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Report No: ICR00004568

IMPLEMENTATION COMPLETION AND RESULTS REPORT

(TF-15321)

ON A

GRANT

IN THE AMOUNT OF US\$8.26 MILLION

FROM

THE GLOBAL PARTNERSHIP ON OUTPUT-BASED AID

TO THE

Palestine Liberation Organization
(for the Benefit of the Palestinian Authority)

FOR SUPPORT TO THE

SOLID WASTE MANAGEMENT OBA PILOT IN WEST BANK (P132268)

December 21, 2018

Social, Urban, Rural And Resilience Global Practice
Middle East And North Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 20, 2018)

Currency Unit = US DOLLARS

1EURO = US\$1.16

1US\$ = EURO 0.83

FISCAL YEAR

January 1- December 31

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ABBREVIATIONS AND ACRONYMS

CI	Cleanliness Index
CPF	Country Partnership Framework
DF	Disbursement Factor
EHS	Environmental Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
EU	European Union
FCR	Fee Collection Ratio
GPOBA	Global Partnership on Output-Based Aid
ICR	Implementation Completion and Results Report
ISR	Implementation Status and Results Report
IVA	Independent Verification Agent
JSCs	Joint Service Councils
JSC	Joint Service Council
JSC-H&B	Joint Service Council of Hebron and Bethlehem
KPI	Key Performance Indicators
MOLG	Ministry of Local Government
NSSWM	National Strategy for Solid Waste Management
OBA	Output Based Aid
OM	Operations Manual
PAD	Project Appraisal Document
PDO	Project Development Objective
SOPs	Standard Operating Procedures
SWM	Solid Waste Management
ToR	Terms of Reference
TTL	Task Team Leader
WB	World Bank

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P132268	Solid Waste Management OBA Pilot in West Bank
Country	Financing Instrument
West Bank and Gaza	Investment Project Financing
Original EA Category	Revised EA Category
Not Required (C)	Not Required (C)

Organizations

Borrower	Implementing Agency
Palestine Liberation Organization	JSC Hebron & Bethlehem

Project Development Objective (PDO)

Original PDO

The objective of the GPOBA pilot is to improve access to quality and financially sustainable SWM services for users in the poorer part of Southern West Bank.

PDO as stated in the legal agreement

The objective of the Project is to improve access to quality and financially sustainable solid waste management services in Hebron and Bethlehem governorates.



FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
TF-15321	8,256,623	8,256,623	8,256,623
Total	8,256,623	8,256,623	8,256,623
Non-World Bank Financing			
Borrower/Recipient	0	0	0
Total	0	0	0
Total Project Cost	8,256,623	8,256,623	8,256,623

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
08-Feb-2013	02-Oct-2013	09-Nov-2015	30-Jun-2017	30-Jun-2018

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
18-May-2015	3.64	Change in Results Framework Change in Loan Closing Date(s) Change in Implementation Schedule

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Moderately Satisfactory	Modest

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	02-Dec-2014	Satisfactory	Satisfactory	2.00



02	04-Jun-2015	Satisfactory	Satisfactory	3.64
03	16-Dec-2015	Satisfactory	Satisfactory	7.14
04	08-Jun-2016	Satisfactory	Satisfactory	7.14
05	18-Nov-2016	Satisfactory	Satisfactory	7.14
06	29-May-2017	Satisfactory	Satisfactory	8.26
07	29-Nov-2017	Satisfactory	Satisfactory	8.26
08	12-Jun-2018	Satisfactory	Satisfactory	8.26

SECTORS AND THEMES

Sectors

Major Sector/Sector (%)

Public Administration 20

Sub-National Government 20

Water, Sanitation and Waste Management 80

Waste Management 80

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)

Private Sector Development 27

Jobs 17

Job Creation 17

Public Private Partnerships 10

Urban and Rural Development 59

Urban Development 42

Urban Infrastructure and Service Delivery 17

Services and Housing for the Poor 25

Rural Development 17

Rural Infrastructure and service delivery 17



Environment and Natural Resource Management	24
Environmental Health and Pollution Management	24
Air quality management	8
Water Pollution	8
Soil Pollution	8

ADM STAFF

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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. **The West Bank and Gaza had suffered many years of conflict and instability.** Although annual Gross Domestic Product (GDP) growth had been consistently above 5% since 2007, reaching up to 9.3% in 2011, it had declined to 6.7% in the first six months of 2012 at the time of Project Appraisal, reflecting reduced donor aid and further restrictions on internal movement and exports² since 2011. The Palestinian Authority faced an increasingly difficult fiscal situation. In 2011, the Palestinian Authority was able to hold expenditures below budget, but revenues were lower than projected. As such, the recurrent deficit ended the year at about US\$1.1 billion. Adding expenditures that the Palestinian Authority had made on development raised the Palestinian Authority's total need to about US\$1.5 billion.

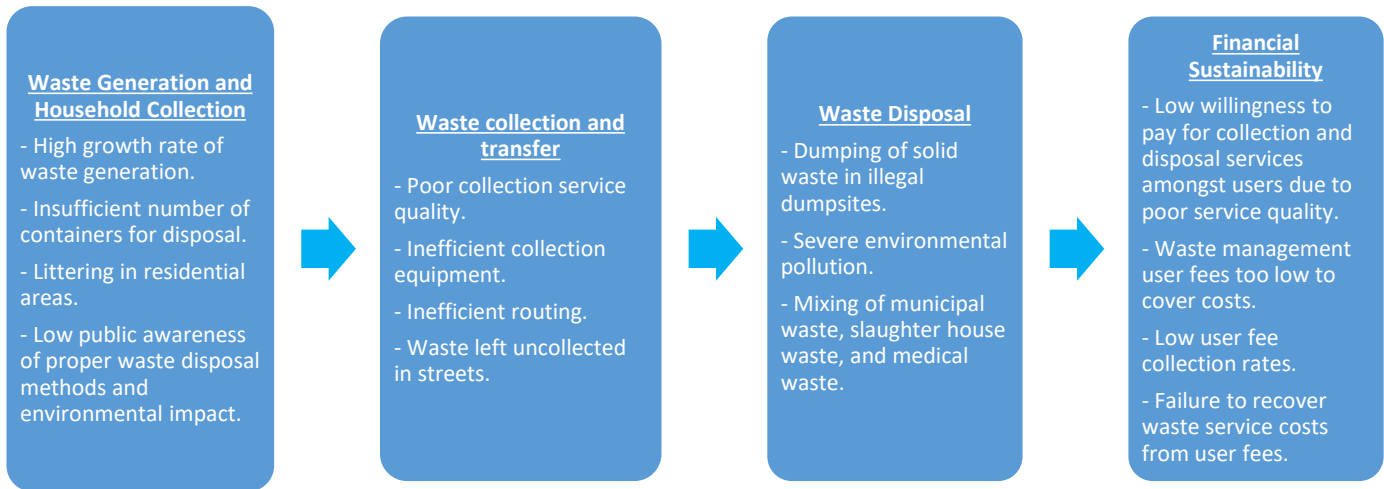
Sector Context

2. **Solid Waste Management was an increasingly critical environmental, health, and development challenge in Palestinian Territories.** The West Bank's estimated population of at 2.7¹ million generated around 1.2 million tons of solid waste per year in 2010. Inadequate waste collection services, improper disposal at open dumpsites, and open-air burning were persistent problems negatively impacting the residents. In the West Bank, the problem was compounded by poverty, unemployment (18% in 2015), and restrictions imposed on equipment servicing which contributed to a fragmented and poorly managed waste collection and disposal system and related public health and environmental concerns.
3. **Hebron and Bethlehem, among the poorest governorates in the West Bank, generated 20% of total waste generated in the Waste Bank².** Although waste collection was high (90% of the waste was collected), service was of poor quality and costs drastically exceeded revenues³. Prior to 2013, solid waste was mainly disposed of at unregulated dumpsites at the edge of towns and villages. This unsanitary collection and disposal of waste created public health and environmental hazards for the population. There was a shortage of proper bins and equipment, streets were littered with waste, and the public was disengaged, as there was no grievance redress mechanism and public awareness/outreach programs in place to engage residents. The symptoms of poor solid waste management in Hebron and Bethlehem at the time of Appraisal are summarized as follows:

¹ WDI 2014

² Data collected at the time of the project design, 2011

³ Fee collection at the time of project preparation **averaged** 46% (Fee collection rate is higher only when the enforcement by municipalities' staff is strictly applied, or in local governments with robust collection mechanisms such as prepaid electricity meters with built-in solid waste management fees. However, the use of pre-paid electricity meters can only be applied in potentially 36% of households in Southern West Bank as tying solid waste management fees to pre-prepaid electricity meters is only possible where electricity services are provided by the local governments, as private utilities are reluctant to incorporate solid waste management fees in their bills.



