance through the Law on Enterprise promulgated in 2020 (submitted by Ministry of Planning and Investment), and the Law on Securities effectuated from 2021 (submitted by the State Securities Commission/MOF), etc.

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

The Overall Goal has been achieved. It is remarkable that Policy Proposals and legislative recommendations by the project were incorporated into decrees issued after project completion. For example, Decree 129/2020/ND-CP stipulates new mechanisms to support DATC in the trading and settling restructured debts (e.g., introducing debt equity swap; strengthening measures for DATC to support enterprises in restructuring such as providing finance, guaranteeing loans for restructured enterprises), which were proposed in the concept note by the project. Moreover, not all but some of the Policy Proposals were reflected in Decree 126/2017/ND-CP on equitization of SOEs. While preventing loss of State capital, the Decree incorporated provisions to encourage investors, such as introducing the book-building method, which better reflects investors’ demand on stock price at initial public offering. Accordingly, MOF issued Circular No. 21/2019/TT-BTC dated 4th November 2019, guiding the initial sale of shares and transfer of state capital by the book-building method (Indicator 1). DATC continuously increased both debt purchase and debt disposal from 2017 to 2020 (Indicator 2). On the other hand, SCIC’s CGC and VG are reported to apply to its 148 portfolio companies, but it is authentically “introduced” (for the CGC, to utilize/refer whenever possible), and “used where dispatching State capital representatives” (for the VG). Application of SCIC’s CGC by its portfolio companies are voluntary but not obligatory (naturally depending on the majority of shareholders, besides companies’ condition). Moreover, several points in the VG have recently become not relevant any more due to change of related regulations (Indicator 3).

It is noteworthy that some other recommendations in the Policy Proposal were adopted, such as: i) improving corporate governance/information disclosure (in the above mentioned two Laws); ii) separation of State ownership and State management (in Decree No. 131/2018/ND-CP on establishment of Committee for Management of State Capital (CMSC), which later governs SCIC as well); and promoting divestment from 10 SCIC’s portfolio companies (e.g., Vinamilk). Thus, certain favourable conditions on divestment towards better environment for investors/share buyers were promoted whenever possible (though having room for much more favourable conditions).

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

This project (together with the other technical cooperation “Vietnam Bank Restructuring Support Project) was implemented under the account of a Japanese ODA Loan Program, namely “Economic Management Competitiveness Credit (EMCC) Phase I”. There were

synergy effects among these projects and the loan, since JICA was able to approach Government of Viet Nam/MOF by dual tracks through technical advice and a loan program, and thus helping double the weight of JICA’s policy recommendations. Moreover, experience⁴ and lessons in this project significantly helped management of JICA’s subsequent technical cooperation, “The Project for Capacity Building on Improving Fairness and Transparency of Vietnamese Equity Market (2019-2023)”. On the other hand, no negative impacts by the project have been observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source | | | | | | | | | | | | | |
|---|---|---|---|------------|------|------|------|------|-------------------------------|------------|------------|------------|------------|---|-----------|------------|
| (Project Purpose) Strengthening capacity of Ministry of Finance (MOF) in corporate finance management, with focus on the development of SOEs’ debt disposal mechanism which closely connects with SOE restructuring and the improvement of SOEs’ corporate governance. | Indicator 1: Self-assessment and experts’ assessment on the capacity to facilitate SOEs’ debt disposal among MOF officials and DATC staff. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) - The assessment results show that capacity of MOF officials and DATC staff to facilitate SOEs’ debt disposal was built as a whole. (Ex-Post Evaluation) - Refer to the Overall Goal (Indicator 1 and 2). | Terminal Evaluation Report, other JICA documents, Questionnaire/interview with MOF/DATC | | | | | | | | | | | | | |
| | Indicator 2: Self-assessment and experts’ assessment on the capacity to facilitate SOEs’ better corporate governance among MOF officials and SCIC staff. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) - The assessment results show that capacity of MOF officials and SCIC staff to facilitate SOEs’ better corporate governance was built as a whole. (Ex-Post Evaluation) - MOF has been promoting corporate governance through new laws. - SCIC can approach corporate governance issues of its portfolio companies in a consistent manner, based on the CGC and the VG developed by the project. | Terminal Evaluation Report, other JICA documents, Questionnaire/interview with MOF/SCIC | | | | | | | | | | | | | |
| (Overall Goal) Restructuring SOEs is accelerated through accomplishing sound and efficient management of SOEs. | Indicator 1: Laws/regulations and recommendations to related ministries designed by MOF are approved officially and implemented. | (Ex-Post Evaluation) achieved - Decree 129/2020/ND-CP: Issued in 2020 to strengthen DATC’s capacity. - Decree 126/2017/ND-CP (partially amended through Decree 140/2020/ND-CP): Issued in 2017 and has been implemented to promote equitization of SOEs. | Questionnaire/interview with MOF/DATC | | | | | | | | | | | | | |
| | Indicator 2: DATC continuously increases debt purchase and debt disposal from 2017 to 2020. | (Ex-Post Evaluation) achieved DATC’s Cumulative Debt Purchase and Disposal (Unit: billion VND) | DATC’s Financial Statement | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Total value of debt purchased</td> <td>31,137,493</td> <td>34,792,852</td> <td>37,546,443</td> <td>40,325,037</td> </tr> <tr> <td>Revenue from debt disposal (selling and settlement)</td> <td>8,852,465</td> <td>10,302,041</td> <td>12,097,894</td> <td>13,383,897</td> </tr> </tbody> </table> | | | 2017 | 2018 | 2019 | 2020 | Total value of debt purchased | 31,137,493 | 34,792,852 | 37,546,443 | 40,325,037 | Revenue from debt disposal (selling and settlement) | 8,852,465 | 10,302,041 |
| | 2017 | 2018 | 2019 | 2020 | | | | | | | | | | | | |
| Total value of debt purchased | 31,137,493 | 34,792,852 | 37,546,443 | 40,325,037 | | | | | | | | | | | | |
| Revenue from debt disposal (selling and settlement) | 8,852,465 | 10,302,041 | 12,097,894 | 13,383,897 | | | | | | | | | | | | |
| Indicator 3: The number of portfolio companies, to which SCIC’s Corporate Governance Code (CGC) and Voting Guideline (VG) ^(Note) are applied, increases from FY2017 to FY2020. | (Ex-Post Evaluation) partially achieved - The CGC is introduced to all of SCIC’s 148 portfolio companies, though it is difficult to justify the proper level of usage by them. - The VG is still used by the State capital representatives assigned to SCIC’s portfolio companies, though needs update in several points. | Questionnaire/interview with SCIC | | | | | | | | | | | | | | |

(Note) Overall Goal Indicator 3: Application of VG was added as Supplementary Information.

3 Efficiency

Although the project period was completed in three years as planned, the project cost significantly increased from the original 199 million Japanese yen to 964 million Japanese yen with the ratio against the plan as 484%⁵. This project aimed to support SOE restructuring, which has been a highly prioritized theme in Viet Nam, while being unprecedented assistance by JICA. Due to the project’s complicated and wide-ranging nature, it was inevitable to examine necessary prescriptions at each stage of the project, through grasping actual situations and considering the effective support. At the stage of project formulation, it was difficult to finalize the project scope and the necessary inputs, therefore the project decided to commence with highly feasible activities at first. At the same time, a consultative committee for this project was set at JICA, and recommendations from Japanese intellectuals were reflected during the project implementation. For this, the project tried to produce tangible results at the initial phase, and then gradually added necessary activities and inputs in line with situations. As a result of these attempts, Effectiveness/Impact of this project has become high (as mentioned in Section 2). However, considering the significant excess in the project cost, the efficiency of the project is fair.

⁴ Restructuring SOEs in Viet Nam had its own typical challenges (SOEs’ management involving many stakeholders while SOEs performing the socio-economic tasks), which reflected the history that SOEs played dominant roles while market economy was not yet developed.

⁵ Precisely speaking, the ratio against planned cost only for this project is not 484%, since the consultants’ fees for supporting DATC (408 million yen) included activities for the other technical cooperation project, “Vietnam Bank Restructuring Support Project (2014-2017)”. However, even deducting whole this amount (408 million yen) from the actual project cost (964 million yen), it is obvious that the actual cost of this project significantly exceeded the originally planned cost (199 million yen).

4 Sustainability

<Policy Aspect>

Aside from the decrees mentioned above, various regulations have recently been issued to promote SOE restructuring. Currently, MOF is reviewing the Law No. 69/2014/QH13 (Law on Management and Use of State Capital Invested in the Enterprises' Production and Business Operations) in order to improve the mechanism for equitization and divestment of State capital.

<Institutional/Organizational Aspect>

In 2018, SCIC was moved from under MOF to under the Committee for Management of State Capital (CMSC), but this organizational change has not affected the function of SCIC negatively. All of MOF (Corporate Finance Department), DATC and SCIC have adequate staff to promote effects of the project.

<Technical Aspect>

Policy Proposals and legislative recommendations by the project were incorporated into decrees issued after project completion, for which MOF officials played important roles. Moreover, in 2017, DATC created and issued its own handbook (Debt Trading and Settlement Handbook) with gained knowledge from the project. SCIC utilizes the CGC and the VG as important references to manage its portfolio companies, and conducts internal training. Moreover, the key risk indicators (KRIs) developed for SCIC have been increasingly applied to SCIC's investment and financial management.

<Financial Aspect>

All of MOF (Corporate Finance Department), DATC and SCIC secure sufficient funds to promote the project effects. While MOF is allocated with the State budget, DATC and SCIC have their own budget as SOEs.

<Evaluation Result>

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

5 Summary of the Evaluation

The project achieved the Project Purpose (strengthening capacity of Ministry of Finance in corporate finance management). The project effects have been continued, and the Overall Goal (accelerating restructuring of SOEs) has been also achieved. Moreover, this innovative project brought various impacts on SOE restructuring in Viet Nam including legislation, and enabled smooth implementation of the subsequent project to promote the Vietnamese equity market. Regarding the Sustainability, no major problems have been observed in terms of policy, institutional/organizational, technical and financial aspects. As for the Efficiency, the project period was as planned, but the project cost significantly 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 State Capital Investment Corporation (SCIC) to promote using its Voting Guideline (VG) and Corporate Governance Code (CGC) which were developed by the project. Especially, SCIC's VG is not relevant any more in several points due to change of related regulations, thus SCIC cannot fully apply the VG to its portfolio companies as much as expected. It is suggested that SCIC update the VG and CGC in line with current situation and legal documents, by utilizing SCIC's own budget and resources.
- It is recommended for Debt and Asset Trading Corporation (DATC) to soon develop a business strategy (2021-2030, with a vision until 2035), as per request by/for approval of Ministry of Finance (MOF). Under this project, DATC's mid-term strategy (2016-2020) was developed. However, due to issuance of a new decree (129/2020/ND-CP) for DATC in 2020, DATC's strategy needs to be revised.
- It is recommended for MOF to revisit "JICA Policy Proposals on SOE Reform and Banking Restructuring", which was submitted by the Experts of this project to the Prime Minister in 2016. Some of the proposals were already reflected into laws/regulations as mentioned above, and others (such as further shortening the time from initial public offering to listing, strengthening securities companies' underwriting and brokerage functions, increasing free-float ratio, etc.) are still relevant (particularly to the subsequent project), since Policy Proposals reflect (foreign) investors' expectation. In order to facilitate better business/investment environment, further adoption of Policy Proposals could be considered gradually in line with the SOE reform situation and development-level of the Vietnamese (equity) market.

Lessons Learned for JICA:

- It took a time during the project implementation to develop the proper project framework and approach, since this project supported SOE restructuring, which was unprecedented assistance by JICA with a high level of difficulty. For example, one of the initial Project Purpose indicators was set as "approval and implementation of laws/regulations", then revised to more feasible indicators after two years from project commencement. For this, one lesson of this project is better not to stick to legal documents' issuance which was beyond the control of a single implementing agency, but rather to focus on policy advice and practical assistance to develop manuals/guidelines as well as capacity building. This lesson was reflected in the more feasible/realistic project framework of the subsequent project, "The Project for Capacity Building on Improving Fairness and Transparency of Vietnamese Equity Market (2019-2023)".
- Even though this project achieved the Project Purpose and the Overall Goal through attempts such as actively incorporating intellectuals' recommendations by holding a series of consultative committee meetings, its project cost exceeded considerably the original plan. As one example of lessons learned, strengthening of DATC could have been supported mainly by activities of a JICA Expert, while entrusting more specified tasks to the consulting company/sub-contractors when necessary. To avoid a large difference between planned and actual project costs, JICA has already introduced the Two Steps Planning Method. Under this method, a project commences with a tentative (basic) plan regarding costs, output indicators, activities and inputs, etc. Then, during a certain period after the project commencement, a concrete (detailed) plan is formulated – through conducting a baseline survey and/or a pilot activity – to implement the project on a full scale. Especially for a project with unforeseeable elements, a significant cost increase could be avoided by utilizing this Two Steps Planning Method where applicable, through setting a period of examining project details prior to its full-scale operation.



In-Depth Training for MOF
on Corporate Governance
and Investment Management



A Meeting on
“Handbook for Debt Trading and Settlement”
issued by DATC in 2017



SCIC's Dissemination Seminar on
Corporate Governance Code and Voting
Guideline (March, 2017)

| | |
|----------------------|---|
| Country Name | Project for the Formulation of Master Plan for Sustainable Fisheries (MASPLAN) |
| Republic of Maldives | |

I. Project Outline

| | | | | | |
|---|---|--------------|---|---|---|
| Background | Maldives is a maritime nation with 1,190 islands and its economy depends on tourism and fisheries. While the importance of fisheries had declined with the rise of tourism, marine products still represented 97% of the total export value (source: Maldives Customs, 2015). In Maldives, domestic marine products are important source of nutrition. Promotion of fisheries is important for job creation as many people are engaged in fisheries, and it was sought to add value to marine products to export. Fisheries sector development plan was needed to specify the strategies, approaches and activities for sustainable and efficient utilization of marine resources. | | | | |
| Objectives of the Project | This project aims to formulate the master plan for the fisheries sector development in Maldives, thereby contributing to the sustainable and efficient use of marine resources. 1. Expected Goals through the proposed plan ¹ : Through the implementation of fisheries policy/management measures and/or related projects, which are evolved from the master plan, sustainable and efficient use of marine resources is further promoted. | | | | |
| Activities of the Project | <ol style="list-style-type: none"> 1. Project Site: Whole area of Maldives 2. Main Activities: <ol style="list-style-type: none"> 1) Analysis of current situation and issues, selection of pilot projects to be implemented, and monitoring of prioritized issues 2) Formulation of the draft sub-sector development plan and road map 3) Implementation and monitoring of the pilot projects 4) Finalization of the master plan 3. Inputs (to carry out above activities) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side 1) Mission members: 11persons 2) Trainees Received: 20 persons 3) Equipment: Equipment for the pilot projects </td> <td style="width: 50%; vertical-align: top;"> Maldives Side 1) Staff Allocated: 63 persons in total - Project Directors, Project Managers: 8 persons in total - Working groups: 55 persons in total </td> </tr> </table> | | | Japanese Side 1) Mission members: 11persons 2) Trainees Received: 20 persons 3) Equipment: Equipment for the pilot projects | Maldives Side 1) Staff Allocated: 63 persons in total - Project Directors, Project Managers: 8 persons in total - Working groups: 55 persons in total |
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| Project Period | (ex-ante) October 2014-September 2017 (actual) October 2014-October 2017 | Project Cost | (ex-ante) 375 million yen, (actual) 362 million yen | | |
| Implementing Agency | Ministry of Fisheries and Agriculture (MoFA) | | | | |
| Cooperation Agency in Japan | INTEM Consulting, Inc. and Fisheries & Aquaculture International Co., Ltd. | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

In the ex-ante evaluation sheet, “Relevant fishery policy/management measures and/or related projects are implemented based on the Master Plan” (Indicator: number of implemented plan) was recognized as a “Goal which will be attained by utilizing the proposed plan.” However, it should be an indicator for “Utilization status of the Proposed Plan.”

1 Relevance

<Consistency with the Development Policy of Maldives at the Time of Ex-Ante Evaluation >

The fisheries sector was one of the priority sectors in the Strategic Action Plan (SAP) 2009-2013 of Maldives, which was its 8th National Development Plan. The new government of Maldives was formed in November 2013 and was yet to prepare fisheries sector development plan at the time of ex-ante evaluation. The master plan developed by the project was going to be approved as the fisheries sector development plan. This project was in line with the national policy of Maldives.

<Consistency with the Development Needs of Maldives at the Time of Ex-Ante Evaluation >

This project was consistent with the needs for a master plan of the fisheries sector as mentioned in “Background” above.

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

Development of local industry including fisheries was one of the priority areas of Japan’s assistance policy for Maldives. The economic structure of Maldives is vulnerable as the tourism, the largest industry, is easily affected by the external factors such as the economic trends of developed countries. Supporting the fisheries sector was expected to contribute to the establishment of resilient economic structure.² This project was in line with Japan’s ODA policy for Maldives.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The objectives of the project (Outputs) were achieved at the time of project completion. The final draft of the master plan titled “Sustainable Fisheries Development Plan of the Important Subsectors in the Maldives 2016-2025, Goals, Objectives and Projects” (SFDPIIS) was submitted to the Minister in August 2017. Development plans and roadmaps for the four sub-sectors were formulated through the preparation of SFDPIIS. Eleven out of 32 priority projects in the four sub-sectors of the master plan had already been implemented to a certain extent by that time. Capacity of MoFA was strengthened through the project.

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

² ODA Data Collection in 2014

< Utilization Status of the Proposed Plan at the Time of Ex-post Evaluation>

The master plan (SFDPPIS) was approved in August 2019. The Project Director of the JICA project became the minister and her capacity and experience she gained during the project led her to approve the master plan. SFDPPIS has been reflected to the current Strategic Action Plan (SAP) 2019-2023³ and the revised Fishery Act for the Maldives (2019)⁴. In SAP 2019-2023, the fisheries sector aims management capacity development, protection of marine ecosystems, development of aquaculture industry for diversification and reduction of dependency on wild stocks, and increase of profitability through the improvement of technology, access to finance, and increasing value addition of fish and fishery products. The activities are based on institutional capacity strengthening through international and multi-sectoral partnerships, education, research, technology development and promotion.

Seven groups of activities have been implemented in SAP, supported by various partners including World Bank’s Sustainable Fisheries Resources Development Project (SFRDP) (2017-2022)⁵ (US\$18million) which aims to improve fisheries management at regional and national levels. As the Utilization Status indicator did not set the target number of implemented activities, it is difficult to judge whether seven is sufficient or not. Considering the target year of SAP (2023) and the low degree of implementation in one of four sub-sectors (post-harvest and value addition) due to the delayed implementation of the related component of SFRDP and/or COVID-19, it is judged that the indicator (number of activities) has been partially achieved.

<Achievement status of Expected Goals through the Proposed Plan at the time of Ex-post evaluation>

The expected Goal is “Through the implementation of fishery policy/management measures and/or related projects, which are evolved from the Master Plan, sustainable and efficient use of marine resources is further promoted.” There have been some examples of promotion of use of marine resources as indicated in the table below.

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

No negative impacts have been observed including those on the environment or society.

This project was classified as Category B as the project is not likely to have significant adverse impact on the environment under the JICA guidelines for environmental and social considerations (April2010) in terms of its sectors, characteristics and areas. The project conducted socio-environmental impact assessment for the pilot and priority projects of the master plan and implemented measures for mitigation of negative impacts.

While impacts on gender have not been objectively assessed and evaluated, there would have been positive impacts due to the nature of the activities conducted which include number of female farmers (for example, six out of the 19 grouper growout pilot farmers are female and this activity would involve more women as it is extended).

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results | |
|---|---|---|--|
| (Outputs) 1. Master Plan for Fisheries Development which reflects the results of pilot projects is formulated. | | (Project completion) Achieved The final draft of the master plan (SFDPPIS) was submitted to the minister of MoFA in August 2017. | source : Final report |
| 2. Development plans and roadmaps for each sub-sector are formulated. | | (Project completion) Achieved Through the development of SFDPPIS, the four sub-sectors were analyzed and the challenges, causes and countermeasures were identified. Development plans and roadmaps were formulated for each sub-sector. | source : Final report |
| 3. Capacity of staff members of MoFA and other relevant organizations is enhanced through the development of the master plan. | | (Project completion) Achieved Capacity of staff was strengthened through planning and implementing policy and management measures and short-term training in Japan and interaction with Japanese experts during the implementation of the pilot projects. (Ex-post evaluation) Continued Their capacity is maintained as mentioned in the section of Sustainability. | source : Final report, Questionnaire and interview of MoFA |
| (Utilization Status of the Proposed Plan) 1. The Master Plan formulated by the Project is officially adopted by the Government of Maldives as the Fishery Sector Development Plan for the achievement of national development goals. | Indicator 1 Approval of the master plan as the fishery sector development plan | (Ex-post Evaluation) Achieved The master plan (SFDPPIS) was approved in August 2019. It has been reflected to the current Strategic Action Plan (SAP) 2019-2023 and the revised Fishery Act for the Maldives (2019). | source : Questionnaire and interview of MoFA |
| 2. Relevant fishery policy/management measures and/or related projects are implemented based on the Master Plan. | Indicator 2 Number of policies/projects implemented | (Ex-post Evaluation) Partially achieved Seven groups of activities have been implemented in SAP 2019-2023 supported by World Bank SFRDP and other sources of funding. (See Annex) | source : Questionnaire and interview of MoFA |
| (Expected Goals through | Indicator 1 | (Ex-post Evaluation) Not verifiable (too early to measure the achievement: | source : |

³ <https://storage.googleapis.com/presidency.gov.mv/Documents/SAP2019-2023.pdf>

⁴ <https://www.gov.mv/en/files/fisheries-act-of-the-maldives.pdf>

⁵ <http://sfrdp.fishagri.gov.mv/>, <https://projects.worldbank.org/en/projects-operations/project-detail/P157801>

| | | | |
|--|---|--|--|
| <p>the Proposed Plan) Through the implementation of fishery policy/management measures and/or related projects, which are evolved from the Master Plan, sustainable and efficient use of marine resources is further promoted.</p> | <p>The degree of achievement of the indicators in the Result Framework after five years of project completion</p> | <p>five years after project completion = 2022) Progress of some activities under SAP and SFRDP shows promotion of use of marine resources:</p> <ul style="list-style-type: none"> - Diamondback squid (DBS): DBS was identified as a new deep-sea fishery during the project. After the project, there were reasonable catch for a while. Due to the decrease of demanded in the local market since then, DBS fishing by the government support has stopped. (OF7 in Annex) - Skipjack tuna purchase and processing have been promoted in small scale fish processing facilities that will be operated in consultation with the island councils in major fishing islands. (OF8 in Annex) - MoFA held “Fishcamp” for children to learn about marine resources in April 2018.⁶ | <p>Questionnaire and interview of MoFA</p> |
|--|---|--|--|

3 Efficiency

The actual project cost was within the plan (97%) and the actual project period exceeded the plan (103%). The planned project period was from October 2014 to September 2017 (36 months) and the actual period was from October 2014 to October 2017 (37 months). The project results (Outputs) were achieved.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

As mentioned in “Utilization Status of the Proposed Plan at the Time of Ex-post Evaluation” above, fishery is one of the priority sectors in SAP 2019-2023. The principal objectives of the revised Fishery Act (2019) include sustainable use and protection/management of fisheries resources and their ecosystems in accordance with equity and good governance; a complete system to develop and manage the aquaculture industry; and establishment of fish factories in islands under partnership with local councils and private parties. The components of the master plan have been integrated into these policies.

< Institutional/Organizational Aspect>

All sections in the Fisheries Department are responsible for the implementation of SAP in their respective work. Planning and Coordination Section is the key section for the effective implementation. The Fisheries Department has Director General-Fisheries; Deputy Director General-Fisheries Extension and Training; Directors of Fisheries Management, Fisheries Compliance, Fisheries Industrial Development, Policy and Planning; and three Planning Officers in the Policy and Planning Section. Maldives Marine Research Institute is under MoFA and has Director General, Mariculture Component Coordinator, Marine Biologist (Technical Coordinator), Technical Manager, technicians, assistants, and officers.

<Technical Aspect>

Staff of the Fishery Department and Maldives Marine Research Institute have sufficient experience and educational background. Their capacity was strengthened by the JICA project through planning and implementing policy and management measures and short-term training in Japan and interaction with Japanese experts during the implementation of the pilot projects. 84% of the staff involved in the implementation of the project remains with the Ministry. World Bank’s SFRDP provides technical assistance, extension and institutional strengthening. However, there is a serious shortage of the graduate level staff within MoFA for the effective implementation of the government policies including the master plan. MoFA has taken an active role in attracting long term scholarships for the sector. A new JICA technical cooperation project on the promotion of blue economy in the fisheries sector in the Maldives is expected to start from 2022. It will provide MoFA staff with training and contribute to their capacity strengthening.

<Financial Aspect>

The government does not set specific budget for the implementation of activities identified by the master plan, and they are supported by donor funding, including World Bank’s SFRDP, Saudi Development Fund, Indian Grant Aid and loan financing, and loans awarded through the SME Development and Financing Corporation. The new project of JICA will bear the cost of implementation of activities in the master plan.

<Evaluation Result>

In light of the above, some 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

This project formulated a master plan for the fisheries sector development in Maldives and it was officially approved. The master plan has been integrated into the new national development policy (SAP 2019-2023) and activities are being implemented for the sustainable and efficient use of marine resources, while the degree of progress varies. There are some problems in technical and financial aspects of sustainability. As for the efficiency, project cost was within the plan 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:

The impacts on gender have not been objectively assessed and evaluated before and after the project. MoFA should prepare a mechanism to assess and evaluate the impacts on gender for future projects related to the fisheries sector. This perspective is important for promoting sustainable development and achieving the Sustainable Development Goals as well.

⁶ <https://m.facebook.com/jicapr/posts/1673248279377979/>

Lessons Learned for JICA:

1. The implementation of many of the aquaculture sub-sector activities was behind schedule due to the delayed implementation of the aquaculture component of SFRDP funded by the World Bank. Projects involving various actors are always challenging, however, close coordination through good communication could avoid such issue.
2. From the sustainability point of view, the soft component should be considered with the same importance as the hard component and resources (including finance) should also be allocated.



Training for Capacity Development for Formulation of Fisheries Sector Development Plan (MASPLAN)

Quality Improvement of Traditional Processed Fish (Valhommas)



Preliminary Resources Survey on Availability of Deep-Sea Resources

Annex. Implementation status of Master plan activities at the time of ex-post evaluation

| # | Approach | Details | Funding source |
|---|---|--|---|
| 1 | OF1. Improvement of Monitoring, Control and Surveillance (MCS) systems | Fisheries Rangers/Inspectors have been deployed in 9 strategic fishing islands to better implement the MCS framework. The Rangers have gone through a rigorous training program and are involved form activities ranging from inspection of fishing vessels, investigation of fisheries offences, information dissemination and port state inspections of foreign fishing vessels. | Government / World Bank Sustainable Fisheries Resources Development Project (SFRDP) (2017-2022) |
| 2 | OF4. Extension of improved live bait stocking system in pole-and-line fishery | Information on the improved live bait stocking systems have been provided to a number of fishers from various fishing regions during various awareness sessions of MoFA. The sessions always take up topics of different areas such as logbook reporting, illegal, unreported and unregulated (IUU) fishing, protection of ocean ecosystem etc. | Government |
| 3 | OF5. Development of a new masdhoni design | The project is a pipeline project and the tender for the development of the new design of the 5th Generation fishing has just concluded. | Government |
| 4 | OF7. Development of new deep-sea fisheries (Diamondback Squid (DBS) and other fishes) | 8 vessels were leased the equipment to engage in DBS fishing. The vessels enjoyed reasonable catch rates initially with the state-owned enterprise Maldives Industrial Fisheries Co. Ltd. (MIFCO) purchasing the bulk of the DBS. MIFCO has since stopped the purchase of DBS due to low demanded in the local market and the vessels have stopped fishing. | JICA / government |
| 5 | OF8. Establishment of new fish purchase/ processing facilities | The skipjack tuna purchase and processing segment has been opened up with the revocation of the exclusivity policy in place since 2002. With the change in policy government has invested in small scale fish processing facilities that will be operated in consultation with the island councils in major fishing islands. The government is also investing in 12 new ice plants through various projects and government financing schemes. | Indian aid/ Saudi Fund for Development/ Government |

| | | | |
|---|---|---|-------------------------------|
| 6 | <p>RF2. Improvement of relevant legislation about reef fisheries</p> <p>RF3. Enhancement of fisheries compliance/enforcement</p> <p>RF4. Design and implementation of reef fisheries management plans</p> | <p>Pursuant to the Fisheries Act, 2019 and the applicable regulations, the following 7 management plans had been adopted and notified: (i) General Reef Fishery Management Plan, (ii) Diamondback Squid Fishery Management Plan, (iii) Sea Cucumber Fishery Management Plan, (iv) Marine Aquarium Fishery Management Plan, (v) Grouper Fishery Management Plan, (vi) Lobster Fishery Management Plan, and (vii) Bill Fish Fishery Management Plan.</p> <p>The reef fishery management plan now mandates all commercial reef fishing vessels to obtain a fishing license and an improved system for catch reporting is also specified through the regulation.</p> | Government / World Bank SFRDP |
| 7 | <p>AQ 1. Establishment of multi-species hatchery</p> <p>AQ 2. Establishment of milkfish seed production facilities to provide baits</p> <p>AQ 4. Refinement of existing aquaculture techniques</p> <p>AQ 5. Training and demonstration capacity building of MTDF/MRC</p> <p>AQ 6. Extension of potential mariculture techniques</p> <p>AQ 8. Improvement of aquatic animal health management</p> <p>AQ 9. Strengthening institutional mechanism on aquaculture activities</p> <p>AQ 10. Development of financing system for aquaculture</p> | <p>To facilitate the development of a mariculture sector through the establishment of a hatchery where seed stock for outgrowing can be sourced from.</p> <p>Inputs from this project has been heavily integrated into the World Bank SFRDP.</p> <p>The Mariculture Component of SFRDP focuses on a rounded approach to aquaculture development through establishing a multispecies hatchery, supporting private sector and households to start up growout farming, training and technical assistance to upcoming hatcheries and farming operations, development of aquatic animal health monitoring and diagnostic capacity in the Maldives, continuing research and development in species of mariculture interest as well as establishing facilities and programmes for focused mariculture trainings.</p> <p>The activities carried out under this project includes;</p> <ol style="list-style-type: none"> 1. Multispecies hatchery construction and operation (currently near completion of ancillary facilities required for the facility and finalizing the design, build and operate concept for the multispecies hatchery development). The hatchery, when operational, will produce grouper fingerlings, sea cucumber juveniles and an appropriate species of bait for the pole-and-line fishery. 2. Infrastructure development of a Mariculture Research and Development Facility at Maniyafushi Island (all infrastructure development near completion. Basic Mariculture Courses planned for late 2021) 3. Development of growout farmers for the target species (19 household level beneficiaries engaged in grouper grow-out farming. So far 7 have grown their groupers to market size and sold their stock). 4. The development and operationalization of the Aquatic Animal Health Facility that will offer aquatic disease diagnostic services and post-border quarantine services for imported aquatic animals. <p>200 grouper growout farms, 125 sea cucumber growout farms nationwide (so far engaging 19 grouper growout farmers in a pilot activity)</p> | Government / World Bank SFRDP |

Source: Questionnaire and interview of MoFA

| | |
|---------------------|--|
| Country Name | Landslide Disaster Management Project |
| Republic of Armenia | |

I. Project Outline

| | | | | | |
|---|---|--------------|---|---|---|
| Background | <p>The landslide disaster was one of the major natural disasters in Armenia. Although the Concept for Landslide Disaster Management was approved by the Armenian government (the government) in 2007, the plan of countermeasures was not implemented due to lack of national budget in situation of the Lehman Crash in 2008. Meanwhile, a serious landslide occurred in the northern area of Armenia in 2011, which caught 35 vehicles, killing 5 persons, and brought about the closure of the main road to Georgia for a long period. Recognizing the importance of the countermeasures, the new Concept for Landslide Disaster Management was developed and approved by the government in July 2013, and Ministry of Emergency Situation (MES) was appointed as the lead authority. Based on the new Concept, the permanent Landslide Disaster Management Inter-Agency Working Group (the WG) was established by MES in collaboration with the related ministries and institutes. (Figures at the time of ex-ante evaluation.)</p> | | | | |
| Objectives of the Project | <p>The project aimed to improve landslide disaster risk reduction capacity of the WG in Armenia through (i) having the members of the WG acquire technology and know-how on investigation, assessment, and design/order/supervision of measures, (ii) formulation of the Comprehensive Landslide Disaster Management Plan (CLDMP), preparation of the Guideline for landslide disaster risk reduction (DRR) (investigation, assessment, and design/order/supervision of measures), and improvement of laws and regulations for implementation of the measures, and (iii) improvement of organizational and institutional framework for implementation of monitoring, proactive measures, emergency measures, and permanent measures in related ministries and agencies, in accordance with the Concept for Landslide Disaster Management in Armenia, thereby reducing landslide disaster risk in Armenia through development of the CLDMP and implementation of measures on the basis of results of investigation/assessment of landslides.</p> <ol style="list-style-type: none"> Overall Goal: Landslide disaster risk in Armenia is reduced through the development of CLDMP and implementation of measures on the basis of results of investigation/assessment of landslides. Project Purpose: Landslide DRR capacity of the WG is improved. | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Whole country of Armenia. (Pilot project sites in Arapi/Shirak Region, Getahovit/Tavesh Region, and Vtoghjaberd/Kotayk Region¹). Main activities: (i) Updating the existing landslide distribution maps, landslide inventory sheets, and priority list of landslide measures; proposing landslide DRR measures; (ii) formulating the CLDMP and the Guideline for landslide DRR and improving the laws/regulations for implementation of the measures; (iii) installing landslide real-time monitoring systems for regional Crisis Management Centers (RCMCs) of MES in the pilot project sites; acquirement of techniques by Rescue Service (RS)/MES to plan, implement and maintain drainage drilling works through the pilot projects, preparing plans of landslide DRR measures by the responsible ministries with assistance and advice of the WG. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side 1) Experts: 8 persons 2) Trainees received: 21 persons 3) Equipment: Landslide monitoring equipment, landslide stability analysis software, drilling equipment, etc. 4) Local cost </td> <td style="width: 50%; vertical-align: top;"> Armenian Side 1) Staff allocated: 24 WG members (14 from MES and 10 from the other 9 WG member ministries and institutes²) 2) Building and facilities: Project Office at MES, etc. 3) Local cost </td> </tr> </table> | | | Japanese Side 1) Experts: 8 persons 2) Trainees received: 21 persons 3) Equipment: Landslide monitoring equipment, landslide stability analysis software, drilling equipment, etc. 4) Local cost | Armenian Side 1) Staff allocated: 24 WG members (14 from MES and 10 from the other 9 WG member ministries and institutes ²) 2) Building and facilities: Project Office at MES, etc. 3) Local cost |
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| Project Period | (ex-ante) July 2014-July 2017 (actual) June 2014-June 2017 | Project Cost | (ex-ante) 349 million yen, (actual) 341 million yen | | |
| Implementing Agency | Rescue Service (RS) of Ministry of Emergency Situations (MES) ³ | | | | |
| Cooperation Agency in Japan | Ministry of Land, Infrastructure, Transport, and Tourism; Nippon Koei Co., Ltd. | | | | |

II. Result of the Evaluation

¹ Originally, the number of the pilot project sites were 2 (Arapi and Getahovit). The third site (Voghjaberd) was added in 2015 for the importance of maintaining the road.

² At the time of project completion, the WG member ministries and institutions other than MES were Ministry of Nature Protection (presently Ministry of Environment), Ministry of Energy Infrastructure and Natural Resources (presently Ministry of Territorial Administration and Infrastructure), Ministry of Agriculture (presently Ministry of Economy), Ministry of Culture (presently Ministry of Education, Science, Culture and Sports), Ministry of Transport, Communication and Information Technologies (presently Ministry of Territorial Administration and Infrastructure), Ministry of Territorial Administration and Development (presently Ministry of Territorial Administration and Infrastructure), State Urban Development Committee (presently Urban Development Committee), Yerevan State University, and Institute of Geological Science -National Academy of Science).

³ After commencement of the project, MES was united with Ministry of Territorial Administration and reorganised into Ministry of Territorial Administration and Emergency Situations (MTAES) in December 2014. Then, MTAES was reorganized into Ministry of Territorial Administration and Development and MES in December 2016.

< Special Perspectives Considered in the Ex-Post Evaluation >

- The evaluator considered that the implementation of landslide DRR measures mentioned in the Project Purpose Indicator 4 included preparation for implementation because, according to the project's logical framework, the means of verification of the indicator t included the approved CLDMP as well as the design and tender documents for the pilot projects.
- The 3 RCMCs stated in Overall Goal Indicator 2 meant the 3 RCMCs responsible for the pilot project sites according to the Action Plan for monitoring system developed under the project.
- In checking the achievement status of the Overall Goal indicators, contribution status of the results of the indicators towards landslide DRR was also confirmed by asking the implementing agency's opinion with grounds because the Overall Goal reads "Landslide disaster risk in Armenia is reduced through the development of CLDMP and implementation of measures on the basis of results of investigation/assessment of landslide".

