

Country Name	The Project for the Improvement of Solid Waste Management in the West Bank
Palestine	

I. Project Outline

Background	<p>In the West Bank of Palestine, Joint Service Councils (JSC) provide solid waste management services for its member local government units. At the time when the project was proposed, sanitary landfills were not available except in Jenin and Jericho. Most JSCs were facing difficulties in transferring solid waste to the landfills due to financial issues and ineffective waste collection services. As a result, open dump sites existed. The open burning and the open dumping had bad impacts on the environment and health conditions of residents. In addition, the existing landfill in Jericho was expected to fill up in near future. Therefore, the reduction of disposal waste and expansion of existing landfill in Jericho were urgently required.</p>		
Objectives of the Project	<p>This project aimed to improve the JSC's waste collection and transportation capacity, to promote the closure of random dumpsites and to reduce waste which ends at landfills by provision of waste collection /transportation equipment and construction and expansion of Solid Waste Management (SWM) related facilities⁽¹⁾ with technical assistance on recycling activities, thereby contributing to the improvement of the public sanitary condition and the health conditions of the people in Jenin, Hebron, Jericho, Salfit and Tulkarem.</p> <p>(1) Due to unsuccessful bidding, expansion of landfill site and construction of transfer station and material recovery facility in Jericho, which were included in the project scope at the time of ex-ante evaluation, were later excluded from the project, but executed separately under the assistance of the United Nations Development Programme (UNDP).</p>		
Contents of the Project	<ol style="list-style-type: none"> 1. Project Site: Joint Service Councils of Jenin (including Zahret Al-Finjan Landfill), Hebron, Jericho (including Waste Transfer Station and Material Recovery Facility), Salfit and Tulkarem 2. Japanese Side: Procurement of equipment and management guidance.*Facility construction such as transfer station, etc., was excluded as described above. <ol style="list-style-type: none"> 1) Equipment: 16 compactor vehicles (decreased from the originally planned 19), 2,316 containers (decreased from the originally planned 2,365), 12 transfer equipment, 8 heavy machines 2) Technical Assistance (Soft component): Planning of solid waste management, separate collection services and education for inhabitants 3. Palestinian side: Transportation of equipment in the West Bank Area, Organization of operation /maintenance system and preparation of the project. 		
Project Period	E/N Date	December 8, 2012	Completion Date May 8, 2016 (Completion of soft-component activities)
	G/A Date	December 8, 2012 March 31, 2015 (Revision) ¹	
Project Cost	E/N Grant Limit / G/A Grant Limit: 800 million yen, Actual Grant Amount: 799 million yen		
Executing Agency	Ministry of Local Government (MOLG)		
Contracted Agencies	Main Contractor: Toyota Tsusho Corporation Main Consultant: NJS CO., LTD.		

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the state of emergency caused by coronavirus disease 2019 (COVID 19), all information was obtained through questionnaires to JSCs and MOLG and follow up phone calls/emails to MOLG between April and June, 2020. No interviews with JSCs and citizens or site visits were conducted.
- Due to the delay of project execution caused by the bidding failure, expansion of landfill and construction of transfer station and material recovery facility (for recycling) in Jericho were excluded from the project, but separately executed under the UNDP project and completed in December 2016. The effectiveness/impact and sustainability examined under this study include the outcome generated by the UNDP project.
- In addition, the outcome of the project studied under this ex-post evaluation is the combined effects with the subsequent JICA Technical Cooperation Project, namely, "Project for Technical Assistance in Solid Waste Management in Palestine (2015-2019)".

<Special Perspectives Considered in the Ex-Post Evaluation>

[Use of Supplementary Information]

- In addition to the two indicators set at ex-ante evaluation, this evaluation uses the following two supplementary information to incorporate effects of waste collection equipment and soft component in evaluation of effectiveness/impact, such as "Total number of dumpsites" (Supplementary Information 1), Utilization of collection equipment (Supplementary Information 2)

[Target Year for the Effectiveness]

- Due to the changes of project components, 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 May 2019.