4. **Citizens in the West Bank receive waste management services from their local governments, who faced significant fiscal, technical and institutional constraints at the time of Appraisal.** The local governments (comprised of municipalities and village councils), and Joint Service Councils (JSCs) which are councils made of multiple local governments, provided waste collection and transfer services. Despite their established role in waste management, local governments faced three main challenges in improving the solid waste management services: fiscal constraints that limited the extent to which municipalities could afford to subsidize services; low willingness to pay amongst citizens due to the low quality of services received; and technical and institutional capacity constraints that led to poor planning of waste management services and that resulted in operations that were costly and inefficient.
5. **Although the Joint Services Council of Hebron and Bethlehem (JSC-H&B) had long provided primary waste management services for local residents, fiscal and institutional constraints led to inefficient collection, poorly managed transportation, and widespread dumping.** JSC-H&B sought support from the World Bank Group to construct a modern, sanitary landfill and two transfer stations. Because of a lack of local expertise, it also needed support to effectively operate and maintain waste disposal services and to ensure the environmentally safe management of the new landfill. The World Bank responded to this need through an investment project financing used to construct the facilities and an Output Based Aide Project (the subject of this ICR) in order to help in improving operation and sustainability of services once the facilities were established.

Rationale for Bank and Development Partners Support

6. **The World Bank had a long-standing engagement in the West Bank and Gaza and supported series of projects in conjunction with other development partners in the solid waste sector.** In response to the aforementioned challenges, the Work Bank had supported a number of projects in the solid waste sector that helped strengthen the infrastructure and capacities of local municipalities to address the solid waste management crisis, including the Southern West Bank Solid Waste Management Project that followed a similar project in Jenin, Northern West Bank. The project was implemented by the Palestinian Authority and the JSC-H&B, and supported by the World Bank, the European Union (EU) and other development partners. It provided investment financing for construction of the solid waste landfill and related infrastructure to support the upgraded collection, transfer and disposal services of the JSC- H&B.



7. **The Output-Based Aid (OBA) Pilot Solid Waste Management Project - West Bank was designed as a complement to the investment project in order to help ensure improved services and sustainability after construction.** The pilot was approved in 2013 and financed through a GPOBA trust fund of US\$ 8.26 million. The target beneficiaries of the project were residents of 50 participating local governments which included Municipalities and Village Councils (local governments) located in the Hebron and Bethlehem governorates. 840,000 people were targeted to receive improved solid waste management through the project.
8. **The Solid Waste Management OBA Pilot in West Bank aligned itself with IFC's private sector development goals and the World Bank Group's Interim Strategy Note for West Bank and Gaza (FY2012-2014, Report No: 66781-GZ).** The West Bank OBA project supported Pillar 2 "Supporting the creation of an enabling environment for private sector led growth". IFC 's strategy was focused on investing in sectors that are not as severely constrained by the restrictions imposed on movement and access, and where IFC 's development impact and financial sustainability were deemed high.
9. **The involvement of the GPOBA Trust Fund provided a unique opportunity to improve services and attract the private sector.** In partnership with the World Bank, the IFC secured an US\$8.25 million grant from the Global Partnership on Output-Based Aid (GPOBA). The GPOBA Trust Fund is unique in that it provides financing that can be used during operation of a service, rather than just for investment. GPOBA's value added was to provide a means to ensure regular payments that would attract the contracting of a private sector company for operation of the landfill and through performance-based system of subsidies, provide the opportunity to incentivize better service delivery and financial sustainability. This would enable households in the two target governorates to benefit from better quality, affordable, more efficient, and sustainable waste collection, transport, and safe disposal.
10. **This partnership was bolstered by an innovative performance-based financing mechanism.** The financing was designed to support the first four years of landfill operation when revenues from user fees were not sufficient to cover the increased costs of adequate service delivery and provide an assurance of regular payments to the private company. The GPOBA fund was disbursed to JSC-H&B based on achievement of service improvements by the project participating local governments. Local governments were granted the GPOBA fund as a credit on their landfill disposal bill. The improvements are verified by an Independent Verification Agent (IVA) followed by the transfer of the corresponding grant for those municipalities that meet the targeted improvements.

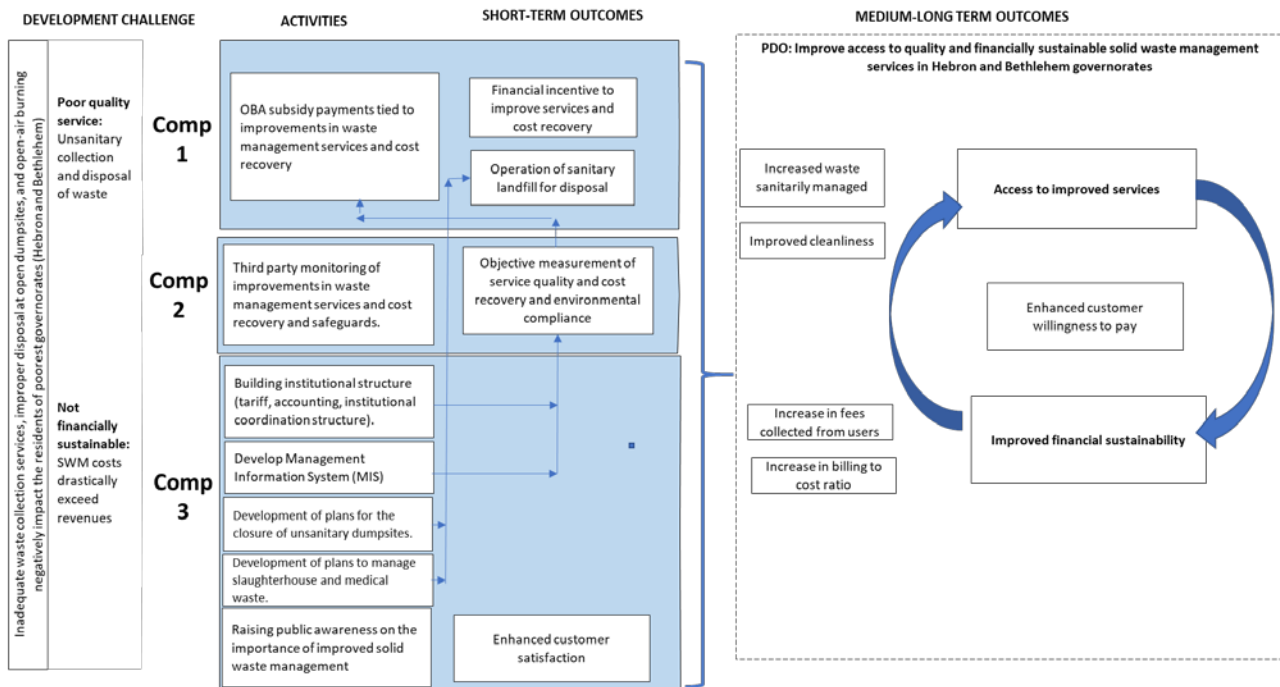
Theory of Change (Results Chain)

11. **To achieve the project development objective (PDO) of improving access to quality and financially sustainable solid waste management services, the project had two complementary lines of action.** On the one hand, it sought to increase service quality by bringing in an experienced operator of the disposal facility and compelling local governments to properly send their waste to the sanitary landfill as well as supporting comprehensive planning and monitoring of the waste management system; on the other hand, it sought to increase the financial sustainability of solid waste management services by incentivizing better cost recovery, making subsidy payments and by providing technical assistance in tariff design and fee collection to service providers. These two lines of action were designed to create mutually reinforcing incentives that were fundamental to the outcome. Specifically, the increased service quality would encourage financial sustainability which in turn would allow for service quality to be sustained in the long term.