1 Relevance

<Consistency with the Development Policy of Armenia at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with development policy of Armenia for landslide disaster management set forth in the Concept for Landslide Disaster Management (2013) as described in the "Background".

<Consistency with the Development Needs of Armenia at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with the needs of Armenia for landslide disaster management as described in the "Background".

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

At the time of ex-ante evaluation, the project was consistent with the Country Assistance Policy for the Republic of Armenia (2012), including "Strengthening of disaster prevention measures" as one of its prioritized areas.

<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 achieved at the time of project completion. Firstly, the WG (i.e., MES and Institute of Geological Science (IGS)) became able to investigate and assess landslide risks through the Workshop on Stability Analysis organized by the project, at the end of which all the ten participants⁴ passed an internal test. The WG also acquired the knowledge on design/order/supervision of landslide DRR measures through the landslide DRR activities at the pilot project sites conducted by MES (Indicator 1). Secondly, the WG was able to formulate the Guideline for Landslide Risk Management, which was approved by the Minister of MES in April 2017. Through the work carried out mainly by the WG members, they acquired the capacity to update and revise the Guideline on their own in the future (Indicator 2). Thirdly, the WG became able to propose improvement of organizational and legal frameworks through compiling recommendations on important points for efficient implementation of landslide measures, including implementation system for effective countermeasures, which had been submitted to the Minister of MTAES (then), and preparing the draft of the Operational Rules for Appropriately Restricting Water Use and Earthworks in Landslide Areas, which was under approving process of MES (Indicator 3). Lastly, the WG became able to prepare for landslide DRR measures through preparing the CLDMP as the main author, which was approved by the Minister of MES in April 2017. The WG (i.e., MES) also became able to implement and manage landslide DRR measures through groundwater drainage drilling works at 3 pilot project sites, including 2 drilling works in Arapi solely conducted by MES, as well as 9-month test operation of the real-time landslide monitoring system at the RCMCs responsible for the pilot project sites according to the Standard Operation Procedure (SOP) prepared under the project (Indicator 4).

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

The project effects were continued at the time of ex-post evaluation although a new WG was established by the order of the Minister of MES in 2020 due to changes in the governmental administration system⁵. The landslide distribution maps and inventory sheets, improved under the project, were continuously managed as a GIS database by the National Crisis Management Center (NCMC)/MES and updated as needed. The recommendations on important points for efficient implementation of landslide measures were implemented⁶. The CLDMP and the Guidelines were approved by the Prime Minister and continuously utilized by the new WG⁷. The Guidelines were used mainly by MES, which was appointed as the responsible body for landslide management by the Prime Minister, and other WG member ministries/agencies (such as Ministry of Territorial Administration and Infrastructure (MTAI) and Urban Development Committee (UDC)) and the regional administrations cooperated with MES on the landslide management. The Operational Rules were approved by the Minister of MES after the project completion in 2017 and distributed to the residents of landslide areas. The new WG (i.e., MES and IGS) maintained the capacity to investigate and assess landslide risks through application of the Guideline/manuals/materials prepared under the project. The new WG also maintained the knowledge on design/order/supervision of the measures for the landslide DRR by sharing it at its regular meetings. The new WG sustained the capacity to update/revise the CLDMP and the Guideline through information sharing and discussions at its regular meetings and the capacity to propose for improvement of organizational and legal framework through information sharing and discussions at its regular meetings, attendance to seminars and awareness raising activities, etc. The new WG maintained the capacity to update/revise the CLDMP through information sharing and discussions at its regular meetings. The new WG (i.e., MES) maintained the skills and knowledge to implement and manage landslide DRR measures through groundwater drainage drilling works at

⁴ These 10 participants selected by the Armenian side included 3 WG members and other 5 staff from MES as well as 2 staff from IGS who participated on behalf of the WG members.

⁵ The new WG consisted of MES, the succeeding ministries/agencies of the original members (i.e., Ministry of Environment, Ministry of Economy, Ministry of Education, Science, Culture and Sports, Ministry of Territorial Administration and Infrastructure, and Urban Development Committee), the original academic members (i.e., Yerevan State University and IGS), and the new members (i.e., Urban Development, Technical Standards and Fire Safety Inspectorate and Cadastre Committee).

⁶ For example, MES was developing regulatory documents based on the recommendations. Further details were not available.

⁷ For example, in accordance with the Emergency Response Plan of the CLDMP, MES took preventive landslide measures (i.e., groundwater drainage drilling holes) at high-risk landslides in Tumanyan and Atan communities of Lori region in 2018-2019, which were not included in the priority landslides selected under the project, using the acquired skills and the provided equipment. (Also see <Status of Achievement for Overall Goal at the Time of Ex-Post Evaluation> below.)

the landslide areas in Lori Region conducted in accordance with the Emergency Response Plan of the CLDMP (see footnote 7 for details) and operation of the real-time monitoring system.

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

The Overall Goal was not achieved at the time of ex-post evaluation because neither indicator was achieved mainly due to adverse effects of external conditions. MES planned groundwater drainage drilling holes at 4 priority landslides selected under the project⁸ in a year from 2018-2021, which were included in the Mid-Term Expenditure Project (MTEP) for 2017-2019 and 2019-2021 and submitted to the government. In addition, as an emergency response based on the CLDMP, MES planned the groundwater drainage drilling holes at 2 other landslides in 2018-2019, which were given the utmost priority based on the landslide risk assessment conducted by MES. (Target for the indicator of planning at 2 sites in a year was achieved every year). Unfortunately, no works at the priority landslides selected under the project were implemented so far because of change in the political administration in 2018 and shortage of the national budget due to the war with Azerbaijan in 2020 and the COVID-19 in 2020-2021; however, the works at the 2 other priority landslides were implemented in 2018-2019 as planned, using the emergency budget. They contributed to the landslide DRR in Armenia to some extent by preventing the landslides in the areas with the utmost risk. It is noted that the implementation of the priority landslides selected under the project was not cancelled but postponed: the budget proposal (4 priority landslides selected under the project in a year) included in the next MTEP for 2022-2024 was already approved by the government. MES expected that the groundwater drainage drilling holes would be implemented as planned in the MTEP from 2022 (Indicator 1). The real-time landslide monitoring system was functional in accordance with the latest SOP only at 1 RCMC in the project pilot site in Arapi (target: 3 RCMCs) because the equipment provided at all of the 3 RCMCs regularly broke down due to thunder, and only the monitoring system in Arapi could be fixed and worked in normal condition as of June 2021. MES carried out repairs as much as possible; however, replacement of some of the damaged parts (i.e., information transfer cables) of the equipment provided at the other 2 sites was impossible since they could not be found neither in Armenian market nor international internet market⁹. Meanwhile, it was confirmed that the operating monitoring system contributed to landslide DRR in Armenia to some extent because it helped the community to prevent landslides by making it possible to detect a landslide risk and to take appropriate countermeasures in advance (Indicator 2).

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

Other positive impacts on landslide DRR related activities by WG member organizations were observed. For example, Ministry of Environment (MEnv) used the improved landslide distribution maps for landslide inventory in specially protected areas. IGS utilized the acquired knowledge and the provided software to conduct landslide risk assessment at several active landslides in Armenia from 2019 to 2020. UDC initiated and approved the revision of the norms of seismic construction, which introduced mandatory requirements for the implementation of anti-landslide measures. UDC also developed the draft budget request for a program on the “Landslide Disaster Management” (2022-2024) and submitted it to MES in July 2021 for incorporation in the consolidated budget proposal on landslide DRR measures for the MTEP for 2022-2024 compiled by MES. Meanwhile, negative impacts were not observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|---|---|---|
| (Project Purpose) Landslide DRR capacity of the WG is improved. | Indicator 1: WG is able to perform DRR process, including investigation, assessment, and design/order/supervision of measures [knowledge]. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -The WG acquired the skills to investigate and assess landslide risks and the knowledge to design/order/supervision of landslide DRR measures respectively through the Workshop on Stability Analysis organized by the project and the landslide DRR activities at the pilot project sites respectively. (Ex-post Evaluation) -The new WG maintained the capacity to investigate and assess landslide risks and design/order/supervision of the landslide DRR measures respectively through application of the guidelines/manuals/materials prepared under the project and regular meetings. | Terminal Evaluation Report (TER), questionnaire and interview survey to MES, IGS, UDC, MEnv, and MTAI. |
| | Indicator 2: WG is able to formulate Guideline for standardization of necessary technology on landslide disaster risk reduction [technology]. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -The WG formulated the Guideline for landslide risk management. Through the work carried out mainly by the WG members, they also acquired the capacity to update/revise the Guideline if needed. (Ex-post Evaluation) -The new WG maintained the capacity to update/revise the Guideline through its regular meetings. | TER, 2nd-year Completion Report, questionnaire and interview survey to MES. |
| | Indicator 3: WG is able to propose for improvement of organizational and legal framework [organization and | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -The WG compiled the recommendations, including implementation system for effective landslide countermeasures as well as the draft of the Operational Rules for appropriately restricting water use and earthworks in landslide areas. (Ex-post Evaluation) | ditto |

⁸ In total, 17 priority landslides were selected under the project and groundwater drainage drilling works were selected as countermeasures for 16 priority landslides.

⁹ Spare parts of the information transfer cables were not provided by the project. Information about how and where all the spare parts and consumable items could be obtained was not shared to MES, either. It is noted that the monitoring equipment was procured in Japan, because it was not manufactured or sold in Armenia and the Japanese monitoring system was better than the one in the third countries in terms of performance and durability.

| | institution]. | -The new WG maintained the capacity to propose for improvement of organizational and legal framework through its regular meetings, attendance to seminars and awareness raising activities, etc. | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|------------------------------|------|------|-------------------|---------|-------|-------|-------|-------|-------|--|-------------|---|---|---|------------------------------|-------|--|--|
| | Indicator 4: WG is able to implement and manage landslide DRR measures [implementation of measures]. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -The WG developed the CLDMP approved by the Minister of MES and implemented and managed the draining drilling works and test-operation of the real-time landslide monitoring system at the pilot project sites. (Ex-post Evaluation) -The new WG maintained the capacity to update/revise the CLDMP through its regular meetings and the capacity to implement and manage landslide DRR measures through drainage drilling works at landslide areas and operation of the real-time monitoring system in the pilot project sites. | ditto | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) Landslide disaster risk in Armenia is reduced through the development of CLDMP and implementation of measures on the basis of results of investigation/assessment of landslides. | Indicator 1: Groundwater drainage drilling holes are planned and implemented at 2 priority landslides in a year. | (Ex-post Evaluation) not achieved <Number of priority landslides where groundwater drainage drilling holes were planned and implemented> A=priority landslides selected under the project; B=other priority landslides identified after the project completion based on the landslide risk assessment. | Questionnaire and interview survey to MES. | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th></th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021 (as of July)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Planned</td> <td>4 (A)</td> <td>4 (A)</td> <td rowspan="2">4 (A)</td> <td rowspan="2">4 (A)</td> </tr> <tr> <td colspan="2">2 (B)</td> </tr> <tr> <td rowspan="2">Implemented</td> <td>0</td> <td>0</td> <td rowspan="2">0</td> <td rowspan="2">Completed: 0 (Ongoing: 0)</td> </tr> <tr> <td colspan="2">2 (B)</td> </tr> </tbody> </table> | | 2018 | 2019 | 2020 | 2021 (as of July) | Planned | 4 (A) | 4 (A) | 4 (A) | 4 (A) | 2 (B) | | Implemented | 0 | 0 | 0 | Completed: 0 (Ongoing: 0) | 2 (B) | | |
| | 2018 | 2019 | 2020 | 2021 (as of July) | | | | | | | | | | | | | | | | | | |
| Planned | 4 (A) | 4 (A) | 4 (A) | 4 (A) | | | | | | | | | | | | | | | | | | |
| | 2 (B) | | | | | | | | | | | | | | | | | | | | | |
| Implemented | 0 | 0 | 0 | Completed: 0 (Ongoing: 0) | | | | | | | | | | | | | | | | | | |
| | 2 (B) | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2: Landslide monitoring system is functioned at 3 RCMCs in accordance with the latest SOP. | (Ex-post Evaluation) not achieved -The real-time landslide monitoring system was functional only at 1 out of 3 RCMCs in accordance with the latest SOP because the equipment provided under the project at all 3 RCMCs broke down regularly due to thunder, and only the one at 1 RCMC was working in normal condition as of June 2021. | Questionnaire and interview survey to MES, and field observation in Arapi. | | | | | | | | | | | | | | | | | | | |

3 Efficiency

The project cost and period were within their respective plans (ratio against the plan: 98% and 100 % respectively). The Outputs of the project were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The Concept for Landslide Disaster Management (2013) mentioned in “Relevance” was still effective. In addition, the CLDMP and the Guideline developed under the project were approved by the Prime Minister.

<Institutional/Organizational Aspect>

Organizational structure for landslide DRR was established. The new WG belonged to Operational Emergency Countermeasures Headquarters established by the order of the Prime Minister, in which all the Ministers participate, so that coordination on landslide issues became easier. It was functioning as described in “Effectiveness/Impact, and the necessary number of staff were assigned by the member organizations (17 in total). MES was appointed as the responsible body for landslide management by the Prime Minister and allocated the necessary number of staff for the landslide DRR introduced by the project at the headquarters and the 3 RCMCs overseeing the pilot project sites (8 in total).

<Technical Aspect>

As described in “Effectiveness/Impact”, the new WG maintained the capacity to promote landslide DRR and the project deliverables such as the CDLMP, the Guideline, the SOP, manuals, etc. were continuously utilized. The landslide stability analysis software provided under the project was also continuously used by IGS. Meanwhile, some of other provided equipment was not fully utilized. The drilling equipment was not used for the preventive works at the project priority landslides as planned because the planned works were postponed to the next MTEP (2022-2024) due to lack of the national budget caused by the external conditions such as the war and COVID-19; however, it was maintained in good condition and was used for the emergency preventive works at 2 other landslides in 2021. As the budget for the next MTEP was approved, the drilling equipment was expected to be fully utilized from 2022. As for the landslide monitoring equipment, only 1 out of 3 sets was maintained in usable condition and utilized due to malfunctioning of the other sets caused by the frequent thunder and unavailability of the spare parts for the damaged information transfer cables in the domestic market and the international internet market.

<Financial Aspect>

In accordance with the Armenian budget system, MES submitted to the government a budget proposal on landslide DRR for the MTEP. The budget proposal incorporated the one from other WG member ministries/agencies such as MEnv, MTAI and UDC. MES secured the necessary budget except for the one for the groundwater drainage drilling works at the priority landslides that were postponed to the next MTEP due to lack of the national budget as mentioned earlier. MEnv and MTAI could not secure the sufficient budget due to the same reason, but UDC secured the necessary budget as per the MTEP. IGS also secured the necessary budget by the national budget and fund from the private sector. It is noted that MES expected that the budget for the drilling works would be secured from 2022.

<Evaluation Result>

In light of the above, some problem has been observed in terms of the technical and financial aspects of the implementing agency. Therefore, the sustainability of the project effects is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose of improving the landslide DRR capacity of the WG at the time of project completion and the

effects of the project continued. The Overall Goal of reducing the landslide disaster risks was not achieved: groundwater drainage drilling holes were planned at 4 priority landslides selected under the project in a year and at 2 other priority landslides identified after the project completion in 2018-2019 (target: planning at 2 sites in a year), but no works were implemented at the priority landslides selected under the project while the works were implemented at the 2 other priority landslides in 2018-2019 (target: implementation at 2 sites in a year); and the real-time landslide monitoring system was functional only 1 out of 3 RCMCs. As for the sustainability, some problems were observed in terms of the technical aspect (i.e., insufficient utilization of some of the provided equipment) and financial aspect (i.e., insufficient budget for landslide DRR for some WG member organizations) but no problems were observed in terms of the policy and institutional/organizational aspects. 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 MES find out appropriate information transfer cables that connect landslide measurement instrument with monitoring system at the pilot project sites in Getahobit and Voghjaberd and replace the damaged ones with them as soon as possible. Since MES cannot find it by themselves, support from Japanese side may be required.

Lessons Learned for JICA:

-At the time of project planning and implementation, the information about how and where all the consumable items necessary to sustain the project effects can be obtained should have been defined and shared with implementing agencies.



An MES engineer checking the operational status of landslide monitoring equipment provided by the project (in Arapi)



A set of tipping bucket rain gauge provided by the project also maintained in good condition (in Arapi)

| | | | |
|-------------------|---|--|--|
| Country Name | Project for Supporting Institutionalization of the Pre-Tertiary Teacher Professional Development and Management Policy | | |
| Republic of Ghana | | | |

I. Project Outline

| Background | <p>In Ghana, while steady progress was being made in the quantitative expansion of education, improving the quality of education remained a major challenge. The education sector development plan formulated by the Ministry of Education of Ghana in 2011 emphasized the need to improve the quality of education. One of the six education sub-sector policies in the plan was the “Pre-tertiary Teacher Professional and Management (PTPDM)” policy, which aimed to encourage teachers to perform their duties according to their positions (from new teacher to principal), rather than just according to their qualifications and years of experience, and thereby ensure appropriate personnel management.</p> <p>This project aimed to support the realization of the PTPDM Policy. Specifically, the project was to design career ladders for primary and secondary teachers, provide training by level (from new teachers to principals), and develop a database for teacher management (teacher registration, updating training history, etc.).</p> <p>From 2000 to 2013, Japan implemented three technical cooperation projects to support the development and nationwide dissemination of models and manuals for conducting in-school training programs, focusing on lesson study, to promote learner-centered teaching in elementary school science and mathematics. For the developed training programs for teachers to be properly utilized, it was necessary to combine them with incentives for teachers and to develop a system for teacher personnel, training, and evaluation, etc.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|----------------------------|---|------|--------|---------------------|-------|----------------------|--------------|----------------|----------------------|----------------|-------------------|-------|-----------------|----------------------------|-------------------|----------------------|---------------|---------------|------------------------|--------------------------------|----------------------------------|---|--|---|---|--|---|--|
| Objectives of the Project | <p>Through (1) Developing teacher appraisal and promotion mechanism based on competencies, (2) developing a mechanism for data collection and management of teacher training record, (3) developing training materials for Newly Qualified Teacher (NQT)/Senior Teacher (ST) training courses, (4) Revising PTPDM Policy document and developing PTPDM Policy Framework Guideline, the project aimed at developing an appraisal and promotion system based on PTPDM policy, and thereby contributing to enactment of career progression mechanism in non-pilot districts.</p> <ol style="list-style-type: none"> Overall Goal: Career progression mechanism is enacted in non-pilot districts. Project Purpose: Appraisal and promotion system based on PTPDM policy is developed for nationwide expansion. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activities of the Project | <p>1. Project site: 5 pilot districts/municipal as follows:</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Region</th> <th>District/ Municipal</th> </tr> </thead> <tbody> <tr> <td rowspan="3">South</td> <td>Greater Accra Region</td> <td>Shai Osudoku</td> </tr> <tr> <td>Central Region</td> <td>Ajumako Enyan Essiam</td> </tr> <tr> <td>Eastern Region</td> <td>Upper Manya Krobo</td> </tr> <tr> <td rowspan="2">North</td> <td>Northern Region</td> <td>Savelugu-Nanton Municipal*</td> </tr> <tr> <td>Upper East Region</td> <td>Kassena Nankana East</td> </tr> </tbody> </table> <p>*Savelugu-Nanton Municipal has been divided into Savelugu and Nanton after project completion.</p> <p>2. Main activities:</p> <p>1) Developing teacher appraisal and promotion mechanism based on competencies, 2) developing a mechanism for data collection and management of teacher training record, 3) developing training materials for Newly Qualified Teacher (NQT)/Senior Teacher (ST) training courses, 4) Revising PTPDM Policy document and developing PTPDM Policy Framework Guideline</p> <p>Inputs (to carry out above activities)</p> <table> <tr> <td>Japanese Side</td> <td>Ghanaian Side</td> </tr> <tr> <td>1) Experts: 11 persons</td> <td>1) Staff allocated: 18 persons</td> </tr> <tr> <td>2) Trainees received: 22 persons</td> <td>2) Facilities and equipment: Office space, including office furniture and a generator</td> </tr> <tr> <td>3) Trainees in the third country training: 31 persons (Kenya Zambia, and Malaysia)</td> <td>3) Local cost: Training expenses and others</td> </tr> <tr> <td>4) Equipment: Air conditioners, PCs, Video camera, generator, scanner, and others</td> <td></td> </tr> <tr> <td>5) Local cost: Travel expenses (Per diem, accommodation), national staff of the project, and others</td> <td></td> </tr> </table> | | | Area | Region | District/ Municipal | South | Greater Accra Region | Shai Osudoku | Central Region | Ajumako Enyan Essiam | Eastern Region | Upper Manya Krobo | North | Northern Region | Savelugu-Nanton Municipal* | Upper East Region | Kassena Nankana East | Japanese Side | Ghanaian Side | 1) Experts: 11 persons | 1) Staff allocated: 18 persons | 2) Trainees received: 22 persons | 2) Facilities and equipment: Office space, including office furniture and a generator | 3) Trainees in the third country training: 31 persons (Kenya Zambia, and Malaysia) | 3) Local cost: Training expenses and others | 4) Equipment: Air conditioners, PCs, Video camera, generator, scanner, and others | | 5) Local cost: Travel expenses (Per diem, accommodation), national staff of the project, and others | |
| Area | Region | District/ Municipal | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| South | Greater Accra Region | Shai Osudoku | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Central Region | Ajumako Enyan Essiam | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Eastern Region | Upper Manya Krobo | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North | Northern Region | Savelugu-Nanton Municipal* | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Upper East Region | Kassena Nankana East | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Japanese Side | Ghanaian Side | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 2) Trainees received: 22 persons | 2) Facilities and equipment: Office space, including office furniture and a generator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 4) Equipment: Air conditioners, PCs, Video camera, generator, scanner, and others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5) Local cost: Travel expenses (Per diem, accommodation), national staff of the project, and others | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Period | (ex-ante) April 2014 –March 2018 (actual) April 2014 –April 2018 | Project Cost | (ex-ante) 404 million yen, (actual) 421 million yen | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implementing Agency | Ministry of Education (MoE), Ghana Education Service (GES), Teacher Education Division (TED), National Teaching Council (NTC) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooperation Agency in Japan | PADECO Co., Ltd. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to security reasons, interviews with two of the five pilot districts (Savelugu-Nanton Municipal and Kassena Nankana East) in North could not be conducted. Information was collected by sending and collecting a questionnaire from Savelugu (the questionnaire was sent to Savelugu on behalf of the former Savelugu-Nanton Municipal). However, no information was collected from Kassena Nankana East.

< Special Perspectives Considered in the Ex-Post Evaluation >

- Indicator 2 of the Overall Goal was not verified in the survey items, since the difference between Indicator 1 and 2 is only the target year which is yet to come.
- Indicator 3 of the Overall Goal was also not verified since the target year is yet to come.
- Although the terminal evaluation report mentioned that it is necessary to redefine indicators for Overall Goal, the original indicator is used for this ex-post evaluation, as the project design has not been revised.

1 Relevance

<Consistency with the Ghana's Development Policy at the Time of Ex-Ante Evaluation >

The project was consistent with the development policy of Ghana. In the "Education Strategic Plan (ESP) 2010-2020" formulated by Ghana's Ministry of Education in 2011, one of the six education sub-sector policies in the plan was the "Pre-tertiary Teacher Professional Development and Management (PTPDM)" policy.

<Consistency with the Ghana's Development Needs at the Time of Ex-Ante Evaluation >

The project was consistent with the development needs of Ghana for teacher professional development and management. Due to the great efforts made by the government of Ghana, the school coverage and student enrollment ratio had improved; however, the quality of education still needed to be improved. According to the National Education Assessment (NEA) in 2011, 16.1% and 35.3% of 6th grade students in mathematics and English, respectively reached proficiency level (minimum) which means both subjects were low proficiency. Under such circumstances, the improvement of teachers' capacity to contribute to educational quality was a pressing need.

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

The project was also consistent with Japan's ODA policy to Ghana. "Health, science and mathematics education" was one of the pillars under the "Country Assistance Policy to Ghana" (2012). It aimed at strengthening teachers' capacity to improve education environment comprehensively.

<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 partially achieved at the time of project completion. The PTPDM policy roll-out plan was approved in February 2018 (Indicator 1). 40.8% of NQT in 5 districts completed the induction program (Indicator 2). As for appraisal and promotion, 69.71% of teachers submitted their appraisal forms (form, which was developed in this project, to be filled out for teacher appraisal according to the Teacher Handbook) in pilot districts (Indicator 3), although less than 50% of teachers were able to properly fill important parts of the appraisal form (Indicator 4). In-service Training (INSET) was implemented over 4 times of SBI and over 2 times of CBI in most of the pilot districts in 2020-21 academic year (Indicator 5).

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

The project effects have partially continued at the time of ex-post evaluation, while there is room to improve the effectiveness of the teacher appraisal process. At the National level, NTC is the main organization responsible for implementing the PTPDM Policy, while GES is the other key body, which is mainly responsible for promotions and the human resource management of teachers. As for roll-out plan of the PTPDM policy, most of the activities such as disseminating teacher's standards, licensing, and developing a database by NTC have been conducted as planned, while those related to GES have not been conducted. GES is relevant to the PTPDM policy, but the PTPDM policy seems no longer a priority because of the new policy on the promotion processes. The new policy commenced promotion aptitude tests in 2020 (Indicator 1).

At most of the pilot districts visited during the survey, appraisal forms have been submitted to the District Education Offices (DEOs) at least during promotions or renewals of license, and several trainings such as INSET have been conducted for teachers, and this has enabled them to fill forms properly. The Teacher Training Logbook, which is the logbook to record and manage training records by individual teachers, has been utilized by teachers who have been already licensed to manage training records to meet the requirement of promotions and renewals of licenses. The information recorded in Teacher Training Logbook has been uploaded to NTC database (Portal). Using NTC Portal is mandatory for teacher licensing. Teachers who have not been yet licensed did not use Teacher Training Logbook.

The Induction Program have been implemented nationwide at the time of ex-post evaluation (Indicator 2), and training materials for NQT/SQ have been utilized. NQT can only get their full teacher license when they complete the induction program. SBI (School-Based INSET) and CBI (Cluster-Based INSET) have also been conducted for the instructions on how to fill out the evaluation forms or as part of the induction program.

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

The Overall Goal was not verified at the time of ex-post evaluation. Indicator 1 was not verified. Competency-based appraisal (which is the same concept as appraisal in the report) is supposed to be implemented annually. However, appraisal has been implemented only during promotions and renewals of licenses in half of the DEOs we collected information. The reason why half of the DEOs have not implemented annual appraisals appropriately might be because there has been no strict directive or supervision at all levels (National to district levels) due to the new policy on the promotion processes, and DEOs are left to decide what they do with competency-based appraisals. Also, the new promotion system focuses more on the results of aptitude tests and has decreased incentive for DEOs or teachers to conduct appraisals based on Teacher Appraisal Handbook.

Teachers who were hired in 2018 or later have been licensed by NTC, competency- based teacher appraisal has been implemented during promotions, and competency- based teacher appraisal has been implemented during renewals of their licenses. On the other hand, since many in-service teachers are yet to be licensed by NTC, competency-based teacher appraisal processes are only being applied at the time of promotion. The NTC stated that licensing of in-service teachers has been completed in the Greater Accra, Central, Western, and Western North Regions at the time of ex-post evaluation, and licensing for the remaining regions will be completed by March 2022. Hence, after March 2022, competency-based appraisal will be implemented for all teachers including HTs at least during renewals of licenses and promotions. Indicator 2 and 3 of the Overall Goal was not verified since the target year is yet to come.

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

Some positive impacts by the project have been observed at the time of ex-post evaluation. According to NTC, the PTPDM policy put Ghana on track and ahead of many African countries regarding teacher management and professional development. For example, Sierra Leone, Rwanda, and Gambia have called on Ghana to learn from Ghana’s experience about the PTPDM. Also, teachers became more proactive and more committed to improve teachings through competency-based appraisal and promotion.

No negative impacts on the natural environment have been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|--|---|---|
| (Project Purpose) Appraisal and promotion system based on PTPDM policy is developed for nationwide expansion. | Indicator 1: Roll out plan of PTPDM Policy of Ministry of Education is formulated. | Status of the Achievement: achieved (partially continued) (Project Completion) PTPDM policy roll-out plan including financial measures for the staged introduction of PTPDM was approved at Joint Coordination Committee (JCC) on February 2018. (Ex-post Evaluation) Roll out plan is divided into three parts; preparatory phase (April–August 2018), introductory phase (September 2018–August 2023), and operation phase (after September 2023). Most of the activities such as disseminating teacher’s standards, licensing, and developing a database by NTC have been conducted as planned. However, most of the activities related to GES have not been conducted. | Project Completion Report, Interview (NTC and GES), and Questionnaire (NTC) |
| | Indicator 2: The percentage of BTs* who complete induction programme exceeds 80% in the 3 pilot districts in the South and 60% in the 2 pilot districts in the North. *BTs (Beginning Teachers) are referred as NQT (Newly Qualified Teacher) in this report. | Status of the Achievement: partially achieved (continued) (Project Completion) Achieved in 2 districts in the South and almost achieved in 1 district in the North (40. 8%). (Ex-post Evaluation) The induction program is currently implemented nationwide. | Project Completion Report, Interview (Upper Manya Krobo, Shai Osudoku, Ajumako/Enyan/Essian, Akatsi South and South Tongu DEOs), and Questionnaire (Upper Manya Krobo, and Savelugu) |
| | Indicator 3: Submission rate of appraisal form exceeds 70% in the 5 pilot districts. | Status of the Achievement: partially achieved (partially continued) (Project Completion) Achieved in 3 pilot districts and almost achieved in average of 5 pilot districts (69.71%). (Ex-post Evaluation) Appraisal forms have been submitted to the DEOs at least at the timing of promotion or renewing license in all pilot districts and some non-pilot districts. | Project Completion Report, Interview (Upper Manya Krobo, Shai Osudoku, Ajumako/Enyan/Essian, Akatsi South and South Tongu DEOs), and Questionnaire (Upper Manya Krobo, and Savelugu) |
| | Indicator 4: The ratio of teachers who properly fills important parts (to be specified) of appraisal form increases 20% compared to the first cycle of monitoring in 2016. | Status of the Achievement: not achieved (partially continued) (Project Completion) Achieved in 2 out of 6 sections, and not met in the sections on competencies which are regarded as particularly important and the absolute ratio being as low as less than 50%. (Ex-post Evaluation) Most of the DEOs stated teachers fill forms properly. Several trainings such as INSET enabled them to do so. Teachers in some non-pilot districts did not seem to have chance to attend these trainings. | Project Completion Report , Interview (Upper Manya Krobo, Shai Osudoku, Ajumako/Enyan/Essian, Akatsi South and South Tongu DEOs), and Questionnaire (Upper Manya Krobo, and Savelugu) |
| | Indicator 5: 80% of schools in pilot districts organize SBI more than 4 times or CBI more than 2 times. | Status of the Achievement: achieved (continued) (Project Completion) Achieved in 4 districts for SBI and 4 districts for CBI. (Ex-post Evaluation) SBI and CBI have been conducted for the instructions on how to fill out the evaluation forms or as part of the induction program. | Project Completion Report |
| (Overall Goal) Career progression mechanism is enacted in non-pilot districts. | Indicator 1: (3 years) End of 2020-21 academic year, - 60% of HTs in nonpilot district implement competency-based teacher appraisal. | (Ex-post Evaluation) not verified Both indicators are difficult to count because of the difference in situation between teachers who were hired in 2018 or later and other in-service teacher, and between years with promotions and years without promotions, even in the same school. Competency-based appraisal is supposed to be implemented annually. However, in nonpilot districts, appraisal is implemented only during promotions and renewals of licenses, though annual appraisal is still | Project Completion Report, Interview (NTC, GES, and Upper Manya Krobo, Shai Osudoku, Ajumako/Enyan/Essian, Akatsi South and South |

| | | | |
|--|--|---|--|
| | -80% of DEO implement competency-based HT appraisal. | implemented in most pilot districts. Teachers who were hired in 2018 or later have been licensed by NTC, competency-based teacher appraisal has been implemented during promotions, and competency-based teacher appraisal has been implemented during renewals of their licenses. On the other hand, since many in-service teachers are yet to be licensed by NTC, competency-based teacher appraisal is implemented only during promotions. NTC stated that licensing of in-service teachers is currently completed in Greater Accra, Central, Western, and Western North region, and licensing will be completed by March 2022 in the remaining regions. Hence, after March 2022, competency-based appraisal will be implemented for all teachers, including HTs, at least during renewals of licenses and promotions. | Tongu DEOs) and Questionnaire (NTC, Upper Manya Krobo, and Savelugu) |
| | Indicator 2: (5 years) End of 2022-23 academic year, -80% of HTs in nonpilot district implement competency-based teacher appraisal. -90% of DEO implement competency-based HT appraisal. | (Ex-post Evaluation) not verified Indicator 2 was not verified since the difference between Indicator 1 and 2 is only the target year which is yet to come. | n.a. |
| | Indicator 3: (5 years) Data on teachers' competency is utilized in the promotion process at district level. | (Ex-post Evaluation) not verified Indicator 3 was also not verified since the target year is yet to come. | n.a. |

3 Efficiency

Both the project cost and project period slightly exceeded the plan (ratio against the plan: 104%, 102%). Outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

In the "Education Strategic Plan (ESP) 2018-2030" formulated by the Ministry of Education, one of the eight education sub-sector policies in the plan was the "sustainable and efficient management, financing, and accountability of education service delivery." As one of the strategies to achieve the policy, "implement the PTPDM policy, with its associated continuous professional development and career progression" was mentioned in ESP.

< Institutional/Organizational Aspect>

In April 2017, the organization structure was reformed. Teacher Education Division (TED) of GES, which supported the development of the PTPDM Policy, merged into NTC under new government following the presidential election of the previous year. Although appraisal and promotion should be strongly linked, the collaboration between NTC and GES seemed weak. In GES, Human Resource Management Division has been in charge of promotion and is relevant to the PTPDM policy. However, it seems no longer their priority.

The number of staff in NTC has not been sufficient to implement the PTPDM policy nationwide. However, the recruitment of NTC staff has to be based on clearance from the Ministry of Finance. Thus, it is difficult to increase the numbers although a minimum necessary increase in staff is allowed.

<Technical Aspect>

Some non-pilot districts and the new staff of NTC currently have lacked the requisite skills and knowledge to undertake their mandate, while the other staff at NTC has sustained necessary skills and knowledge through training programs like workshops and INSET.

<Financial Aspect>

According to NTC, the budget source has been the Government of Ghana. However, the funds allocated to NTC has always been insufficient, so NTC has generated funds internally from such as license fee, and solicited funds from development partners.

At the district level, according to DEOs, they did not receive any dedicated funding for PTPDM activities. Teachers were mainly responsible for operational costs associated with promotions including food costs during training. They stated that asking teachers to pay for food cost created the impression of extorting money from teachers since the training sessions must last for three or five days. However, NTC stated that teachers had received professional development allowance to take training courses, and the full 5 days induction course will be implemented from next year with financing by Right to Play (an international non-profit organization that empowers vulnerable children to overcome the effects of war, poverty, and disease around the world through play). However, depending on partner organizations for funding training activities is not sustainable without dedicated funding from the government. Therefore, it is difficult to say NTC is able to secure a budget for its activities continuously.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional/organizational, 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 partially achieved the Project Purpose at the time of project completion. PTPDM policy roll-out plan was approved, and INSET was implemented regularly in most of the pilot districts. Completion rate of the induction program and submission rate of appraisal form were almost reached the target. On the other hand, less than 50% of teachers were able to fill the appraisal form properly. The Overall Goal was partially achieved at the time of ex-post evaluation. All the districts interviewed during the survey have implemented competency-based appraisal, although the full appraisal processes based on Teacher Appraisal Handbook have only been kept in a few pilot DEOs. As for sustainability, slight problems have been observed in terms of the institutional/organizational, technical / and financial aspects of the implementing agency. As for efficiency, the project cost slightly exceeded the plan.