1 Relevance

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

At the time of ex-ante evaluation, this project was consistent with "The National Strategy of Solid Waste Management (2010-2014)", which aimed to develop comprehensive, independent and growing solid waste management system including the development of wide area solid waste collection and disposal systems, the start of 3Rs (Reduce, Reuse and Recycle), as well as profitability improvement of recycling and business operation.

¹ While Grant Agreement (G/A) was signed on December 8, 2012, the project implementation plan was reconsidered due to the unsuccessful bidding. Therefore, the G/A was revised on March 31, 2015.

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

This project was consistent with Palestine’s development needs of waste management 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 “Local Governance”, one of the seven priority areas which the Japanese Government agreed to assist based on the “National Development Plan (2011-2013)” referred to in “Country Assistance Program (December 2012)”.

<Evaluation Result>

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

2 Effectiveness/Impact

<Effectiveness>

The project objectives were achieved through combined efforts of this project and UNDP project². The target JSCs’ waste collection and transportation capacity has improved. All JSCs increased the daily volume of waste collected compared with the baseline. The target volume was achieved by all JSCs except for Jericho and Tulkarem (Indicator 1). The number of random dumpsites decreased from 29 in 2011 to 7 in 2019 (Supplementary Information 1). Affected by the suspension of a MOLG’s project to establish a new sanitary landfill in Ramallah and Al Bireh Governorate, the remaining seven dumpsites, in Salfit, could not be closed as planned. MOLG is now looking to establish a few controlled dumpsites³ elsewhere as an alternative solution. All vehicles procured under this project are currently used (Supplementary Information 2).

In order to reduce the volume of waste which ends at landfill, the project planned to construct the SWM related facilities including recycling in Jericho and to provide the technical assistance on segregation of recyclables for the staff in charge. Due to the project’s reduction of its scope at a later time, the SWM related facilities were built by UNDP. The project effort therefore focused on the technical assistance on segregation of recyclables only, provided by five Japanese experts. Three of them were engaged in a study in support of the development of recycling strategies for JSCs, and two supported the planning and awareness raising of source separation in Jericho. However, source separation did not take root thus, the target volume of recyclables, set for Jericho JSC, was not achieved (Indicator 2). The recycling initiative in Jericho did not sustain, as residents and businesses did not cooperate with source separation. For the residents and business people to change their behaviors, it should take a long time. It was stated that the volume of materials which could be recovered was too small to attract a business partner, as Jericho is not a large city. With this in mind, Jericho JSC reported that they still continue awareness raising activities. In addition, Jericho JSC sought partnership with private sector to recover recyclables, but such partnership has not materialized yet.

For evaluation judgment, it should be noted here that the project inputs for Indicator 2 were significantly smaller than those for Indicator 1. It was confirmed by the study that the great majority of the project effort in monetary value was to be spent for the outputs related to Indicator 1. In this context, it should be fair to consider that the primary objective of this project was to improve the waste collection and transportation capacity of JSCs, which was achieved.

<Impact>

The improved capacity of JSCs to collect and transfer the waste led to reduction of waste piling up in public spaces and contributed to the improvement of sanitary conditions and public health. No negative impact on natural environments were reported by JSCs/MOLG. Most of JSCs confirmed that the increased volume of waste collected led to the improvement of the quality of SWM service. For example, before receiving the new vehicles and equipment, the waste collection service sometimes stopped as vehicles were old and it could take a couple of days to repair. After receiving the new vehicles, the service became regular. The closure of 22 dumpsites also contributes to the improvement in environmental and sanitary conditions. The extension of the Jericho landfill implemented by UNDP enabled Jericho JSC to save the transportation cost by maintaining its access to the expanded Jericho landfill. Without this extension the JSC would have required to transport the collected waste to another landfill far away. According to MOLG, the experience gained through the project was disseminated to other JSCs in the West Bank. In addition, the success of the JSCs in SWM encouraged other local government units (LGUs) to newly organize JSC of this kind.