12. The project design employed performance-based grants that subsidized the disposal fees Local Governments owed to the JSC-H&B to incentivize improvements in the quality and long-term financial sustainability of solid waste management services. The financing used OBA Payments which were made to the Palestinian Authority and further on-granted to the implementing agency, the Joint Services Council of Hebron & Bethlehem (JSC-H&B). JSC-H&B monitored performance and distributed the subsidies to participating Local Governments. Subsidy payments to Local Governments were made based on their performance against targets for quality of services delivered to households and level of cost recovery (using Key Performance Indicators-KPIs). The subsidy was phased out as services improved and local tariffs and fee collection rates increased. Local Government performance was monitored using a management information system [MIS] that was implemented in 2015. The MIS was a software system that was developed to harmonize data collection and management across the Hebron and Bethlehem Governorates, improve data quality, and support the monitoring and evaluation of the project’s performance indicators. An Independent Verification Agency was subcontracted to verify performance reports on a semi-annual basis.

13. While a theory of change was not explicitly included in Project documentation at Appraisal, the design of the Project focuses on two main outcomes, as measured in the Project results indicators: (i) better service quality as measured through development of a solid waste management strategy; cleanliness of areas; and increase amount of waste that is sanitarly managed; and (ii) improved willingness to pay and financial sustainability as measured through improvement in fee collection; and improvement in cost recovered through billing.



14. The Theory of Change rested on the following critical assumptions: (a) consumer willingness would increase once service is improved; (b) municipal councils would be incentivized to increase their efforts to collect solid waste fees and thus sustain operations in the long run; and (c) solid waste would remain among the main national and local priority sectors for investment. The external factors considered were the possible change in government that could lead to changes in development priorities; and the possibility that other Development Partners would not subscribe



to the performance-based payment system and would provide support to Local Government without the latter having to achieve performance targets which would negatively affect the OBA pilot.

Project Development Objectives (PDOs)

15. The objective of the Project is to improve access to quality and financially sustainable solid waste management services in Hebron and Bethlehem governorates.

Key Expected Outcomes and Outcome Indicators

16. Project outcomes were evaluated using 4 main indicators which were designed to reinforce the two primary objectives of the project. Each set of indicators were compiled based on data from each municipality from the MIS and presented separately for both Hebron and Bethlehem Governorates.

17. **Access to Improved Services.** The two indicators below measured Local Government (Municipalities and Village Councils) ability to provide improved solid waste management services.

18. Improvement of Cleanliness of Areas: Cleanliness measured the cleanliness of public spaces and served as a proxy for the effectiveness of the primary waste collection service. A Cleanliness Index (CI) was used that provided a score for cleanliness based on a visual inspection of defined areas. For example, a grade of “A” or 3 points was assigned to areas where there was no visible refuse on the streets.

19. Increase of Sanitarily Managed Waste to Total Generated Waste Ratio: Total Waste Managed gauged the percentage of waste produced that was treated in a sanitary manner. The indicator monitored three waste streams, the first two of which would be considered waste being treated sanitarily: waste deposited at the Al Minya sanitary landfill, waste diverted from the Al Minya landfill through recycling or reuse, and waste that is not sanitarily managed but deposited in unsanitary dumpsites.

20. **Improved Financial Sustainability.** The two indicators below measured improvements in cost recovery.

21. Improvement in Fee Collection Ratio measures improvements in cost recovery. At the outset of the project, only 46% of billed fees were collected from users. The targets for improved fee collection were set to a level that would enable financial sustainability by the end of the project. The indicator is defined as total fees collected divided by the total amount billed to users.

22. Improvement in Billing to Cost Ratio, measuring improvements in financial management, which could be achieved through more efficient waste services, increases in the number of registered users that are billed, and higher tariffs. These gains were measured by dividing total billings with total operating costs.

**Table 1. Project Components**

COMPONENTS	Funding Source	FUNDING (at appraisal) (USD)
OBA Subsidy	GPOBA Subsidy	8,006,623
Project Management, Monitoring and Verification Activities	GPOBA Subsidy	250,000
Total GPOBA financing		82,256,623
Technical Assistance	WB, IFC and other Donors (parallel financing)	181, 250

Component 1: Improvement of waste management and financial sustainability through OBA subsidy (USD 8,006, 623)

23. This component financed the provision of Output Based Aide subsidies in the form of credits for payment on behalf of the municipalities against solid waste disposal bills. The OBA project provided subsidies to enable households in the target geography to benefit from quality, affordable, efficient, and sustainable waste collection, transportation, and disposal. Municipalities were reimbursed with subsidy payments based on their achievement of improved services delivered to households (see Annex VI (B) for details on approach). Subsidy payments were tied to results achieved in two broad categories: waste management services and cost recovery.
24. **Access to Improved Primary Collection Services:** Prior to the project’s implementation, citizens expressed dissatisfaction with the quality of waste services, which manifested in dirty streets. There were several identified causes, including a shortage of bins, poorly distributed bins, infrequent waste collection, and lack of transparency around collection schedules. Further, municipal waste and hazardous medical and slaughterhouse waste were often mixed in disposal, leading to potential health risks and contamination of public resources. The project aimed to improve waste services and create clean streets, lead to the sustainable management of waste through usage of the newly constructed landfill rather than open dumps, and ensure hazardous waste streams were processed in a separate, controlled manner.
25. **Improved Financial Sustainability:** Before the OBA project, local governments charged low fees to households that could not cover service costs. Further, fee collection rates from households and businesses were extremely low; for many municipalities, less than 40% of billed fees were paid. Given the shift from open dumping to landfilling combined with the anticipated increase in waste collection coverage, financial resilience was imperative to sustaining proper waste management. This component of the project aimed to increase the proportion of costs covered by user payments.



Component 2: Project monitoring and evaluation, and verification (USD 250,000)

26. This component provided financing of services of the Independent Verification Agent to verify the service delivery performance of local governments. The performance of the participating local governments were reported by the JSC-H&B on a semi-annual basis, and these reports were verified by an Independent Verification Agent. To verify the results, the Independent Verification Agent reviewed reports and documentation, assessed calculations, and conducted site visits through a random sampling. In addition to the Independent Verification Agent, the JSC-H&B coordinated with an independent auditor to conduct annual audits of the project and ensured compliance with environmental and social safeguards.

Component 3: Technical assistance to service providers⁴(USD 181, 250)

27. This component provided financing for technical assistance to local governments and the Joint Service Council of Hebron and Bethlehem to improve services. To improve the ability of local government to provide sustainable and quality waste services to citizens, the World Bank and the IFC jointly provided technical assistance and implementation support. The support provided were in the (a) support the establishment of the institutional framework through new tariff and accounting and supporting improved fee collection; (b) development and maintenance of a Management Information System (MIS), (b) development of plans for management of slaughterhouse and medical waste in support of better landfill management service quality, (c) development of public awareness plans on the importance of improved solid waste management; and (d) development of plans for closure of unsanitary dumpsites.

⁴ In addition to the GPOBA subsidy payments and Independent Verification Agent verifications, the World Bank and IFC provided **parallel technical assistance**. This was included as a component in the Commitment Paper at appraisal and is integral to the Theory of Change of the Project. The activities provided the JSC-H&B and local governments implementation support, namely: (i) develop and manage a Management Information System (MIS), (ii) develop guidelines for solid waste management tariff and fee collection mechanisms, and (iii) design and implement public awareness on the importance of sanitary solid waste management; The TA funds were sourced from World Bank through the SWB`P and donor funds raised by IFC for technical assistance for the private sector participation.



B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

Revised PDO Indicators

As part of the project restructuring on May 18,2015, the following revisions were made to the outcome indicators:

28. **Change 1: Establishment of Baseline Values.** Baseline values for each of the project indicators was not available for the recipient entities prior to the project’s design and approval. During the first year of the project, baseline values were obtained and integrated into the performance framework.

29. **Change 2: Minimum Target Revision for Indicator 2.** The minimum performance target for Indicator 2, “Improvement in Cleanliness of Streets” was raised during the second year.

30. **Change 3: Re-naming of Indicator 3.** Indicator 3 was renamed from “Total Waste Managed” to “Sanitarily Managed Waste to Total Generated Waste Ratio”.

31. **Change 4: Loan closing date.** The project closing date was extended by 12 months from June 30, 2017 to June 30, 2018. The restructuring did not impact PDOs or outcome targets.

Revised Components

32.The project restructuring on May 18, 2015 did not impact the project components.

Rationale for Changes and Their Implication on the Original Theory of Change

33. **Change 1.** Due to the rapid preparation timeline of the project (three months), a baseline study was not feasible. During the first year of implementation, baseline values were obtained and integrated into the performance framework.

34. **Change 2.** During the first year, the recipient already exceeded the maximum target value for Indicator 2, Improvement in Cleanliness of Streets. To continue to promote progress, target values were raised for the remainder of the project duration from a minimum and maximum of 35% and 45% initially to 68% and 78% by the final evaluation period.