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

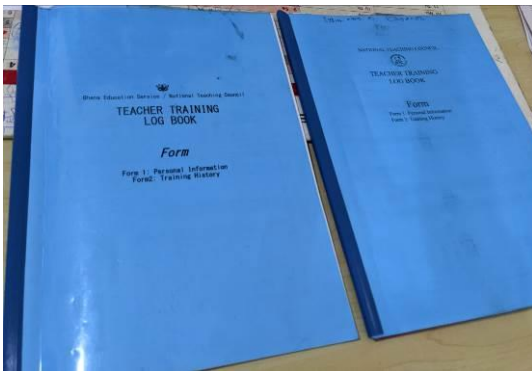
III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

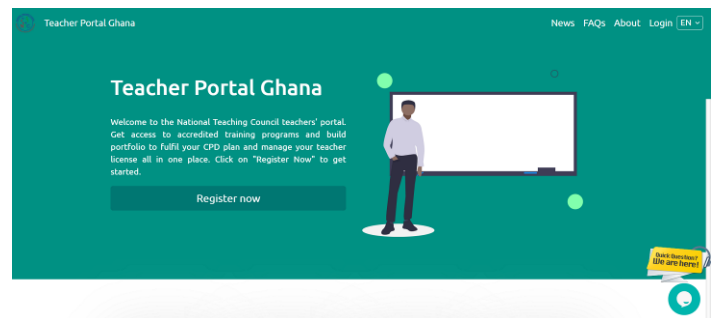
- A competency-based appraisal is supposed to be implemented annually. However, appraisal is implemented only during promotions and renewals of licenses in a half districts we collected information. Also, the appraisal process often has not thoroughly followed Teacher Appraisal Handbook. It is better to clarify and agree the role of appraisal under the new policy on promotion processes, which commenced promotion aptitude test in 2020 in order to improve the quality and utilization of the competency-based teacher appraisal process.

Lessons Learned for JICA:

- While competency-based teacher appraisal developed in this project has been utilized, the process has not thoroughly followed Teacher Appraisal Handbook. At the beginning of the project, TED of GES was regarded as the main counterpart of the project. In the project's third year, TED was transferred from GES to NTC and the project treated NTC as a main counterpart. However, GES was responsible for promotions and the human resource management of teachers, which was one of the most important functions of the PTPDM Policy. According to the ex-ante evaluation report, this changes in the implementation structure were observed even before the implementation of the project. From the point of view of the ex-post evaluation, it seems that sensitization of the process of competency-based appraisal was not enough to ensure career progression mechanism nationwide, mainly because involvement of GES in the project, especially after the integration of TED into NTC, was not enough. Thus, if signs of change in the implementation structure are identified at the start of the project, JICA and JICA Project Team should consider the counterparts carefully based on the analysis of the new structure of the counterparts before and after the change in structure.



Teacher Training Logbook used in Shai Osudoku



The top page of the NTC Portal (<https://tpg.ntc.gov.gh/>)

| | |
|---------------------------------|--|
| Country Name | Project on Revision and Updating of Strategic Transportation Plan for Dhaka |
| People's Republic of Bangladesh | |

I. Project Outline

| | | | | | | | | | |
|---|---|--------------|---|---------------|------------------|---------------------------------|--------------------------------|---|---|
| Background | <p>The Dhaka Metropolitan Area (DMA), including Dhaka City, the capital of Bangladesh, had a population of 9.3 million in 2011. Urban transportation in DMA mostly relied on road transportation overcrowded with cars, buses, auto-rickshaws, rickshaws and others. That situation brought about serious traffic congestions and health problems caused by air pollution by the traffic. Besides, with rapid national economic growth, urban population rapidly increased. In order to cope with such situation, the government of Bangladesh formulated the “Strategic Transport Plan for Dhaka (STP)” in cooperation with the World Bank in 2005. STP prepared the urban transportation policy for 20 years from 2004 to 2024 placing high priority on the improvement of mass transit system, development of urban expressways, and establishment of the execution and maintenance and operation organization for transportation projects. However, except two projects assisted by JICA, the World Bank and the Asian Development Bank (ADB), any other projects planned in STP were not executed, while the urban population had been expanding further than expected by STP and the traffic congestion had become worse.</p> | | | | | | | | |
| Objectives of the Project | <p>Through revising STP for short-, medium-, and long-term perspectives and selecting high priority projects, the project aimed at promoting effective and efficient urban transportation in the target districts, thereby contributing to economic growth and alleviation of traffic congestion and air pollution.</p> <p>Expected goals through the proposed plan¹: By conducting the urban public transportation projects under the revised STP, economic growth, and alleviation of traffic congestion and air pollution are expected.</p> | | | | | | | | |
| Activities of the Project | <p>1. Project Site: Dhaka, Gazipur, Manikganj, Munshiganj, Narayanganj and Narshingdi districts 2. Main Activities: 1) decision of traffic survey areas, 2) review of current situation and identification of development issues, 3) revision of STP and selection of prioritized projects, and 4) technical transfer of the methodologies for traffic survey, demand forecast, and data analysis. 3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Bangladeshi Side</td> </tr> <tr> <td>(1) Mission members: 24 persons</td> <td>(1) Staff allocated: 4 persons</td> </tr> <tr> <td>(2) Equipment: PCs, video cameras, projectors, geographic information system (GIS) software, computer aided design (CAD) software, etc.</td> <td>(2) Facilities and equipment: project office (3) Local cost: cost for utility of offices (electricity, water, and telephone)</td> </tr> </table> | | | Japanese Side | Bangladeshi Side | (1) Mission members: 24 persons | (1) Staff allocated: 4 persons | (2) Equipment: PCs, video cameras, projectors, geographic information system (GIS) software, computer aided design (CAD) software, etc. | (2) Facilities and equipment: project office (3) Local cost: cost for utility of offices (electricity, water, and telephone) |
| Japanese Side | Bangladeshi Side | | | | | | | | |
| (1) Mission members: 24 persons | (1) Staff allocated: 4 persons | | | | | | | | |
| (2) Equipment: PCs, video cameras, projectors, geographic information system (GIS) software, computer aided design (CAD) software, etc. | (2) Facilities and equipment: project office (3) Local cost: cost for utility of offices (electricity, water, and telephone) | | | | | | | | |
| Project Period | May 2014 - November 2016 (Extension: October 2015 - November 2016) | Project Cost | (ex-ante) 324 million yen, (actual) 316 million yen | | | | | | |
| Implementing Agency | Dhaka Transport Coordination Authority (DTCA) | | | | | | | | |
| Cooperation Agency in Japan | ALMEC Corporation, Oriental Consultants Global Co., Ltd., Katahira & Engineers International | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- Because an ex-ante evaluation had not been conducted for this project, there was no indicator for the “utilization status of the proposed plan” and the “expected goals through the proposed plan.” Therefore, the achievement of the “utilization status of the proposed plan” was evaluated by the three major recommendations made by the project, i.e., 1) the revised STP (hereinafter RSTP) was approved by the concerned agencies and the cabinet and disseminated to the stakeholders, 2) implementation responsibilities of the projects planned in RSTP were clearly allocated to the concerned government agencies, and DTCA oversaw and monitored the implementations of the projects, and 3) short-term projects planned in RSTP were implemented as proposed.
- The “expected goals through the proposed plan” was confirmed by the three factors stated in its statement, namely by the 1) economic growth, 2) alleviation of traffic congestion, and 3) alleviation of air pollution in DMA through implementation of the projects planned in RSTP. Their achievements were confirmed but not assessed in this ex-post evaluation as stated in the footnote 1.
- The ex-post evaluation was conducted by the questionnaire to and interviews with DTCA officials without field surveys visiting construction sites and interviewing with local authorities and residents due to the effects of COVID 19.

1 Relevance

<Consistency with the Development Policy of Bangladesh at the Time of Ex-Ante Evaluation>

The “Sixth Five Year Plan FY2011-FY2015” set the improvement of transport infrastructure development as one of the core targets in the context of Vision 2021². The plan emphasized the necessity of an overhaul of the entire urban transport system integrating multi-modal transport encompassing railways, roads and inland water transport. As a specific transport infrastructure development plan, STP prepared the “Urban Transportation Policy for 20 years 2004-2024)” and identified priority issues such as the improvement of mass transit system including 110 km in total of three bus rapid transit (BRT) lines and three mass rapid transit (MRT) lines, development of 330 km urban expressways, and establishment of the organization for implementation and maintenance and operation for these transportation projects. Since the project was planned based on the prioritized issues of the five year plan and STP, the project was consistent with the development policies of Bangladesh at the time of ex-ante evaluation.

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

² National socio-economic development vision of Bangladesh for the year 2021, the 50th anniversary of the nation.

<Consistency with the Development Needs of Bangladesh at the Time of Ex-Ante Evaluation>

STP placed high priority on the construction of three BRT lines and three MRT lines, and planned to commence them before 2010. However, except BRT line 3 assisted by the World Bank and ADB and MRT line 6 assisted by JICA, any other projects planned in STP did not move into action. Besides, along with the development of new towns in the capital, the urbanization has rapidly extended in the DTCA's jurisdiction including Dhaka, Gazipur, Manikganj, Munshiganj, Narayanganj and Narshingdi districts. Therefore, the project was consistent with the development needs of Bangladesh at the time of ex-ante evaluation.

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

In the Japan's "Country Assistance Policy for the Republic of Bangladesh" (June 2012), one of the two priority areas (medium objectives) was "accelerating inclusive economic growth towards the realization of becoming a middle-income country." In order to achieve this objective, it was planned to develop transportation and traffic infrastructures, promote efficient transportation of people and goods, and contribute to the mitigation of regional disparities paying attention to the diversification of means of transportation. Therefore, the project was consistent with the Japan's ODA policy for Bangladesh at the time of 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 Objectives at the time of Project Completion>

The objectives of the project were achieved by revising STP and submitting the "Revised Strategic Transport Plan for Dhaka" (RSTP) to DTCA by the time of project completion. RSTP prepared the urban transport master plan including the prioritization of urban transportation projects in DMA and short-, medium-, and long-term implementation plans.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

RSTP prepared by the project has been utilized. RSTP was approved by DTCA in 2015, widely circulated to the stakeholders, and approved by the cabinet in 2016 as the urban transportation master plan for Dhaka. Implementation responsibilities for the projects planned were allocated to the concerned agencies, however specific actions to be taken by those organizations for some projects were not clearly stated in RSTP. This has caused insufficient allocation of the budget and human resources by the responsible organizations to the projects and delayed the implementation of them. DTCA and the Roads and Highways Department of the Ministry of Road Transport and Bridges (MRTB) have overseen and monitored all implementations of the projects. As for the implementation status of the short-term projects planned in RSTP, by the time of ex-post evaluation, in terms of the number of projects, 47% of the short-term projects planned were completed, 28% of them are ongoing, and 26% of them have not yet launched, while 79% of the projects in value terms have been implemented. Ongoing projects include the major projects of MRT Line 1, Line 5 and Line 6, BRT Line 3 projects, and the Dhaka Elevated Expressway project. JICA is currently providing financial assistance for MRT Line 1³, Line 5 (Northern Route)⁴, and Line 6⁵ which were highly prioritized in RSTP.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

Achievement for the expected goals have not been verified. According to the observation of the officials of DTCA, traffic congestions and air pollution have been alleviated in the vicinities of the projects planned in RSTP and implemented. However, no data are available. Economic growth in DMA caused by the projects of RSTP was not verified because the survey has not been conducted.

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

Environmental impact assessment and environmental control in construction works of the projects planned in RSTP have been executed complying with the Bangladeshi Environment Conservation Act (1995) and the Environment Conservation Rules (1997) and the JICA Guidelines for Environmental and Social Considerations (April 2010). According to DTCA, no serious environmental issues associated with the construction works has been reported except some minor issues of dust and traffic congestions. The issues have been accordingly handled by the project authorities concerned including the Dhaka Mass Transit Company Limited and others. Land acquisition and resettlement has taken place in MRT Line 1, Line 5 (Northern Route) and Line 6, and payment of compensation for land acquisition has been conducted based on the Resettlement Action Plan (RAP) developed under the JICA Guidelines for the Environmental and Social Considerations (April 2010) and Bangladeshi laws including the Acquisition and Requisition of Immovable Property Ordinance (1982), the Cash Compensation by Law, and the Land Acquisition Act (1994).

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results |
|---|--|--|
| Utilization Status of the Proposed Plan: STP will be revised appropriately, and effective and efficient urban transportation development will be promoted in Dhaka, Gazipur, Manikganj, Munshiganj, Narayanganj and Narshingdi districts. | Indicator 1: RSTP will be approved by the concerned agencies and the cabinet and disseminated to the stakeholders. | (Ex-post Evaluation) Achieved RSTP was approved by DTCA in 2015 and by the cabinet in August 2016. The draft of RSTP was distributed to the concerned agencies, and after the approval by the cabinet, it was widely circulated to the stakeholders including the government agencies, local authorities and governmental construction companies concerned. RSTP was also released on the internet for public comments. |
| | Indicator 2: Implementation responsibilities of the projects planned in RSTP will be clearly allocated to the concerned government agencies, and DTCA will oversee and monitor the implementations of the projects. | (Ex-post Evaluation) Achieved Implementation responsibilities for the projects planned in RSTP were allocated to the concerned government agencies including the Dhaka Mass Transit Company Limited, the Dhaka Bus Rapid Transit Company Limited, the Roads and Highways Department, and the Bangladesh Bridge Authority. However, specific actions to be taken by these organizations for some projects were not clearly stated in RSTP. This has caused insufficient allocation of the budget and human resources by these organizations to the |

³ The Dhaka Mass Rapid Transit Development Project (Line 1) (2019)

⁴ The Dhaka Mass Rapid Transit Development Project (Line 5, Northern Route) (2018)

⁵ The Dhaka Mass Rapid Transit Development Project (IV) (2020)

| | | |
|--|--|--|
| | | projects and delayed the implementation of them. DTCA and the Roads and Highways Department of MRTB have overseen and monitored all implementations of the projects. |
| | Indicator 3: Short-term projects planned in RSTP will be implemented as proposed. | (Ex-post Evaluation) Achieved By the time of ex-post evaluation, in terms of the number of projects, out of 47 short-term projects planned in RSTP, 22 have been completed (47%), 13 are ongoing (28%), and 12 have not been launched (26%). In value terms, 79% of the short-term projects planned in RSTP (10,511 million USD out of the planned 13,233 million USD) have been implemented. Ongoing projects include the major projects of MRT Line 1, Line 5 and Line 6, BRT Line 3 projects, and the Dhaka Elevated Expressway project. The delay of commencement of the projects are mainly caused by insufficient allocation of financial and human resources to the projects by the organizations in charge. JICA is currently providing financial assistance for MRT Line 1, Line 5 (Northern Route), and Line 6 which were highly prioritized in RSTP. |
| Expected Goals through the Proposed Plan: By conducting the urban public transportation projects under the revised STP, economic growth, and alleviation of traffic congestion and air pollution are expected. (not to be assessed) | Indicator 1: Economic growth in DMA. | (Ex-post Evaluation) Not verified The survey on the economic growth in DMA and its relationships with the implementation of the projects planned in RSTP has not been conducted. |
| | Indicator 2: Alleviation of traffic congestion in DMA. | (Ex-post Evaluation) Not verified According to the observation of the officials of DTCA, traffic congestions have been alleviated in the vicinities of the projects planned in RSTP and implemented. However, no data are available. |
| | Indicator 3: Alleviation of air pollution in DMA. | (Ex-post Evaluation) Not verified According to the observation of the officials of DTCA, air pollution has been alleviated in the vicinities of the projects planned in RSTP and implemented. However, no data are available. |

Source: DTCA

3 Efficiency

Although the project cost was within the plan (the ratio against the plan was 98%), the project period significantly exceeded the plan (the ratio against the plan was 172%). The project period was extended twice due to the security reasons in Bangladesh caused by external factors beyond control of the project, and the requests made by the government of Bangladesh to do some additional surveys. The outputs were produced as originally planned by the end of extension period of the project. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

RSTP in itself is the urban transportation policy of the government of Bangladesh and the urban transportation master plan for DMA including Dhaka, Gazipur, Manikganj, Munshiganj, Narayanganj and Narshingdi districts. Urban transportation projects in DMA are ongoing at the time of ex-post evaluation according to the plans of RSTP.

<Institutional/Organizational Aspect>

Institutional and organizational strengthening including recruitments for urban transportation improvement has been actively promoted by the government of Bangladesh and DTCA. DTCA has established the Dhaka Mass Transit Co., Ltd. (DMTCL) for construction, operation and maintenance of metro, and the Dhaka Bus Rapid Transit Co., Ltd. (DBRTCL) for construction, operation and maintenance of bus rapid transit. DMP has created the Traffic Engineering Unit in it. DMTCL is recruiting more than 2,000 staff members and planning domestic and overseas training programs for them. DBRTCL is also proceeding recruitments for its business.

<Technical Aspect>

According to the engineers in the Traffic Engineering Section of DTCA, technical level of related agencies including DTCA is high enough to implement the projects planned by RSTP, and the projects are ongoing at the time of ex-post evaluation without any substantial technical problems.

<Financial Aspect>

The projects planned by RSTP have been implemented on the budget from the government of Bangladesh, the assistances from the development partners including JICA, ADB and others, and the private sector in the form of public-private partnership (PPP) arrangements. MRT projects or the top-priority projects of RSTP have been largely financed by the Japanese ODA loans of "Dhaka Mass Rapid Transit Development Projects" for Line 6 (2012-2020), Line 1 (2018-2026), and Line 5 Northern Route (2020-2027). With these financial resources, 79% of the short-term projects planned in RSTP in value terms have been implemented at the time of ex-post evaluation.

<Evaluation Result>

In light of the above, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The objectives of the project were achieved by the time of project completion by revising STP and submitting RSTP. RSTP was approved by DTCA and the cabinet and circulated to the stakeholders. About 79% of the short-term projects planned in RSTP have been implemented by the time of ex-post evaluation. As for efficiency, the project period significantly exceeded the plan caused by external factors beyond control of the project. Considering all the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- In order to accelerate the implementation of the projects planned in RSTP and overcome the delays, it is recommended that DTCA, through rigorous discussions and thorough coordination, specify the necessary actions to be taken by the responsible organizations and make them allocate sufficient budget and human resources to the projects.

Lessons Learned for JICA:

- Funding could be a critical factor in project implementations for most developing countries. In the case of this project, the execution rate of the projects planned in the master plan has reached at almost 80% in value terms. This is mainly because the finance has been

secured by the Japanese loans along with other development partners' assistances. This project demonstrates an advantage of the scheme of "technical assistance under finance and investment account" which provides technical assistances and yen loans under one umbrella.

- To ensure the implementations of the projects planned in a master plan, it is suggested not only to allocate responsibilities for projects' implementations to related organizations, but also to specify the necessary actions to be taken by the organizations. Clarification of the specific actions to be taken will enable each organization to plan resource allocations and implementations.



MRT Line 6 construction of elevated section near Kazipara Mirpur



BRT Line 3 construction of piers near Shahjalal International Airport

| | |
|---------------------------|--|
| Country Name | The Project for Supporting Formulation of Industrial Sector Policy Focused on Technology Innovation and Dissemination |
| Republic of Cote d'Ivoire | |

I. Project Outline

| | | | | | | | | | |
|--|---|--------------|---|---------------|--------------------|--------------------------------|--------------------------------|--|---|
| Background | <p>Since the inauguration of the Ouattara government in 2011, the political turmoil had shown signs of abating and efforts to revive the domestic economy and re-establish the country's position as an economic powerhouse in the region were rapidly underway. In the National Development Plan (Plan National du Développement: PND) (2012-2015), formulated in 2012, "industrial policy planning" was identified as a priority action plan. In response, the Ministry of Industry and Mining – "MIM" (has become since 2019 the Ministry of Commerce and Industry – "MCI") was working to finalize a new industrial policy by the end of 2014. However, Côte d'Ivoire had not formulated an industrial policy for about 20 years due to the ongoing political crisis, and thus faced many challenges in formulating an effective industrial policy.</p> | | | | | | | | |
| Objectives of the Project | <p>Through (i) identifying needs and issues related to innovation and dissemination of the target technology, (ii) drafting policies for innovation and dissemination of target technologies, (iii) implementing pilot projects, and (iv) enhancing the capacity of the Ministry of Commerce and Industry (ex-Ministry of Industry and Mining) and related agencies, the project aimed to implement proposed policies for innovation and dissemination of the target technologies, thereby contributing to the promotion and dissemination of innovation as well as the improvement in productivity and quality of companies in the industry.</p> <p>1. Expected Goals through the proposed plan¹:</p> <ul style="list-style-type: none"> - Innovation and dissemination of the target technology* will be promoted. - Productivity and quality of companies in the industry will be improved. <p>*JICA and MCI agreed that the project targets small and medium industries ("SMI") which produce processing machines for the agro-industry sector and mechanical parts ("targeted technologies").</p> | | | | | | | | |
| Activities of the project | <p>1. Project site: Whole country</p> <p>2. Main activities: (i) identifying needs and issues related to innovation and dissemination of the target technology, (ii) drafting policies for innovation and dissemination of target technologies, (iii) implementing pilot projects, and (iv) enhancing the capacity of the Ministry of Commerce and Industry and related agencies.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Cote d'Ivoire Side</td> </tr> <tr> <td>1) Mission members: 11 persons</td> <td>1) Staff allocated: 23 persons</td> </tr> <tr> <td>2) Equipment: equipment for pilot projects</td> <td>(6 staff from ex-MIM, 4 staff from CDT and 13 staff from I2T)</td> </tr> </table> | | | Japanese Side | Cote d'Ivoire Side | 1) Mission members: 11 persons | 1) Staff allocated: 23 persons | 2) Equipment: equipment for pilot projects | (6 staff from ex-MIM, 4 staff from CDT and 13 staff from I2T) |
| Japanese Side | Cote d'Ivoire Side | | | | | | | | |
| 1) Mission members: 11 persons | 1) Staff allocated: 23 persons | | | | | | | | |
| 2) Equipment: equipment for pilot projects | (6 staff from ex-MIM, 4 staff from CDT and 13 staff from I2T) | | | | | | | | |
| Project Period | (ex-ante) January 2015-March 2017 (actual) January 2015 – September, 2017 | Project Cost | (ex-ante) 314 million yen, (actual) 358 million yen | | | | | | |
| Implementing Agency | Ministry of Commerce and Industry (ex-Ministry of Industry and Mining) | | | | | | | | |
| Cooperation Agency in Japan | IMG Inc. | | | | | | | | |

II. Result of the Evaluation

| |
|--|
| 1 Relevance |
| <p><Consistency with the Development Policy of Cote d'Ivoire at the Time of Ex-Ante Evaluation ></p> <p>The project was consistent with the development policy of Cote d'Ivoire. In the PND 2012-2015, industrial policy planning was identified as a priority action plan.</p> <p><Consistency with the Development Needs of Cote d'Ivoire at the Time of Ex-Ante Evaluation ></p> <p>The project was consistent with the development needs of Cote d'Ivoire for strengthening capacity for industry policy planning. The industry policy planning was identified as a priority under the PND as mentioned above, the policy had not been formulated for about 20 years.</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation></p> <p>The project was also consistent with Japan's ODA policy to Cote d'Ivoire. "Accelerating economic growth" was one of the priority areas under the "Country Assistance Policy to Cote d'Ivoire" (2014).</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is high.</p> |
| 2 Effectiveness/Impact |
| <p><Status of Achievement for the Objectives at the time of Project Completion></p> <p>At project completion, all outputs were achieved, as (i) needs and issues related to innovation and dissemination of the target technology were identified, (ii) innovation and dissemination of target technologies were drafted, (iii) pilot projects were implemented, and (iv) enhancing the capacity of MCI and related agencies was enhanced. MCI has implemented activities such as preparing and updating</p> |

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

database of enterprises, creating a platform among actors, and conducting training to strengthen manufacturing skills. Though not all the expected activities are implemented after the end of the project, it can be said that the capacities of MCI and related agencies were strengthened.

< Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The proposed plan by the project have been partially utilized. The project proposed to implement 11 actions under three strategic axes within 5 years as specified in the following table. Improving database (Action 1), development of relationships between targeted enterprises and with the public bodies (Action 2), strengthening of design skills (Action 3), strengthening of manufacturing skills (Action 4), and promotion of access to financing (Action 9) has been somewhat progressed. However, others have not been implemented, partly because of the lack of budget, some have not been implemented as the themes were not included in the national development plan. And in some cases, SMIs do not want to share the information on the sales and financial information. Nonetheless, implementation of some of the actions was under discussion and some were planned to be included in the next national development plan.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

It was expected that the number of companies that receive technical assistance increases. At the time of ex-post evaluation, some technical assistance was provided between 2018 and 2020 by MCI, CDT, and Ivorian Company of Tropical Technology (I2T). The type of technical assistance provided consisted in the organization of training and networking events. A total of 21 companies received the training on manufacturing skills, and 59 companies are to receive the training in 2021.

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

No negative impacts on the natural environment have been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is fair.

| Aim | Indicators | Axes and Actions | Status of implementation at the time of ex-post evaluation | Source |
|--|--|--|--|--------|
| Utilization Status of the Proposed Plan Proposed policies for innovation and dissemination of the target technologies are implemented | Status of implementation of projects based on the policy for innovation and dissemination of the target technology (approval of the policy, number of projects implemented based on the action plan, etc.) | Axis 1: Strengthening governance of the targeted sector | | MCI |
| | | 1.Increasing the availability of data and statistics on the targeted sector | A database exists with data from targeted enterprises. The last update was in October 2020 | |
| | | 2.Support development of relationships between the targeted enterprises as well as between the enterprises and the public bodies | - 5 meetings/events were held from 2018 to 2020 - One network for cashew processing equipment manufacturers is currently being created and will be administered by Center for Technology Demonstration and Promotion (CDT) ² . In the meantime, a WhatsApp platform was created between CDT and cashew equipment manufacturers | |
| | | Axis 2: Strengthen the technological and managerial skills of enterprises | | |
| | | 3.Strengthen design skills | - This activity has not been implemented due to a lack of funding and of national expertise in the field of equipment design. - MCI has included this activity in the national 5-year strategy (PND 2021-2026) and hence expects to be able to mobilize funds and partnerships. | |
| | | 4.Strengthen manufacturing skills | - 21 enterprises (142 participants) trained in 2018 - 59 enterprises (216 participants) to be trained in 2021 (funding secured) - | |
| | | 5.Support vocational and technical training (training of engineers and technicians) | - This activity has not yet been implemented. - Discussions were held between MCI and Felix Houphouet-Boigny University regarding program adaptation and enhancement. However, no major actions were taken due to a lack of funds to hire international experts. As the activity was not included in the PND 2016-2020, it could not benefit from any Government, Private or donor support. | |
| | | 6.Strengthen management capacity | - This activity has not yet been organized, neither by MCI nor CDT - The activity was not included in the PND 2016-2020; and hence could not benefit from any Government, Private or donor support. Future prospects expect to implement the activity. | |
| | | 7.Introduce the KAIZEN | - This activity has not yet been organized, either. | |

² Refer to “Institutional aspect” under the Sustainability below.

| | | | | |
|---|--|---|--|--|
| | | method | <ul style="list-style-type: none"> - The activity was not included in the national development plan (PND 2016-2020); and hence could not benefit from any Government, Private or donor support. - Future prospects include the search for partnerships to implement the activity. <p>(In 2020, JICA has supported distribution of policy brief on the KAIZEN concept based on the request from a professor in Felix Houphouet-Boigny University. JICA also plans to let some staff from Côte d'Ivoire Small and Medium Enterprises Agency (Agence CI-PME) participate in Kaizen Knowledge Co-creation Cooperation Program training course in 2021 as observers.)</p> | |
| | | Axis 3: Improve the environment of the targeted sector | | |
| | | 8.Support promotion of products from the targeted SMIs | SMIs do not wish to share information regarding sales. There is no formal system to monitor sales and collect feedback. | |
| | | 9.Promotion of access to financing | <ul style="list-style-type: none"> - 3 training sessions were organized from 2018 to 2019. - There are on-going negotiations to facilitate acquisition of materials for 7 SMIs based on their financial capacity. - SMIs do not wish to share any financial information and do not associate authorities to their loan application process. Therefore, MCI and CDT do not have much information on the status of SMIs regarding access to finance. CDT could only confirm that 1 SMI was able to obtain a loan. | |
| | | 10.Promotion of access to industrial land | This activity has not been implemented. The question of access to industrial land is being considered by MCI but as a general issue for all SMEs (not only target SMIs). There are on-going studies on how to facilitate the access of SMEs to industrial land, but no decisions have been made so far. | |
| | | 11.Promote price competitiveness of locally manufactured products (machinery and spare parts) | This activity has not been implemented. However, the question of import regulation will be considered in the upcoming PND 2021-2026 as part of the price competitiveness strategy. | |
| Expected Goals through the Proposed Plan (i) Innovation and dissemination of the target technology will be promoted. (ii) Productivity and quality of companies in the industry will be improved. | Status of implementation of projects based on technological innovation and dissemination policies (number of companies receiving technical assistance, etc.) | | Some technical assistance was provided between 2018 and 2020 by MCI, CDT, and Ivorian Company of Tropical Technology (I2T). The type of technical assistance provided consisted in the organization of training and networking events. A total of 21 companies received the training on manufacturing skills, and 59 companies are to receive the training in 2021. | |
| 3 Efficiency | | | | |
| Both project cost and project period exceeded the plan (the ratio against the plan: 114%, 122%). Outputs were produced as planned. Therefore, the efficiency of the project is fair. | | | | |
| 4 Sustainability | | | | |
| <Policy Aspect> | | | | |

At the time of ex-post evaluation, MCI has included the program for the development of SMIs in the field of agro-industrial machinery and the manufacturing of spare parts in the national development plan (PND 2021-2026). This will allow them to obtain approval at the highest level of Government planning and hence, they expect to obtain funding and partnerships for the implementation of this strategy.

<Institutional/Organizational Aspect>

Ivorian Company of Tropical Technology (I2T) and Center for Technology Demonstration and Promotion (CDT), both the public organization under the auspices of MCI, have supported the target sector. MCI have supported the development of industrial policy, I2T have supported R&D, and CDT have supported promotion and dissemination of technology. There have been no organizational changes within the implementing organizations (MCI, I2T, and CDT). However, a specialized agency, "Agence CI-PME" was created by government decree in 2017 to promote Ivorian SMEs (including the target SMIs) and implement the National SME Development Strategy. Strengthening managerial capacities and improving access to finance for SMEs are among CI-PME's main responsibilities. As the capacities of this agency complement those of MCI and CDT regarding assistance on management/KAIZEN and access to finance, this can be considered as an organizational change which contributes to the continuation of project activities, though no concrete plans for cooperation, as the CI-PME is under the Ministry of promotion of SME, craft industry and transformation of informal sector.

Since the actions proposed by the project were not integrated in the Government's 5 year plan (PND 2016-2020), MCI, I2T, and CDT were not able to receive proper financial support to reinforce the staff.

<Technical Aspect>

During the project implementation, certain needs for strengthening capacity were identified for each organization in order to better support the activities of SMEs directly on the field. I2T needed to strengthen the capacities of its technical unit and CDT needed to hire a specialist in financial management support and create a team dedicated to this field. However, since there have been no structural changes with regards to the dissemination of project activities, these needs have continued to represent an issue hindering the functioning of the organizations.

<Financial Aspect>

MCI, I2T, and CDT did not receive any funding for the activities in the action plan because, the project's dissemination activities were not included in the PND 2016-2020. The funds received were pulled from different sources. Budget for activities such as training or meetings with stakeholders have been prepared from different sources; however, enough budget and resources to implement all activities in the action plan have not been prepared. Nonetheless, budget for activities is expected to be secured, as the program for the development of SMIs in the field of agro-industrial machinery and the manufacturing of spare parts has been included in the new PND.

<Evaluation Result>

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

5 Summary of the Evaluation

At the project completion, all outputs including drafting innovation and dissemination of target technologies, implementation of pilot projects and capacity development of MCI and others were produced. After the project was completed, the proposed plan under the project have been partially utilized such as database improvement, development of relationships between targeted enterprises and with the public bodies, strengthening of design skills, strengthening of manufacturing skills, and promotion of access to financing. As for the expected goals, some technical assistance was provided to SMIs. As for the sustainability, slight problems have been observed in terms of the institutional/organizational, technical, and financial aspects. As for the efficiency, both project cost and project period slightly 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:

Even though the platform activity and training for making quality parts have been implemented after the termination of the project, some activities have not yet been implemented. There was a lack of collaboration between implementing organisms (MCI, I2T, and CDT) and other government organizations in charge of SMEs. Such collaboration could have allowed them to implement activities related to management. In order to support SMEs, improving their management capacities is crucial. The concept of 5S/KAIZEN can also contribute to improving their management capacity, and the training in this area should be implemented to further support the targeted stakeholders. Cooperation with CI-PME should be considered because as the executing agency in charge of providing assistance to SMEs, they may have the technical capacities (human resources) necessary to contribute to the achievement of intended project effects.

Lessons Learned for JICA:

- In this project, there were several governmental organizations involved. In the action plan developed during the project, several institutions are written as responsible for the implementation of each action. Even though collaboration between institutions is essential for the development of this sector, the responsibility of each organization may have been unclear due to the structure of the action plan. It can be said that clarifying the activities and responsibility of each organization in the action plan is essential for the activities to be continued after the end of the project.
- It is also important for JICA to well understand the system of the budget of the counterpart agencies, and to support the counterpart agencies to secure the budget needed to implement activities planned in the proposed plan. It is necessary to understand the relation among the action plan to be developed in the project, the strategies at higher levels, and the system for acquisition of budget to implement the strategies and action plans.

| | |
|--------------|--|
| Country Name | Capacity Development Project for Internal Audit Phase 2 |
| Mongolia | |

I. Project Outline

| | | | | | | | | | | | |
|---|---|--------------|---|---------------|----------------|-----------------------|-------------------------------|---|--|---|---|
| Background | <p>In Mongolia, economic growth had accelerated (17.5% in 2011, 12.3% in 2012) aided by the active international market of coal and copper and capital inflows associated with mineral resource development. On the other hand, the fiscal conditions of the country were tight due to the expanding financial demand for public infrastructure investments. Thus, it was highly required for the government of Mongolia to strengthen its public financial management. With this background, in order to cope with the increasing need for strengthening internal audit functions, the Internal Auditing, Monitoring and Evaluation Department (IA-ME Department) was established in the Ministry of Finance in 2009 (IA-ME Department was reorganized as the Budget Control and Risk Management Department (BC-RM Department) in 2013 and as the Financial Control and Risk Management Department (FC-RM Department) in 2016). However, since IA-ME Department encountered challenges caused by insufficient human resources and experience of internal audit management, the technical cooperation project “Capacity Building of Internal Auditing and Performance Monitoring” (2012-2014) (the Phase 1 project) was implemented with the assistance of the government of Japan for improving capacity of the IA-ME Department. The Phase 1 project carried out awareness raising activities for internal audit, supported internal auditing in organizations concerned, and formulated the draft of the “Internal Audit Strategic Plan 2014-2016.” However, there were remaining issues to meet with the Strategic Plan including the improvement of legal environment for internal audit, training of internal auditors, introduction of an internal audit quality assurance system, and others.</p> | | | | | | | | | | |
| Objectives of the Project | <p>Through establishment of a solid legal foundation, introduction of a certification system, strengthening of execution capacity, introduction of a quality assurance system, and development of the medium-term strategic plan for internal audit (2014-2016), the project aimed at establishment of a solid framework of internal audit, thereby contributing to capacity building of Mongolian governmental internal auditors to conduct internal audit in a sustainable environment.</p> <ol style="list-style-type: none"> 1. Overall Goal: The Mongolian governmental internal auditors are able to conduct internal audits in a more sustainable environment. 2. Project Purpose: The Mongolian government establishes a more solid framework of internal audits in accordance with the Internal Audit Strategic Plan 2014-2016. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> 1. Project Site: Entire area of Mongolia focusing on Ulaanbaatar 2. Main Activities: <ol style="list-style-type: none"> 1) identification of solutions for establishing a more solid legal foundation of internal audit, 2) introduction of a qualified internal auditor certification system, 3) strengthening of internal auditors' capacity of practicing internal audit, 4) introduction of an internal audit quality assurance system, 5) development of the medium-term strategic plan. 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Mongolian Side</td> </tr> <tr> <td>1) Experts: 8 persons</td> <td>1) Staff allocated: 6 persons</td> </tr> <tr> <td>2) Training in the third country: 6 persons (USA)</td> <td>2) Land and facilities: Project office</td> </tr> <tr> <td>3) Equipment: PCs, copy machines, scanners, voice recorders, etc.</td> <td>3) Local cost: Utility costs for the project offices (electricity, water and telephone)</td> </tr> </table> | | | Japanese Side | Mongolian Side | 1) Experts: 8 persons | 1) Staff allocated: 6 persons | 2) Training in the third country: 6 persons (USA) | 2) Land and facilities: Project office | 3) Equipment: PCs, copy machines, scanners, voice recorders, etc. | 3) Local cost: Utility costs for the project offices (electricity, water and telephone) |
| Japanese Side | Mongolian Side | | | | | | | | | | |
| 1) Experts: 8 persons | 1) Staff allocated: 6 persons | | | | | | | | | | |
| 2) Training in the third country: 6 persons (USA) | 2) Land and facilities: Project office | | | | | | | | | | |
| 3) Equipment: PCs, copy machines, scanners, voice recorders, etc. | 3) Local cost: Utility costs for the project offices (electricity, water and telephone) | | | | | | | | | | |
| Project Period | (ex-ante) November 2014 - October 2017 (actual) September 2014 - August 2017 | Project Cost | (ex-ante) 300 million yen (actual) 341 million yen | | | | | | | | |
| Implementing Agency | Financial Control and Risk Management Department (FC-RM Department), Ministry of Finance | | | | | | | | | | |
| Cooperation Agency in Japan | Ernst & Young ShinNihon LLC | | | | | | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- In this ex-post evaluation, the evaluation judgement was made by analyzing information acquired by questionnaire survey, online meetings, and telephone interviews with persons concerned in FC-RM Department, four priority ministries (the Ministry of Construction and Urban Development, the Ministry of Roads and Transportation Development, the Ministry of Education and Science, and the Ministry of Health), three local governments (Dornod province, Orkhon province, Uvurkhangai province), and the Institute of Internal Auditors Mongolia (IIA Mongolia). No field survey was conducted due to the incidence of COVID 19.