<Evaluation Result>

Considering the points discussed above, the effectiveness/impact of the project is high.

Quantitative Effects

Indicator 1: Daily volume of waste collected (in 8-hour working period)

(Unit: ton/day)

Name of JSC	Baseline 2011 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
Hebron	46.0	308.0	348.1	371.6	385.8
Jenin	204.7	148.0 ⁽¹⁾	250.0	280.0	300.0
Jericho	45.0	59.0	47.0	49.0	55.0 ⁽²⁾
Salfit	53.5	62.0	62.0	64.0	67.0
Tulkarem	30.1	133.0	75.3	73.7	81.5 ⁽³⁾

Source: Questionnaire responses of JSCs

Note:

(1) The target volume for Jenin JSC was set lower than the baseline considering that it would require the additional burden for Jenin to keep the collection capacity since Jenin should deal with replacement of many collection vehicles which would reach the life-span by the target year.

²As described above, the part of project objectives, “to reduce waste which ends at landfills by the construction and expansion of SWM related facilities” was covered by UNDP project. This ex-post evaluation study considered this portion as an external factor.

³ Controlled dumpsites have the minimum capacity as a landfill to meet environmental requirements, including leachate and leak control capacity, daily covering, and a fence.

- (2) Jericho JSC arrived slightly short in the target year because the waste previously collected by Jericho from 3 LGUs in Tubas Governorate has now been collected by Tubas JSC itself upon an agreement reached in August 2017 between Jericho and Tubas.
- (3) Tulkarem JSC originally planned to increase the coverage of waste collection services from 27 % in 2013 to 100% in 2019. However, the coverage remained 60% at the time of ex-post evaluation. This is because the existing older vehicles were not performing at their full capacity.

Indicator 2: Amount of recyclables collected in Jericho JSC

(Unit: kg/day)

Type of recyclables	Baseline 2011 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	Actual 2020 (May) 4 Years after Completion
Plastic	0	800	0	0	0	0
Metal	0	200	0	0	0	0

Source: Questionnaire response of Jericho JSC

3 Efficiency

While the project cost was as planned, the project period exceeded the plan (ratio against plan: 100%, 158%).

The project cost was as planned, but this was made possible as a result of the reduction in the project scope as is described under the <Constraints on Evaluation>. As the cost increased due to the devaluation of JPY against USD, the quantity of equipment was reduced in order to keep the cost within the E/N limit.

The longer project period is due to the fact that no bids were submitted in response to the tender despite that attempts were made three times. A major factor was the devaluation of JPY against USD. The JPY value against USD fell by about 20% when the tender was announced for the first time, compared with the value when the E/N was signed. Cost increase of vehicle and labor, and the perception of business risk in Palestine also discouraged the potential bidders. As a result, the contract was revised to exclude the construction component, to make it more attractive. The G/A was revised to reflect the changes in March 2015.

Therefore, efficiency of the project is low.

4 Sustainability

<Institutional/Organizational Aspect>

MOLG bears the overall responsibility for the SWM, while each JSC should take responsibilities for the actual implementation and operation of waste management services. Supported by relevant national policies, MOLG has maintained the structure as it was at the time of ex-ante evaluation. After the project completion, the number of staff in Directorate of Joint Service Councils (DJSC) in charge of SWM under MOLG as well as that of each JSC increased in order to cope with the high workload and for the better services. MOLG receives capacity building support from World Bank's program as well as JICA Technical Cooperation Project and the position of a few staff members are financed by the Belgium's assistance. MOLG plans to recruit additional permanent employees.