35. **Change 3.** The original name for Indicator 3, “Total Waste Managed”, failed to convey improvements in the method of waste management through landfilling, recycling, and reuse. To more accurately represent the goal of this indicator and improve its measurability, the name was revised to “Sanitarily Managed Waste to Total Generated Waste Ratio”.



36. **Change 4.** The project closing date was extended by 12 months to allow for full utilization of the grant and to provide sufficient time to achieve the PDO. The first deployment period was initially planned to start in June 2013 but actually began in October 2013. The project was delayed due to the need for additional financing and operational planning for the landfill and transfer stations as part of the Southern West Bank Solid Waste Management Project.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs

Rating for Project PDO Relevance: **Substantial.**

37. **The objective of the project continues to be relevant to both Government and World Bank priorities.** The project directly addressed key challenges in solid waste management in the West Bank, including poor service quality and dirty streets as well as financial unsustainability. The continued relevance of the PDO is further reinforced by the World Bank's Assistance Strategy for FY 2018-21 for the West Bank and Gaza, and the Palestinian Authority's National Strategy for Solid Waste Management 2017-2022, both of which highlight strengthening financial sustainability of municipalities and local governments in the solid waste sector to ensure improved access and quality service delivery.
38. **The first Pillar of the World Bank Group's Assistance Strategy for the West Bank and Gaza, 2018-2021 (Report No:89503 GZ) aims to enhance the financial sustainability of municipal services** and improve municipalities' financial management systems and processes as a prerequisite for attracting private sector activity-- to ensure service delivery to citizens. The OBA scheme contributes directly to Outcome 1.4 Sectoral and institutional reforms for encouraging private investments in infrastructure. The project's support in this respect was directed at municipalities as well as local governments. The PDO is also aligned with the World Bank Group's Middle East and North Africa Strategy, specifically with the pillar on rebuilding the social contract through inclusive and accountable service delivery and a stronger private sector engagement.
39. **The National Strategy for Solid Waste Management in West Bank and Gaza (2017-2022)** includes among its priority objectives: (i)attaining financial sustainability and efficient solid waste management services and activities (ii) reducing the cost for collection and transport of solid waste; and (iii)achieving cost recovery and self-financing for solid waste management operating costs. The Palestinian Authorities goal of strengthening local governments through enhancing their efficiency and effectiveness and assisting in supporting their fiscal stability performance-based grants and capacity building packages.
40. **The OBA project also complemented previous engagements by the World Bank and IFC.** These addressed infrastructure investments and private sector partnerships, by improving services for users and the underlying financial resilience of the whole system. The two PDO elements, "Access to Improved Primary Collection Services" and "Improved Financial Sustainability" directly address these goals. The theory of change and the PDO were designed to create an environment where these two elements are mutually reinforcing. That is, improvement in solid waste management service quality by local governments increased the users' willingness to pay, which in turn improved the



services’ financial sustainability. The ensuing financial sustainability created a virtuous cycle, by motivating service providers to improve services and helping local governments and Al-Minya landfill operate more effectively.

B. ACHIEVEMENT OF PDOS (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

41. **Achievement of PDO:** The section below evaluates the performance of the project against each element of the PDO, namely: (a) access to improved services and (b) improved financial sustainability in Hebron and Bethlehem governorates, based on the outcome targets achieved. The project was successful in improving the quality of solid waste management services for an estimated 840,000 people, and the target values for all PDO indicators measuring improvements in quality waste service delivery and financial sustainability were achieved and, in some cases, exceeded the targets.

PDO (a): improve access to quality solid waste management services

42. The project substantially improved the quality of solid waste service delivery in participating local governments in the two governorates. Two result indicators, cleanness of areas and increase in sanitarily managed waste were monitored to track the achievement of target values set in the results framework for this part of PDO and both indicators fully achieved their targets (Annex 1).

Table 2. Improved access to quality solid waste management result Indicators

	Indicator	Baseline value 2014 [%]	Target [%]	Actual aggregated value achieved at completion [%], 2017
1	Improvement in Cleanliness of Areas	49.5	78	80.7
2	Increase in Sanitarily Managed Waste to Total Generated Waste Ratio	0	95	100

43. **Outcome: Access to Improved Services.** Based on the performance at the end of the project⁵, the following accomplishments were documented.

- a. Cleanness of areas: Street cleanliness as measured by a Cleanliness Index⁶ which is based on visual inspection of areas and assigned scores based on observed cleanliness characteristics. The Index substantially improved in both Hebron and Bethlehem (H&B) governorates and the aggregate target of 78% was collectively met and exceeded. All the 50 participating local governments in Hebron and Bethlehem registered notable improvements in cleanness of areas and at project completion all of the 50 participating local governments were qualified and received associated payments for meeting the aggregated target for cleanness of areas. (Annex I). Both

⁵ Based on the 8th and final Independent Verification report covering the period (April -September 2017).

⁶ Cleanness Index score calculation consisted the following variables: Presence of Waste on Street; Utilization of Bins; Physical Condition of Bins; Physical Condition of Bins.



Governorates experienced similar increases. When looking at average cleanliness index by M/VC, Hebron Governorate local governments increased by 25% and for Bethlehem Governorate increased by 28.6%.

The incentives created provided an impetus for local governments to improve collection and cleaning services. Among the actions taken included providing additional equipment (2,300 containers were purchased including those distributed in areas where waste collection services were newly introduced); expansion and improved operation of services (in residential neighborhoods, waste collection was performed regularly and more frequently, and mechanical street cleaning was introduced and operated daily) and better maintenance (waste containers are also now periodically washed, and trucks are better maintained to prevent leakage of leachate from waste).⁷ Municipalities also allocated an additional NIS 66.9 million (USD 17.9 million) for operation of their collection and cleaning services over the time period of the project. .

- b. Increase of Sanitarily Managed Waste: The project fully achieved and exceed the aggregate target of 95%, as 100% of the waste generated was able to be sanitarily managed. The baseline for this indicator was zero at project start as the landfill was not operational. At project closure, all the waste generated from local governments in both Bethlehem and Hebron Governorates was either disposed sanitary in a landfill or recycled. Without the OBA subsidy, the prevalent open dumping of waste would have continued as local governments could neither pay for the increased disposal services nor have the capacity to raise the additional revenue needed to help sustain improved collection services. The project also enhanced the quality of the disposal service by introducing protocols for proper management of slaughterhouse and medical waste and provided a means for regular payments that helped attract an experienced private operator.

PDO (b): Improve financial sustainability of solid waste management services.

44. **Outcome: Improved Financial Sustainability.** The project substantially improved the financial sustainability of participating local governments. Two PDO level performance indicators were designed to measure the target values of improving the financial sustainability of local governments: “Improvement in Fee Collection Ratio” and “Improvement in Billings to Cost Ratio”. The target values set in the results framework for this part of PDO have been achieved (Annex 1). The project showed the following achievements in improving the financial sustainability of participating local governments.

- c. Increase in % fee collection. The target of 80% set for this PDO indicator was achieved by both Hebron and Bethlehem governorates. In Hebron, fee collection increased from 42.6% in 2014 to over 82.1% by 2017. Fee collection in Bethlehem increased from the baseline of 48.3 % in 2014 to 81.7% in 2017.

While the fee collection target of 80% was met and exceed in both Hebron and Bethlehem, individual performances across the 30 participating local governments in Hebron and 20 participating local governments in Bethlehem varied slightly. At project closure a total of 6 local governments (2 from Hebron and 4 from Bethlehem) could not reach the target of 80% and consequently were not qualified to receive the subsidy payment associated with improvement in the fee increase. Targeted capacity building and training were provided to lagging local governments in order to improve their performance and marked improvements from the baseline have been

⁷ Source: JSC-H&B reporting, Independent Verification Agent reports and interviews/field interviews conducted as part of ICR report preparation



noted though they fell short of meeting the final target. (Annex VI: Disaggregated/ Individual performances of local governments).