<Special Perspectives Considered in the Ex-Post Evaluation>

- As for the Indicator 4-2 and 4-3 for the Project Purpose, the achievement at the time of project completion were evaluated by the continuous implementation of internal audits and the achievement of the target values (16, 8) of the number of internal audit documentations. That was because the continuous implementation of internal audit was clearly stated in the indicators and the Project Completion Report (July 2017) reported the indicators' achievements by the number of audit documentations. The achievements at the time of ex-post evaluation were evaluated only by the continuous implementation of internal audits but not by the number of audit documentations. That was because the target values of the number of audit documentations were targets to be achieved during the project period and no target value was specified for the time after the completion of the project. Audit documentation is the detail record of all procedures performed including planning, field work, reporting, and follow-up. Audit report is a part of

1 Relevance

<Consistency with the Development Policy of Mongolia at the Time of Ex-Ante Evaluation>

The new Budget Law effective in 2013 comprehensively ruled the budget management process including budget formulation, budget execution and internal auditing of execution of budget in order to ensure viability of the Fiscal Stabilization Act. The Budget Law was set out to reinforce internal audit by defining internal audit, clarifying the power of internal audit, stipulating the internal audit system, and others. Therefore, the project was consistent with the development policies of Mongolia at the time of ex-ante evaluation.

<Consistency with the Development Needs of Mongolia at the Time of Ex-Ante Evaluation>

To improve the environment of internal audit, the Phase 1 project carried out awareness raising activities, supported execution of internal audit in governmental organizations, and drafted the “Internal Audit Strategic Plan 2014-2016.” However, there were remaining issues to meet with the Strategic Plan including the improvement of legal environment for internal audit, training of internal auditors, introduction of an internal audit quality assurance system, and others. Therefore, the project was consistent with the development needs of Mongolia at the time of ex-ante evaluation.

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

In the “Country Assistance Policy for Mongolia” (April 2012), sustainable development of mineral resources and strengthening of governance was declared as one of the priority areas (intermediary goals). In order to increase income from mineral resources for long-term economic growth, establishment and stabilization of the governance system was identified as high priority assistances for Mongolia. The governance system included strengthening of financial management and financing functions through the improvement of administrative capacity and transparency, development of human resources with high level skills and knowledge, improvement of legal systems and enhancement of their operation capabilities, and others. Therefore, the project was consistent with the Japan’s ODA policy for Mongolia at the time of ex-ante evaluation.

<Appropriateness of Project Design/Approach>

The project planned to prepare the draft of internal audit bill, and on a premise its legislation, making manuals, establishing a training framework, introduction of a quality assurance system, and development of the medium-term strategic plan for internal audit were planned. However, the bill was not submitted to the parliament due to some circumstances in the Ministry of Finance. Therefore, after the completion of the project, the manuals, training framework and quality assurance system were approved by the finance minister based on the exiting Budget Law. But, because the Budget Law had no provisions about the compliance with the international audit standards, the structure of internal audit committee, legal authorities and responsibilities of internal auditors, and others. Therefore, the manuals, training framework and quality assurance system were approved but with some constraints. The medium-term strategic plan has yet to be approved at the time of ex-post evaluation waiting for the enactment of new internal audit law. This was a change of the course of actions and the delay of project activities caused by the plan subject to the approval of the bill, which was highly dependent on the external factors. It is to be noted, however, that those constraints did not directly affect the achievements of Project Purpose and Overall Goal as far as their indicators concerned, thus, did not affect the evaluation of effectiveness and impact.

<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 achieved at the time of project completion. The level of internal audit capacities of the priority ministries upgraded from level 2 to level 3 by the standard of the Internal Audit - Capacity Model (IA-CM) (Indicator 1). Activities to improve the legal framework for internal audit and internal auditors were conducted including drafting of the “Concept Paper of Legal Framework on Internal Audit,” “Internal Audit Practical Manual” and others (Indicator 2). The total number of participants in the Internal Auditor Professionals for Public Sector (IAPPS) training was 359 which went largely beyond the target of 100 (Indicator 3). Internal audits with on-the-job training were conducted 128 times for the four priority ministries (Indicator 4-1) and 13 times for other governmental organizations (Indicator 4-3). Out of 128 times, 53 times were implemented applying the “Internal Audit Practical Manual (draft)” drafted by the project (Indicator 4-1). In the internal audits implemented in the four priority ministries stated above, 12 documentations about any of four audit stages (planning, fieldwork, reporting, follow-up) were confirmed to be made. However, the number of documentations did not reach the indicator’s target value of 16 (Indicator 4-2). The number of governmental organizations implementing internal audit and the number of internal auditors increased from 76 auditors in 11 organizations in 2014 to 132 auditors in 44 organizations in 2017 (Indicator 5). Internal audit quality assurance activities were conducted in eight governmental organizations, i.e., the Ministry of Finance, four priority ministries, and the three provinces. Out of eight quality assurance activities, three activities produced reports (Indicator 6).

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

The project effects have been continued at the time of ex-post evaluation. After the project completion, the action plans prepared by the project were implemented and preparation of manuals and formulation of rules and regulations except the approval of internal audit bill by the parliament has been progressed. Therefore, according to the assessment by the FC-RM Department, the maturity level of internal audit of the four priority ministries reached level 4 of the standard of IA-CM. As for the internal audit law, updating of the bill has been continued for submitting the bill to the parliament. IAPPS training has not been implemented after the project completion. The Ministry of Finance has developed training programs based on IAPPS training and implemented them 20 times in three years from 2017 to 2020 with the total number of participants of 2,788. The number of governmental organizations implementing internal audit and the number of internal auditors increased from 132 auditors in 44 organizations in 2017 at the time of project completion to 291 auditors in 45 organizations in 2020. During the period from 2018 to 2020, internal audits were conducted 90 cases in the four priority ministries and 1,702 cases in other governmental organizations including local governments, and audit reports were made in all of those audits. As for internal audit quality assurance, the “Internal Audit Quality Assurance Manual” was revised in 2019 and published in 2020, and external evaluations on internal audit of 20 provinces were implemented in 2021 online under the circumstances of epidemic of COVID 19.

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

The Overall Goal was achieved at the time of ex-post evaluation. As stated above, the maturity level of internal audit of the four priority ministries have upgraded to the level 4 of IA-CM (Indicator 1), and the revision of internal audit bill has been conducted to submit the bill

to the parliament (Indicator 2). Public internal audit has been continuously implemented, and the number of audit reports, the number of recommendations, and the rate of follow-up of them have maintained at high level (Indicator 3). Training programs substitute to IAPPS training have been continuously implemented, and the number of organizations implementing internal audit and internal auditors has increased year by year (Indicator 4).

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

The manuals and rules and regulations for internal audit were approved by the ministry, recommendations for improvement based on the results of internal audits were issued by the minister, and other system improvements of public internal audit have been progressed. Along with those movements, understanding of the effectiveness of internal audit has become pervasive in central government's top managements. The IIA Mongolia, officially certified by the Institute of Internal Auditors (IIA) taking the opportunity of collaboration with the project, improved the capacity of trainers through activities of the project. After the completion of the project, IIA Mongolia has implemented training and certification examinations for the international certification of the Certified Internal Auditor (CIA) and the Certified Internal Auditor Professionals for Public Sector (CIAPPS). The participants in the programs of IIA Mongolia widely includes internal auditors in governmental and government-owned organizations including the Secretariat of the Parliament, the Board of Audit, the National Police Agency, the Bank of Mongolia, and others. No negative impact on natural, social and economic environment has been observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|---|---|---|--|
| Project Purpose: The Mongolian government establishes a more solid framework of internal audits in accordance with the Strategic Plan 2014-16. | Indicator 1: Upgraded level of assessment results of IA-CM in Mongolia: move up more than one from level 2 on the project scope areas in IA-CM. | Status of the Achievement: Achieved (continued) (Project Completion) According to the assessment by the FC-RM Department, the level of internal audit capacities of the four priority ministries by the standard of IA-CM prepared by IIA upgraded from level 2 to level 3 although some issues were pointed out by the Japanese experts. (Ex-post Evaluation) Action plans suggested by the Japanese experts at the time of project completion were implemented except the parliament approval of internal audit bill. Because of these performances, the FC-RM Department assessed the maturity level of internal audit of the four priority ministries to be level 4 of the standard of IA-CM. | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. |
| | Indicator 2: Continued progresses of actions for enhancing internal audit and internal auditors in legal framework (e.g., draft laws & regulations, etc.). | Status of the Achievement: Achieved (continued) (Project Completion) Actions for enhancing internal audit and internal auditors in legal framework were carried out by the project including the drafting of "Concept Paper of Legal Framework on Internal Audit," "Training Framework," "Internal Audit Practical Manual," "Internal Audit Quality Assurance Checklist," and others. (Ex-post Evaluation) Tasks suggested by the project to be finalized and authorized by the Mongolian side after the completion of the project have been completed except the approval of the internal audit bill by the parliament. The "Internal Audit Practical Manual" was integrated with the manual prepared by the "Strengthening Fiscal and Financial Stability Project" (2017-2022) assisted by the World Bank as the "Public Sector Internal Audit Guidance" approved by the ministry in 2019, and has been utilized at the time of this ex-post evaluation. The "IAPPS Training Framework" and the framework and manuals for internal audit quality assurance system were taken in the "Human Resource Development Program for 2019-29" and the "Internal Audit Quality Assessment Guidance" respectively and approved by the ministry. Thus, the system development of internal audit has continuously progressed after the completion of the project. On the other hand, although the internal audit bill was finalized by the FC-RM Department after the completion of the project, it has yet been submitted to the parliament due to the priority of bills in the Ministry of Finance. At the time of ex-post evaluation, for submitting the bill to the parliament, updating of the bill has been continued at the initiative of the FC-RM Department. | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. |
| | Indicator 3: 100 IAPPSs training participants. | Status of the Achievement: Achieved (continued) (Project Completion) IAPPS training was implemented three times with the total number of participants of 359 during the project period. (Ex-post Evaluation) | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the |

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| | | After the completion of the project, IAPPS training has not been implemented due to the change of human development policy of the government. As alternated to that, the Ministry of Finance has developed training programs based on IAPPS training reflecting the government policy and has been implemented. The training programs were conducted 20 times in three years from 2017 with the total number of participants of 2,788. | four priority ministries, and three provinces. |
| Indicator 4-1: Continued implementation of internal audit using the manuals under development in the priority areas. | Status of the Achievement: Achieved (continued) (Project Completion) Internal audits with on-the-job training were conducted 141 times in total, i.e., 128 times in the four priority ministries and 13 times in other governmental organizations. Out of 128 times, 53 times were implemented in the third year of the project applying the “Internal Audit Practical Manual (draft)” drafted by the project. (Ex-post Evaluation) The four priority ministries and three provinces surveyed in the ex-post evaluation have conducted internal audit after the completion of the project according to the “Internal Audit Practical Manual (draft)” prepared by the project. After 2019, they have conducted internal audit according to the “Public Sector Internal Audit Manual” updated and authorized by the Minister of Finance of Mongolia. | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. | |
| Indicator 4-2: Continued implementation of internal audit in priority areas specialized public organizations: "16" (number of internal audit reports, recommendations, follow-up). | Status of the Achievement: Partially achieved (continued) (Project Completion) As stated above in Indicator 4-1, internal audits with on-the-job training were conducted 53 times for the four priority ministries applying the “Internal Audit Practical Manual (draft)” prepared by the project. In the internal audits conducted in those four ministries, 12 audit documentations were confirmed. (Ex-post Evaluation) After the project completion, from 2018 to 2020, internal audits were conducted 90 cases in total, i.e., 18 cases in the Ministry of Roads and Transportation Development, 31 cases in the Ministry of Education and Science, 21 cases in the Ministry of Health, and 20 cases in the Ministry of Construction and Urban Development. Audit reports were prepared in all internal audits according to the “Internal Audit Rules” (2015). Quarterly follow-up of recommendations has been conducted in all those four ministries. | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. | |
| Indicator 4-3: Continued implementation of ordinary internal audit in the other areas "8" (number of internal audit reports, recommendations, follow-up). | Status of the Achievement: Achieved (continued) (Project Completion) As stated above in Indicator 4-1, internal audits with on-the-job training were conducted 13 times in other governmental organizations other than the four priority ministries applying the “Internal Audit Practical Manual (draft)” prepared by the project. Though the data of the number of documentations were not available, audit reports were prepared in all those internal audits according to the “Internal Audit Rules” (2015). Quarterly follow-up of recommendations has been conducted in all those organizations. (Ex-post Evaluation) After the completion of the project, internal audit was conducted 1,702 cases during the period from 2018 to 2020 in other governmental organizations other than the four priority ministries including the Mongolian Securities Clearing House & Central Depository Co., Ltd., Ulaanbaatar Custom Office, and others, and audit reports were prepared in all those internal audits according to the “Internal Audit Rules” (2015). Quarterly follow-up of recommendations has been conducted at a rate of 80% to 100% in those organizations. | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. | |
| Indicator 5: Increased number (and/or percentage) of audited organizations, IAPPSs and IAPIs: 100 (number and/or percentage) | Status of the Achievement: Achieved (continued) (Project Completion) At the time of project commencement in 2014, 76 internal auditors were appointed in 11 governmental organizations, i.e., one ministry and 10 districts. At the time of project completion in 2017, 132 internal auditors were appointed in 44 governmental organizations, i.e., 13 ministries, 21 provinces and 10 districts. Thus, the number of organizations conducted internal audit increased fourfold and the | Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces. | |

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|--|--|---|---|
| | | <p>number of internal auditors by 1.7 times. At the time of project completion, the total number of participants to IAPPS training and the Internal Audit Practical Instructors (IAPI) training were 359 and 115 respectively.</p> <p>(Ex-post Evaluation)</p> <p>As of October 2020, 291 internal auditors were appointed in 14 ministries, 21 provinces, and 10 districts. Comparing with the number at the time of project commencement, the number of organizations conducted internal audit increased by 4.1 times and the number of internal auditors by 3.8 times. Although IAPPS training and IAPI training have not been implemented after the completion of the project, training programs alternative to IAPPS training have been implemented (see Indicator 3).</p> | |
| | <p>Indicator 6: Implemented Internal Audit Quality Assurance systems: 2-3 reports are made.</p> | <p>Status of the Achievement: Achieved (continued) (Project Completion)</p> <p>Internal audit quality assurance activities were conducted in eight governmental organizations, i.e., the Ministry of Finance, four priority ministries, and three provinces. Three reports were made from those activities.</p> <p>(Ex-post Evaluation)</p> <p>After the completion of the project, internal audit quality assurance activities were conducted in 2017 in three organizations of the Ministry of Energy and two local governments. Along with the revision of the “International Professional Practices Framework” (IPPF) in 2017 by IIA, the FC-MR Department revised the “Internal Audit Quality Assurance Manual” drafted by the project and formulated the “Internal Audit Quality Assurance Rules and Methods” which was authorized by the Ministry of Finance in 2019 and published in 2020. According to the Rules and Methods, external evaluations of internal audit of 20 provinces were made in 2021 online under the circumstances of epidemic of COVID 19.</p> | <p>Project Completion Report, Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces.</p> |
| <p>Overall Goal: The Mongolian governmental internal auditors are able to conduct internal audits in a more sustainable environment.</p> | <p>Indicator 1: Upgraded level of assessment results of Internal Audit Capacity Model (IA-CM) in Mongolia: Move up more than one from Level 2.</p> | <p>(Ex-post Evaluation) Achieved</p> <p>Preparation of the manuals and regulations stated above in Indicator 2 for the Project Purpose, provision of training applying those manuals and regulations, implementation of internal audit and internal audit quality assurance activities, and other activities have been conducted after the completion of the project. According to the assessment made by the FC-RM Department, through those activities, the level of capacity of internal audit of the Mongolian governmental organizations has been upgraded to the level 4 of IA-CM.</p> | <p>Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces.</p> |
| | <p>Indicator 2: Established legal framework of internal audit.</p> | <p>(Ex-post Evaluation) Partially achieved</p> <p>As stated above in Indicator 2 for Project Purpose, the internal audit bill prepared by the project was finalized after the completion of the project but has yet been submitted to the parliament. At the time of this ex-post evaluation, preparatory works such as comment collection from governmental organizations including local governments and other surveys have been conducted at the initiative of the FC-RM Department for submitting the bill to the parliament.</p> | <p>Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces.</p> |
| | <p>Indicator 3: Continued implementation of internal audit: increase number of IA reports, recommendations, follow-up.</p> | <p>(Ex-post Evaluation) Achieved</p> <p>The total number of internal audits implemented in Mongolia was 1,792 during the period from 2018 to 2020 and audit reports were produced in all those internal audits according to the Internal Audit Rules (2015). Although the number of recommendations made in audits in a year was not identified, according to the FC/RM department, the number of recommendations has increased along with the increase of the number of internal audits.</p> | <p>Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces.</p> |
| | <p>Indicator 4: Increased number (and/or percentage) of audited organizations, Internal Auditor Professionals for Public Sector (IAPPS) and Internal Audit Practical Instructors (IAPI).</p> | <p>(Ex-post Evaluation) Achieved</p> <p>See above the Indicator 5 for the Project Purpose.</p> | <p>Questionnaire and interview surveys on the FC-RM Department, the four priority ministries, and three provinces.</p> |

3 Efficiency

Although the project period was as planned (the ratio against the plan: 100%), the project cost exceeded the plan (the ratio against the plan: 114%). The outputs were produced as originally planned by the end of the project period. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

One of the development targets stated in the “Mongolia’s Five-year General Guidelines for 2021-2025” (2020) was the establishment of sustainable governance through development of legal systems to decentralize and balance the power. Improvement of audit systems including internal audit is included in it. Besides, the “Government Action Plan 2020-2024” (2020) plans to develop an infrastructure integrating budgeting and financing aiming at the speed up of public service delivery and higher transparency of public expenditure management. Along with drafting the internal audit law, the medium-term strategic plan for public sector internal audit is currently in process of development.

<Institutional/Organizational Aspect>

No major change of institutional/organizational setup and responsibilities and mandates took place in the Ministry of Finance, the three priority ministries, and local governments except the Ministry of Education, Culture, Science and Sports which was divided into the Ministry of Education and Science and the Ministry of Culture in July 2020. In the FC-RM Department, there are eight staff members in the Internal Audit, Monitoring and Evaluation Division. Out of eight staff members, four of them are assigned to the internal audit tasks. The number of internal auditors in other organizations are: one in the Ministry of Construction and Urban Development, two in the Ministry of Roads and Transportation Development, three in the Ministry of Education and Science, five in the Ministry of Culture, five in the Ministry of Health, nine in Dornod province, five in Orkhon province, and six in Uvurkhangaï province. According to the questionnaire survey, all of these organizations except the FC-RM Department have faced the shortage of internal auditors for the workload.

<Technical Aspect>

Knowledge learned in the project has been updated as needed with the assistance of the World Bank project and others and shared widely with persons concerned through training programs and other opportunities. The manuals and other documents prepared by the project have also been updated and revised as needed. Updated versions were approved by the ministry and utilized in practice of public internal audit. The Dornod province, in collaboration with other neighboring provinces, has conducted internal audit training sessions for local government officials, thus shared and disseminated the knowledge and manuals gained in the project. On the other hand, some local governments including Uvurkhangaï province call for the on and off the job training because they still do not have enough knowledge and experience of internal audit.

<Financial Aspect>

Budget for the Ministry of Finance for internal audit has steadily increased year by year as shown in the Table 1. According to the FC-RM Department, the amount of budget has been sufficient for its operations. And according to the questionnaire survey, budget for internal audit operations of the four priority ministries are also adequate. However, according to the questionnaire survey of provinces, Orkhon and Uvurkhangaï provinces mentioned that their budget for internal audit has not been sufficient and caused some difficulties in travel expense, fuel cost, equipment procurement, and others, and they need support for renewing their computers and related equipment.

Table 1: Annual budget of the Ministry of Finance

Unit: million Tugriks

| Year | 2017 | 2018 | 2019 | 2020 |
|---------------------------|------|------|------|------|
| Total amount of budget | 288 | 290 | 354 | 445 |
| Budget for internal audit | 23 | 34 | 89 | 98 |

<Evaluation Result>

In light of the above, some problems have been observed in terms of the policy, institutional/organizational, 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 the Project Purpose through preparing concept papers and manuals, implementing training including IAPPS training, conducting on-the-job training and other various activities, the level of IA-CM of the ministries targeted by the project raised, the number of organizations implementing internal audit and internal auditors increased, internal audit quality assurance activities implemented. Those improvements have been sustained after the completion of the project, and the Overall Goal was achieved except the parliament approval of the internal audit bill. However, an issue was identified in the appropriateness of the project design. Though it did not seriously affect the achievement of output indicators of the project, it caused the change of the course of actions and the delay of project activities. That was because of the plan assumed the parliament approval of the internal audit bill, which was highly dependent on external factors. As for sustainability, some problems have been observed in terms of the policy, institutional/organizational, technical, and financial aspects. As for efficiency, the project cost slightly exceeded the plan. Considering all the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- It is recommended that the FC-RM Department continues to prepare for submitting the internal audit bill to the parliament and make the bill approved at the earliest possible time. And after getting the approval for the bill, it is recommended to formulate and implement the medium-term strategic plan for public internal audit based on the new law, and update the manuals, training framework, and quality assurance systems if necessary.
- Some of the priority ministries and local governments suffer from insufficient staffing for internal audit. Therefore, it is recommended that the Ministry of Finance takes initiative to improve the staffing in public organizations as a part of the internal audit system development.
- The internal audit system in central government organizations has been developed through a variety of endeavors including the Phase 1 and the Phase 2 project. However, local governments still have issues particularly in institutional/organizational, technical, and financial aspects. Because of this, some of those organizations do not necessarily conduct internal audit adequately. Therefore, it is recommended that the Ministry of Finance to focus more on the system improvement for the local governments as a next stage of the system development of public internal audit.

Lessons Learned for JICA:

- The project planned to draft an internal audit bill as one of its major outputs, and on a premise its approval by the parliament, project

activities were planned to be conducted. During the project period, according to the plan, the Ministry of Finance tried to submit the bill to each parliament session biannually held. However, it was not realized due to some circumstances including the priority of agenda of the parliament and the change of regime. After the completion of the project, because of the priority of bills in the Ministry of Finance, the bill has yet been submitted to the parliament. Like this, an approval of a bill usually depends on external factors beyond the control of the project or the capacity of implementing agency. In the case of the project, it changed the course of actions and got approvals on some of its outputs under the existing law (budget law) with some constraints on internal audits but not under the new law. However, the medium-term strategic plan has yet been approved at the time of ex-post evaluation waiting for the enactment of the new law. It can be deduced from the above that it is not recommendable to plan a project based on the assumption of external factors such as an enactment of a bill. In addition, it is recommended that a project conducts risk analysis at its initiation stage and plans expecting the outset of risks with high probability and serious impacts if they are identified.



Internal Auditors' Conference in 2020 (Ulaanbaatar)
Almost all of them participated in the training
provided by the project.



Internal Auditors' Conference in 2020 (Ulaanbaatar)
Opening address by the Vice-Minister of Finance

| | |
|--|--|
| Country Name | The Project for Capacity Development on Bridge Management |
| Democratic Socialist Republic of Sri Lanka | |

I. Project Outline

| | | | | | | | | | | | | | |
|---|--|--------------|---|---------------|-----------------|------------------------|--------------------------------|----------------------------------|--|---|---------------|---------------|--|
| Background | <p>There were about 4,800 bridges on the national highways¹ in Sri Lanka, which were managed by Road Development Authority (RDA). As of 2010, the bridges which were more than 50-years old accounted for 42% of the total and the ratio was expected to increase to 60% in 2020. From the experiences of Japan and other countries, it was known that maintenance cost of the bridges became higher at an accelerated rate when they became 50-years old or more. Therefore, there was a need for RDA to establish appropriate system for bridge management, including bridge management strategy, institutional framework, manuals, database system, human resource development and others (Figures at the time of ex-ante evaluation unless otherwise stated).</p> | | | | | | | | | | | | |
| Objectives of the Project | <p>The project aimed to improve institutional capacity of RDA on bridge management in Sri Lanka through (i) preparation of bridge management strategy/plan, (ii) re-establishment of institutional framework of RDA head office and regional offices (Provincial Director, Chief Engineer, Executive Engineer) on bridge management, (iii) revision and development of bridge inspection and diagnosis manuals as well as development of bridge repair manual and bridge management guidelines, (iv) establishment of Bridge Management System² (BMS), and (v) enhancement of basic engineering knowledge of the staff of RDA head office and regional offices in sample provinces by seminars and on-the-job training (OJT), thereby enabling RDA to conduct bridge management in a systematic manner throughout the country in accordance to the Bridge Management Cycle.</p> <ol style="list-style-type: none"> Overall Goal: RDA conducts bridge management in a systematic manner throughout the country in accordance to the Bridge Management Cycle. Project Purpose: Institutional capacity of RDA on bridge management is improved. | | | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project site: Sri Lanka (Sample provinces: Central, Western, and Southern Provinces) Main activities: (i) Preparation of the bridge management strategy, (ii) re-establishment of institutional framework of RDA head office and regional offices on bridge management (i.e. Bridge Management and Assessment Unit (BM&AU)), (iii) revision and development of bridge inspection and diagnosis manual as well as development of bridge repair manual and bridge management guidelines, (iv) establishment of the BMS³ used by BM&AU and (v) enhancement of basic engineering knowledge of the staff assigned to BM&AU as well as other staff of RDA head office and regional offices in the sample provinces, by the seminars and OJTs, and commencement of training for the staff in the other provinces by the staff of BM&AU as trainers. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Sri Lankan Side</td> </tr> <tr> <td>1) Experts: 13 persons</td> <td>1) Staff allocated: 16 persons</td> </tr> <tr> <td>2) Trainees received: 30 persons</td> <td>2) Building and facilities: Project office</td> </tr> <tr> <td>3) Equipment: A bridge inspection vehicle, 9 pole cameras for bridge inspection, etc.</td> <td>3) Local cost</td> </tr> <tr> <td>4) Local cost</td> <td></td> </tr> </table> | | | Japanese Side | Sri Lankan Side | 1) Experts: 13 persons | 1) Staff allocated: 16 persons | 2) Trainees received: 30 persons | 2) Building and facilities: Project office | 3) Equipment: A bridge inspection vehicle, 9 pole cameras for bridge inspection, etc. | 3) Local cost | 4) Local cost | |
| Japanese Side | Sri Lankan Side | | | | | | | | | | | | |
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| 3) Equipment: A bridge inspection vehicle, 9 pole cameras for bridge inspection, etc. | 3) Local cost | | | | | | | | | | | | |
| 4) Local cost | | | | | | | | | | | | | |
| Project Period | (ex-ante) November 2014-November 2017 (actual) February 2015-February 2018 | Project Cost | (ex-ante) 300 million yen, (actual) 492 million yen | | | | | | | | | | |
| Implementing Agency | Ministry of Highways/ Road Development Authority (RDA) | | | | | | | | | | | | |
| Cooperation Agency in Japan | Japan Bridge & Structure Institute INC., Central Nippon Expressway Company Ltd., Dainichi Consulting Inc. | | | | | | | | | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- Continuation status of the Project Purpose Indicator 1 (“For all the bridges in the sample provinces, except those cannot be accessed due to adverse natural environment and others, bridge inspection and diagnosis are conducted in line with the revised bridge inspection and diagnosis manual”) was confirmed using the data collected for the Overall Goal Indicator 1 (“All the bridges on national highways in the country (approx. 4,800 numbers) are inspected and diagnosed in line with the bridge inspection and diagnosis manuals”).

1 Relevance

<Consistency with the Development Policy of Sri Lanka at the Time of Ex-Ante Evaluation >

¹ The bridges on the national highways referred to in the project excluded those on the expressways covered by the expressway maintenance mechanism.

² In the logical framework of the project, the system to be established through the project was referred to as “Bridge Management Data System”. During the project implementation, the term “Bridge Management System (BMS)”, the term used in the Ex-ante Evaluation Sheet, was used by those concerned with the project because the system had more functions than data collection and had to reflect and emphasize the management aspect as otherwise it might be considered as a simple database.

³ The BMS established under the project comprised of 3 sub-systems, namely, Bridge Database System, Bridge Inspection Support System, and Bridge Repair and Maintenance System.

At the time of ex-ante evaluation, the project was consistent with the “Mahinda Chintana 2006-2016: Vision for a new Sri Lanka”, the national development plan of Sri Lanka, which prioritized development of road infrastructure, which would revitalize economic activities, and set forth improvement of the existing road network in its strategic actions.

<Consistency with the Development Needs of Sri Lanka at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with the needs of Sri Lanka for improvement of bridge management as described in the “Background”.

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

At the time of ex-ante evaluation, the project was consistent with the Country Assistance Policy for Sri Lanka (2012), which includes “Promotion of economic development” as one of the important strategies, and development of transport infrastructure, which improves domestic structure as one of the target areas.

<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 achieved at the time of project completion. All bridges in the sample provinces on the national highways were inspected and diagnosed in line with the revised bridge inspection and diagnosis manual (Indicator 1). RDA was ready for expanding the BMS to the entire country within 2 years from the completion of the project (i.e., by February 2020) because it already completed the inspection of around 60% of the bridges in the non-sample provinces on average as of October 2017 and the engineers of BM&AU, working in the regional offices, were entering the data to the BMS as soon as they returned to the offices from the inspection on the same day (Indicator 2). Two seminars on the revised bridge inspection and diagnosis manual were held, targeting the staff at RDA head office and regional offices in the sample provinces, and as many as 95% of the participants (target: more than 70%) showed their understanding when they participated in these seminars (Indicator 3). All of 9 engineers in the BM&AU obtained the Certificate of Bridge Inspection after the OJT on bridge inspection by the project (Indicator 4).

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

The project effects were continued at the time of ex-post evaluation. The bridge management strategy developed under the project and approved by the board of RDA by the project completion was continuously utilized. The roles and responsibilities of BM&AU in RDA head office and regional offices identified under the project and approved by the board by the project completion were put into practice and functioning. All the manuals and guidelines revised/developed under the project were distributed to all regional offices as the official documents approved by the board and continuously utilized.⁴ The engineers of BM&AU trained by the project continuously conducted training to the engineers and technical officers of the regional offices. All bridges in the sample provinces, were continuously inspected and diagnosed by BM&AU in line with the manual. The BMS was expanded to the entire country within 2 years after the project completion as planned. The staff of RDA head office and regional offices in the sample provinces maintained the transferred skills and knowledge on bridge inspection and diagnosis (For more details, please see <Technical Aspect> of “Sustainability”). All of the 9 engineers who had obtained the Certificate of Bridge Inspection through the project remained with BM&AU.

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

The Overall Goal was achieved at the time of ex-post evaluation. All the bridges on the national highways were inspected and diagnosed⁵ in line with the manual revised under the project (Indicator 1), and the results of the inspection and diagnosis of all the bridges on the national highways were entered in the BMS by BM&AU (Indicator 2). RDA utilized information produced by the BMS, such as priorities and costs for repairs, strengthening and reconstruction of the bridges, at the time of decision making. For example, the BMS was being utilized to prepare the list of weak bridges based on the health and importance index for repair and re-construction with tentative cost. Based on the list, the priority list for the year was prepared by BM&AU, which was sent to Planning Department of RDA for annual budgeting purpose, and once budget allocation was made the critical work to be carried out was determined from the allocated budget based on the priorities and amount of allocation (Indicator 3).

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

Negative impacts were not observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | | | | Source | |
|---|--|--|------------------|------------------|-------------------|---|-------|
| (Project Purpose) Institutional capacity of RDA on bridge management is improved | Indicator 1: For all the bridges in the sample provinces, except those cannot be accessed due to adverse natural environment and others, bridge inspection and diagnosis are conducted in line with the revised bridge | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) <Ratio of inspected and diagnosed bridges on the national highways in the Sample Provinces> | | | | source: Project Completion Report (PCR); questionnaire and interview survey to RDA. | |
| | | | Western Province | Central Province | Southern Province | | Total |
| | | (i) No. of total bridges | 737 | 508 | 455 | | 1,700 |
| | (ii) No. of inspected & diagnosed bridges | 717 | 457 | 410 | 1,584 | | |

⁴ It is noted that the bridge repair manual was developed to act as a guide to select the appropriate repair method suitable for Sri Lanka and identified 30 methods for minor and major repairs, including a few new methods which were explained in the seminar on bridge repair by the project. RDA mentioned that the manual was useful and utilized, but, as for the new methods, they did not have an opportunity to use them as much mainly because the methods could be used only for particular type of damages, and they did not come across many of those damages. The reason for the mismatch was not clear.

⁵ As RDA’s bridge inventory changed from time to time due to construction of new bridges and/or classification and declassification of the existing structures, BM&AU kept track of such changes and update the BMS by taking the initiative to find out what the ongoing projects were and paying attention to classification and declassification of the structures in the absence of the formal mechanism to inform such changes to BM&AU.

| Bridge management strategy/plan are prepared. | inspection and diagnosis manuals. | (iii) No of bridges not inspected as there was no access | 20 | 51 | 45 | 116 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|---|------------------|---------------------|----------------|--------------------------|---|-------|-------|---|-------|-------|-------|---|---|---|---|--|---|---|---|--|-------------|-------------|-------------|---|------|------|------|--|--|--|--|
| | | (iv) No of bridges not inspected for other reasons | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | (v) % of inspected & diagnosed bridge except those which cannot be accessed (=ii)/(i)-(iii)) | 100% | 100% | 100% | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | (Ex-post Evaluation) *Refer to item (vi) of the table in the Results of Overall Goal Indicator 1. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indicator 2: RDA is ready for expanding BMS to entire country within 2 years from the completion of the project. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -RDA was ready for expanding the BMS to the entire country within 2 years from the completion of the project (i.e., by February 2020) because, as of October 2017, it already completed the inspection of around 60% of the bridges in the non-sample provinces on average and the engineers of BM&AU, working in the regional offices, were entering the data to the BMS as soon as they returned to the offices from the inspection on the same day. (Ex-post Evaluation) - The inspection of bridges in the non-sample provinces and inputting the results into the BMS were completed within 2 years from the completion of the project by December 2019. | source: PCR; questionnaire and interview survey to RDA. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indicator 3: More than 70% of the staff at RDA head office and regional offices in the sample provinces shows their understanding when they participated in the seminars on the revised and developed bridge inspection and diagnosis manuals. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) <Ratio of the participants of the seminars on the revised and developed bridge inspection and diagnosis manual who showed their understanding> <table border="1"> <thead> <tr> <th>Date</th> <th>% of the participants who showed their understanding.</th> </tr> </thead> <tbody> <tr> <td>July 2017</td> <td>95%</td> </tr> <tr> <td>September 2017</td> <td>95%</td> </tr> </tbody> </table> (Ex-post Evaluation) - Staff of RDA head office and regional offices in the sample provinces maintained transferred skills and knowledge on bridge inspection and diagnosis, by applying them in their routine operations and referring to the manuals. | Date | % of the participants who showed their understanding. | July 2017 | 95% | September 2017 | 95% | source: PCR; questionnaire and interview survey to RDA. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date | % of the participants who showed their understanding. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| July 2017 | 95% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| September 2017 | 95% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indicator 4: All engineers in BM&AU obtain Certificate of Bridge Inspection. | Status of the Achievement (Status of the Continuation): achieved (continued) (Project Completion) -All of 9 BM&AU engineers obtained the Certificate of Bridge Inspection after the training by the project. (Ex-post Evaluation) -All of 9 engineers who had obtained the Certificate of Bridge Inspection remained with BM&AU. | source: Questionnaire and interview survey to RDA. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) RDA conducts bridge management in a systematic manner throughout the country in accordance to the Bridge Management Cycle. | Indicator 1: All the bridges on national highways in the country (approx. 4,800 numbers) are inspected and diagnosed in line with the bridge inspection and diagnosis manuals. Indicator 2: Results of inspection and diagnosis of all the bridges on national highways (approx. 4,800 numbers) in the country are entered in the BMS. Indicator 3: RDA utilizes information produced by the BMS, such as priorities and costs for repairs, strengthening and reconstruction of the bridges in the country, at the time of decision making. | (Ex-post Evaluation) achieved <Ratio of inspected and diagnosed bridges on the national highways in the country (as of March 2021)> <table border="1"> <thead> <tr> <th></th> <th>Sample provinces</th> <th>The other provinces</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>(i) No. of total bridges</td> <td>1,734</td> <td>2,497</td> <td>4,231</td> </tr> <tr> <td>(ii) No. of inspected & diagnosed bridges</td> <td>1,734</td> <td>2,497</td> <td>4,231</td> </tr> <tr> <td>(iii) No of bridges not inspected as there is no access</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>(iv) No of bridges not inspected for other reasons</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>(v) % of total bridges inspected & diagnosed(=(ii)/(i))</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> <tr> <td>(vi) (For reference) % of inspected & diagnosed bridge except those which cannot be accessed (=ii)/(i)-(iii))</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table> (Ex-post Evaluation) achieved -The results of the inspection and diagnosis of all the bridges on the national highways, excluding those on the expressways covered under the expressway maintenance mechanism, were entered in the BMS (4,231 bridges as of March 2021). (Ex-post Evaluation) achieved- -The BMS was being utilized to prepare the list of weak bridges for repair and re-construction with tentative cost. The priority list for the year, prepared by the BM&AU, was sent to RDA Planning Department for annual budgeting purpose, and once budget allocation was made, the critical works to be carried out was determined from the allocated budget based on the priorities and amount of allocation. | | Sample provinces | The other provinces | Total | (i) No. of total bridges | 1,734 | 2,497 | 4,231 | (ii) No. of inspected & diagnosed bridges | 1,734 | 2,497 | 4,231 | (iii) No of bridges not inspected as there is no access | 0 | 0 | 0 | (iv) No of bridges not inspected for other reasons | 0 | 0 | 0 | (v) % of total bridges inspected & diagnosed(=(ii)/(i)) | 100% | 100% | 100% | (vi) (For reference) % of inspected & diagnosed bridge except those which cannot be accessed (=ii)/(i)-(iii)) | 100% | 100% | 100% | source: Questionnaire and interview survey to RDA. | | | |
| | Sample provinces | The other provinces | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (i) No. of total bridges | 1,734 | 2,497 | 4,231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (ii) No. of inspected & diagnosed bridges | 1,734 | 2,497 | 4,231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (iii) No of bridges not inspected as there is no access | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (iv) No of bridges not inspected for other reasons | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (v) % of total bridges inspected & diagnosed(=(ii)/(i)) | 100% | 100% | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (vi) (For reference) % of inspected & diagnosed bridge except those which cannot be accessed (=ii)/(i)-(iii)) | 100% | 100% | 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Although the project period was within the plan (ratio against the plan: 100%), the project cost largely exceeded the plan (ratio against the plan: 164%) mainly due to increase of dispatch period of experts, implementation of an additional training in Japan for senior officials, and procurement of additional equipment (9 inspection cameras). Meanwhile, the Outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The National Policy Framework Vistas of Prosperity and Splendour (2020-2025) prioritized upgrading and development of road infrastructure. In addition, the bridge management strategy, developed under the project, had been approved by the board of RDA as stated in “Effectiveness/Impact”.