<Technical Aspect>

Most of staff trained by the project continued to work for the SWM service with MOLG and JSCs. According to the questionnaire, MOLG and all five JSCs responded that they have sufficient skills to implement their services. One JSC responded that their technical capabilities were enhanced by the project, such as the increased expertise and capacity for handling and management of vehicles and planning to improve efficiency of the collection service. The evaluation also looked at the existence of an established training system as an important element for sustainability. MOLG has an institutionalized training system for their staff. While some JSCs mentioned that they do not have a training system on their own, both MOLG and JSCs receive external support for staff training, and most notably JICA has been providing targeted training for JSCs through its technical cooperation projects.

<Financial Aspect>

In response to the questionnaire survey conducted in April-June 2020, Jenin, Hebron and Jericho JSCs reported that they have sufficient budget for the Operation and Maintenance (O&M), whereas Salfit and Tulkarem JSCs reported that they face challenges. MOLG and all JSCs are currently experiencing a difficult time because of the COVID 19 crisis. Political tensions between the Government of Israel and the Palestinian Authority (PA) may negatively affect PA's financial stability. These conditions can affect the continuity of services and the necessary investments for the future by MOLG and JSCs.

<Current Status of Operation and Maintenance>

The maintenance of procured equipment has been properly conducted. All JSCs reported that they have a maintenance plan or a policy and conduct periodical inspection. All JSCs reported that they manage spare parts appropriately.

<Evaluation Result>

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

5 Summary of the Evaluation

The project achieved its objectives, through combined efforts of this project and UNDP project. The target JSCs' waste collection and transportation capacity has improved. The daily volume of waste collected increased, and allowed for regular waste collection services. The majority of random dumpsites were closed. These results are seen to be contributing to cleaner environment and better living conditions. On the other hand, the component, which had a minor part in the project in monetary value, to promote the reduction of waste which reaches landfills, was not achieved.

As for sustainability, there was no major issue in institutional and technical aspects, but some concerns are identified in financial aspect. Regarding efficiency, the project period exceeded the plan. Considering all of the above points, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

To: MOLG

- In order to secure the financial sustainability of SWM, MOLG should continue mobilizing financial support for JSCs from Ministry of Finance as well as should continue its effort to cultivate support for SWM services from the members of the public through effective engagement of mass media, social media and other awareness activities.

- For further expansion of the project effects, MOLG should continue to extract best practice exercised in successful JSCs (such as Jericho) which can be replicable to not-so-successful JSCs, and encourage the transfer of expertise and materials among JSCs.

To: each JSC

- In order to secure the financial sustainability, it is recommended that each JSC should continue to cultivate support for SWM services from the members of the public and LGUs in an effort to improve fee collection, through effective engagement of mass media, social media and other awareness activities.

Lessons Learned for JICA:

- 1) It is important for all JICA staff who deal with grant aid projects to thoroughly study the cases of unsuccessful tender and best practice of how to prevent it through training, seminar participation, etc. and to ensure that risk of tender failure and measures to avoid it are assessed, including assessment of the interest of potential bidders, at the planning stage. The unsuccessful tender resulted in the modification of the Original Design and a significant delay in project implementation, affecting the efficiency of the project.
- 2) It is important to encourage JICA staff members and partners to participate in trainings on project planning and evaluation which help them set realistic goal/indicators for evaluation. In addition, it is important for JICA staff members to fully discuss with consultants/experts and the Executing Agency on project goals and indicators at the planning stage.

It was mentioned in the Preparatory Survey that the project would improve (a) the health conditions of the people in target areas, and (b) Jericho JSC's financial conditions. Establishing clear evidence between the improved waste collection service and health conditions of people appears to be not feasible in the scope of the project evaluation of this kind. The statement of improving Jericho JSC's financial conditions appeared too ambitious as well. Setting too ambitious or unfeasible impact evaluation indicators make it more challenging for evaluators to conduct an objective and fair evaluation.

Photos



Vehicles provided by the project has enhanced the collection and transport capacity of the Joint Service Councils



The expansion of Jericho Landfill, implemented by UNDP, enabled Jericho JSC to sustain their SWM services