Table 3. Improve financially sustainability of solid waste management services result Indicators

	Indicator	Baseline value 31-Mar-2014 [%]	Target (Formally Revised)	Actual aggregated value achieved at completion [%], 2017
3	Increase in % fee collection by local governments			
3(a)	Hebron Governorate	42.7	80	82.0
3(b)	Bethlehem Governorate	48.3	80	81.7
4	Increase in Billing to Cost Ratio	76.8	81	84.4

- d. Increase in Billing to Cost Ratio: Billing to cost ratio at the aggregate level increased from 76.7 % in 2014 to over 84% by 2017, exceeding the target set for this indicator. All participating local governments experienced improvements in this indicator and only 4 participating local governments in the Hebron governorate fell short of meeting the total aggregate target and were not qualified to receive subsidy payment. The improvement in fee collection and billing was largely connected to changes in the fee collection strategy developed through the technical assistance component of the project which established the tariffs, accounting framework for the fees in the JSC-H&B and undertook workshops to develop billing strategies based on the local context of each municipality. Among the strategies that proved particularly successful was attaching the solid waste fees with to the electricity bill, which was adopted in the Hebron local governments.

Justification of Overall Efficacy Rating

- 45. **Efficacy is rated Substantial.** The project achieved its objectives by using an output-based approach to improve the quality of solid waste management services and achieve financial sustainability in Southern West Bank. All targets were fully met and exceeded at project completion (Annex 1. Results framework). The results were rigorously monitored systematically through a Management Information System, reported and then verified through the Independent Verification Agency.
- 46. **On the ground, waste management services improved.** 100% of the generated waste was managed sanitarly by the end of the project and there was a visible improvement in the cleanliness of streets, both of which exceeded the targets in the results framework. The landfill service benefitted from the presence of an experienced operator, better management of special wastes (slaughterhouse and medical wastes) and disposal of waste in the sanitary landfill rather than open dumps. For cleanliness, the incentive system spurred additional investment in equipment; increased coverage and quality of cleaning and collection services; and better maintenance of vehicles and equipment. Similar improvements were observed in both Bethlehem and Hebron Governorates.



47. **The project also contributed to financial sustainability.** Both fee collection and the cost recovery (as measured by the billing to cost ratio) improved and exceeded targets set in the result framework. Better fee collection was achieved through the technical assistance under the project and motivated by the incentives of the subsidy. The improvements were achieved through better accounting, establishing tariffs and introducing better billing practices including through a novel approach of linking waste fees to electricity meters as well as by increasing fees for commercial users. Similar improvements were observed in both Bethlehem and Hebron Governorates.

C. EFFICIENCY

Assessment of Efficiency and Rating

Efficiency Rating: **Substantial.**

48. Using the approach undertaken at appraisal as a basis, a financial cost analysis was updated based on actual figures, to evaluate the ability to meet their financial obligations of the services. An end of project cost-benefit analysis was also undertaken comparing it against the same situation without the benefits of the OBA subsidy and related service improvements and against the baseline-before project situation. Finally, cost-effectiveness indicators were analyzed to complement the cost-benefit analysis.

Financial cost analysis

49. **Financial Obligations of improved services were met:** The financial analysis after the project, revealed that the municipalities were able to meet their financial obligations even with the increased cost of improved services (see Table 4). Through the project, fee revenue across Hebron and Bethlehem increased over 165% from US\$6.1 million per 6-month period to US\$16.3 million in the final 6-month period. Over the lifetime of the landfill (25 years), and assuming revenue collection remains the same as in the final project period, the expected gains in revenue are expected to total to US\$508 million. The increase in financial revenue is significant because operational costs increased by 42.6% during the project due to the shift from open dumping to sanitary waste management, which requires payment of tipping fees. Financial sustainability improved despite better and more costly waste management. While fee revenue formerly only covered 33% of operational costs, at the conclusion of the project, 69 % of operational costs were covered from own-source revenues. The increased financial sustainability will reduce the burden on municipalities to subsidize services while freeing resources for other urban priorities and sustaining the long-term maintenance of the solid waste management sector. The US\$8.0 million OBA subsidy amounted to a per capita cost of approximately US\$9.50 for 840,000 residents, which accounts for all service improvements achieved. For waste disposal, the US\$8.0 million subsidy led to the diversion of 800,691 tons of waste from dumping to sanitary landfill over the course of the project and help ensure disposal that will divert more than 7 million tons over 25 years, at approximately US\$1.10 per ton. For the US\$508 million in revenue gains expected for an economic lifetime of 25 years, less than 2 cents of OBA investment were spent per dollar of expected returns. Additional details on financial benefits are presented in Annex 4.



Table 4. Cost at project completion

	Baseline (6 months)	2013 (6 months)	2014	2015	2016	2017 (6 months)
Primary Collection Costs	18,670,000	16,785,076	31,803,979	32,842,459	34,555,643	19,926,337
Final Disposal Costs	0	5,520,129	12,299,965	13,849,613	15,918,326	9,298,081
Total solid waste management Costs (Primary Collection Costs Final)	18,670,000	16,876,071	44,258,691	47,193,801	50,204,261	24,081,149
Total Revenue from User Fees	6,150,000	6,771,340	14,192,566	17,791,564	28,920,947	16,310,830
GPOBA Subsidy (actual)	0	4,708,535	9,221,008	7,676,785	5,897,330	2,172,980
Municipal Transfers and (NIS) Other Municipal Sources	12,520,000	5,396,196	20,845,117	21,725,452	15,385,984	5,597,339
Shortfall		-	-	-	-	-

Cost-benefit analysis

50. The cost benefit analysis covers the time period of the GPOBA subsidy 2014 to 2017. It looked at the entire solid waste system and included the benefits and costs of the status quo scenario that was evident during appraisal; the actual scenario of the system and its improvements including GPOBA, use of private contractor and other upgrades. The actual scenario was then analyzed without the costs and benefits directly attributed to the OBA subsidy and related improvements in collection and cleaning services.

51. **Status Quo Scenario:** This assumed continuation of the present system (primary collection as is (no improvement in level of service/sustainability) and managed by JSC-H&B and local governments. Final disposal (transfer stations, long haul and landfill operations) are assumed to be managed by JSC-H&B and not benefit from service improvements.

52. **Actual Scenario:** The actual scenario included the private operator, the output-based subsidy, improvements in the service related to the key performance indicators, improvements in cost recovery. It also covered the improvements in the waste collection system, landfill operation, and closure of dumpsites that benefited from the TA, the presence of a private contractor and the incentive program. Additionally, there were improvements made in managing the landfill operations and recycling that occurred during this time period that are not directly attributed to the GPOBA subsidy indicators.

53. **Actual Scenario without OBA-related benefits:** This scenario took the actual scenario and related increases in costs and removed the benefits and costs attributable directly to the output-based aid and achievement of its indicators.



This included the subsidy itself, the increased costs (operational and investment) needed to improve municipal collection and cleaning services and related benefits of the service improvement.

54. **The OBA subsidy resulted in positive economic benefits:** The project enabled service improvements for primary collection, which would otherwise not have been possible without the OBA interventions. The full benefits of the improved services were made possible in the combined private sector participation and OBA scenario. The NPV of the actual scenario is calculated to be NIS 22.9 Million (USD 6.1 million)⁸ relative to an NPV of NIS -5.7 million (USD -1.5 million) of the same scenario without the GPOBA subsidy. This was relative to a status quo scenario of NIS -23.0 million (USD -6.2 million). It demonstrates the positive impact of the subsidy and incentive program. Detailed benefits are presented in Annex 4.

Cost-efficiency analysis

55. **Project funds were efficiently used.** All disbursements were made on a timely basis and consistently with performance targets. Before the conclusion of the program, a surplus of US\$69,822⁹ remained undispersed from the OBA subsidy as well as from efficiencies in the Independent Verification Agent and auditing program. This amount was rewarded to high-performing municipalities to support the continuation of sustainable disposal practices.

56. **Administrative efficiency:** There were project startup delays due to the difficulty to fulfill one of the effectiveness conditions, specifically the concession agreement between Al-Minya landfill operator. The concession agreement with the private landfill operator was the first Public-Private Partnership materialized in West Bank's Solid Waste Management sector and required significant time for the agreement to be formulated and concluded. The project closing date extension by one year was required to allow the project's successful completion. In addition, the first two periods (first year of implementation)' experience indicated that the Key Performance Indicator (KPI) reporting and verification period set at the point of appraisal was not realistic in light of the capacity constraint of project participating local governments and the JSC-H&B. While the capacity gradually improved, it was prudent to provide additional time to thoroughly complete the cycle of reporting, data cleaning, data aggregation, and verification in light of the project's nature as performance-based financing.

57. **Overall efficiency rating is substantial.** Based on the above considerations, efficiency is what would be expected in the operation's sector and country context.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Overall Outcome Rating: Satisfactory.