< Institutional/Organizational Aspect>

Organizational structure for bridge management was established. Within RDA, BM&AU was formerly established as a sub-division of Engineering Services Division, with a permanent recurrent expenditure budget allocation. As mentioned in “Effectiveness/Impact”, the roles and responsibilities of BM&AU in the head office and the regional offices, identified under the project, were put into practice and functioning. RDA had enough staff to promote bridge management. The number of staff members of BM&AU was 16 (i.e., the unit head, 9 engineers trained directly by the project and 3 additional engineers assigned after the project completion to enhance BM&AU, who were trained by the trained engineers, and 3 supporting staff). In addition, BM&AU was planning to recruit an information technology (IT) expert in future to assist them to improve the BMS (e.g., improving/adding functions, correcting system errors, etc.⁶). Other than those assigned to BM&AU, 94 staff members were engaged in bridge management at the regional offices.

<Technical Aspect>

The BM&AU engineers assigned at the RDA head office and the regional offices sustained the skill and knowledge transferred through the project by applying them in their daily operation and referring to the manuals. Both at the relevant departments of the head office and the regional offices of RDA, the related staff maintained the skills and knowledge transferred through the project by referring to the manuals and through training provided by the BM&AU engineers. Further, any clarifications related to any contents of the manuals were cleared by the BM&AU engineers attached to the head office and the regional offices. Meanwhile, the bridge inspection vehicle provided under the project was maintained in good condition and utilized appropriately.

<Financial Aspect>

As stated in “Effectiveness/Impact”, RDA secured the budget for the critical works for repairs, strengthening, and/or reconstruction of the priority bridges through the governmental annual budget using the information produced by the BMS. RDA also continuously secured the necessary budget for the activities of BM&AU, using the foreign aid related domestic fund for this project, which was kept open after the project completion. Once it is closed, the budget shall be secured through RDA’s budget for the recurrent expenditure.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy, institutional/organizational, technical, and financial aspects of the implementing agency. Therefore, the sustainability of the project effects is high.

5 Summary of the Evaluation

The project achieved the Project Purpose (“Institutional capacity of RDA on bridge management is improved and bridge management strategy/plan is prepared”). The effects of the project continued and the Overall Goal (“RDA conducts bridge management in a systematic manner throughout the country in accordance to the Bridge Management Cycle”) was achieved. As for the sustainability, no major problems were observed in terms of the policy, institutional/organizational, technical, and financial aspects. Regarding the efficiency, the project cost largely exceeded the plan while the project period was within the plan. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

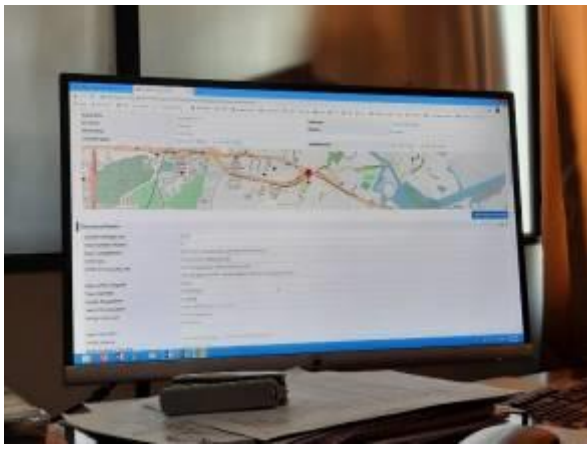
Recommendations for Implementing Agency:

-It is recommended that, by the end of 2021, RDA set up instruction to all relevant Divisions and Project Management Units to inform BM&AU in case of any change to the bridge inventory in order to ensure timely update of the BMS.

Lessons Learned for JICA:

-One of the major report produced by the BMS developed under the project required manual correction because some of the software functions were not appropriately designed. Initial data system introduced by the project was an excel macro, which would not be sustainable for the long term. The implementing agency requested for a more sustainable and expandable system to the project, and preparing the final system started much later partly due to this. Finally, the BMS was provided only towards the end of the technical cooperation project (TCP), so there was insufficient time to test it for some period and correct all errors as planned during the TCP period. At the formulation stage of a TCP including system development, project deliverables such as software/database need to be discussed with the implementing agency in detail so that their actual needs are clearly identified, and the agreed specifications and timeline considering time for commissioning and testing should be included in the terms of reference of the experts.

⁶ For example, the BMS had a function to prioritize bridges need for repairs, strengthening and reconstruction. However, a report produced by BMS for prioritization required manual correction because some of the software functions were not appropriately designed.



Bridge details in the BMS.



One of the bridges inspected using the bridge inspection vehicle.

| | |
|--|--|
| Country Name | The Project for Monitoring of the Water Quality of Major Water Bodies |
| Democratic Socialist Republic of Sri Lanka | |

I. Project Outline

| | | | | | | | | | | | |
|--|---|--------------|---|---------------|-----------------|-----------------------|---|----------------------------------|-----------------|--|-------------------|
| Background | The Democratic Socialist Republic of Sri Lanka aimed to improve living standards in a sustainable manner in the process to achieve economic growth in the 2010s, and environmental protection was one of the key issues. The Central Environmental Authority (CEA) under the Ministry of Mahaweli Development and Environment is the agency responsible for the environmental protection. CEA issues the Environmental Protection License (EPL) to the prescribed activities to permit discharge of industrial effluent, etc. At the time of ex-ante evaluation, the percentage of compliance monitoring with the condition of EPL regarding wastewater was around 50%. The results of water quality monitoring of Kelani river, the water source of Colombo, showed variation of the concentration of the pollutants at the downstream of the river due to the disposal of treated and untreated wastewater from factories. It was urged to establish a system of appropriate water quality monitoring and inspection of factories on the river basin for the environmental protection. | | | | | | | | | | |
| Objectives of the Project | The project aimed to enforce capacity of CEA in water quality management through the introduction of water body categorization, capacity enforcement in water quality analysis and monitoring, and development of information management system of water quality monitoring data, and thereby contributing to the appropriate implementation of water quality management in major water bodies. 1. Overall Goal: Water quality management in major water bodies is appropriately implemented by CEA. 2. Project Purpose: Enforcement capacity of CEA and its regional branch offices of the Kelani river basin on water quality management is strengthened. | | | | | | | | | | |
| Activities of the Project | <ol style="list-style-type: none"> 1. Project site: Whole area of Sri Lanka. Kelani river basin as the model site 2. Main activities: <ol style="list-style-type: none"> 1) To develop and introduce water body categorization. 2) To enforce capacity in water quality analysis of the laboratories including operation and maintenance of the equipment and development of the Standard Operating Procedures (SOP). 3) To enforce capacity in water quality monitoring of relevant organizations by supporting planning, sampling, reporting, development of guidelines, etc. 4) To develop and promote information management system of the water quality monitoring data. 3. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Sri Lankan Side</td> </tr> <tr> <td>1) Experts: 8 persons</td> <td>1) Staff allocated: 54 persons in total</td> </tr> <tr> <td>2) Trainees received: 36 persons</td> <td>2) Office space</td> </tr> <tr> <td>3) Equipment: Equipment for laboratories</td> <td>3) Operation cost</td> </tr> </table> | | | Japanese Side | Sri Lankan Side | 1) Experts: 8 persons | 1) Staff allocated: 54 persons in total | 2) Trainees received: 36 persons | 2) Office space | 3) Equipment: Equipment for laboratories | 3) Operation cost |
| Japanese Side | Sri Lankan Side | | | | | | | | | | |
| 1) Experts: 8 persons | 1) Staff allocated: 54 persons in total | | | | | | | | | | |
| 2) Trainees received: 36 persons | 2) Office space | | | | | | | | | | |
| 3) Equipment: Equipment for laboratories | 3) Operation cost | | | | | | | | | | |
| Project Period | (ex-ante) February 2015-January 2018 (actual) March 2015-February 2018 | Project Cost | (ex-ante) 314 million yen (actual) 254 million yen | | | | | | | | |
| Implementing Agency | Central Environmental Authority (CEA) | | | | | | | | | | |
| Cooperation Agency in Japan | CTI Engineering International Co. Ltd., Oriental Consultants Global Co. Ltd. | | | | | | | | | | |

II. Result of the Evaluation

| |
|---|
| 1 Relevance |
| <p><Consistency with the Development Policy of Sri Lanka at the Time of Ex-Ante Evaluation > This project was consistent with Sri Lanka's national development policy "Mahinda Chintana" (2010), which aimed to increase the percentage of population with access to safe drinking water to 94% by 2015 and 100% by 2020 and to improve the quality of water of Kelani river as the water source for Colombo.</p> <p><Consistency with the Development Needs of Sri Lanka at the Time of Ex-Ante Evaluation > This project was consistent with the needs for capacity development in water quality management as mentioned in "Background" above.</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation> The promotion of economic growth was among the priority areas of Japan's Country Assistance Policy for Sri Lanka (2012). This project was in line with the Country Assistance Policy because it aimed to improve capacity for environmental management and to contribute to the improvement of environment in urban areas which was to deteriorate with economic growth.</p> <p><Evaluation Result> In light of the above, the relevance of the project is high.</p> |
| 2 Effectiveness/Impact |
| <p><Status of Achievement of the Project Purpose at the Time of Project Completion> The Project Purpose, "Enforcement capacity of CEA and its regional offices of the Kelani river basin on water quality management is strengthened" was achieved at the time of project completion as five indicators out of seven were achieved. CEA's divisions and regional offices enhanced their enforcement capacity of water quality management (Indicator 2). Guidelines and materials were developed under the project and they were utilized by all concerned divisions and regional offices of CEA (Indicator 3 and 5). Zoning and categorization were done for the Kelani River based on the water quality data (Indicator 4). Fifteen seminars, workshops and training were conducted (Indicator</p> |

6). There was no information to show that “CEA conducts self-evaluation on policy and system making capacity” (Indicator 1) or that on the percentage of staff who could explain how to use the guidelines at the time of project completion (Indicator 7).

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

The project effects have been continued till the time of ex-post evaluation. CEA divisions and regional offices conduct evaluation of the capacity in water quality management, and the achievement of Overall Goal shows the enhancement of their capacity. All guidelines and manuals prepared under the project are being utilized by all CEA laboratories and regional offices. In 2020, 22 water bodies were assessed under the improved methods. Seminars, workshops and training have been held since the project completion. All relevant staff can explain how to use the guidelines.

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

The Overall Goal, “Water quality management in major water bodies is appropriately implemented by CEA,” has been achieved. In addition to the existing Effluent Discharge Standards (2008), Regulations for Issuing Environmental Protection License and Hazardous Waste Management License (2008) and Prescribed Activity List (2008), drafted ambient water quality standards were reviewed and finalized by the project and gazette in 2019 (Indicator 1). Out of the main 103 water bodies in Sri Lanka, 15 were selected in 2019 to apply the water quality environmental management system developed under the project. Twenty-two water bodies were selected in 2020. It was a comparable increase from 4 in 2014 (Indicator 2 and 3).

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

No negative impacts have been observed.

<Evaluation Result>

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

Achievement of Project Purpose and Overall Goal

| Aim | Indicators | Results | Source |
|--|--|--|--|
| (Project Purpose) Enforcement capacity of CEA and its regional branch offices of the Kelani river basin on water quality management is strengthened. | Indicator 1 CEA conducts self-evaluation on their own capacity of policy and system making regarding water quality management such as nos. of proposals related to gazetting ambient water quality standards, introduction of ambient water quality zoning and categorization system, improvement of current EPL system, etc. based on the National Environmental Act (No.47 of 1980) and other related by-laws, and its evaluation results show improvement, compared with the initial stage of the Project. | Status of the Achievement (Status of the Continuation): Not verifiable (Partially achieved and continued) (Project Completion) As of January 2017, the project team was considering the following three sub-indicators for this indicator, by before-after comparison of the project. 1) Number of proposals relevant to water quality improvement 2) Number of proposals on categorization/classification of water bodies over the country 3) Evidence of improved capacity of CEA on pollution sources management by using the EPL system Project completion report does not mention how this plan was finalized or whether CEA’s self-evaluation on policy and system making capacity was conducted. (Ex-post evaluation) There is no information to show whether “CEA conducts self-evaluation on policy and system making capacity.” There are no data on the “number of proposals,” but CEA’s capacity on pollution sources management by EPL system is confirmed by its activities mentioned in Indicator 2 below. | source : JICA documents, questionnaire and interviews of CEA |
| | Indicator 2 CEA, concerned departments, and regional branch offices conduct self-evaluation on their own enforcement capacity of water quality management such as nos. of guidance to EPL holders (factories), nos. of penalty case, etc. based on the National Environmental Act (No.47 of 1980) and other concerned by-laws, and its evaluation results show improvement, compared with the initial stage of the Project. | Status of the Achievement (Status of the Continuation): Achieved (Continued) (Project Completion) An evaluation on the testing capacity for achieving reliable analytical results was done through an international performance evaluation program funded by the project. Eighteen testing parameters were performed, and the laboratory got satisfactory results for this program. The analysis capacity was evaluated through inter laboratory performance evaluation, using the Certified Reference Material (CRM) on an annual basis. The units, including regional offices, were assigned to the related activities including monitoring and inspection after evaluating their capacity. The criteria considered in the evaluation included the number of staff, their level of familiarity with activities, and necessary resources. At the completion of the project, the activities were streamlined and further guidance was given. The officers’ performance was improved, and the units were able to handle the assigned tasks. All staff showed considerable improvement compared to the initial stage of the project. (Ex-post evaluation) The laboratory participated in the interlaboratory comparison program conducted by the Sri Lanka Association for Testing Laboratories in 2020 and Industrial Technology Institute in 2021. Both these institutes are ISO/IEC 17043 accredited Proficiency Testing (PT) providers in Sri Lanka. All staff showed considerable improvement compared to the initial stage of the project. The progress monitoring system for each unit was introduced. Output indicator data below show that CEA has steadily conducted water quality | source : JICA documents, questionnaire and interviews of CEA |

management activities, while stagnation has been observed in 2020 and 2021 due to COVID-19.

Monitoring and inspection of major pollution sources in the Kelani river (Output 3-3-2)

| | 2018 | 2019 | 2020 | 2021 |
|---|-------|-------|-------|-------|
| Number of major pollution sources (Kelani) | 2,947 | 3,149 | 3,207 | 3,308 |
| Number of these sources monitored/inspected | 2,376 | 2,500 | 1,500 | 750 |
| Percentage | 80.6% | 80.3% | 47% | 22% |

Due to COVID-19, CEA could not carry out the physical inspections and monitoring activities for all industries located in the Kelani river area. Documents related to the pollution control measures from the industries and reports on the effluent quality were evaluated by online meetings and discussions.

Under the new national program named “Surakimu Ganga” on conservation of rivers which started in 2021, measures have been taken to monitor all industries that discharge wastewater into any surface water bodies. At present, not all of these data have been gathered.

EPL acquisition (Output 3-3-4)

| | Dec.2014 | Feb.2018 | 2021 |
|---------------------------|----------|----------|--------|
| Number of EPL acquisition | 21,365 | 23,784 | 26,543 |

Illegal or EPL-violating factories (Output 3-3-6)

| | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|-----------------------|
| Filed cases | 364 | 544 | 267 | Data are not gathered |

Update of database (Output 3-2-4 and 4-3)

EPL

| | 2018 | 2019 | 2020 | 2021 |
|--------------|--------|--------|--------|--------|
| Updated data | 24,782 | 25,372 | 25,923 | 26,543 |

Pollution sources inventory (PSI)

| | 2018 | 2019 | 2020 | 2021 |
|--------------|-------|--------|--------|--------|
| Updated data | 8,638 | 14,434 | 19,893 | 21,173 |

Note: PSI was started in 2018 with the project.

Indicator 3
The guidelines and other outputs developed through the Project are properly applied by all concerned departments and regional offices of CEA in charge for a nationwide promotion of water quality management.

Status of the Achievement (Status of the Continuation): Achieved (Continued) (Project Completion)

Following manuals, guidelines and materials were developed by the project and were utilized.

- Quality Manual of the Laboratory
- Sampling Method for Ambient and Effluent Water
- Ambient Water Quality Standards (drafted standards were reviewed and finalized under the project in 2017 and gazetted in 2019)
- Procedural Guidelines for categorization of Inland Surface Waters
- Inspection Guidelines for Water Quality Section
- Training Guide on the Guideline for Inspection
- Existing Industrial Pollution Control Guidelines for Textile Processing (reviewed and developed)
- Slaughterhouse and Poultry Dressing Industry
- EPL Promotion Materials
- Pollution Sources Inventory accessible via internet
- Pollution Source Inventory Guidelines
- Pages on water quality status of the Kelani River on the CEA Website
- Draft Guideline on Information Management

(Ex-Post Evaluation)

All guidelines and manuals prepared under the project are being utilized by all CEA laboratories and provincial offices. Some guidelines and manuals were further developed or simplified with the application experience and knowledge.

source : Project completion report, questionnaire and interviews of CEA

Indicator 4
The number of major water bodies and regional governments which propose zoning categorization of ambient water quality standard is at least one (1) in

Status of the Achievement (Status of the Continuation): Achieved (Continued) (Project Completion)

During the project, zoning and categorization were done for the Kelani River based on the water quality data.

(Ex-Post Evaluation)

Water quality monitoring for four major rivers (Ma Oya, Nilwala, Badulu Oya, and Kalu Ganga) started immediately after the project completion. Zoning and

source: questionnaire and interviews of CEA

| | Sri Lanka | <p>categorization require water quality data for a considerable time and necessary works are in process.</p> <p>In 2020, water quality monitoring was carried out in 22 water bodies by CEA laboratories and the initial steps were taken for the categorization of these rivers. In 2021, the "Surakimu Ganga" program to protect and conserve 103 water bodies in the country was launched in line with the government's new policy framework "vistas of prosperity and splendor". Twenty-two water bodies were selected in 2020 to apply the water quality environmental management system developed under the project. It is going to be increased to 25 in 2021. (See Overall Goal Indicator 2 below)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|---|---|-----------------------------|------|--------------------------------|------|--|----|-------------------------|-----|-------------------------|---------------|--------------------------|-----|--------------------------|-------|------------------------------|-------|---|----|-------------------------|----|-------------------------------|----|-------------------------------|----|---|
| | Indicator 5 One (1) guideline and materials on zoning and categorization are developed and used. | <p>Status of the Achievement (Status of the Continuation): Achieved (Continued) (Project Completion)</p> <p>"Procedural Guidelines for Categorization of Inland Surface Waters" were developed and used.</p> <p>(Ex-Post Evaluation)</p> <p>They are being utilized. (See Indicator 3 above)</p> | source : Project completion report, questionnaire and interviews of CEA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 6 More than 2 times of guidance are conducted by CEA to organizations which have responsibility for water quality management of target water bodies. | <p>Status of the Achievement (Status of the Continuation): Achieved (Continued) (Project Completion)</p> <p>Six technical seminars, eight workshops to introduce the PSI, and a seminar on EPL and PSI were held during the project period.</p> <p>(Ex-Post Evaluation)</p> <p>Workshops, training sessions and seminars on EPL and PSI, etc. have been held after project completion in 2018.</p> <p>2018 (after project completion): 18 times, 2019: 11 times, 2020: 8 times</p> <p>CEA could not hold planned seminars/workshops and training in late 2020 and 2021 due to COVID-19.</p> | source : Project completion report, questionnaire and interviews of CEA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 7 More than 70% of staff in the concerned departments and regional offices of CEA in charge can explain how to use the guidelines and other outputs developed through the Project. | <p>Status of the Achievement (Status of the Continuation): Not verifiable (Achieved and continued) (Project Completion)</p> <p>No information on the project completion report.</p> <p>(Ex-Post Evaluation)</p> <p>All relevant staff (see table below) can explain how to use the guidelines and other outputs developed through the project.</p> <table border="1"> <thead> <tr> <th>CEA division/regional office</th> <th>Total number of staff = Number of staff who can explain how to use the guidelines and other outputs developed through the Project</th> </tr> </thead> <tbody> <tr> <td>CEA lab- Central Laboratory</td> <td>11</td> </tr> <tr> <td>CEA lab- provincial Laboratory</td> <td>18</td> </tr> <tr> <td>Environmental Pollution Control Division (EPC) division (in the head office)</td> <td>12</td> </tr> <tr> <td>Western Province Office</td> <td>104</td> </tr> <tr> <td>Central Province Office</td> <td>55</td> </tr> <tr> <td>Southern Province office</td> <td>100</td> </tr> <tr> <td>Northern Province Office</td> <td>35</td> </tr> <tr> <td>Sabaragamuwa Province Office</td> <td>42</td> </tr> <tr> <td>Uva Province Office</td> <td>35</td> </tr> <tr> <td>Eastern Province Office</td> <td>48</td> </tr> <tr> <td>North Central Province Office</td> <td>31</td> </tr> <tr> <td>North Western Province Office</td> <td>27</td> </tr> </tbody> </table> | CEA division/regional office | Total number of staff = Number of staff who can explain how to use the guidelines and other outputs developed through the Project | CEA lab- Central Laboratory | 11 | CEA lab- provincial Laboratory | 18 | Environmental Pollution Control Division (EPC) division (in the head office) | 12 | Western Province Office | 104 | Central Province Office | 55 | Southern Province office | 100 | Northern Province Office | 35 | Sabaragamuwa Province Office | 42 | Uva Province Office | 35 | Eastern Province Office | 48 | North Central Province Office | 31 | North Western Province Office | 27 | source : Project completion report, questionnaire and interviews of CEA |
| CEA division/regional office | Total number of staff = Number of staff who can explain how to use the guidelines and other outputs developed through the Project | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CEA lab- Central Laboratory | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CEA lab- provincial Laboratory | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Environmental Pollution Control Division (EPC) division (in the head office) | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Western Province Office | 104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Central Province Office | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southern Province office | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Northern Province Office | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sabaragamuwa Province Office | 42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Uva Province Office | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eastern Province Office | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Central Province Office | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| North Western Province Office | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Overall Goal) Water quality management in major water bodies is appropriately implemented by CEA | Indicator 1 The by-laws and/or regulations which stipulate roles and functions of a water quality management system are inaugurated by 2020. | (Ex-Post Evaluation) Achieved Ambient Water Quality Standards (2019) that assist evaluation of the status of the water quality and necessary policy decisions to control water pollution, were inaugurated. National Environmental Act and related regulations are being amended to include a series of provision. | source : Interview and questionnaire of CEA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Indicator 2 The ratio of water bodies assessed/ managed by CEA by using improved water quality monitoring methods (system/ procedure) increases by 2020 compared with the initial stage of the Project | <p>(Ex-Post Evaluation) Achieved</p> <p>The ratio of water bodies assessed by the improved methods increased from 4% (2014) to 21.4% (2020). The number of major water bodies in Sri Lanka is 103.</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>Number of water bodies assessed by the improved methods</td> <td>4</td> <td>14</td> <td>15</td> <td>22</td> <td>25 Planned</td> </tr> <tr> <td>Percentage</td> <td>4%</td> <td>13.6%</td> <td>14.6%</td> <td>21.4%</td> <td>24.2%</td> </tr> </tbody> </table> | | 2014 | 2018 | 2019 | 2020 | 2021 | Number of water bodies assessed by the improved methods | 4 | 14 | 15 | 22 | 25 Planned | Percentage | 4% | 13.6% | 14.6% | 21.4% | 24.2% | source : Interview and questionnaire of CEA | | | | | | | | |
| | 2014 | 2018 | 2019 | 2020 | 2021 | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of water bodies assessed by the improved methods | 4 | 14 | 15 | 22 | 25 Planned | | | | | | | | | | | | | | | | | | | | | | | | |
| Percentage | 4% | 13.6% | 14.6% | 21.4% | 24.2% | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|--|--|---|--|
| | <p>Indicator 3 The number of major water bodies with proposed the water quality environmental management system are at least one (1) in Sri Lanka by 2020 in accordance with the guidelines prepared by the Project.</p> | <p>(Ex-Post Evaluation) Achieved All 103 water bodies are managed by the water quality environmental management system. Since the inception of the EPL scheme, water quality environment management has been practiced. After completing the project, more organized management was set up. CEA is implementing “Surakimu Ganga” and all major 103 rivers are included in this program. The sampling for water quality data will be implemented with the budget support from the program.</p> | <p>source : Interview and questionnaire of CEA</p> |
|--|--|---|--|

3 Efficiency

The project cost was within the plan (81%) and the project period was as planned (100%). The JICA project team recognized that the project started in March 2015 when the first members were dispatched and the project continued for three years as per the original plan while the start and end dates were shifted. There was no change in the planned outputs. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

Sri Lanka’s National Environmental Act No. 47 (1980), EPL and effluent discharge regulations, Ambient Water Quality Standards regulate water quality. “Surakimu Ganga” encourages local governments and related organizations as well as the general public to protect rivers. EPL system, PSI, and water quality monitoring activities promoted by the JICA project have been incorporated into this program.

<Institutional/Organizational Aspect>

CEA’s organizational structure remains the same. Secretariat to implement “Surakimu Ganga” was established. Project effects have been maintained by CEA’s current structure and staffing, but CEA submitted a request to the Ministry of Finance for additional staff to ensure sustainability after assessing the workload and staffing needs.

<Technical Aspect>

All relevant staff of CEA have sufficient skills and knowledge (see Project Purpose Indicator 7). All manuals prepared by the project are being used to train the new laboratory staff. At present, the inspection guidelines are distributed among the relevant divisions. CEA plans to achieve ISO 9001 quality management systems, and all documents related to each process have been gathered and included in this quality management system. All guidelines and manuals prepared by the project have been incorporated into this quality management system for the streamlining of all the processes done by CEA and for the continuation of the future usage.

<Financial Aspect>

The government provides a consolidated fund for the implementation of the activities promoted by the project. Rs 200 million has been allocated for “Surakimu Ganga.” The laboratory has been given a considerable amount of funding for the implementation of the accreditation program.

<Evaluation Result>

In light of the above, no problems have been observed in policy, institutional/organizational, technical or financial aspects of the implementing agency. Therefore, the sustainability of the project effects is high.

5 Summary of the Evaluation

The project achieved the Project Purpose, “Enforcement capacity of CEA and its regional branch offices of the Kelani river basin on water quality management is strengthened” at the time of project completion, and the effects continue. Overall Goal “Water quality management in major water bodies is appropriately implemented by CEA” was achieved as all 103 major water bodies in Sri Lanka are managed under the improved method. There are no major problems in policy, institutional/organizational, technical or financial aspects of sustainability. As for the efficiency, project cost was within the plan and the project period was as planned.

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

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

1. PSI system developed under this project is still in use, and some bugs of the software have not been fixed (there are problems with editing of entries, input of industry data, entry of data beyond 2021). It is recommended to hire an IT consultant immediately to fix the program.
2. PSI monitoring system needs to be developed to cater the following aspects: a) Mobile (Android and Apple) app to facilitate field works; b) Interface for point source to upload and update report for CEA review; c) PSI system further be developed issue letters on recommendation, rectification, and reminders, etc. by using system itself without manual drafting.
3. CEA monitoring division could develop an integrated activity monitoring system for zoning and categorization of water bodies to know where they are at the given point of time.
4. Management services division of the Ministry of Finance shall approve additional staff requirements that CEA had forwarded with a careful need analysis.
5. CEA could start disseminating water quality management details for the public to engage them in the process.
6. With the dissemination of information, CEA could make a plan how to address non-point sources. CEA could also study other countries’ approaches in this regard.

Lessons Learned for JICA:

1. It was evident that JICA consultant team had performed transformative leadership which essentially helped to adopt successful water quality Management system of Japan in Sri Lanka with untiring support from the counterpart officers. The Team had analyzed the existing systems and current levels to improve them in a participatory manner, not simply importing foreign systems. For example, the ambient water quality standards were drafted by the Sri Lankan members integrating past experiences and were finalized by the project through discussions among all members.

The Japanese project members respected the culture and practices of Sri Lanka. For example, in workshops or seminars, they intentionally included the lightening of a traditional oil lamp and arrangements of local food and snacks for participants. They actively participated in local festivals and religious functions. This nurtured a strong relationship and trust among the project members.

2.. The capacity and ownership of the counterpart were enhanced while working with the Japanese expert team, and the counterparts were able to include project activities under “Surakimu Ganga,” which is a new vehicle as a project exit strategy to ensure budget and necessary management support from the government.



Testing water quality parameters at Kelani River



Laboratory staff doing sample test



Sampling at Badulu Oya River



Testing water quality parameters at Badulu Oya River

Internal Ex-Post Evaluation for Development Planning Project

conducted by European Division, Middle East and European Department/Ukraine Field Office: October, 2021

| | |
|--------------|---|
| Country Name | Project for Creation of a National Geospatial Data Infrastructure of Ukraine |
| Ukraine | |

I. Project Outline

| | | | | | | | | | | | |
|--|--|--------------|---|---------------|----------------|---------------------------------------|--|-----------------------------------|--|--|--|
| Background | The Government of Ukraine decided at a cabinet meeting in 2007 to establish the National Spatial Data Infrastructure (NSDI) with the aim of integration, database creation, and establishment of a sharing method of geospatial data for adequate and efficient management and use of the geospatial data. The State Agency for Land Resources (currently the State Service of Ukraine for Geodesy, Cartography, and Cadastre (SSGCC)) under the Ministry of Agrarian Policy and Food, in charge of NSDI, did not have sufficient techniques for the integration and management of the geospatial information necessary for establishment of the NSDI, however. | | | | | | | | | | |
| Objectives of the Project ¹ | <p>The project aims to produce a draft NSDI creation and operation plan, cooperation framework between the related agencies, draft standards for the geographic information, and an NSDI creation and operation prototype targeting the pilot area², and to transfer techniques on NSDI creation and operation in Ukraine, thereby contributing to dissemination of the NSDI creation and operation prototype outside the pilot area.</p> <p>1. Expected Goals through the Proposed Plan³: The NSDI creation and operation prototype established through the project is disseminated to outside the pilot area.</p> | | | | | | | | | | |
| Activities of the Project | <p>1. Project Site : Ukraine (Vinnytsia District in Vinnytsia City as the pilot area for the NSDI creation and operation prototype (about 1,023km²)⁴)</p> <p>2. Main Activities: Production of the draft NSDI creation and operation plan, the cooperation framework between the related agencies, the draft standards for geographic information, the NSDI creation and operation prototype, and transfer of techniques on the NSDI creation and operation.</p> <p>3. Inputs (to carry out above activities)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Japanese Side</td> <td style="width: 50%; border: none;">Ukrainian Side</td> </tr> <tr> <td style="border: none;">(1) Members of Study Team: 18 persons</td> <td style="border: none;">(1) Staff Allocated: Staff from the SSGCC, including those from the Research Institute of Geodesy and Cartography (RIGC), the State Enterprise affiliated with the SSGCC</td> </tr> <tr> <td style="border: none;">(2) Trainees Received: 24 persons</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">(3) Equipment: Personal computers, software etc.</td> <td style="border: none;"></td> </tr> </table> | | | Japanese Side | Ukrainian Side | (1) Members of Study Team: 18 persons | (1) Staff Allocated: Staff from the SSGCC, including those from the Research Institute of Geodesy and Cartography (RIGC), the State Enterprise affiliated with the SSGCC | (2) Trainees Received: 24 persons | | (3) Equipment: Personal computers, software etc. | |
| Japanese Side | Ukrainian Side | | | | | | | | | | |
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| (2) Trainees Received: 24 persons | | | | | | | | | | | |
| (3) Equipment: Personal computers, software etc. | | | | | | | | | | | |
| Project Period | (ex-ante) September 2015-August 2017 (actual) September 2015-March 2018 | Project Cost | (ex-ante) 408 million yen; (actual) 362 million yen | | | | | | | | |
| Implementing Agency | The State Service of Ukraine for Geodesy, Cartography, and Cadastre (SSGCC)* *During the project implementation, the State Agency for Land Resources of Ukraine was reorganized to SSGCC. | | | | | | | | | | |
| Cooperation Agency in Japan | Kokusai Kogyo Co., Ltd.; PASCO Corporation. | | | | | | | | | | |

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- Regarding the Utilization Status of the Proposed Plan, the target year was set to be 2021, as the ex-post evaluation was planned after 3 years from the completion of the project in the Ex-ante Evaluation Sheet. In addition to the indicator (“Results of cities/areas in which the NSDI is created based on the NSDI creation and operation prototype”), utilization status of other major outputs of the project (i.e., draft NSDI creation and operation plan, cooperative framework, and draft standards of geospatial information) as well as operation and utilization statuses of the NSDI creation and operation prototype established in the pilot area was confirmed as Supplementary Information 1, 2, 3 and 4 respectively. Their utilization was considered as the efforts to create the NSDI based on the NSDI creation and operation prototype.

1 Relevance

<Consistency with the Development Policy of Ukraine at the Time of Ex-Ante Evaluation>

The project was consistent with the Concept of the draft NSDI law, officially adopted by the decree of the Cabinet of Ministers of Ukraine in November 2007, which was formally referred to as a Decree on “Approval of Concept draft law of Ukraine on the NSDI”.

<Consistency with the Development Needs of Ukraine at the Time of Ex-Ante Evaluation>

The project was consistent with the development needs of Ukraine for creation of the NSDI as stated in <Background> above.

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

The Japan’s County Assistance Policy for Ukraine (2013) set forth “Industrial development for sustainable economic growth” as one of the priority areas, under which development of economic infrastructure that will be the basis of the economic growth is mentioned. The project was consistent with this policy as it aimed at efficient sharing and utilization of the geospatial information necessary for various planning through establishment of the NSDI.

¹ In principle, outputs are based on the Ex-ante Evaluation Sheet, except for the second output (“cooperation framework between the related agencies”), which was included as a survey item in the Ex-ante Evaluation Sheet but included as an output in the Record of Discussion (RD) and the Final Report of the project. As for English translation of the technical terms, those in the RD and the Final Report were referred.

² The NSDI creation and operation prototype consisted of the NSDI prototype data (or draft product specifications for basic geospatial data) and the NSDI prototype system.

³ The degree of achievement of the expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

⁴ According to the Ex-ante Evaluation Sheet, the pilot area was Fastive District in Fastive City. It was changed mainly because of its landscape variety. Within the project, it was necessary to test how the data from highly urban area may be merged with the data from rural area. Such territory was found in Vinnytsia District.

<Evaluation Result>

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

2 Effectiveness/Impact

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

The Objectives of the project were achieved at the time of project completion. The draft NSDI creation and operation plan (the draft NSDI plan) was developed, which proposed the principal tasks to be carried out in the first 5 years after adoption of the draft NSDI law under discussion (then). Total of 15 principal tasks were proposed in the following fields: (i) establishment of the central executive body called the NSDI coordination council; (ii) determination of rules of procedures of the NSDI; (iii) creation of geospatial data; (iv) enhancement of the NSDI prototype system (or the prototype geoportal) and development of tools and services; and (v) public awareness raising and human resource development). The proposed organizations in charge of the principal tasks included the Ministry of Agrarian Policy and Food, the SSGCC, the administrator of the national geoportal to be appointed, and local authorities. As the cooperation framework after adoption of the draft NSDI law, the Steering Committee (SC) and the Working Group (WG) under the SC were proposed, and, as the framework until adoption of the draft NSDI law, the Sub-group for NSDI coordination (the NSDI Sub-group) was formally established in July 2017 as part of the existing WG on land reform under the Ministry of Agrarian Policy and Food. The draft of Ukraine Geographic Information Standard (UkrGIS) was also developed, which was submitted to the National Body of Standardization for approval. Targeting the pilot area, the NSDI creation and operation prototype (the NSDI prototype) was produced: the NSDI prototype data (product specification based on the draft of UkrGIS and the basic geospatial data referred in the draft NSDI law) was created and the NSDI prototype system for data sharing and common utilization was developed, which was made operational on the internet site as the prototype geoportal. The knowledge and techniques on the NSDI creation and operation (i.e., preparation of the draft NSDI plan, establishment of the cooperation framework, preparation of the draft standards for the geographic information, and creation of the NSDI prototype) were transferred to the SSGCC, including the RIGC, and the related agencies, through collaborative work with the JICA experts, seminars, and training in Japan. The Final Report of the project was officially accepted by the SSGCC.

<Utilization Status of the Proposed Plan at the Time of Ex-post Evaluation>

The Proposed Plan was utilized at the time of ex-post evaluation.

Although the draft NSDI plan was not officially approved, it was used as the major guide to further development of the NSDI initiative. In fact, some of the principal tasks proposed in the draft NSDI plan were initiated even before adoption of the NSDI law in April 2020 and, the others were undertaken step by step after the adoption. For example, enhancement of the NSDI prototype system and public awareness activities started in 2020 under a new pilot project for development of the NSDI approved by the Cabinet of Ministers in February 2020, which mainly aimed to establish a pilot NSDI system aimed at integration of geospatial data from different data holders in the new pilot areas in online mode (on a geoportal) with use of web-based geographical information system (GIS) services according to the revised draft of NSDI law (then)⁵. The new pilot project was initiated by the SSGCC and implemented by the RIGC. After adoption of the NSDI law, the NSDI Council, the highest decision-making body consisting of the members of the Cabinet of Ministers, was established and the RIGC was officially appointed as the administrator of the national geoportal (often called as the NSDI geoportal). The documents which could be referred to as the state development program for basic data creation (i.e., the Order of Functioning of the NSDI, an executive act of the NSDI law, and the 3-year action plan for creation and development of the NSDI) and the state development program for the geoportal, proposed in the draft NSDI plan, were drafted, in which the experiences and the results of the above-mentioned new pilot project were reflected. They were expected to be approved within 2021 and, based on them, step-by-step creation of the NSDI in the entire country was expected to start from 2022 (Supplementary Information 1).

The cooperation framework of the related agencies was continuously utilized. Until adoption of the NSDI law, the NSDI Sub-Group was continuously operated. After adoption of the NSDI law, the NSDI Council and the NSDI Sub-Group were functioning as the SC and the WG proposed by the project (Supplementary Information 2).

The UkrGIS was approved by the National Body of Standardization in 2018 and widely used by all data producers and data holders both from private and public sectors (Supplementary Information 3).

The NSDI prototype created in the project pilot area itself was not operated online after the project completion due to absence of legal background for the NSDI operation at that time; however, it was utilized as the basis to advocate the process of the NSDI development in the country⁶. As mentioned above, the NSDI prototype system was already enhanced under the new pilot project for development of the NSDI and the enhanced prototype system was being operated online as the pilot NSDI geoportal, through which the data created in the project pilot area was accessible by any other organizations for free. The enhanced prototype system (=the pilot NSDI system) was also used to demonstrate/disseminate the benefits of the NSDI⁷ (Supplementary Information 4).

Under the above-mentioned new pilot project, the NSDI was created⁸ in 8 new pilot cities/oblasts (highest administrative division of Ukraine)⁹ based on the NSDI prototype in 2020, which was being operated online on the pilot NSDI geoportal. The NSDI was created in line with the draft NSDI plan as some of the principal tasks proposed in the said plan (e.g., public awareness activities and enhancement of the NSDI prototype system) were implemented under the framework of the new pilot project. In addition, 6 other cities/oblasts¹⁰ started to

⁵ As per the previous draft of the NSDI law (2018), the data was to be gathered and operated in the National Data Center, a new State Enterprise to be created after adoption of the law. Through the new pilot project, a local SDI was developed online in each local authority independently, which was integrated with the NSDI in online mode.

⁶ For example, the SSGCC utilized the NSDI prototype to present the benefits of the NSDI to the Prime Minister of Ukraine in October 2019 and the Parliament Committee in February 2020 to ensure support for the NSDI development and the draft NSDI law. The SSGCC and the RIGC also utilized it to disseminate the benefits of the NSDI to local authorities under the framework of the new pilot project.

⁷ For example, in February 2021, the SSGCC and the RIGC used the enhanced prototype system (=the pilot NSDI system) to demonstrate the benefits, necessity, and importance of the NSDI at the meetings with the President and the Prime Minister of Ukraine.

⁸ According to the implementing agency, "the NSDI is created in the city/area" meant that "the maximum available quantity of data sets is received from data holders, including the city/area level, and these data sets are available on the single geoportal".

⁹ The new pilot areas (Lviv, Zhytomyr, Bila Tserkva, Mariupol, Mykolaiv, and Poltava Cities and Lviv and Kharkiv Oblasts) were selected mainly based on the level of local initiatives on the activities related to geospatial data.

¹⁰ They are Kyiv and Chernihiv Cities and Ternopil, Odessa, Vinnytsia and Ivano-Frankivsk Oblasts.

create local SDIs based on the NSDI prototype with their own initiatives and technical support by the RIGC, which would be integrated with the NSDI in online mode once completed. The SSGCC and the RIGC considered that the number of areas in which the NSDI was created so far was appropriate because, even before enforcement of the NSDI law in January 2021, they managed to create the NSDI for 8 new cities/oblasts and motivated 6 others to initiate the process. It is noted that more cities/oblasts were expected to start the process from 2022 after the approval of the Order of Functioning of the NSDI and the action plan for creation and development of the NSDI (Indicator).

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

Progress was already observed towards the Expected Goals through the Proposed Plan, which are medium-to-long-term goals. As described in <Utilization Status of the Proposed Plan at the Time of Ex-Post Evaluation>, the NSDI prototype was already disseminated in 8 cities/oblasts where the NSDI was created in 2020 and in 6 other cities/oblasts where the NSDI was being created. In addition, step-by-step dissemination in the entire country was expected to start from 2022.

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

Negative impacts were not observed. Meanwhile, positive impacts were observed. For example, the project contributed to adoption of the NSDI law through demonstration of the benefits of the NSDI to the Prime Minister and the Parliament Committee by the representatives of the SSCGG and the RIGC who participated in the project, using the deliverables of the project such as the draft NSDI plan and the NSDI prototype, and through recommendation of the adoption of the NSDI law to the Parliament by the NSDI Sub-group established under the project. The draft of the NSDI law, which was adopted in April 2020, was also prepared by the staff of the SSGCC and the RIGC who participated in the project based on the experiences and results of the project. It is noted that the project was expected to contribute to transparency of the land market in Ukraine, which was open in July 2021, because the NSDI would enable the transparency of data, in particular, about land parcels, infrastructure objects, etc., which would be crucial for potential investors in the land market¹¹.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

| Aim | Indicators | Results | |
|--|--|--|---|
| (Utilization Status of the Proposed Plan) | Indicator: Results of cities/areas in which the NSDI is created based on the NSDI creation and operation prototype. | (Ex-post Evaluation) achieved. - Even before enforcement of the NSDI law (January 2021), the NSDI was created in 8 cities/oblasts based on the NSDI prototype under a new pilot project for development of the NSDI initiated by SSCGG and implemented by the RIGC, which was operational in online mode. The NSDI was created in line with the draft NSDI plan developed under the project because enhancement of the NSDI prototype system, etc. proposed in the said plan was implemented under the framework of the new pilot project. In addition, 6 other cities/oblasts started to create local SDIs, which would be integrated with the NSDI in online mode once completed. | Source: Questionnaire and interviews survey to the SSGCC and the RIGC. |
| (Expected Goals through the Proposed Plan) The NSDI creation and operation prototype established through the project is disseminated to outside the pilot area. | | (Ex-post Evaluation) partially achieved. - The NSDI prototype was already disseminated in 8 cities/oblasts where NSDI was created in 2020 and 6 other cities/oblasts where NSDI was being created. In addition, full-fledged dissemination was expected to start in 2022. (See the Results of “Utilization Status of the Proposed Plan” above for details.) | Source: ditto |

3 Efficiency

While the project cost was within the plan (ratio against the plan: 89%), the project period exceeded the plan (ratio against the plan: 129%). The project was extended mainly because arial photography was postponed for several months due to weather conditions, which caused delays in the NSDI prototype system development, and the coordination authority of the NSDI (i.e., the NSDI Sub-group) was not officially established until the end of the planned period mainly due to bureaucratic procedures. The outputs were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The NSDI law was adopted in 2020 and became effective in 2021. In addition, the draft of the Order of Functioning of the NSDI was being finalized and expected to be approved by the parliament by the end of 2021. In parallel, the draft of the action plan for NSDI creation and development was being developed based on the above-mentioned draft Order, which was also expected to be approved by the NSDI Council by the end of 2021.

<Institutional/Organizational Aspect>

The NSDI Council and the NSDI Sub-group were functioning as the cooperation framework between the related agencies. The SSGCC was continuously in charge of the NSDI in Ukraine and a member of the NSDI Sub-group. Within the SSGCC, the Department of Development and Standardization of NSDI and the Division of NSDI under the Department were newly created¹², to which 22 experts were assigned (5 of them working at the Division of NSDI). It is noted that, after the project completion, most of the SSGCC staff involved in the project left the office due to political shifts in the country although they were replaced by the new staff. According to the SSGCC, it would take some time for the new staff to come into the full picture, but serious problems were not observed in promoting NSDI creation and operation due to the staff replacements. The RIGC, a member of the NSDI Sub-Group and the administrator of the NSDI geoportal,

¹¹ In the past, the land reform in Ukraine was supported by the World Bank and the European Union Twinning projects (“Capacity Development for Evidence-Based Land & Agricultural Policy Making Project in Ukraine” (2015-2017) and “Creation of Transparent Agricultural Land Market in Ukraine” (2014-2016) respectively), which resulted in adoption of the Land Market Law of Ukraine in 2020. So, in a sense, it could be considered as a synergetic effect between this project and the above- mentioned projects.

¹² The Department of Development and Standardization of NSDI was responsible for a wide range of functions, including the NSDI and the Division of NSDI was responsible for the activities related to the NSDI in particular and reported to the Director of the Department. The technical support to the Department was provided by State Enterprises (such as the RIGC) for specific and technical issues.

allocated about 20 experts for the NSDI related activities. The SSGCC and the RIGC considered the current structure and the number of staff was appropriate to assume their roles in the NSDI because the structure was built and the staff were allocated in accordance with their assigned roles.

<Technical Aspect>

The SSGCC and the RIGC sustained and further developed the transferred knowledge and techniques for NSDI creation and operation by applying them in their daily operation. The new staff of the SSGCC managed to catch up with them mainly by referring to the materials produced under the project and through training and seminars by the staff who remained at their positions after the project completion. As part of their NSDI related works, the SSGCC and the RIGC started to actively disseminate the transferred skills and knowledge and the deliverables of the project through meetings, seminars, workshops and training to the relevant organizations (e.g., other members of the NSDI Sub-group, the data holders and the local governments in the new pilot areas). In addition, there is a plan to organize the practical courses on the NSDI at state universities, targeting data holders and users as well as students, and the RIGC already started to negotiate with several universities. The equipment provided under the project was well-maintained and being effectively utilized for the direct purposes of geoportal development and NSDI promotion by the RIGC.

<Financial Aspect>

Activities for creation, operation and development of the NSDI were carried out mainly at the expense of the state and local budgets. For example, the SSGCC and the RIGC secured the necessary budget to assume their roles in the NSDI creation and operation, including the operation and maintenance budget for the provided equipment, through its regular state budget except for some specific tasks¹³. In addition, the budget for administration of the NSDI geoportal was being discussed separately, which was planned to be allocated to the RIGC from 2021. The related agencies (the data holders) also created the geospatial data sets within their own budget according to their priorities. Meanwhile, the cost for creation, operation, and further development of the local geoportal/SDI was to be borne by the local governments, and the local governments in the new pilot areas allocated the necessary budget for that. It was expected that the main amount of the state and local funding for the NSDI would be implemented starting from 2022 with the approval of the Order of Functioning of the NSDI in 2021. This would be also promoted by coordination at the NSDI Council and the NSDI Sub-group as well as continuous public awareness activities by the SSGCC and the RIGC. However, it was uncertain whether all the related agencies and the local governments outside the new pilot areas would allocate the necessary budget for the NSDI because the budget allocation would solely depend on their internal decisions.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the 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 Objectives at the time of project completion because the draft NSDI plan, the cooperative framework of the related organizations, the draft of standards of geospatial information, and the NSDI prototype were produced and the techniques on NSDI creation and operation were transferred to the related organizations, including the SSGCC and the RIGC. Utilization of the Proposed Plan was achieved at the time of ex-post evaluation because the NSDI was created in 8 new cities/oblasts based on the NSDI prototype and other outputs were also utilized. Regarding the sustainability, no problems were observed in terms of the policy, institutional/organizational and technical aspects but slight problems were observed in terms of the financial aspects (i.e., uncertainty about the budget allocation by the local governments and the related agencies). 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:

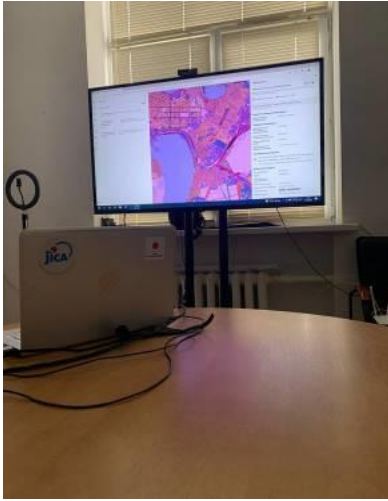
- In order to minimize the effects of the staff replacements on continuation of the project effects in the future, there are 3 recommended actions for the SSGCC : 1) It would be advisable to establish a Project Implementation Unit (PIU), with stable staff assignments regardless of any political events upon any project commencement related to the NSDI; 2) Information sharing should be further promoted and enhanced through periodical meeting and reporting in writing format among PIU members to prepare for staff replacements; 3) It is advisable to prepare internal manuals and guidelines so that newly appointed personals can get accustomed with new assignments.

Lessons Learned for JICA:

- When it comes to project components which are weather dependent such as aerial photography, to secure appropriate project period, conducting more scrutinized research would be favorable at the project planning stage through adequate document reviews as well as interview surveys with not only the implementing agency but also local experts in the field (in this case, local aerial photography experts or/and meteorology service of Ukraine). Such consultations would allow to confirm the latest weather patterns and plan more time for the relevant project component.

- Another lesson that might be used at the project planning stage for the future is to secure more time for the possible bureaucratic procedures of the target country. Things like special permissions and multi-layered legislative procedures for establishment of certain components usually take much more time than initially secured by the projects. Thus, comprehensive contingency plans should be elaborated for cases when official legislative procedures are envisaged and cannot be completed on time. Another solution would be to limit the project activities into those which the implementing agency can be fully responsible for, considering their jurisdiction, while anything outside their jurisdiction (such as cabinet resolutions and legal issues), could be positioned as external conditions.

¹³ For example, the cost of external experts who supported development of the draft action plan of creation and development of the NSDI was funded by the United States Agency for International Development and the World Bank.



Equipment provided under the project at the RIGC regularly used for geoportal development



(Top) Representatives from the SSGCC and the RIGC demonstrating the necessity of the NSDI law to the Prime Minister in October 2019

(Bottom) Representatives from the NSDI Sub-group recommending the Parliament to adopt the NSDI law in March 2020



Representatives from the SSGCC and the RIGC demonstrating the potential benefits of the NSDI to the President Zelenskyi in February 2021

| | |
|--------------|---|
| Country Name | The Project for Improvement of Fishery Equipment and Machinery |
| Saint Lucia | |

I. Project Outline

| | | | |
|---------------------------|---|--------------------|---|
| Background | The fisheries industry is an important industry of Saint Lucia besides tourism and agriculture. However, the reduction of coastal marine resources due to overfishing in the entire Caribbean region, including Saint Lucia, had become an issue. The Caribbean Community (CARICOM) had established the Caribbean Regional Fisheries Mechanism (CRFM) in March 2003, and CRFM had begun activities aimed at managing fisheries resources throughout the region. For sustainable use of fishery resources, it was important to introduce resource-management fisheries to reduce fishing pressure in coastal areas and distribute fishery products to the maximum without loss. However, another issue in Saint Lucia was the aging of main fishery equipment such as cooling equipment, most of which had been developed under the past Japanese grant aid projects. This problem would lead to distribution losses due to the deterioration of the freshness of landed fish. | | |
| Objectives of the Project | To improve fish distribution and to promote fishery management by upgrading part of equipment developed under the past grant aid projects and related equipment at the five fisheries centers (fisheries complexes) as well as by installing new equipment for fishery management, thereby contributing to the sustainable fishery development of the country. | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: Vieux Fort Quarter, Dennery Quarter, Castries Quarter, Ans La Raye Quarter, Gros Islet Quarter, and Offshore. 2. Japanese side: Provision of grant necessary for the procurement of refrigerating system/ice plants (ice machines, cold storages, blast freezers, etc. with the conversion of refrigerant from HCFC to ammonia following the Montreal Protocol¹) (five locations with varied subcomponents), refrigerated vans (1 site), solar power system (1 site), subsidiary works on some facilities, and floating submerged fish aggregating devices (FADs) (2 offshore locations). 3. Saint Lucia side: Removal and storage of cylinders filled with waste refrigerant, dismantling of existing equipment/materials to the outside, etc. | | |
| Project Period | E/N Date | September 4, 2014 | Completion Date May 27, 2016 (Completion of installation of equipment) |
| | G/A Date | September 19, 2014 | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: 560 million yen, Actual Grant Amount: 493 million yen | | |
| Executing Agency | Ministry of Agriculture, Food Production, Fisheries, Co-operatives and Rural Development | | |
| Contracted Agencies | Main Contractor(s): NBK Corporation Main Consultant(s): System Science Consultants Inc. | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the COVID-19, from the beginning of the survey both Saint Lucian and Japanese sides had to face and overcome the difficulty in usual communication filling out the questionnaire. It took extra months to complete the survey. A State of Emergency was issued, and the work from home was requested, as a result the opportunity for site visits was severely limited and postponed to the last moment. The evaluator visited one of the five sites at Castries. This evaluation report is a result reflecting such constraints and limited site visit.

<Special Perspectives Considered in the Ex-Post Evaluation>

- Indicator 1, "Ice/fish ratio," appears to have been set as a ratio between the amount of ice produced and the amount of fish landed. However, there are comments that a clear correlation between these two cannot be determined and that changes of ice/fish ratio over time are not meaningful. Therefore, this ex-post evaluation excluded this indicator from the basis for judging effectiveness. An attempt was made to check ice sales volume as an alternative indicator, but the data was not available.
- Since the data for Indicator 2, "Registered number of fishermen operating at the point of submerged FAD as their fishing ground (persons/year)," was not available, the actual values were estimated using the estimated number of fishing vessels that are known to engage in fishing at FAD and the number of trips made by these vessels per week.

1 Relevance

<Consistency with the Development Policy of Saint Lucia at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the National Fisheries Plan 2013 with its target year of 2020, formulated following CARICOM's development guide. The basic vision of the Plan is "to promote sustainable fisheries industry by a public-private partnership, to strengthen profitability and to contribute to food security."

<Consistency with the Development Needs of Saint Lucia at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, there was a need to improve fish distribution and fishery management promotion, as mentioned in "Background" above.

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

In the Country Assistance Policy for Saint Lucia (April 2014), fisheries is one of the two priority areas of Japanese assistance.

<Evaluation Result>

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

¹ The Montreal Protocol on Substances that Deplete the Ozone Layer is designed to phase-out or to reduce the production and consumption of hydrochlorofluorocarbons (HCFC) (R22 & etc.) as well as hydrofluorocarbons (HFC) (R404a & etc.). The target is HCFC to zero by 2030 for developing countries; the target for HFC was undetermined as of 2014.

2 Effectiveness/Impact

<Effectiveness>

The project's objective, namely, "improve fish distribution and to promote fishery management," was achieved. Regarding the quantitative effects, although the ice/fish ratio (Indicator 1) achieved the target, this indicator is excluded from the evaluation judgment as described in "Special Perspectives Considered in the Ex-Post Evaluation" above. Regarding the operation status of the facilities at the time of ex-post evaluation in 2020, the Department of Fisheries, in charge of this project in the executing agency, reported that the ice machine in Dennery stopped functioning in 2019 due to a breakdown. At the other four locations, the installed machines were all in use, while needs for some repairs due to heavy use were reported.² The number of registered fishers operating at the point of the submerged FADs as their fishing ground (Indicator 2) was estimated at 450, which is almost at the target value of 500, in 2019. Noting that there was a high exchange of crew and part-time employment, it is expected that over 50 registered fishers would have additionally engaged in fishing as crew on these vessels. At the time of ex-post evaluation, the submerged FADs were in use while a repair was needed.³

Regarding the qualitative effects, the fish distribution was improved. The Department of Fisheries commented that the cooling equipment and refrigerated vans procured under this project enabled to maintain the cold chain for fish. Moreover, end-users of the ice (fishers and vendors) were satisfied with the outputs as they had ice for preservation of their catch before and after fishing trips as well as storage. As for fishing management, the Department of Fisheries developed a FAD fisheries management plan in collaboration with fishers and other key stakeholders. The plan articulates that fishing techniques and gear options used around a FAD should reduce the catch of juvenile fish and species with catch restrictions established. The introduction of drop-line fishing technique around the submerged FADs has increased bigger size catch that reduce the motivation for catching smaller and juvenile fish considered less productive, less valuable in comparison to bigger fish. Such an improvement was made possible through the usage of this project's facilities/equipment and also with the contribution of the Caribbean Fisheries Co-Management Project (2013–2018), a JICA technical cooperation project that further enhanced fishery management through cooperation and face-to-face advice by the Japanese experts.⁴ Human resources whose capacity was developed through the technical cooperation project and this grant aid project mutually assisted the achievement of the expected outcome.

<Impact>

The expected impact of this project, namely, "Contribution to the sustainable fishery development," was manifested. Regarding fish distribution, there was a positive impact on the food value chain and cold chain in Saint Lucia, according to a Japanese fisheries expert. Namely, the majority of the country's catch has been landed in Vieux Fort and Dennery and has been frozen and distributed for sale to major consumers in Castries. Such a distribution channel of freezing the catch in the southern part of the country and selling it in the northwestern part of the country, where it is consumed, has become a model for frozen fish distribution in the Eastern Caribbean region. This model is maintained and functioning through the refrigerating equipment procured by this project. As for impacts related to the promotion of managed fisheries include, specific changes pointed out by the Department of Fisheries include 1) optimized fishers' fishing efforts because the FADs as an aggregator have assisted fishers in saving time, fuel cost and assured a sixty to eighty percent chance of a catch on a fishing expedition; 2) landings of larger fish such as Large tuna and Blue marlin; 3) rejuvenation and less pressure on nearshore fisheries resources, e.g., reef fish; and 4) information and data required from international donor agencies and other regional and international monitoring agencies (e.g., fish catches) being easier to collect and provide to such agencies with the advent of the FADs, allowing the Department of Fisheries not to miss out on much-needed funding and technical support.

According to the Department of Fisheries, the project did not only benefit the initial target group (fishers) but also the wider communities. Easier/direct access and availability of ice for sale enabled the continuation of Fish Friday events, where local communities use ice not only to keep fish fresh but also to offer cold drinks, make cocktails, etc. As women predominantly take up fish Friday activities, the project contributed to households' socio-economic status through enhancing women's economic activities. No adverse impacts were observed.

<Evaluation Result>

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

Quantitative Effects

| Indicators | Baseline 2014 | Target 2019 | Actual 2017 | Actual 2018 | Actual 2019 |
|---|------------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| | Baseline Year | 3 Years after Completion | 1 Year after Completion | 2 Years after Completion | 3 Years after Completion |
| Indicator 1: Ice/fish ratio ⁽¹⁾ | 3.31–8.31 | 3.31–8.31 or higher | 3.0–5.0 (Average: 3.8) | 3.0–5.0 (Average: 4.8) | 3.0–6.0 (Average: 4.4) |
| Indicator 2: Registered number of fishers operating at the point of submerged FAD as their fishing ground (persons/year) ⁽²⁾ | 0 | 500 | 300 | 450 | 450 |

Source: Ex-ante Evaluation Report; Department of Fisheries

Note: (1) For Indicator 1, the Ex-ante Evaluation Report does not specify the unit of value. Also, the ground for the calculation of the baseline and target

² According to the Department of Fisheries, the ice making machine in Dennery had been facing some problems from inception that was attributed to water quality issues. At the time of ex-post evaluation, the machine was non-functional over one year with the pipes corroded, oil being migrated from the compressor, and the water pump on the evaporative condenser was nonfunctional. At Vieux Fort, a half of the refrigerating system was operational with the other half facing some problems such as gas leakage from corroded pipes. At Anse La Raye, the freezing system was operational but the condenser was ending its lifespan by heavy utilization. At Gros Islet, the ice plant was operational but spare parts replacement was needed. Information on plans for future repairs was not available.

³ The FADs needed a repair of the marker buoys damaged by a barge in May 2020. Information on plans for future repairs was not available.

⁴ Japanese experts made advice particularly on such issues as operation and maintenance of ice-making machine, good practice of FAD fishing, distribution of fish and the products and so on. As a result of such technical advice, fishery management was improved especially in such aspect as decreased down-time of the ice-making machine, improvement in fish catch management, promotion of fish-based meal and so on.

figures is not mentioned. Considering the numerical scale of the numbers 3.31 and 8.31 and the statement in the Preparatory Survey Report that the ice/fish ratio could be calculated based on the amount of ice produced and the amount of fish landed, the baseline and target figures seem to be the amount of fish landed (in weight) per unit of ice production (in weight). For the actual values, accordingly, we obtained the weight of fish (lb) per 1 lb of ice produced so that they could be compared to the target values. The range of values represents the sites with the smallest and largest values, and the average value represents the arithmetic mean of the values for each site. (2) For Indicator 2, the number of registered fishers operating at the FADs was estimated by multiplying the number of vessels known to be operating there (100 vessels in 2017 and 150 vessels in 2018 and 2019) by the average number of registered fishers per vessel (3 persons). It is reported that these vessels operate five days per week.

3 Efficiency

While the project cost was within the plan, the project period exceeded the plan (ratio against the plan: 88% and 124%, respectively). The project implementation was delayed mainly due to a delay in bidding. Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional/Organizational Aspect>

The Department of Fisheries is responsible for overseeing fishery centers and operation and maintenance (O&M) of the FADs. For the refrigerating system/ice plants, a fisherfolk cooperative with a hired operator for maintenance is responsible for each facility in Ans La Raye and Gros Islet, and a private company Lucian Blue Ocean Seafood Ltd., with a maintenance and service technician, are responsible for the facilities in Castries, Dennery, and Vieux Fort. Lucian Blue Ocean Seafood Ltd. has taken over the management of cold storage and fish processing facilities of the mentioned sites from Saint Lucia Fish Marketing Corporation (the would-be O&M agency) through a public-private sector partnership aimed at enhancing the management and operation of the facility. The site visit to Castries found that the company was in good coordination with the Government.

An issue is that at the Department of Fisheries, no staff member is assigned for service and maintenance, but six extension officers serve as liaisons. If greater assistance than what the Department can handle is required, engineers from the Ministry of Infrastructure provide support. Job analysis of current staffing positions shows that it is not with scope to conduct these duties of O&M effectively. The Department is exploring the establishment of a management committee that will bring together expertise from a cross-section of government agencies/fishing port authorities to support O&M.

<Technical Aspect>

In the survey result by the Department of Fisheries, two-issues were repeatedly mentioned: a) inconvenience caused by the breakdown period of the machine, and b) lack of capacity for maintenance and repairs. According to the Department, there is no training system to enhance or maintain the technical capacity. On the other hand, through discussions with fisherfolks and site visits, it was identified that the facilities were utilized with continuous maintenance efforts to operate the equipment, especially ice-making machines.

<Financial Aspect>

At each facility, the source of the O&M budget was operations revenue including sales of ice. Some examples of O&M spending for which information was available are EC\$250/month and EC\$300/month of O&M budget being allocated at Ans La Raye and Gros Islet, respectively. According to the Department of Fisheries, limited funding was due to other expenses of the fishery centers. The Department also shared that efforts would be made to support fisherfolk cooperatives to prepare maintenance schedules/plans and annual budgets to increase allocation and improve the O&M system in collaboration with key stakeholders.

<Current Status of Operation and Maintenance>

At the time of this survey, some facilities were facing maintenance issues, as already mentioned. However, each case was reported to the Department of Fisheries. In most cases, necessary spare parts were procured, and the hired operators for maintenance were arranged. Considering the good usage and maintenance for most fishing complexes as well as the effort for maintenance where the trouble exists, it is concluded that the sustainability is at a reasonably good level with the hope for further maintenance.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the institutional/organizational, technical, and financial aspects and the current status of the operation and maintenance system. Therefore, the sustainability of the project effect is fair.

5 Summary of the Evaluation

The project achieved the objective of improving fish distribution and promoting fishery management as indicated by the operation of the installed machines at most of the sites and the number of fishers operating at the submerged FADs. Regarding the sustainability, some problems are found in the institutional/organizational, technical, and financial aspects and the current status of the O&M of the cold facilities as the organizational system, budget, and technical capability to handle frequent breakdown have been limited. However, it is commendable that the Department of Fisheries and the operation and maintenance agency of each facility are handling the problems as best they can and keeping most of the equipment in operation. 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 to the Executing Agency:

- The Department of Fisheries can take some measures one by one to ensure sustainability, mostly in funding and human capacity development. Regarding the latter, O&M capacity development is required, especially in relation to the refrigerating system and ice-making machines. It is ideal if the capacity-building opportunity is made available to not only fisherfolks cooperatives but also the

private sector Lucian Blue Ocean.

- By developing the capacity of the private sector and promoting public-private partnership, it is expected that the private sector can diversify and develop the income generation and cleaner environment (such as through enlarged export with HACCP certificate and processing of fish waste into fertilizers or fish meals) in addition to improving O&M of the procured facilities and equipment.

Lessons Learned for JICA:

- The project did not only benefit the initial target group fishers. However, it has benefitted the wider communities through easier/direct access and availability of ice made by the facilities for sale, contributing to the existence of the Fish Friday activities. The project was able to influence the continuation of Fish Friday activities, which are predominantly taken up by women, contributed significantly to the socio-economical status of households (including the enhancement of the role of women that is often marginalized in the fisheries sector) and also impacting on the increase of fish sales for fishers. Upgrading of the Anse La Raye waterfront and vendors arcade also impacted the sale of ice, noting that the activities are viewed worldwide through the advertisement of tourism attractions in Saint Lucia. The fishing community is also being promoted and visited as part of tour packages. The tourism sector is the main income generator for Saint Lucia, and Anse La Raye followed by Gros Islet has been benefitted from the tourism. In this way, this project supports the livelihood of small-scale entrepreneurs/self-employed women who are involved in the sale of artifacts and local craft, which has empowered them. These effects were unanticipated positive impacts of this project. Still, it is a good idea to recognize that such gender and income improvement impacts can be expected in future fisheries equipment improvement projects and to develop project plans that clearly aim to achieve these goals.
- Projects to improve fish distribution in the Eastern Caribbean can learn from this project as Saint Lucia is a model of frozen fish distribution in the area. In other words, to improve the fish distribution in the Caribbean region, it will be effective to support the maintenance of the functioning of the refrigerating systems at the landing and consumption centers of the catch.



The replaced door of a freezer (Castries)



In the refrigeration facility (Castries)



The fisheries complex supports local producers, selling local agricultural products in addition to seafood (Castries)

| | |
|------------------------------|--|
| Country Name | The Project for Upgrading of Mechanical System for Sewerage and Drainage Services in Gujranwala |
| Islamic Republic of Pakistan | |

I. Project Outline

| | | | | |
|---------------------------|---|-------------------|-----------------|---|
| Background | Gujranwala City, the fourth largest city in Province of Punjab in Pakistan, was an important industrial city and an agricultural distribution center in the province. Due to rapid population inflow, upgrading of its socioeconomic infrastructure was indispensable. Sewerage and drainage system suffered from frequent flood damage caused by decrease in drainage capacity due to accumulation of silt, sediment, sludge or garbage in the pipes and aged deterioration of disposal pump stations. In addition, the pumps often stopped because of frequent power outage. Regarding rainwater drainage system, drainage capacity of gutters and side ditches and conduits was insufficient so that depressions and lowlands remained inundated for long hours (8 to 48 hours) during heavy rains. (Figures at the time of ex-ante evaluation.) | | | |
| Objectives of the Project | The project aimed to upgrade mechanical system for sewerage and drainage service in Gujranwala City in Pakistan by procuring equipment for maintenance of sewerage and drainage pipes and implementing technical assistance to prepare an efficient and sustainable cleaning work plan, thereby contributing to reduction of sewer and rainwater flooding and damage from flooding in the city. | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project site: Gujranwala City, Province of Punjab 2. Japanese side: (1) Provision of grant necessary for procurement of cleaning/de-silting equipment (2 water jet cleaners, 4 suction machines, 1 wheel-type clamshell, 2 wheel-type backhoes, 10 dump trucks, 3 pick-up trucks, 1 set of safety equipment, 7 sets of winch machines, 15 traction type dewatering pumps) and 14 pumps and 14 generators for 8 disposal stations; (2) Technical assistance (soft component of Grant Aid) to Water and Sanitation Agency (WASA) Gujranwala. 3. Pakistani side: Rehabilitation and maintenance of access roads to disposal stations, parking area for the equipment with storage warehouse and administration office for spare parts, etc. | | | |
| Project Period | E/N Date | November 13, 2014 | Completion Date | December 21, 2016 (Completion date of soft component) |
| | G/A Date | November 13, 2014 | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: : 1,031 million yen Actual Grant Amount: 847 million yen | | | |
| Executing Agency | Water and Sanitation Agency (WASA) Gujranwala | | | |
| Contracted Agencies | Main Contractors: Future Bud International Co., Ltd.; Torishima Pump Mfg. Co., Ltd. Main Consultant: CTI Engineering International Co., Ltd. | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

- Field visit of site, equipment and machinery and face to face discussion and information collection from WASA Gujranwala (WASA-G) could not be achieved due to restriction of movement caused by spread of COVID-19. Information was collected through questionnaire, telephone and email etc.

<Special Perspectives Considered in the Ex-Post Evaluation >

- In the Ex-ante Evaluation Sheet, the target year for Indicators of quantitative effects is 2020 that is three years after project completion (the project was planned to be completed in February 2017). Since the project was completed in December 2016, the actual target year is 2019. Therefore, the target year was set to be 2019 in this ex-post evaluation.
- Among the indicators set in the Ex-ante Evaluation Sheet to verify the quantitative effects, Indicator 4 (“Inundation time in the city in the monsoon season”) and Indicator 5 (“Number of complaints regarding flooding and sludge”) were considered to be a logical consequence of the outcome of this project, namely, “to upgrade mechanical system of sewerage and drainage services”. Therefore, Indicator 4 and 5 were used to verify the assumed impact brought by the project. As to quantitative effects, utilization level of the procured equipment was also examined (Supplementary Information 1).
- One of the qualitative effects mentioned in the Ex-ante Evaluation Sheet (i.e., “Improvement of sanitary environment by reduction of sewer and rainwater flooding”) consists of 2 parts: “Reduction of sewer and rainwater flooding” and “Improvement of sanitary environment”. “Reduction of flooding of sewerage and rainwater” is a logical consequence of the outcome of this project; therefore, it was considered as an assumed impact brought by the project. Meanwhile, “Improvement of sanitary environment” is a consequence of “Reduction of sewer and rainwater flooding”; therefore, it was considered as other positive impact expected at the time of ex-ante evaluation. Regarding qualitative effects, the following information was also used to verify the effects of the soft component of the project: “Utilization and update of the cleaning work plan” (Supplementary Information 2); and “Utilization of the equipment maintenance manual and the safety manual” (Supplementary Information 3).