58. The overall outcome rating of satisfactory is based on a combination of a high rating for relevance; a substantial rating for efficacy; and a substantial rating for efficiency.

⁸ Appraisal NPV estimate was \$8.2 million

⁹ Total subsidy earned in each of Independent Verification Agent periods (8 periods) and the total subsidy allocated and unearned. The unearned subsidy for all the periods totals US \$ 53,132. This total is the sum of the unearned subsidy plus the remaining budget from Independent Verification Agent US\$ 13,534; total = US\$ 66,666. In addition, there is a remaining total at US \$ 3156 from the consulting and auditing services; This constitute the total surplus subsidy amount of US \$ 69,822.



59. **The Project's objective will continue to be relevant to the Palestinian and the Bank's future engagement**, particularly in improving financial sustainability of municipalities and local governments and strengthening their capacity to improve access and deliver improved services to citizens. These aspects are critical for sustainable service delivery.
60. **The OBA project successfully reached its objectives, including improved access to quality and financially sustainable solid waste management services for users in Southern West Bank.** The grant subsidies enabled municipalities to pay for disposal in a sanitary manner that would otherwise not be viable based on the poor cost recovery prior to the project. Further, the scoring system that linked payments to cleanliness and billing efficiency motivated service providers to improve the quality of services and alter the billing system to increase financial sustainability.
61. **The project was financially successful and made efficient use of time and resources.** The high revenues gained, and low unit costs further reinforces the value of an output-based approach, which fosters an efficient use of resources. The M&E and verification process was completed under budget. The financial and economic analysis also substantiates both the relevance and the outcomes of the project emphasizing the impacts the project has on municipal finances and more broadly, public benefits.

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

62. **Institutional Strengthening.** The project provided the following technical assistance and-capacity building support to JSC-H&B and local governments to help strengthened their technical and financial capacities:
63. **Establishment of institutional framework for Solid Waste Management (SWM).** During the first year of project implementation, a special solid waste management committee was established and was put in charge of building the overall institutional structure that included tariff setting, accounting, and institutional coordination. The committee convened regularly and held workshops with local governments to develop and implement new approaches for cost recovery, such as linking waste fees to electricity bills or building permits. Consultations with each M/VC were conducted to identify the most appropriate billing instrument under local government's control, which was most commonly the electricity bill but varied from water bills to marriage certificates. Field visits were performed to allow local governments to quantify household size and other population characteristics for billing.



Table 5. Technical Assistance: Intermediate Indicators

	Intermediate Indicator	Baseline value 2013	Target (2014)	Status at completion (2017)
1	Establishment of institutional framework	No existing institutional framework	Establishment of a special solid waste management committee with charter, clear roles and responsibility and dedicated Bank account.	Fully achieved
2	Implementation of MIS	No existing MIS	Development and implementation of a fully functional MIS	Fully achieved
3	Development of detailed plans to achieve environmental best practices	None existed	Protocols and standard operating procedures (SOPs) for slaughterhouse and medical waste developed, monitored and enforced	Fully achieved
4	Development of detailed plans for the closure of unsanitary dumpsites	None existed	Preparation and implementation of detailed plans for the closure and rehabilitation of unsanitary dumpsites by the JSC-H&B	Fully achieved

64. **Monitoring and reporting improved substantially through the project.** The new MIS used by the JSC-H&B established a regular practice of tracking solid waste management progress against pre-predefined indicators. Further, the participating local governments received 3 training sessions on project monitoring and reporting and the municipalities that struggled with monitoring and reporting received additional tailored training. Safeguards training was also provided to JSC-H&B and local governments that focused on compliance with established mitigation measures. The project’s capacity building component resulted in gradual improvements in monitoring and reporting by the participating municipalities, which facilitated successful measurement of results for OBA reporting and payment disbursements. Beyond the effective usage of the MIS system for the purpose of result monitoring and OBA subsidy payments, the system instilled a transparent accounting and reporting mechanism that allows for evidence-based decision making by solid waste management administrative authorities to make data informed decisions in the long run.

65. **Environmental best practice plans for closure and rehabilitation of unsanitary dumpsite were adopted.** The project supported the development and implementation of environmental plan to manage unsanitary dumpsites. As a result, 19 open dumpsites have been closed, one dumpsite rehabilitated, and biogas collection and flaring systems were installed at Yatta municipality (one of the largest dumpsites sites).

66. **Standards for slaughterhouse and medical waste management were developed and implemented.** The project developed detailed plans and procedures for managing slaughterhouse and medical waste during the first years of project implementation. As a result, protocols and standard operating procedures (SOPs) for slaughterhouse and



medical waste management were introduced and their application on the ground was regularly monitored and enforced by JSC-H&B and the Independent Verification Agent verified the reports and enforcements.

67. Mobilizing Private Sector Financing. The Project also supported the Palestinian Authority's private sector development policies through private sector participation, by assisting local governments in the Hebron and Bethlehem governorates to contract the operation of a newly constructed sanitary landfill to a private company with specific performance benchmarks against which payments were released. The innovative private sector participation approach introduced a performance mechanism that provided incentives to achieve efficient collection, transportation, proper use of disposal facilities, and appropriate planning and monitoring.

68. Poverty Reduction and Shared Prosperity. The OBA project contributed to poverty reduction. The project targeted the poorest part of Southern West Bank and substantially increased the quality of waste services and living conditions for residents. Further, the project enabled the creation of 70 new jobs at the JSC-H&B. Additionally, approximately 100 jobs were created at the municipal level through improved and expanded service provision – primarily for manual workers, cleaners, and vehicle operators.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

69. Selection of performance indicators were critical: The selection of performance indicators was based on actual service deficiencies on the ground and this helped service monitoring during implementation. It was understood that different local governments face different challenges in waste management. Therefore, indicators such as “number of bins”, “frequency of waste collection”, and “use of personal vs. communal bins” were rejected. Instead, “cleanliness of areas” and “total waste managed” were selected as final indicators that more comprehensively gauge the quality of waste services delivered.

70. Baseline was not established at appraisal: At the time of project preparation baseline values were not available either at an aggregate or at the M/VC level. This was due to the tight project preparation timeline of three months, which did not allow sufficient time to carry out a baseline study for each of the participating M/VC. Lack of baseline data affected project implementation during first year of implementation and resulted in the delayed development of baseline values and the requirement to initially disperse subsidies based on aggregate performance.

71. Need for reporting system was identified: Due to the involvement of 53 different local governments and quantitative approach of the subsidy payment system, an information management system was needed. In the first phase of the project, development of a MIS system was much more heavily weighted than performance against other metrics, since future performance tracking depended on the existence of a data system.

72. Underestimation of time needed for contract preparation: The project experienced initial delays due to the difficulty to fulfill one of the effectiveness conditions: concession agreement between Al-Minya landfill operator. The concession agreement with the private landfill operator was the first Public-Private Partnership materialized in West Bank's Solid Waste Management sector and required significant time for the agreement to be formulated and concluded.



73. **Overestimation of capacity of local governments:** the first two implementation and result verification periods' experience indicated that the Key Performance Indicator (KPI) reporting and verification period set at the point of appraisal was not realistic in light of the capacity constraint of project participating local governments and the JSC H&B.

B. KEY FACTORS DURING IMPLEMENTATION

74. **Effective Communication and Motivation:** the JSC-H&B was an effective and proactive implementation partner. The Council communicated regularly with participating entities, and, for example, sent personal letters to mayors every 6 months to encourage participation. JSC-H&B also communicated the amount of subsidy lost to municipalities that fell short of targets to convey the potential future gains.

75. **Exclusion Criteria for Uncommitted Municipalities:** During the early stages of implementation, several municipalities were not participating actively in the program and as a result had consistent poor and un-improving performance. To ensure that the program included only local governments that were actively involved and committed to improvement, exclusion criteria were developed to omit these local governments from subsidy disbursements. This encouraged the participation of the remaining, committed entities. Non-participating local governments were encouraged and given the opportunity to take actions and improve their performance to meet basic criteria and gain inclusion in subsequent evaluation periods.

76. **Effective monitoring of performance:** The new MIS effectively tracked progress against standard metrics and allowed stakeholders to identify successful and lagging participants, and to direct attention to needed areas. The system provided transparency and allowed for diligent monitoring of progress. In addition, the JSC-H&B conducted and delivered semi-annual performance reports and annual audit reports on a timely manner. The independent verification reports were also detailed and timely, and no major issues were identified.