1 Relevance

<Consistency with the Development Policy of Pakistan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with development policy of Pakistan to prioritize safe water supply and improvement of sanitation, as set forth in the Vision 2025 (2014).

<Consistency with the Development Needs of Pakistan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with development needs of Pakistan for upgrading of mechanical system for sewerage and drainage service in Gujranwala City as described in “Background”.

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

At the time of ex-ante evaluation, the project was consistent with the Country Assistance Policy for Islamic Republic of Pakistan (2012), which includes assistance to “contribute to improving the poor conditions of water and sanitation especially in the urban areas” under one of the three Priority Areas, “Ensuring human security and improvement of social infrastructure”.

<Evaluation Result>

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

2 Effectiveness/Impact

<Effectiveness>

The project achieved its objective of upgrading mechanical system for sewerage and drainage service in Gujranwala City in the target year (i.e., 2019). As for quantitative effects, most of the major equipment items procured under the project (i.e., 67 out of 72 pieces procured¹) were operated, and Indicator 1 and 2 achieved 86%-94% and Indicator 3 achieved 94% of the respective targets². With respect to qualitative effects, effects of soft component of the project were produced and continued. WASA Gujranwala (WASA-G) prepared detailed cleaning work plan of sewers and drains based on the transferred methodology and implemented cleaning activities as per the prepared work plan. WASA-G also utilized the equipment maintenance manual and the safety manual developed under the soft component of the project. The water flow capacity of sewerage pipes and drainage channels was improved as a result of the project because the procured backhoes and clamshell were extensively used for desilting of drains and the installed 14 disposal pumps increased the draining capacity, which ultimately increased flow capacity of sewer lines.

<Impact>

As assumed at the time of ex-ante evaluation, inundation time for depressions and lowland in the city in the monsoon season was decreased to 5 to 7 hours (target: 24 hours or less) in the target year because the procured dewatering sets were placed at depression points. The reduction of the inundation time coupled with the increased draining capacity of the target disposal stations and the increased amount of sludge removal contributed to decrease of the number of complaints regarding flooding and sludge to 5,500 cases/year (target: 5,000 or less). The mechanical system for sewerage and drainage services upgraded through the project contributed to reduction of sewer and rainwater flooding, and no immense urban flooding occurred in Gujranwala City after the project completion so that damage from flooding was decreased. As expected at the time of ex-ante evaluation, sanitary environment in Gujranwala City was improved by proper draining out of rainwater and cleaning of sewers through proper and timely pumping. Meanwhile, no negative impacts were observed.

<Evaluation Result>

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

Quantitative Effects

| Indicators* | Baseline 2014 Baseline Year | Target 2019 3 Years after Completion | Actual 2017 1 Year after Completion | Actual 2018 2 Years after Completion | Actual 2019 3 Years after Completion |
|--|-----------------------------------|---|--|---|---|
| Indicator 1: Amount of sludge removed (sewerage pipes) (m ³ / year) | 6,000 | 17,000 | 9,500 | 12,300 | 14,600 |
| Indicator 2: Amount of sludge removed (drains) (m ³ / year) | 0 | 12,000 | 8,600 | 9,800 | 11,300 |
| Indicator 3: Drainage capacity in case of power outage (cusec)** ³ | 115 | 289 | 215 | 235 | 273 |

Sources: Ex-ante Evaluation Sheet; WASA-G.

* There was no description on calculation basis of baseline and target figures in the available documents.

**Total drainage capacity (not actual amount discharge) of 8 target disposal stations (i.e., Alam Chowk; Khayali; Nowshera Sansi; People Colony; PMU; Rajkot; Samanabad; and Mughalpur) in case of power outage.

Assumed Impact

| Indicators | Baseline 2014 Baseline Year | Target 2019 3 Years after Completion | Actual 2017 1 Year after Completion | Actual 2018 2 Years after Completion | Actual 2019 3 Years after Completion |
|--|-----------------------------------|---|--|---|---|
| Indicator 4: Inundation time for depressions and lowland in the city in the monsoon season (hours) | 8 to 48 | 24 or less | 18 to 20 | 8 to 10 | 5 to 7 |
| Indicator 5: Number of complaints regarding flooding and sludge (cases/year) | 10,000 or more | 5,000 or less | 7,800 | 7,000 | 5,500 |

Sources: Ex-ante Evaluation Sheet; WASA-G.

3 Efficiency

Both the project cost and period were within the plan (ratio against plan: 82% and 96% respectively). The outputs of the project were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

¹For the status of the other equipment, please see <Current Status of Operation and Maintenance> of “4 Sustainability”.

²Indicator 1 and 2 did not achieve 100% of targets mainly because of insufficient manpower and machinery for it. Although the number of the staff was increased from the time of ex-ante evaluation (please see <Institutional/Organizational Aspect> of “4 Sustainability”) and most of the equipment procured under the project was in use, due to the expansion of the jurisdiction from 94 km² to 160 km² in 2018, they were still not sufficient to achieve 100% of targets. (For example, it took longer time to move within the jurisdiction, which decreased the work time for sludge removal.) The reason why Indicator 3 did not achieve 100% of target could not be confirmed.

³ The reason why the total capacity changed every year could not be confirmed.

<Institutional/Organizational Aspect>

WASA-G continuously engaged in operation and management of water supply service and sewerage service in Gujranwala City. The management system was not specifically divided into two service sections to deal with their respective routines as expected at the time of ex-ante evaluation; however, there were no major problems with existing organizational structure. Two technical Directions (Engineering Direction and Operation and Management Direction) were still responsible for operation and management of water supply and sewerage services, and total of 450 staff members were assigned for operation and maintenance (O&M) of the procured equipment as of December 2020. Despite the continued deficiency of skilled/technical staff for O&M in general⁴, the minimum required personnel were allocated for O&M of the procured equipment because the number of allocated staff (i.e., 450 in total) was more than the plan at the time of ex-ante evaluation (i.e., 395 in total) and, as stated in “2 Effectiveness/Impact”, the objective of the project was achieved and the assumed impact was observed.

<Technical Aspect>

WASA-G had necessary technical capacity to sustain the effects of the project. Deputy Directors, Assistant Directors, and Sub-Engineers trained by the soft component of the project still worked for WASA-G and continuously prepare clearing working plans and preventive equipment management plans for the original service area (the service area at the time of ex-ante evaluation and during the project implementation), utilizing the acquired skills and knowledge and the manuals developed under the project. Other O&M staff members sustained the skills and knowledge to conduct proper O&M of the procured equipment by preparing and implementing preventive maintenance work schedule according to the manuals developed under the project. In addition, training on O&M was available at Punjab WATSAN (Water and Sanitation) Academy⁵, established under a technical cooperation project of JICA “Project for Improving the Capacity of WASAs in Punjab Province” (2015-2018). So far, about 15 staff members were trained at WATSAN Academy.

<Financial Aspect>

Budget for O&M of the procured equipment was provided by Housing, Urban Development and Public Health Engineering Department (HUD&PHED) of the Government of Punjab. In the last three years, the annual budget was more than the annual O&M cost estimate at the time of ex-ante evaluation (i.e., 32 million Rupees (Rs)) and covered the annual expenditure as shown in the table below. The sufficient budget was secured for O&M of the procured equipment despite overall financial situation of WASA-G was not good.

<Budget and expenditure of WASA-G for O&M of the procured equipment> (Unit: million Rs)

| | 2017/18 | 2018/19 | 2019/20 |
|--|---------|---------|---------|
| (1) Total budget for O&M of the procured equipment | 38 | 41 | 35 |
| (2) Total expenditures for O&M of the procured equipment | 18 | 21 | 12 |

Source: WASA-G

<Current Status of Operation and Maintenance>

Most of the major equipment items procured under this project were operated and in good condition. The other items, which were not used at the time of ex-post evaluation, were under repair or the budget for the repair was included in budget estimate for FY 2020/21. Necessary spare parts and consumables were properly procured and managed.

<Evaluation Result>

Therefore, the sustainability of the project effect is high.

5 Summary of the Evaluation

The project achieved its objective of upgrading mechanical system for sewerage and drainage service in Gujranwala City and the expected impact of reduction of sewer and rainwater flooding and damages from flooding was observed. Regarding the sustainability, no major problems were observed in terms of the institutional/organizational, technical, and financial aspects of the executing agency because the minimum required personnel and the necessary budget for O&M of the procured equipment were secured and WASA-G had necessary technical capacity to sustain the effects of the project. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

- It is recommended that WASA-G make sure to maintain the procured equipment properly and repair some malfunctioning equipment so that all procured equipment can be utilized until the end of its service life. WASA needs to continuously update and implement the preventive maintenance plan.
- It is recommended that WASA-G keep minimum required personnel allocated for O&M of the equipment procured under the project even skilled staff for O&M in general is insufficient. In addition, WASA should keep discussing with HUD&PHED for fulfilling skilled staff for O&M in general.
- It is recommended that WASA-G continue to make arrangements with Punjab WATSAN (Water and Sanitation) Academy so that their staffs can continuously participate in the trainings for O&M at the academy and strengthen their skills and knowledge for O&M through the trainings.
- It is recommended that WASA-G continuously secure necessary budget for O&M of the equipment procured under the project even their overall financial condition is severe. In addition, WASA-G should keep discussing with HUD&PHED for securing necessary budget for O&M in general. WASA-G should try to increase their revenue by raising tariff collection ratio. The tariff collection ratio was low before the project but now WASA-G can collect tariff from more customers since their service is much improved by the

⁴ Although there was staff shortage, including technical staff, at the time of ex-post evaluation as well, WASA-G was planning to manage their operation with the existing staff members. The number of staff was increased after the project completion due to expansion of the service area but the skilled/technical persons remained in short in general. It is noted that WASA-G requested to Housing, Urban Development and Public Health Engineering Department (HUD&PHED) Government of Punjab for provision of budget for hiring skilled staff for proper O&M in general. It was under discussion at the time of ex-post evaluation.

⁵ It is known as Al-Jazari Academy.

project.

- WASA-G should secure skilled staffs and budget to expand their service for the service area expanded after the project completion. WASA should develop proper cleaning desilting plans for the expanded service area using the transferred techniques.



Dump Trucks and Suction Machines procured to WASA-G under this JICA Grant Aid project in 2016



Project Handover Ceremony held on December 3, 2016

| | | | | | | | | | | | |
|--|---|--------------|---|---------------|-----------------|-------------------------------|--------------------------------|---------------------------------|--------------------------------------|--|--|
| Country Name | Project for Urban Development Master Plan for Managua City | | | | | | | | | | |
| Republic of Nicaragua | | | | | | | | | | | |
| I. Project Outline | | | | | | | | | | | |
| Background | Managua City, the capital and the largest city of Nicaragua, had a population of 1,495,385 (2016), and its population was growing at an average annual rate of 3.87% from 2005. There were concerns that expansion of urban areas with low-density without an organized plan would bring about a decline in efficiency of urban functions through increasing fiscal burdens of development and operation and maintenance of urban infrastructure more time consuming transports and travels in the areas. There was a need for land use planning and urban planning, a review of urban transportation planning, and sustainable urban development including disaster prevention. | | | | | | | | | | |
| Objectives of the Project | By formulating the urban development plan of Managua City, the project contributes to proper management of land use (regulation and guidance) based on the plan, and development of major urban infrastructure. | | | | | | | | | | |
| | Expected Goals through the proposed plan ¹ : The proposed plan is used as the basic urban development plan of Managua City, so that land use is properly managed (regulated and guided) based on the plan, and major urban infrastructure is developed. | | | | | | | | | | |
| Activities of the Project | <p>1. Project site: Managua City.</p> <p>2. Main activities: Situational analysis of the target sites, formulation of the future vision for the development including the development vision, basic policy and draft planning framework, implementation of the strategic environmental assessment, recommendations for the action plan and investment plan, capacity building of the implementing agency, etc.</p> <p>3. Inputs (to carry out above activities)</p> <table border="0"> <tr> <td>Japanese Side</td> <td>Nicaraguan Side</td> </tr> <tr> <td>1) Mission members: 6 persons</td> <td>1) Staff allocated: 16 persons</td> </tr> <tr> <td>2) Trainees in Japan: 9 persons</td> <td>2) Land and facilities: Office Space</td> </tr> <tr> <td>3) Equipment: equipment for the survey, etc.</td> <td></td> </tr> </table> | | | Japanese Side | Nicaraguan Side | 1) Mission members: 6 persons | 1) Staff allocated: 16 persons | 2) Trainees in Japan: 9 persons | 2) Land and facilities: Office Space | 3) Equipment: equipment for the survey, etc. | |
| Japanese Side | Nicaraguan Side | | | | | | | | | | |
| 1) Mission members: 6 persons | 1) Staff allocated: 16 persons | | | | | | | | | | |
| 2) Trainees in Japan: 9 persons | 2) Land and facilities: Office Space | | | | | | | | | | |
| 3) Equipment: equipment for the survey, etc. | | | | | | | | | | | |
| Project Period | January 2016 to May 2017 (Extended period: May 2017) | Project Cost | (ex-ante) 424 million yen, (actual) 327 million yen | | | | | | | | |
| Implementing Agency | Managua Municipality (Alcaldía de Managua: ALMA) | | | | | | | | | | |
| Cooperation Agency in Japan | Kisho Kurokawa Architect & Associates, Nippon Koei Co., Ltd., International Development Center of Japan, Inc., Nippon Koei Latin America-Caribbean Co., Ltd. | | | | | | | | | | |
| Related Projects: | None. | | | | | | | | | | |

II. Result of the Evaluation

| |
|--|
| 1 Relevance |
| <p><Consistency with the Development Policy of Nicaragua at the time of Ex-Ante Evaluation></p> <p>The project was consistent with the development policy of Nicaragua at the time of ex-ante evaluation, as the Decree No. 90-2001, "General Policy for Land Use" included the aims, such as the balanced and controlled economic development while at the same time improving the living conditions of the people and strategic integration of disaster prevention and mitigation measures into the land use planning process.</p> <p><Consistency with the Development Needs of Nicaragua at the time of Ex-Ante Evaluation></p> <p>The population of Managua City was rapidly growing, and the expansion of the urban area with low-density declining the efficiency of urban functions. The project was consistent with the development needs of Nicaragua for development of the urban development plan of Managua City for appropriate land use management.</p> <p><Consistency with Japan's ODA Policy at the time of Ex-Ante Evaluation></p> <p>In the "Country Assistance Policy for Nicaragua" (2013), the basic policy was "stable economic growth through poverty reduction and disparity reduction," and one of the priority areas was set as the "social development for the poor people and areas." Thus, the project was consistent with Japan's ODA policy at the time of ex-ante evaluation.</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is high.</p> |
| 2 Effectiveness/Impact |
| <p><Status of Achievement of the Objectives at the time of Project Completion></p> <p>The objectives of the project were achieved by the project completion. The "Urban Development Master Plan for Managua City" was formulated. ALMA officials were trained in Japan and through the on-the-job training, they improved capacity on the analysis, visioning, planning, and utilization of the urban plan and transport plan.</p> <p><Utilization Status of the Proposed Plan at the time of Ex-post Evaluation></p> <p>The proposed plan has been utilized at the time of ex-post evaluation. The "Urban Development Master Plan for Managua City for 2040" was approved in 2018 (Indicator 1). Among the 30 short-term priority projects proposed in the master plan, one project of transport</p> |

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

development was in the design and tender stage, seven projects (urban planning, public transport, water supply, solid waste management, sewerage and wastewater disposal, disaster management, and flood management) were being implemented, and two projects of road development were completed, as of May 2021. Most of the projects have been planned and implemented with ALMA's resources, while one has been funded by the Central American Bank for Economic Integration (BCIE) and the European Investment Bank (EIB) (Indicator 2). The delay in execution of the master plan has been caused by some unexpected external factors. In 2018, there was a crisis that generated deterioration of security and the economy, and this caused financial repercussions in the following years. In 2020, the pandemic of COVID-19 severely affected the tourism and manufacturing sectors which further worsened the financial situation. Also, two hurricanes in November 2020 were hindering factors.

On the other hand, ALMA has advanced with four projects proposed in the mid- and long-terms. They are the Urban Planning Capacity Building Project, the New Bypass Project, the Urban Parke Development Project, and the Project on Structural Measures for Sediment Management in Cauce Basins.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

The Expected Goal has not been achieved. The regulations on zoning and land use of Managua City have not been updated since 2004, and they have not been effective in the current situations where the city has been horizontally expanded much and then it would need to be vertically developed. ALMA has been in the process of updating a new land use regulation. According to ALMA, the terms of reference for hiring a consultant in zoning has been coordinated with JICA. ALMA expects to formulate a new Zoning Regulation, taking into account the land use map by 2040 developed by the master plan and the incoming advisory from Japan. On the other hand, ALMA has already carried out some projects for urban infrastructure development (Indicator 2).

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

Several positive impacts have been confirmed at the time of ex-post evaluation. First, gender mainstreaming has been promoted by the project. Most of the members of the technical team for developing the master plan were women. Also, the Steering Committee of the project which had many women's participation has been transformed into the Executive Committee for the master plan follow-up. According to ALMA, this gender structure has allowed them to move forward rapidly and uninterruptedly in the execution of projects, as most of the female staff have remained in the position. Second, the implemented projects have followed the mandatory regulations for urban infrastructure construction, which have secured the accessibility of the citizen who has different needs. For example, the pedestrian bridges with elevators have enabled them to provide easy and safe access to the other side of the street. Also, public lavatories have been adapted for persons with limited mobility.

No negative impacts on the natural environment and socially vulnerable people by the project have been caused by the project.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is high.

Utilization of the Proposed Plan

| Aim | Indicators | Results |
|--|---|--|
| (Status of achievement of the Objectives) | 1. Urban development plan of Managua City for 2040. | <u>Status of achievement: Achieved.</u> (Project Completion) - The Urban Development Master Plan for Managua City was formulated. |
| | 2. Capacity development of Managua Municipality on urban planning and management. | <u>Status of achievement: Achieved.</u> (Project Completion) - ALMA officials improved capacity on the analysis, visioning, planning, and utilization of the urban plan and transport plan. |
| (Utilization Status of the Proposed Plan) 1. The proposed urban development plan is formalized through the prescribed approval process in Nicaragua. 2. Preparations are underway in a concrete way for the implementation of the proposed projects in the urban development plan. | 1. The proposed urban development plan is formalized through the prescribed approval process in Nicaragua. | <u>Status of achievement: Achieved</u> (Ex-post evaluation) - The Urban Development Master Plan for Managua City for 2040 was approved by the Municipal Council through Municipal Ordinance N°02-2018 in March 2018. |
| | 2. Preparations are underway in a concrete way for the implementation of the proposed projects in the urban development plan. | <u>Status of achievement: Achieved</u> (Ex-post evaluation) - Among the 30 priority projects for the short term (2017-2020) which were proposed for the Master Plan, the following projects have been either prepared, implemented, or completed. [Being prepared: design and tender] 1) Urban Mass Transit Project (Juan Pablo II Line) [Being implemented] 2) Public Awareness Project for Compact City Planning 3) Old and Vulnerable Pipeline Replacement Project 4) Expansion of the Sewerage Coverage in Managua Project 5) Equipment for Collection and Transportation Procurement Project 6) Project for Establishment of Permanent Offices and Staff for Disaster Management with Training Program 7) Project for Update of Hazard Map and Dissemination to Citizen for Understanding/ Community-based Risk Reduction 8) Structural Improvement of Priority Cauces Project [Completed] 9) Overpass and Intersections Project 10) Road Improvement and Road Extension Project |
| (Expected Goals through the proposed plan) 1. The proposed plan is used as the | 1. Land use is properly managed (regulated and guided) based on the plan. | <u>Status of achievement: Not achieved.</u> (Ex-post Evaluation) - The land use regulations have not been formulated yet. |

| | | |
|--|--|---|
| <p>basic urban development plan of Managua City, so that land use is properly managed (regulated and guided) based on the plan, and major urban infrastructure is developed.</p> | <p>2. Major urban infrastructure is developed.</p> | <p><u>Status of achievement: Partially achieved.</u> (Ex-post Evaluation) - Several infrastructure projects have been implemented as part of the proposed projects, including development of the Bus Rapid Transit, replacement of pipelines, and road improvement and extension. - ALMA has improved the land use of the shores of Lake Managua and part of the traditional and heritage areas in the City. - The new baseball stadium was constructed which meets the international standards in 2017, and the nearby areas were improved including the drainage system to solve flooding issues.</p> |
|--|--|---|

(Source) Project Completion Report, and questionnaire survey with ALMA.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 77%), the project period slightly exceeded the plan (ratio against the plan: 107%). Outputs were produced as planned. The project period was extended because some project activities were suspended due to general elections. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Urban development in Managua City has been prioritized in the “Managua Municipal Development Plan” (2013-2028),” as well as its “Institutional Development Plan” and “Sustainable Managua Action Plan.”

<Institutional/Organizational Aspect>

ALMA has maintained the same organizational structure for implementing the proposed master plan. In addition, as an internal communication mechanism, ALMA has established the Executive Committee responsible for the follow-up of and feedback to the master plan. At the time of ex-post evaluation, the General Directorate of Environment and Urbanism, which has a specific Urban Planning Department with five members, only three of them are dedicated to implementing the masterplan, and the number has not been sufficient, according to ALMA. ALMA has proposed to include more technicians who have the same educational background or those who were trained in JICA courses on similar topics, in order to work on future activities of the master plan. The environmental impact assessment has been carried out in accordance with national and municipal environment laws and regulations.

<Technical Aspect>

ALMA has sustained sufficient skills and knowledge to implement the proposed master plan. The technicians who participated in the elaboration process of the plan have been strengthened in topics of the geographic information systems (GIS) for the map presentation, data analysis, and management of urban regulations. Since the time of project completion, a total of 33 members have participated in 10 training courses. Training topics have included transport demand analysis, GIS, urban management, cost and budget of civil works, hygiene, and industrial safety, etc. These courses have been conducted by JICA, the National Engineering University of Nicaragua, other donors such as Korea International Cooperation Agency, Union of Ibero-American Capital Cities, etc.

<Financial Aspect>

ALMA has secured a sufficient budget for implementing the proposed master plan. ALMA has had its revenues and also external funds from the Inter-American Development Bank and BCIE.

Budget of ALMA (million Cordoba)

| | 2018 | 2019 | 2020 | 2021 (plan) |
|-------------|-------|-------|-------|-------------|
| Revenue | 4,515 | 3,962 | 5,252 | 6,705 |
| Expenditure | 4,396 | 3,685 | 4,938 | 6,705 |

(Source) ALMA.

<Evaluation Result>

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

5 Summary of the Evaluation

In the project, the “Urban Development Master Plan for Managua City for 2040” was prepared. After the time of project completion, the plan was officially approved and some projects have been implemented. As a result of the implemented projects, some infrastructure facilities have been developed. Regarding sustainability, the number of technicians has not been sufficient for implementing the master plan, but ALMA has conducted technical training for the existing members and made the proposal to assign more members to the responsible section. Concerning efficiency, the project period 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 to ALMA to conduct further capacity building of the General Directorate of Environment and Urbanism on urban planning to accelerate the implementation of the proposed projects and formulation of the new regulations on land use and zoning, by organizing an interinstitutional working committee to plan seminars for sharing experiences of those members of other organizations who were trained in relevant topics in Japan. Also, ALMA could contact the Japan Alumni Nicaraguan Association (ANEJA) to invite lecturers and exchange opinions online with Japanese municipalities to learn their experiences in urban development, including good practices and challenges.
- It is recommended to the Executive Committee responsible for the follow-up of the master plan to record the progress of the proposed projects, including those projects which are carried out by other institutions. By recording the achievements and issues through bi-annual reports, ALMA could not only make its own institutional memory but also share them with JICA and other donors so that they could understand which kind of support would be necessary and effective.

Lessons Learned for JICA:

- The project period was extended for one month during the general election period. When the general election is planned during the project period, the project should be designed with some additional time so that planned activities would be completed in the planned period.

- If it is found the need of capacity building for land use and zoning regulations, an introductory training component on land use and zoning regulations should be included for an effective implementation of the masterplan.



Alexis Arguello Sports Center and the Michelle Richardson Swimming Pool Complex constructed by the Urban Park Development Project



South-North view of the overpass "Las Piedrecitas"

| | |
|------------------------|--|
| Country Name | The Project for Improvement of Equipment of Navoi Regional Multidisciplinary Medical Center |
| Republic of Uzbekistan | |

I. Project Outline

| | | | | | | |
|---------------------------|---|------------------|---------------------------|--------------------------------------|--------------------------|---|
| Background | <p>In Uzbekistan, non-communicable diseases (NCDs) such as cardiovascular diseases had come to account for majority of the causes of deaths. However, vertically segmented, fragmented health system was not able to adequately cope with serious chronic diseases and their complications, thus precluded the provision of proper medical services. As a solution to these issues, the Uzbekistan government decided to newly establish a regional general hospital in each region as a regional-level center for tertiary medical care. In Navoi region, the establishment of the Navoi Regional Multidisciplinary Medical Center (NRMMC) was decided. This plan included the renovation of an existing facility to NRMMC (completed in 2014) and the borrowing or transferring of some of the medical equipment to be used at NRMMC from other hospitals within the region. However, the pieces of equipment used in existing hospitals in the region were aged and unable to cope with the situation in terms of both quality and quantity. New equipment was therefore needed for NRMMC to provide proper medical services.</p> | | | | | |
| Objectives of the Project | <p>This project aimed to establish the medical service delivery system of NRMMC in Navoi city, Navoi region, by upgrading the testing, diagnostic and treatment equipment in NRMMC, thereby contributing to the improvement of the regional health system in the region.</p> | | | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: Navoi city, Navoi region 2. Japanese side <ol style="list-style-type: none"> (1) Provision of grant necessary for procurement of medical equipment (92 items) <ul style="list-style-type: none"> - Laparoscope set, X-ray Apparatus (General, C-arm, Mobile), CT scanner, X-ray System Angiography, Ultrasound Apparatus, Ventilator, Operating Table, Blood Coagulation Analyzer, Autoclave, Electronic Surgical Unit, etc. (including maintenance service for 3 years for CT scanner, X-ray System Angiography) (2) Soft Component: User training for learning of appropriate operating procedures and introduction of "Operation and Maintenance Passport for Medical Equipment" 3. Uzbekistan side: <ul style="list-style-type: none"> - Securing space of delivering procured equipment and arrangement of receiving system - Employing medical professionals and other staff necessary for the full opening of NRMMC and implementing the operating budget - Setting up facilities and purchasing equipment and consumables that are not to be procured as part of Japan's Grant Aid - Doing necessary repair work of the rooms into which procured equipment are placed upon delivery | | | | | |
| Project Period | E/N Date | October 25, 2015 | Completion Date (ex-ante) | November 2019 | Completion Date (actual) | March 31, 2020 (Completion of the maintenance agreement for CT scanner and X-ray System Angiography) |
| | G/A Date | October 25, 2015 | | | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: 686 million yen | | | Actual Grant Amount: 682 million yen | | |
| Executing Agency | Ministry of Health (MOH) | | | | | |
| Contracted Agencies | Main Contractor: Marubeni Protechs Corporation Main Consultant: International Techno Center Co., Ltd. | | | | | |

II. Result of the Evaluation

<Constraints on Evaluation>

• The outcome of the project studied under this ex-post evaluation is the combined effects by the equipment procured and facility renovation done by NRMMC and MOH.

< Special Perspectives Considered in the Ex-Post Evaluation >

[Use of Supplementary Information]

• In addition to the five indicators set at the ex-ante evaluation, this evaluation uses the utilization of procured equipment and the effects of the soft component as Supplementary Information 1 and 2 respectively. In evaluation judgment, less weights are given to the supplementary information than the original indicators.

[How to deal with qualitative effects]

• As for qualitative effects specified at the ex-ante evaluation, two effects, such as "Medical services to complications, in addition to the major diseases have been properly provided in NRMMC by sharing the information of patients with specific disease among multiple departments" and "Improvement of the medical service delivery system in Navoi region by NRMMC assuming the role as a multidisciplinary medical center for adult patients which is temporarily covered by other hospitals" are to be examined as expected impact. [Completion date for the effectiveness]

• Completion date is stated as March 31, 2020 when the maintenance agreement for CT scanner and X-ray System Angiography was completed according to the ex-ante evaluation sheet. However, the actual completion year used to examine the quantitative effects is the year when the equipment was handed over to NRMMC.

[Target year for the effectiveness]

• Due to the delay of project implementation, the target year was deferred by one year later than that of stated in the ex-ante evaluation sheet.

I Relevance

<Consistency with the Development Policy of Uzbekistan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, this project was consistent with the comprehensive national health development plan for the country known as "Welfare Improvement Strategy Paper of the Republic of Uzbekistan for 2013-2015 (WISP-2)" in which strengthening of regional multidisciplinary medical centers was stated as a priority. This Strategy was also made references to a policy of introducing

modern medical equipment to prevent and mitigate diseases on the rise.

<Consistency with the Development Needs of Uzbekistan at the Time of Ex-Ante Evaluation>

This project was consistent with Uzbekistan's development needs of improvement of the regional health system at the time of ex-ante evaluation as described in "Background" above.

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

At the time of ex-ante evaluation, this project was consistent with the "Country Assistance Policy for Uzbekistan (2012)" in which the Japanese assistance aimed to support the promotion of economic growth and the correction of disparities. The project was consistent with one of the priority areas of this policy, "Assistance toward the reconstruction of social sector (Agriculture Reform, Regional Development, Medicine and Health)".

<Evaluation Result>

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

2 Effectiveness/Impact

<Effectiveness>

The project objective to establish the medical service delivery system of NRMMC in Navoi city, Navoi region, by upgrading the testing, diagnostic and treatment equipment in NRMMC was achieved.

Annual number of outpatients achieved only 24.6% of planned target for 2020, while annual number of inpatients achieved 94.3% of the target¹ (Indicator 1-1 and 1-2). The low level of achievement of annual number of outpatients was due to the fact that in 2020, NRMMC received only COVID-19 patients for the period of 7 months, and exceptionally accepted other patients who needed the urgent care. This drastic decrease of outpatient number affected the number of examinations conducted by utilizing the equipment provided by the project. Annual number of CT scanner examinations achieved 49.0%, annual number of Angiography examinations achieved 112.1%,² and annual number of General Radiography and Fluoroscopy examinations achieved 74.5% of respective targets for 2020 (Indicator 1-3, 1-4 and 1-5). Considering that all of five indicators had already achieved more than 80%³ of the respective targets for 2020 prior to the target year (2018 and 2019), it is fair to say that COVID-19 proved decisive to the low achievement of those indicators at the target year when 5 months alone were only available for their ordinary services. Magnitude of influence by COVID-19 on achievement of indicators is also proven by the fact that the number of examinations has gradually been resumed in 2021 when the COVID-19 has become well-managed, though not drastically diminished. The monthly average number of CT scanner examinations as well as those of General Radiography and Fluoroscopy examinations for the period of January to May 2021 has almost the same or even exceeded the monthly average number of planned targets for 2020. For the above reasons, it is judged that the project objective was achieved.

As for the qualitative effects, it was confirmed by the interview with the Chief Doctor of NRMMC that the equipment has provided opportunity to make proper diagnosis and treatments to the local patients. And every health professional interviewed during the site visits ensured that the project contributed to the improvement of medical services in the region. Most of procured equipment have been properly utilized as originally intended except three items. Lithotripter⁴ has not been used since December 2019 due to that the membrane is out of order, which affects the medical treatment of kidney diseases for local patients. Autoclave has been out of order since April 2021 as there is a problem with lid. The printer attached to X-ray apparatus is not available due to no supplies of paper in the local market. NRMMC has contacted the local agent for repair of those equipment and requested the regional finance department to allocate the fund for maintenance and procurement of spare parts and supplies, but they have been not yet fixed (Supplementary Information 1). It was confirmed by the study that the user-manual developed by the project has been effectively utilized whenever a medical doctor is newly assigned. Staff of NRMMC found the training conducted by the project very useful and helped them for understandings of proper operation of equipment in a short-time basis (Supplementary Information 2).

<Impact>

The project has contributed to the improvement of the regional health system in the region. Information sharing among multiple departments which was made available by having various equipment for examination has led to earlier detection of diseases and complications. It was confirmed by the study that a case conference attended by medical doctors with specialty to discuss on the proper diagnosis and treatment for a specific disease is held on daily basis. Thus, medical services to complications, in addition to the major diseases, have been properly provided in NRMMC by sharing the information of patients with specific disease among multiple departments. For example, one patient who had the surgery of gall bladder received an ECG (electrocardiogram). Medical staff in physiotherapy confirmed the result of ECG and found the possibility of other problem with cardiac. Then, the staff shared this information to the department of cardio surgery for further treatment. In Navoi region, the high-tech diagnostic and treatment measures were previously carried out only in the capital hospitals, such as the Republican Scientific Center for Emergency Medical Services (RSCEMS). After the project, the medical service of the same level has become available in NRMMC by utilizing the procured equipment. Currently, patients of NRMMC can receive the advanced treatment measures, such as MRI angiography, multi-slice CT angiography, X-ray angiography, Kidney transplantation, installation of pacemakers, ablation of an ectopic focus in the myocardium, remote and contact lithotripsy, endourological operations, etc. As a result, there are no cases of non-emergency patients (adult patients) admitted to RSCEMS since 2018. In other words, NRMMC has been able to take over the role of RSCEMS for adult patients. Furthermore, there have been no cases of sending patients from Navoi region to Tashkent for treatment of complex diseases after the project. It was also remarkably identified by the study that some of equipment provided by the project, such as multi-slice CT, fluoroscopy, ultrasound, oxygen concentrator and laboratory equipment such as analyzers, electrocardiogram have been timely used for the diagnoses of COVID-19. The first deputy head of Navoi Regional Health Department confirmed that it is obvious that NRMMC has brought about positive change in Navoi region.

¹Annual number of in-patient includes those patients admitted under the treatment of the COVID-19.

²Since June 2017, when a cardiovascular specialist was assigned as director of NRMMC, more focus has been put on the treatment of cardiovascular diseases, thus the number of Angiography examinations has increased more than originally projected. In other words, the projection of target number for 2020 turn out to be underestimated. This has partly contributed to high performance of Angiography examination number in 2020 even under the COVID-19.

³According to the judgment criteria of JICA's ex-post evaluation, the achievement level of more than 80% is judged as "achieved" in principle.

⁴Lithotripter is a device allowing pulverization of calculi by shock waves produced outside the body, with no incision of the skin. This is used for the treatment of kidney diseases to local patients.

<Evaluation Result>

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

Quantitative Effects

| Indicators | Baseline 2015 Baseline Year | Target 2020 3 Years after Completion | Actual 2017 Completion Year | Actual 2018 1 Year after Completion | Actual 2019 2 Years after Completion | Achievement of 2019 (against target for 2020) | Actual 2020 3 Years after Completion | Achievement of 2020 (against target for 2020) | Source: |
|--|--------------------------------|---|--------------------------------|--|---|--|---|--|---------|
| Indicator 1-1: Annual number of Outpatients | 27,000 | 54,000 | 57,025 | 49,806 | 49,352 | 91.4% | 13,287 | 24.6% | NRMMC |
| Indicator 1-2: Annual number of Inpatients | 2,500 | 6,000 | 6,362 | 7,557 | 8,583 | 143.1% | 5,655 | 94.3% | NRMMC |
| Indicator 1-3: Annual number of CT scanner examinations | 0 | 4,200 | 700 | 3,844 | 9,460 | 225.2% | 2,060 | 49.0% | NRMMC |
| Indicator 1-4: Annual number of Angiography examinations | 0 | 240 | 300 | 410 | 533 | 222.1% | 269 | 112.1% | NRMMC |
| Indicator 1-5: Annual number of General Radiography and Fluoroscopy examinations | 0 | 6,000 | 2,294 | 11,312 | 23,919 | 398.7% | 4,471 | 74.5% | NRMMC |

3 Efficiency

While the project cost was within the plan, the project period slightly exceeded the plan (ratio against plan: 99%, 104%, respectively). The project period was extended by two months due to the delay of customs clearance of the equipment and the postponement of the workshop under the soft component to meet with the availability of responsible staff of NRMMC. The outputs of the project were produced as planned.

Therefore, the efficiency of the project is fair.

4 Sustainability

< Institutional/Organizational Aspect>

Under MOH which assumes the overall responsibility, the Health Department, Navoi region performs duties as a local agency and supervises the operation of NRMMC including the budget. NRMMC has maintained the structure as it was at the time of ex-ante evaluation, as a top referral medical facility to handle tertiary medical care. To upgrade NRMMC to a regional-level center for tertiary medical care for Navoi region, the number of staff has been increased. As a result, there is enough medical doctors (physicians) who can operate the equipment provided by the project and deal with specific examinations, such as X-ray, Angiography, Electromyography⁵, etc. The number of those physicians increased from 28 at the time of ex-ante evaluation to 62 at the time of ex-post evaluation. However, there is a shortage of medical equipment technicians serving under the permanent technician responsible for its maintenance (the number decreased from 3 to 1 for the same period). NRMMC has tried to employ a technician, but it has not been successful due to financial reasons. Since the warranty period is over, it is necessary to conclude a contract for technical maintenance services with local agents.