77. **Continuous Training:** Trainings and consultations were provided throughout the project to raise the organizational capacity of the JSC-H&B and local governments. JSC-H&B provided project-related training to local governments on fee collection, public awareness, and improvements to primary waste collection. The World Bank further trained the JSC-H&B on environmental and social safeguards.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

78. **Design of the MIS:** The project designed and installed a robust Information Management System (MIS) in the first year of project implementation, a critical M&E component that enabled the collection, consolidation and reporting of relevant data and allowed effective tracking of progress and performance. Given the OBA subsidy payments were made based on verified results, prioritizing and incorporating the development of the MIS contributed significantly for (i) accurate and timely monitoring of performance indicators (ii) identifying local governments that need proactive capacity support based on their trend and tracked performance and (iii) incentivizing the local governments to improve their performance using the performance of other participating local governments as a benchmark.



79. The monitoring and evaluation system was developed in the first year of the project's operation. The system consisted of indicator monitoring and safeguards monitoring.

(a) Indicator Monitoring. Five indicators were selected to reflect achievement of the PDO, appropriately capturing the two components of the objective, the improvement of services and the improvement of financial sustainability. A maximum and minimum target value was identified for each indicator, and M/VC performance was measured against the target to calculate subsidy payments. The target values were gradually increased every six months as performance improved. Since the indicators were not equal in reflecting performance in the solid waste management system, a weighting system was designed to allocate more payments to more important indicators. Performance against the indicators was tracked in the MIS, where data for all participants were collected and stored. Results were monitored and reported monthly by local governments. The JSC-H&B aggregated individual local governments results in semi-annual reports shared with both the World Bank and the Ministry of Finance. Each report was verified by the Independent Verification Agent and verification results were shared with the World Bank.

While the concept of having a range of KPI aggregate target values (minimum to maximum) was introduced in the Commitment Paper, neither the explanation nor the complete target values were provided in its corresponding Results Framework. During the project appraisal, minimum and maximum target values per period was estimated and put in place in the project's Management Information System (MIS). However, the target values were never updated to the project's Results Framework even after the project implementation started and this misalignment created complexity and confusion in updating the targets in the results framework. Corrective measures were taken during the 2015 restructuring and the target values were realigned/simplified for harmonized result reporting and format.

(b) Environmental and Social Safeguards Monitoring and Reporting. Compliance was measured in two streams. The first was the implementation of the Environmental and Social Management Plan (ESMP). local governments reported compliance with ESMP safeguards as part of the semi-annual reporting process, and results were aggregated by JSC-H&B and verified by the Independent Verification Agent. The second stream monitored compliance against the Environmental and Social Management System (ESMS). Semi-annually, JSC-H&B evaluated the application of Management Plans and Standard Operating Procedures, development of new procedures, and fulfillment of tasks and responsibilities assigned to JSC-H&B staff members. ESMS compliance reports were also verified by the Independent Verification Agent.

M&E Implementation

80. **The M&E system was diligently implemented.** local governments were provided with a series of trainings to build capacity in monitoring and reporting and individual consultations were provided as needed. All municipalities used the MIS system to report results. Independent Verification Agent reports found very few discrepancies identified in the bi-annual reports compiled by the JSC-H&B. Most issues were minor, related to calculation errors or upload errors, and these issues were promptly rectified. All reports were submitted on time.



81. **Despite its smooth implementation, there were two main shortcomings in the design of the M&E system.** First, the M&E system was developed 1 year into the start of the project due to the limited preparation timeline. Therefore, performance indicator monitoring was not conducted during the first period (October 2013 to March 2014). Safeguards monitoring was developed in late 2014 and implementation began in early 2015. Second, the monitoring of performance indicators and safeguards occurred with a one-month gap. The asynchronous monitoring led to difficulties in cross-comparison of results between the two monitoring systems.

M&E Utilization

82. **The results of the indicator monitoring provided the basis of subsidy payments for the participating local governments and were heavily utilized.** The key performance indicators and linked result framework were assessed every six months and were effectively used to monitor achieved results or lack thereof of targets, on the basis of which subsidy payments were triggered. This M&E set up and monitoring arrangements enabled the timely verification of results and associated payouts of subsidies as scheduled, allowing the OBA project budget to be disbursed fairly and accurately.

Overall Rating of Quality of M&E

Overall M&E Rating: Modest

83. Despite delayed development by 1 year, the M&E system was designed rigorously and was instrumental in the calculation of subsidies and compliance with environmental and social safeguards. All compliance reports were submitted on time.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

84. **Compliance with IFC Performance Standards.** The solid waste OBA project complemented the existing SWBSWM project in the Southern West Bank, for which an Environmental and Social Impact Assessment (ESIA) and Abbreviated Resettlement Plan (ARAP) was conducted. Prior to the project's inception, any additional project elements that did not overlap with the scope of the previous studies were reviewed to ensure compliance with IFC's Performance Standards. According to the document "Application of Bank Safeguard Policies to GPOBA Transactions", IFC's Performance Standards are appropriate for the evaluation of OBA project components due to IFC's involvement in the broader project. The project was implemented in compliance with relevant World Bank Environmental Health and Safety (EHS) Guidelines, including the EHS Guidelines for Waste Management Facilities. Additionally, three environmental and social risks (Litter and clandestine dumping, air emissions, and personnel safety) were identified along with mitigation measures to which municipalities were held accountable.

85. **Preparation and disclosure of instruments.** The grant agreement stipulated that within 12 months of project inception, JSC-H&B would be responsible for developing an Environmental and Social Management Plan that identified the environmental and social issues associated with the OBA project's activities and provide guidance on mitigation measures in implementation. The JSC-H&B was also responsible for coordination the adoption by and supervision of participating municipalities. An Environmental and Social Management Plan (ESMP) and Environmental



and Social Management System (ESMS) were delivered and publicly disclosed on January 2015 and February 2015 respectively.

86. **The ESMP monitoring reports revealed improving compliance ratings, and no mitigation measure received a non-compliance rating overall.** Local Governments also gradually improved in their implementation of mitigation measures. 59.4% of local governments reached full compliance with mitigation measures, 33.9% reached partial compliance, and 6.7% were non-compliant. The ESMS monitoring reports concluded that JSC-H&B complied with management plans and standard operating procedures. New procedures, plans and actions prepared by the JSC-H&B provided guidance on addressing specific operational challenges, such as staff responsibilities, technical needs, and reporting structures.
87. **Procurement.** Procurement under the OBA project was limited to the Independent Verification Agent (IVA). The contract was signed on March 2014 for a total amount of US\$131,250.
88. **Financial management.** Financial disbursements were linked to the performance indicators and distributed on a formulaic basis based on results verified by the Independent Verification Agent. Annual Financial Management audits were conducted. Financial audits were performed annually. There were no delays in payments and financial management has been rated satisfactory throughout project implementation.

C. BANK PERFORMANCE

Quality at Entry

89. **Project preparation was thorough and analytical, and the project benefitted from the experience of similar OBA projects.** The project design benefited from Bank wide infrastructure projects, including water and electricity sectors, the have applied OBA approaches. Some key lessons learned and considered during the project design included (i) the alignment of OBA projects with existing institutions and government systems to increase the chances of sustainability and replication; (ii) the need for political championing and technical capacity for OBA schemes to succeed in improving the financial sustainability solid waste service delivery institutions, and (iii) the need for implementation of PPPs and OBA pilot projects to be part the overall process of improving the solid waste management system as a whole, in which the various stakeholders involved, smooth transitional measures implemented, and adequate human, financial and technical resources mobilized.
90. **Several alternative approaches were considered, and key decisions were made through fieldwork and consultations with the JSC-H&B.** For example, the project considered grouping similar municipalities in disbursements, including all potential local governments on a de facto rather than opt-in basis, having JSC-H&B provide services rather than municipalities, and using quarterly verification periods. The final design was chosen based on the optimal expected performance based on the characteristics of the local context.
91. **A few weaknesses emerged due to the limited project preparation timeline of three months.** The timing constraints resulted in the delayed development of baseline values and the requirement to initially disperse subsidies based on aggregate performance. Further, an M&E system and ESMP were only developed in the second year. These factors were mitigated through alternative approaches during implementation that were previously discussed.



92. **Simplicity of Subsidy Formulas:** The project learned that formulas for calculating performance-based payments should be as simple as possible for easy understanding by stakeholders. Due to the lack of baseline values in the initial disbursement periods, the formula for calculating payments required aggregation of M/VC performance to the governorate level, and disaggregation based on relative individual performance. The algorithm proved to be confusing to some participants. In future efforts, the project recommends simplifying the design and presentation of quantitative methods to increase understanding and engagement by participants.