<Technical Aspect>

NRMMC follows the priority task of continuous trainings for staff practiced in any other medical institutions in Uzbekistan. NRMMC staff has maintained the sufficient technical level through internal trainings, domestic trainings conducted at the Center of Institute of Advanced Training for Doctors in Tashkent and the trainings done in the foreign countries including JICA Knowledge Co-creation Program trainings. Every year, about 10 to 15 medical doctors with specialty are trained on various advanced training programs. Furthermore, whenever it is possible, NRMMC invites leading medical specialists from overseas to provide the short-term training programs on various methods of diagnosis and treatment. Medical doctors who participate in those trainings are required to transfer the knowledge and experience to other staff at NRMMC. Operation of equipment is carried out according to the guidance and recommendations of medical doctors who acquired the technical skills by referring to a corresponding manual. As for the maintenance, each medical doctor has a corresponding passport, known as "Operation and Maintenance Passport for Medical Equipment (passport)" introduced by the project to keep track on the condition as well as the maintenance records of the equipment.

<Financial Aspect>

As shown below, the budget amounts of Health Department, Navoi region as well as that of NRMMC were drastically increased in the last three years. It is identified by the study that the utility costs to operate the hospital facility including the equipment, such as the fuel and water

⁵Electromyography is translated into Pneumography in Russian term. This is an instrumental diagnostic method aimed at assessing the state of muscles and the functioning of the peripheral nervous system of a person.

supply have been increased and its percentage for the expenditure has also been increasing.⁶ Nevertheless, there is neither enough budget for the stock of supplies and spare parts, nor the repair cost for equipment.

At the time of ex-ante evaluation, it was anticipated that medical service fees would increase, and it would cover the maintenance expenses for the procured equipment. However, at the legislation level, namely Article 64 of the Budget Code, which prohibits the utilization of granted equipment for paid medical services has made it difficult for NRMMC to finance the costs of operation and maintenance (O&M) for the equipment since NRMMC could not earn any medical services fees with the granted equipment by the project. NRMMC and the government have kept discussing on this issue and a request has been submitted to allocate necessary budget for maintenance of medical equipment as well as to cover the payroll expenses for medical equipment technicians. Moreover, at the termination of maintenance agreement for CT scanner and X-ray System Angiography on March 2020, urgent action is expected. However, the issue has still been pending at the time of ex-post evaluation. The situation on O&M can be improved if Article 64 is eliminated, so that NRMMC could earn any medical services fees with the granted equipment by the project for maintenance of medical equipment.

Budget of Health Department, Navoi Region

Unit of currency (million soum)

| Items | 2018 | 2019 | 2020 |
|---------------|--------------------------------|---------------|---------------|
| Total budget | 309,342.9 | 407,596.3 | 535,061.7 |
| Budget source | Local government | 292,294.4 | 384,626.3 |
| | Grant | 8,876.6 | 2,297.6 |
| | <i>(Grant in million US\$)</i> | <i>(1.10)</i> | <i>(0.26)</i> |
| | Others | 8,171.9 | 20,672.4 |
| | | | 13,465.7 |

NRMMC's budget and expenditure

Unit of currency (million soum)

| Items | 2018 | 2019 | 2020 |
|---|---------|---------|---------|
| Total budget | 4,207.5 | 6,958.7 | 8,902.9 |
| Total expenditure | 4,207.5 | 6,958.7 | 8,902.9 |
| Utility costs to operate the hospital facility including equipment* | 129.4 | 334.6 | 674.1 |
| (Percentage for the total expenditure) | (3.1%) | (4.8%) | (7.5%) |

Note: *It is not possible to obtain the utility cost for the equipment alone. No other costs are expensed for the equipment.

<Source> NRMMC

<Current Status of Operation and Maintenance>

Medical doctors who operate the certain equipment regularly monitor the operation of the equipment using "passport" and if a malfunction is detected, they contact with medical equipment technicians. If it is surgery equipment, it is the surgeon who monitors and checks the condition of the equipment. The Chief Doctor together with heads of department oversee the supervision of the inventory for monitoring, and they also review the inventory of equipment either on daily or weekly basis. As for the supplies and spare-parts, NRMMC does not have any stocks due to lack of budget.

<Evaluation Result>

Some problems have been observed in terms of the institutional/organizational aspect and financial aspect. Therefore, sustainability of the project effects is fair.

5 Summary of the Evaluation

The project achieved its objectives. The medical service delivery system of NRMMC as a regional-level center for tertiary medical care in Navoi region was established. With the upgraded testing, diagnostic and treatment equipment procured by the project, the number of outpatients and inpatients as well as the number of several examinations drastically increased one year after the project completion. Such achievements were plunged in 2020, but this was exclusively due to the influence of COVID-19. Thus, the achievements have gradually been resumed in 2021. Moreover, it is worth mentioning that some equipment of the project is used and helped a lot in providing medical treatment to the corona patients. These positive results by the project have been contributing to the fact that there have been no cases of transferring patients from Navoi region to Tashkent for the treatment of complex disease since 2017, and NRMMC has now been able to take over the role of RSCEMS as a regional center for adult patients.

As for sustainability, there was no major issue in technical aspect, but some concerns were identified in the institutional/organizational and financial aspects. Regarding 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 to Executing Agency:

To: Ministry of Health (as well as Ministry of Investments and Foreign Trade, Ministry of Finance)

- 1) It is necessary to prepare draft amendment to the Article 64 of the Budget Code and submit it to the Cabinet of Ministers for consideration. After consideration of the amendment, Cabinet of Ministers shall submit it to the National Parliament for consideration as well. After approval by the National Parliament, President of Uzbekistan shall sign the amendment which will provide a right to utilize granted equipment for paid medical services and to collect necessary fee which is expected to cover the maintenance of medical equipment, such as the costs of spare parts, supplies and payroll cost for a medical equipment technician.

⁶ Affected by the relatively high annual inflation rate, which was around 10% to 20% during the period from 2018 to 2020 (Central Bank of the Republic of Uzbekistan), it is said that the budget increase does not provide much for NRMMC.

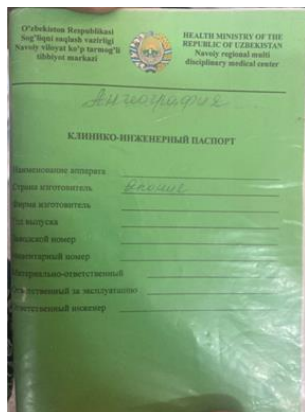
At the legislation level, namely Article 64 of the Budget Code, there is a prohibition to utilize granted equipment for paid medical services which leads to the lack of budget in NRMMC, not enough for maintenance of medical equipment since NRMMC could not earn any medical services fees with the granted equipment by the project. This issue and budget support have been discussed by JICA with relevant ministries since 2019. On December 25, 2019, President of Uzbekistan, held an internal government meeting to discuss urgent challenges on the active attraction and effective use of grant funds. President of Uzbekistan agreed with the proposal to make relevant amendments in the Budget Code so that the public hospitals can obtain a right to provide paid medical services to cover expenses related to the use of medical equipment. According to the Ministry of Health of Uzbekistan and other relevant ministries making amendments will take time with involvement of discussion of the National Parliament of Uzbekistan. Until the amendment is made, the government of Uzbekistan ensured JICA that they would allocate necessary budget for maintenance of medical equipment for NRMMC. JICA will monitor developments on this issue.

- 2) Since the warranty period is over for CT scanner and X-ray System Angiography, it is recommended that NRMMC should conclude a contract for technical maintenance services with local agents.

In order to deal with the increasing number of cardiovascular diseases, it is imperative to use the testing, diagnostic and treatment equipment, namely the CT scanner and X-ray System Angiography which should be always in an operative condition. It is recommended, therefore, that these equipment items should be under the contract of technical maintenance services.

Lessons Learned for JICA:

1. It is necessary to pay attention to the availability of consumable in locale market, as it may affect the proper use and maintenance of provided equipment. After all consumables provided by the JICA grant aid project are run out, NRMMC cannot use the X-ray printer due to a lack of special film/paper which is not available in the local market. So that examination results cannot be printed out (it should be noted that X-ray diagnostic data are currently used and shared on electronic basis). Several optional solutions are: 1) to include an issue of purchasability of consumables in a scope for future JICA survey at the planning stage, 2) to reconfirm this issue, i.e. purchasing consumables at the local market, with the government of partner country prior to the grant agreement.
2. Before concluding grant agreement between JICA and the government of recipient country, it is necessary to confirm the budget allocation system of equipment and to continuously follow on how the system is operated because there might be the special law or rule in the country and there is a possibility of change on its operation status. According to the Article 64 of the Budget Code, there is a prohibition to utilize granted equipment for paid medical services which leads to the lack of budget in the local hospitals, not enough for maintenance of medical equipment.



| Клинический мониторинг | | | | | | |
|------------------------|--------------------|-----------------|----------------------------|---------------------------|----------------|------------|
| Дата | Время сканирования | Время обработки | Среднее время сканирования | Оценочный индекс качества | Виды патологии | Примечания |
| 23/03 | 8:00 | 3:00 | 1:5 | 4.5 | D | |
| 23/03 | 10:00 | 10:10 | 30.41 | 4.5 | D | |
| 23/03 | 12:00 | 12:10 | 30.41 | 4.5 | D | |
| 23/03 | 14:00 | 14:10 | 1.2 | 4.5 | D | |
| 23/03 | 16:00 | 16:10 | 1.2 | 4.5 | D | |
| 23/03 | 18:00 | 18:10 | 1.2 | 4.5 | D | |
| 23/03 | 20:00 | 20:10 | 30.41 | 4.5 | D | |
| 23/03 | 22:00 | 22:10 | 30.41 | 4.5 | D | |
| 23/03 | 24:00 | 24:10 | 1.2 | 4.5 | D | |
| 23/03 | 26:00 | 26:10 | 1.2 | 4.5 | D | |
| 23/03 | 28:00 | 28:10 | 1.2 | 4.5 | D | |
| 23/03 | 30:00 | 30:10 | 1.2 | 4.5 | D | |
| 23/03 | 32:00 | 32:10 | 1.2 | 4.5 | D | |
| 23/03 | 34:00 | 34:10 | 1.2 | 4.5 | D | |
| 23/03 | 36:00 | 36:10 | 1.2 | 4.5 | D | |
| 23/03 | 38:00 | 38:10 | 1.2 | 4.5 | D | |
| 23/03 | 40:00 | 40:10 | 1.2 | 4.5 | D | |
| 23/03 | 42:00 | 42:10 | 1.2 | 4.5 | D | |
| 23/03 | 44:00 | 44:10 | 1.2 | 4.5 | D | |
| 23/03 | 46:00 | 46:10 | 1.2 | 4.5 | D | |
| 23/03 | 48:00 | 48:10 | 1.2 | 4.5 | D | |
| 23/03 | 50:00 | 50:10 | 1.2 | 4.5 | D | |
| 23/03 | 52:00 | 52:10 | 1.2 | 4.5 | D | |
| 23/03 | 54:00 | 54:10 | 1.2 | 4.5 | D | |
| 23/03 | 56:00 | 56:10 | 1.2 | 4.5 | D | |
| 23/03 | 58:00 | 58:10 | 1.2 | 4.5 | D | |
| 23/03 | 60:00 | 60:10 | 1.2 | 4.5 | D | |
| 23/03 | 62:00 | 62:10 | 1.2 | 4.5 | D | |
| 23/03 | 64:00 | 64:10 | 1.2 | 4.5 | D | |
| 23/03 | 66:00 | 66:10 | 1.2 | 4.5 | D | |
| 23/03 | 68:00 | 68:10 | 1.2 | 4.5 | D | |
| 23/03 | 70:00 | 70:10 | 1.2 | 4.5 | D | |
| 23/03 | 72:00 | 72:10 | 1.2 | 4.5 | D | |
| 23/03 | 74:00 | 74:10 | 1.2 | 4.5 | D | |
| 23/03 | 76:00 | 76:10 | 1.2 | 4.5 | D | |
| 23/03 | 78:00 | 78:10 | 1.2 | 4.5 | D | |
| 23/03 | 80:00 | 80:10 | 1.2 | 4.5 | D | |
| 23/03 | 82:00 | 82:10 | 1.2 | 4.5 | D | |
| 23/03 | 84:00 | 84:10 | 1.2 | 4.5 | D | |
| 23/03 | 86:00 | 86:10 | 1.2 | 4.5 | D | |
| 23/03 | 88:00 | 88:10 | 1.2 | 4.5 | D | |
| 23/03 | 90:00 | 90:10 | 1.2 | 4.5 | D | |
| 23/03 | 92:00 | 92:10 | 1.2 | 4.5 | D | |
| 23/03 | 94:00 | 94:10 | 1.2 | 4.5 | D | |
| 23/03 | 96:00 | 96:10 | 1.2 | 4.5 | D | |
| 23/03 | 98:00 | 98:10 | 1.2 | 4.5 | D | |
| 23/03 | 100:00 | 100:10 | 1.2 | 4.5 | D | |

| Клинический мониторинг | | | | | | |
|------------------------|--------------------|-----------------|----------------------------|---------------------------|----------------|------------|
| Дата | Время сканирования | Время обработки | Среднее время сканирования | Оценочный индекс качества | Виды патологии | Примечания |
| 23/03 | 8:00 | 3:00 | 1:5 | 4.5 | D | |
| 23/03 | 10:00 | 10:10 | 30.41 | 4.5 | D | |
| 23/03 | 12:00 | 12:10 | 30.41 | 4.5 | D | |
| 23/03 | 14:00 | 14:10 | 1.2 | 4.5 | D | |
| 23/03 | 16:00 | 16:10 | 1.2 | 4.5 | D | |
| 23/03 | 18:00 | 18:10 | 1.2 | 4.5 | D | |
| 23/03 | 20:00 | 20:10 | 30.41 | 4.5 | D | |
| 23/03 | 22:00 | 22:10 | 30.41 | 4.5 | D | |
| 23/03 | 24:00 | 24:10 | 1.2 | 4.5 | D | |
| 23/03 | 26:00 | 26:10 | 1.2 | 4.5 | D | |
| 23/03 | 28:00 | 28:10 | 1.2 | 4.5 | D | |
| 23/03 | 30:00 | 30:10 | 1.2 | 4.5 | D | |
| 23/03 | 32:00 | 32:10 | 1.2 | 4.5 | D | |
| 23/03 | 34:00 | 34:10 | 1.2 | 4.5 | D | |
| 23/03 | 36:00 | 36:10 | 1.2 | 4.5 | D | |
| 23/03 | 38:00 | 38:10 | 1.2 | 4.5 | D | |
| 23/03 | 40:00 | 40:10 | 1.2 | 4.5 | D | |
| 23/03 | 42:00 | 42:10 | 1.2 | 4.5 | D | |
| 23/03 | 44:00 | 44:10 | 1.2 | 4.5 | D | |
| 23/03 | 46:00 | 46:10 | 1.2 | 4.5 | D | |
| 23/03 | 48:00 | 48:10 | 1.2 | 4.5 | D | |
| 23/03 | 50:00 | 50:10 | 1.2 | 4.5 | D | |
| 23/03 | 52:00 | 52:10 | 1.2 | 4.5 | D | |
| 23/03 | 54:00 | 54:10 | 1.2 | 4.5 | D | |
| 23/03 | 56:00 | 56:10 | 1.2 | 4.5 | D | |
| 23/03 | 58:00 | 58:10 | 1.2 | 4.5 | D | |
| 23/03 | 60:00 | 60:10 | 1.2 | 4.5 | D | |
| 23/03 | 62:00 | 62:10 | 1.2 | 4.5 | D | |
| 23/03 | 64:00 | 64:10 | 1.2 | 4.5 | D | |
| 23/03 | 66:00 | 66:10 | 1.2 | 4.5 | D | |
| 23/03 | 68:00 | 68:10 | 1.2 | 4.5 | D | |
| 23/03 | 70:00 | 70:10 | 1.2 | 4.5 | D | |
| 23/03 | 72:00 | 72:10 | 1.2 | 4.5 | D | |
| 23/03 | 74:00 | 74:10 | 1.2 | 4.5 | D | |
| 23/03 | 76:00 | 76:10 | 1.2 | 4.5 | D | |
| 23/03 | 78:00 | 78:10 | 1.2 | 4.5 | D | |
| 23/03 | 80:00 | 80:10 | 1.2 | 4.5 | D | |
| 23/03 | 82:00 | 82:10 | 1.2 | 4.5 | D | |
| 23/03 | 84:00 | 84:10 | 1.2 | 4.5 | D | |
| 23/03 | 86:00 | 86:10 | 1.2 | 4.5 | D | |
| 23/03 | 88:00 | 88:10 | 1.2 | 4.5 | D | |
| 23/03 | 90:00 | 90:10 | 1.2 | 4.5 | D | |
| 23/03 | 92:00 | 92:10 | 1.2 | 4.5 | D | |
| 23/03 | 94:00 | 94:10 | 1.2 | 4.5 | D | |
| 23/03 | 96:00 | 96:10 | 1.2 | 4.5 | D | |
| 23/03 | 98:00 | 98:10 | 1.2 | 4.5 | D | |
| 23/03 | 100:00 | 100:10 | 1.2 | 4.5 | D | |



A cover page and the recording part inside of "passport" for Angiography in which the condition as well as the maintenance records of the equipment have been shown. CT scanner has been effectively utilized for the diagnoses of various diseases, including cardiovascular ones.

| | |
|-------------------|---|
| Country Name | The Project for Improvement of Machinery and Equipment for Construction of Rural Agricultural Road (Phase 3) |
| Kingdom of Bhutan | |

I. Project Outline

| | | | | | | |
|--|--|----------------|---------------------------|--------------------------------------|--------------------------|--|
| Background | <p>In Bhutan, agriculture was a key industry, in which 62% of the population engaged. Nevertheless, food grain sufficiency rate was around 66% and agricultural income was low because the whole country was in the mountainous terrain and the agricultural land per farming household was quite small. It was essential to improve farm roads necessary for efficient agricultural production and shipment and better access to various public services to increase food self-sufficiency rate, including grain, and agricultural income. The equipment for the farm road construction had been procured through the preceding grant aid projects of JICA (Phase 1 (2005-2006) and Phase 2 (2010-2011)), and Ministry of Agriculture and Forestry (MOAF) constructed 2,609 km of the farm roads by the end of the 10th Five Year Plan (FYP) (2008-2013) in June 2013 with the procured equipment. Under the 11th FYP (2013-2018), MOAF aimed to construct approximately 2,500 km new farm roads and planned to construct approximately 1,300 km of the new roads using the equipment owned by Central Machinery Unit (CMU) under Department of Agriculture, including the one procured through the preceding JICA projects. However, with the existing equipment, CMU would be able to construct only about 843 km of the planned roads with no prospect of completing the remaining 457 km. In addition, with the existing aging equipment, it was difficult to respond to increasing needs for maintenance of the existing farm roads due to rock falls and mud slides. (Figures at the time of ex-ante evaluation.)</p> | | | | | |
| Objectives of the Project ¹ | <p>The project aimed to enhance CMU's capacity to construct and maintain farm roads in Bhutan by procuring necessary equipment, thereby contributing to improvement of efficiency of agricultural production and shipment and provision of better access to public services for sustainable economic development of the country.</p> | | | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: CMU head office at Jakar in Bumthang, CMU branch offices at Bhur in Sarpang and at Khangma in Tashigang. 2. Japanese side: Provision of grant necessary for procurement of equipment for farm road construction and maintenance (30 excavators (20 t), 30 hydraulic breakers (1,600 kg class), 30 air compressors, 60 jack hammers, 20 backhoe loaders, 1 fuel taker, 2 self-loader truck, 3 pickup trucks, 2 forklifts, 3 semi-automatic welders, 1 fuel inspection pump tester, and 1 set of spare parts for each equipment) 3. Bhutanese side: Forwarding of equipment, securing of storage sites, maintenance of equipment, etc. | | | | | |
| Project Period | E/N Date | March 15, 2016 | Completion Date (ex-ante) | June 2017 | Completion Date (actual) | November 3, 2017 (Date of completion of procurement of equipment (Lot 2)) |
| | G/A Date | March 15, 2016 | | | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: 966 million yen | | | Actual Grant Amount: 795 million yen | | |
| Executing Agency | Department of Agriculture, Ministry of Agriculture and Forest (MOAF)/Central Machinery Unit (CMU) | | | | | |
| Contracted Agencies | Main Contractor: ITOCHU Corporation Main Consultant: Katahira & Engineers International | | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- In the Ex-ante Evaluation Sheet, the target year/month for the indicators was set to be 1 year after the project completion (i.e., June 2018, corresponding to the end of the 11th FYP period), expecting that the project was to complete in June 2017. As the project was completed in November 2017, the target year/month was modified to be November 2018.
- The original target and baseline values for the indicators set in the Ex-ante Evaluation Sheet included not only the expected yearly length by the procured equipment (i.e., direct effects of the project) but also the estimated length by the existing equipment² for 5 years during the 11th FYP period from July 2013-June 2018. Since the target year was set to be November 2018 in this ex-post evaluation, it was difficult to properly verify the achievement level of the indicators with the original target figures that included the estimated performance of the existing equipment only until June 2018. In light of the above, the part of the original baseline and target values that corresponded to the direct effects of the project (i.e., expected length of farm road construction/maintenance by the procured equipment) was used in confirming the quantitative effects of the project. In this connection, contribution of the project to the 11th FYP was confirmed under the qualitative effects by using the original baseline and target values of the indicators set in the Ex-ante Evaluation Sheet (Supplementary Information 1).
- The qualitative effects mentioned in the Ex-ante Evaluation Sheet ("Improvement of the agricultural income by the realization and improvement of shipment and sales of farm products, and efficiency of farm works" and "Improvement of the access time to public services (hospitals, schools, government offices) for rural residents") are logical consequence of the outcome of the project; thus, they are considered to be assumed impacts of the project. In this connection, construction and maintenance of the farm roads leading to the markets and public services was confirmed under the qualitative effects (Supplementary Information 2).

¹ Objectives are based on the Preparatory Survey Report because the outcome mentioned in the Ex-ante Evaluation Sheet (i.e., improvement of efficiency of agricultural production and shipment and provision of better access to public services) was considered to be the impact of the procurement of the equipment.

² At the time of ex-ante evaluation, there were 118 pieces of major equipment at CMU, including 89 procured through Phase 1 (2005-2006) and Phase 2 (2010-2011) of the project and 8 procured through prior cooperation of JICA (i.e., "The Project for the Paro Valley Agricultural Development" (1993-1996) and "Grant Aid Program for Increased Food Production (KR2)" (2004)).

1 Relevance

<Consistency with the Development Policy of Bhutan at the Time of Ex-Ante Evaluation>

At the time of ex-ante evaluation, the project was consistent with the 11th FYP (July 2013-June 2018), the national plan of Bhutan, which set forth “Enhanced rural household income and food grain sufficiency” as one of the key result areas of the first pillar of “Sustainable and Equitable Socio-economic Development” and included improvement of farm roads as marketing facilities as a key intervention as a key performance indicator.

<Consistency with the Development Needs of Bhutan at the Time of Ex-Ante Evaluation >

At the time of ex-ante evaluation, the project was consistent with development needs of Bhutan for improvement of machinery and equipment for construction and maintenance of the farm roads as described in “Background”.

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

At the time of ex-ante evaluation, the project was consistent with the Country Assistance Policy for the Kingdom of Bhutan (2015), which set forth assistance to “Bhutan’s efforts to improve standard of living in rural areas” in response to the first pillar of the Bhutanese 11th FYP, “Sustainable and Equitable Socio-economic Development”, and included “agriculture and rural development” and “construction of rural basic infrastructure”, including construction of roads/bridges, as areas of assistance under one of the priority areas of “Sustainable economic growth”.

<Evaluation Result>

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

2 Effectiveness/Impact

<Effectiveness>

The project achieved its objective of enhancing CMU’s capacity to construct and maintain farm roads in Bhutan.

As for the quantitative effects, a total of 186 km of farm road was constructed by the target year (i.e., November 2018, 1 year after the project completion) using the procured equipment, which accounted for 41% of the target figure of 457 km. It was mainly because (i) the construction sites left for the procured equipment were in difficult terrains³, (ii) the procured excavators had to be deployed for road maintenance due to urgency⁴, and (iii) the procured equipment was also used for Agriculture Land Development (ALD), the additional mandate of CMU for the 12th FYP (July 2018-June 2023)⁵. Although there were continuing needs for farm road construction in the 12th FYP⁶, the same trend continued due to the same reasons and less than 170 km of farm road was constructed annually after the target year (Indicator 1). On the other hand, a total of 506 km of farm road maintenance was conducted by the target year, which was more than 3 times the target figure of 151 km. The actual result largely exceeded the target owing to deployment of the procured excavators for road maintenance as mentioned above. The same trend continued and more than 260 km of farm road maintenance was conducted annually after the target year (Indicator 2). It is noted that, by the target year, the total length of farm road constructed and maintained using the procured equipment (i.e., 692 km) exceeded the total target length of 608 km. Therefore, it can be said that CMU actually improved their capacity in farm road construction and maintenance in general in the target year. In addition, as of July 2021, almost all the equipment procured under the project was maintained in good condition⁷, and the procured equipment was partially utilized on a quantity basis and mostly utilized on a price basis⁸ for farm road construction/maintenance and ALD.

Regarding qualitative effects, the project contributed to the 11th FYP because CMU could achieve its targets for farm road construction and maintenance for the 11th FYP using not only the existing equipment but also the procured equipment (see the table titled “Cumulative length of farm road construction/maintenance by CMU in the 11th FYP period” below for more details). Degree of contribution to farm road construction was less than expected due to delay of the project completion by 5 months in addition to the reasons (i) and (ii) stated under the quantitative effects above, but this was the result of reallocating resources as necessary to achieve the objective and did not diminish the effectiveness of the project. Also, degree of contribution to farm road maintenance was more than expected due to the reason (ii) above⁹ (Supplementary Information 1). The farm roads leading to the markets and public services were constructed and maintained

³ Since construction at most of the easier sites in the fine terrains had been already completed during the 10th FYP and during the first 3 years of the 11th FYP, the most difficult ones were left to construct which took a longer time for completion. CMU also deployed the procured equipment to the challenging complicated landscape since it was new.

⁴ After the monsoon season in 2018, all the existing farm roads were blocked due to landslides etc. and transportation of the procured equipment to the construction sites were not possible unless the existing farm roads were cleared with the procured excavators.

⁵ Farm road construction had been a priority from the 9th FYP (2002-2007) and the 11th FYP. By the end of the 11th FYP, about 95% of farm road construction had been completed and almost all the villages had been connected to farm roads. Considering the outstanding achievement in farm road construction in the past FYPs, the government decided to put more focus on ALD and then to the farm roads in the 12th FYP. Some agriculture lands were not arable even with access to farm roads and fallow land in Bhutan was rising. So, ALD was expected to mitigate this issue. Farm road and ALD were closely connected in achieving the food security, which was included in one of the National Key Result Area of the 12th FYP.

⁶ MOAF had a target to construct 2,500 km of new farm road for the 12th FYP, which was the same as the target for the 11th FYP. As of August 2021, CMU was waiting for its share target from MOAF.

⁷ One of the excavators was damaged due to accident in July 2021. Upon inspection, CMU found out that 39 spare parts were required to mend it; however, they were not included in a set of spare parts procured under the project, and local suppliers could provide quotation for only 9 spare parts. It was assumed that the local suppliers were hampered by COVID-19 pandemic to restock the spare parts due to border restriction, but it was not clear to what extent this constraint affected the above quotation. (It is possible that the local suppliers could not supply some of the spare parts even without COVID-19 pandemic.) It was also difficult for CMU to procure these spare parts in the international market because CMU as a government agency had to follow procurement regulation of the Royal Government of Bhutan where direct purchase by an agency in the international market was strictly restricted.

⁸ In terms of quantity, 73 out of 182 pieces of the procured equipment was not utilized. In addition to the damaged excavator mentioned in footnote 7, 53 out of 60 jack hammers, procured as attachments to 30 procured excavators, and 19 out of 30 air compressors were not in use due to the additional mandate of CMU, ALD, whereby the use of frequency was less than farm road construction. However, there was a room for utilization of these unused jack hammers and air compressors in the future because of the needs for farm road construction in the 12th FYP (see footnote 6) and the prioritization of construction of 1,582 km of road by the Economic Contingency Plan initiated by the Gross National Happiness Commission under COVID-19 situation. In terms of price, the total cost of the unutilized equipment accounted for 14% of the total cost of the procured equipment excluding spare parts. It is noted that 2 out of 30 hydraulic breakers were standing by at the CMU head office and deployed upon the request of the branch offices.

⁹ Despite the delay of the project completion, CMU could achieve the overall target for the farm road construction for the 11th FYP because the actual

using the procured equipment (see <Impact> below for more details) (Supplementary Information 2).

<Impact>

As assumed at the time of ex-ante evaluation, the project contributed to improvement of the agricultural income in the rural communities by realization and improvement of shipment and sales of farm products, and efficiency of farm works. For example, the farm road construction and maintenance helped in realizing the government's initiative such as buyback policy of the produce from farmers and linking schools and hospitals through School and Hospital Feeding Program, which used to be quite challenging due to poor farm road networks in the past. An easy access to market with construction of the farm roads encouraged farmers to practice commercial farming. The constructed farm roads also provided a means for vegetable vendors to collect agriculture products directly from the production areas, thereby, reducing the cost which was earlier borne by the farmers to transport their product. The project also contributed to improvement of the access time to public services (hospitals, schools, government offices) for rural residents as envisaged. For example, according to CMU, it took 3 days for the people in a community in Nahi Block in Wangduephodrang District to avail basic services such as health, school, and other public centers in the block center before the farm road construction. With the farm road constructed with the procured equipment, it only took 3 hours to reach the center. A female from Chungphel Village in Bumthang District interviewed by the ex-post evaluation team stated that about 3 pregnant women had been expired on the way while travelling for delivery to the basic health facility centre before the farm road was constructed, but now, such issue was very rare.

Other positive impacts were also observed. The project contributed to well-being of the people in the rural areas where the farm road was constructed/maintained. For example, according to CMU, mechanization of the labor-intensive agriculture work in the rural areas (e.g., use of power tiller, tractor, thrasher, rice mill etc.), which had been difficult due to poor farm road networks, became possible with construction and maintenance of the farm roads. A man from a village where farm road was constructed under the project mentioned that the villagers had at least managed to have electrical appliances and cold storage (refrigerators) because transportation of such heavy equipment became easier with the farm road, which reduced burden of living comparing to the olden traditional ways. Furthermore, as shown in <Effectiveness>, part of the procured equipment was deployed for ALD in the 12th FYP period. As of November 2020, 1,138 acres of ALD was implemented by using the procured equipment.

Meanwhile, no negative impacts were observed.

<Evaluation Result>

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

Quantitative Effects

>Cumulative length of farm road construction/maintenance by CMU using the procured equipment

| Indicators | Baseline 2015 Baseline Year | Target November 2018 1 year after Completion | Actual November 2018 1 year after Completion | Actual November 2019 2 years after Completion | Actual November 2020 3 years after Completion | |
|--|--------------------------------|---|---|--|--|-------------|
| Indicator 1: Length of farm road construction (km) | 0 | 457(*1) | 186 | 282 | 445 | Source: CMU |
| Indicator 2: Length of farm road maintenance (km) | 0 | 151(*2) | 506 | 903 | 1,302 | Source: CMU |

*1: Yearly length by newly procured equipment (1.25 km (average length by the existing excavators in the 10th FYP/month/unit) X 12 months X 30 new excavators)

*2: Monthly maintenance capacity of a newly procured backhoe loader ((0.63 km/unit) X 20 units) X 12 months

Qualitative Effects

> Contribution of the project to the 11th FYP (based on cumulative length of farm road construction/maintenance by CMU in the 11th FYP period using the existing and procured equipment)

| Supplementary Information | Baseline June 2015 (Bhutanese Fiscal Year (BFY) 2014/15) | Target June 2018 (End of the 11th FYP =BFY2017/18) | Actual June 2018 (BFY 2017/18) | Ref June 2019 (BFY2018/19) | Ref June 2020 (BFY2019/20) | |
|---------------------------------------|---|---|-----------------------------------|-------------------------------|-------------------------------|-------------|
| Length of farm road construction (km) | 337(*1) | 1,300(*2) | 1,313 | 1,551 | 1,691 | Source: CMU |
| Length of farm road maintenance (km) | 335(*1) | 988(*3) | 1,506 | 2,056 | 2,719 | Source: CMU |

*1: Actual performance of CMU by the existing equipment (July 2013-June 2015)

*2: Estimated performance of the existing equipment for 5 years (843 km) + Yearly length by newly procured equipment (457 km)

*3: Estimated performance of CMU by the existing equipment for 5 years (837 km) + Monthly maintenance capacity of a newly procured backhoe loader (151 km)

3 Efficiency

While the project cost was within the plan, the project period exceeded the plan (ratio against plan: 82% and 129% respectively). The actual period exceeded the planned because installation of Lot 1 and Lot 2 equipment was delayed respectively due to an administrative issue (i.e., delay of issuance of visa for the main contractor to visit Bhutan) and a dispatch error by one of the suppliers. Meanwhile, the outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional/Organizational Aspect>

The 12th FYP for Renewable Natural Resource Sector, prepared by MOAF, set forth enhancement of agriculture infrastructure and farm mechanization, including farm road construction/maintenance. In the 12th FYP, farm road construction and maintenance were continued to be the important mandate for CMU although the primary mandate was shifted to ALD (see footnote 5 for details), for which the procured

result by the existing equipment largely exceeded the plan. According to CMU, the main reason was easier access to and fine terrains of the construction sites.

equipment was also used. CMU continuously had the head office in Bumthang District and 2 branch offices. Under each head and branch offices, there were 3 technical sections: i) Maintenance; ii) Equipment & Work; iii) Store. CMU considered that the necessary number of staff was secured to conduct O&M of the procured equipment properly. As of July 2021, 106 persons were allocated for operation and maintenance (O&M) of the procured equipment at CMU head and branch offices, including 58 operators and helpers who were additionally recruited specifically for the procured equipment. In addition, 40 more CMU operators were placed at the district government offices, whose salaries were paid by the district governments.

<Technical Aspect>

CMU maintained necessary skills and knowledge to conduct proper O&M of the procured equipment by applying the manuals developed under the project, organizing in-house seminars for the staff to share knowledge and learn from each other, and utilizing the several opportunities of technical training offered by Royal Civil Service Commission. It is noted that a Japan Overseas Cooperation Volunteers (JOCV) volunteer in equipment maintenance and construction, dispatched by JICA in 2018, strengthened O&M capacity of CMU through hands-on training and technical supports¹⁰. In addition to technical transfer, the JOCV volunteer also motivated and inspired the staff, making them more dedicated to their responsibilities.

<Financial Aspect>

The necessary budget for O&M of the procured equipment was provided by the central government. The central government allocated 45 million Ngultrum annually for O&M of the procured equipment.

<Current Status of Operation and Maintenance>

Necessary maintenance activities were conducted. Necessary spare parts and consumables were procured in timely manner except for the spare parts of the excavator damaged in July 2021, for which local suppliers could provide quotation for only 9 out of 35 required spare parts (see footnote 7 for details).

<Evaluation Result>

No major problems have been observed in the institutional/organizational, technical, financial aspects and current status of the operation and maintenance system. Therefore, sustainability of the project effects is high.

5 Summary of the Evaluation

The project achieved its objective of enhancing CMU's capacity for construction and maintenance of the farm roads. Meanwhile, the expected impact of improvement of efficiency of agricultural production and shipment and provision of better access to public services was observed. Regarding the sustainability, no major problems were observed in terms of the institutional/organizational, technical, and financial aspects of the executing agency. As for the efficiency, the project period exceeded the plan. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations and Lessons Learned

Lessons Learned for JICA:

- I Good association of this grant aid and the JOCV dispatched after this grant aid contributed to proper O&M of the procured equipment. For any kind of project in Bhutan, it is useful to consider implementing other JICA scheme(s) like JOCV as follow-up(s) to sustain the effects of the project.
- Also, at the end of a grant aid (GA) project for equipment procurement, it is useful to consider suitable follow-up scheme(s) to revamp the running period of the procured machines even after the end of the project.



Farm Road constructed by using the procured equipment in Bumthang District connecting national highway, making easy access to the public facilities for the people of Chungphel Village.



A beneficiary being interviewed by national staff of JICA Bhutan Office during ex-post evaluation survey at Chungphel Village in Bumthang District to understand the impacts of the farm road constructed by using the procured equipment.

¹⁰ It is noted that a JOCV volunteer dispatched in 2004 also strengthened O&M capacity of CMU then, which contributed to proper care and maintenance of the equipment procured through the preceding grant aid projects.