Quality of Supervision

93. **World Bank supervision was consistent, as evidenced by the achievement of the core performance indicators.** Staff met with operational counterparts, conducted site visits, and held trainings during supervisory missions. Bi-annual supervision missions as well as supplemental technical support mission consisting of key technical staff were carried out regularly to ensure implementation progress is on track and indicator targets are being achieved on schedule. The supervision team ensured the timely delivery and review of the independent verification reports and took timely action to outstanding issues when materialized. The project registered satisfactory performance throughout its implementation phase even though minor adjustment and restructuring was needed mostly to readjust the incentive mechanism employed.

94. **The effectiveness of this project's incentive mechanism was thoroughly reviewed by the Bank team and ways to improve it were proposed during the restructuring exercise of April 2015.** Under the original project design, weak performers could have received municipal credit by benefiting from the high aggregate KPI score driven by strong performers so long as they improved their individual score from their baseline. Fine tuning the project's incentive to local governments was deemed critical because the KPI target value increased every six months, potentially increasing the differences between strong and weak performers. This could have reduced the incentives for strong performers while creating a situation of "moral hazard" where weaker performers perhaps benefit disproportionately. Considering this risk, the Bank team along with the JSC H&B TOU introduced "Exclusion Rule", which enabled well performing local governments to collectively maximize their municipal subsidy credit receipts while preventing those authorities with weaker performance from receiving any OBA subsidy credit until they improve their performances up to the desired targets. The effectiveness of the piloted exclusion rule was examined and concluded to be positive. Key local governments, such as Hebron and Bethlehem, showed acceleration of their effort to improve KPI scores on financial sustainability so that they can receive municipal credit for coming periods

95. **In the consultations on the ICR, the Client highlighted the importance of World Bank supervision which allowed crucial adjustments to what was a complex design, which allowed the project to be effectively implemented.** The project experienced more significant leadership changes than is typical (3 TTLs in the project lifetime) but the transition arrangements ensured knowledge was transferred effectively, and the project did not experience delays in implementation due to leadership transitions.



Justification of Overall Rating of Bank Performance

Overall Bank Performance: Satisfactory

96. Despite initial shortcomings regarding the delayed establishment of baseline values and of the ESMP and ESMS as well as leadership turnovers, the World Bank facilitated a smooth implementation of the project. The Bank designed an incentive system that promoted M/VC participation, flexibly responded to changing needs by adjusting indicator targets, and provided effective capacity building to counterparts. The Bank succeeded in designing and delivering an impactful project that employed PPP under challenging project implementation environment and fragile country context, paving the way for future PPPs across sectors.

D. RISK TO DEVELOPMENT OUTCOME

97. **In general, the risk to development outcome is low.** A key concern at the outset of the project was the ability for local governments to maintain financial sustainability following the finalization of the subsidy. Initial consultations revealed that user willingness to pay was linked to service quality and thus service quality must be maintained to ensure continuing payments. The experiences in better service delivery achieved so far combined with the high political will to continue citizen education has been significant and provides momentum for continuation. Municipalities have already achieved the recovery of 59% costs¹⁰, through own-source revenues despite increased costs, largely due to adjusted billing and collection strategies that have been piloted and established. Finally, the surplus of subsidy at the end of the final disbursement period was provided to well-performing municipalities, serving as extra support for sustainable disposal in the year following the project.

98. **In terms of capacity, the numerous trainings provided by World Bank and JSC-H&B has proved to be fruitful and have been directly translated to implementation.** The large number of municipal agents trained will promote the longevity and transfer of knowledge. Continued World Bank engagement in the greater West Bank will also provide an opportunity for continued technical support as needed.

99. **Technical risks to development outcome are minor.** Waste disposal infrastructure (the sanitary landfill and transfer stations) are now operational and will be supported by the ongoing IFC project for PPPs. Illegal dumpsites were all closed, and restoration has occurred. Municipalities have received or purchased sufficient waste transfer trucks and collection containers, though these materials will need to be replaced as they depreciate.

100. **The project's main gain/achievement from disposing waste at the AL Minya landfill, however, are at substantial risks in mid to long term due to the lack of capital investment for future expansion of the landfill and increased operating costs (prevailing problem with an increasing volume of leachate and related odor).** The Al Minya landfill is fast approaching its full capacity¹¹ and additional capital investments will soon be needed to expand/develop new landfill cells and replace the compactors, bulk haulage trucks, containers etc. at the transfer stations. Currently, the JSC -&B is not setting aside its operating surpluses to fund these capital investments and it is unclear how future capital investment will be financed. The ICR¹² for the *Southern West Bank Solid Waste Management Project (P154102)*

¹⁰ Fee collection averaged 46% in 2012 (Source: Project Commitment Paper)

¹¹ At design, the landfill was thought to have a lifetime capacity of 11 year at an input rate of 600 tons/day in its first phase of four cells and with a potential lifetime of twenty-five years if additional capital investment become available. But the landfill's capacity is approaching its full capacity due to the doubling of incoming waste from serving additional.

¹²Implementation Completion Report: Southern West Bank Solid Waste Management Project (P154102): Report No: ICR00003314 (December



discussed these risks in detail and provided two feasible mitigating scenarios: (i) availability of additional donor support to finance the capital investments, and (ii) modification of the accounting arrangements to permit JSC-H&B to set aside its predicted operating surpluses, along with an increase in gate fees to 35 NIS/ton that would allow for the generation of sufficient reserves to finance the planned capital investments. The ICR Task Team profiled JSC-H&B's revenues and expenditures for both scenarios and found it was potentially feasible for JSC-H&B to generate sufficient funds to cover its predicted capital investments. Feasibility was based on income from gate fees being sustained, and able to grow modestly, and operating costs remaining tightly constrained. However, a decline in gate fees and/or a steep rise in operating expenditures would jeopardize viability in a 'without donor support' scenario.

V. LESSONS AND RECOMMENDATIONS

Adapting private sector participation for fragile states

101. While the results achieved, and overall outcomes of the project are positive, there were substantial challenges associated with attracting private parties in a fragile and conflict-afflicted area. Attracting qualified bidders was initially hard and the project required redesigning. The bidding and tendering phase was complicated and required dedication, adaptation, and building trust. For example, difficulties finding a private operator demanded extra time and effort from all parties. Attracting a private partner willing to undertake a "first of its kind" project in the West Bank was not straightforward. Of the sixty firms the IFC team reached out to, many larger firms were unable to consider working in the West Bank regardless of the project's risk allocation (in several cases, the Board approval required to undertake the project could not be obtained). Therefore, the team had to target smaller firms, which tended to have less experience and resources, but a greater incentive to succeed in difficult operating environment. This phase of the project differed in many ways from a PPP in non-fragile countries. For example, setting qualification criteria required a lot of deliberation, and although seven firms submitted qualifications, only three qualified. This challenge was still apparent at the proposal stage as proposals from two of the three bidders did not demonstrate an appropriate understanding of the project.

Strong partnerships and innovative thinking

102. The flexible approach and willingness to adapt to the conditions was the key element for the success of this private sector participation model. The main lesson learned from the preparation of this project is that while it is important to be guided by the traditional private sector participation playbook, it is even more critical to improvise, 'think outside the box' and have an agile, flexible approach to make private sector participation work in fragile and conflict environments. Furthermore, the strong partnerships and innovative thinking deployed by the project team and the motivations felt by the institutions behind the partnership for opening important doors and paving the way for more partnerships in other sectors, were all instrumental to the positive outcome of the project's intervention and impact.

Private sector engagement in FCV context and WB-IFC Collaboration

103. The successful collaboration between World Bank and IFC is noteworthy and offers key lessons on how to provide an integrated, cost-effective and participative solution for solid waste management service delivery, while operating in a fragile and challenging working environment. While the World Bank helped to construct the landfill and establish the institutional capacity needed to provide well-managed and sustainable sanitary disposal services,



IFC helped by structuring the first innovative private sector participation model in the West Bank and Gaza through GPOBA funding to operate and maintain the landfill and disposal facilities. Harnessing the knowledge and expertise of the private sector in operating the infrastructure ensured improved service delivery and financial security and sustainability for the service provider. Throughout the course of this project, the public and private sectors, donors, and the World Bank Group felt the importance of this project in creating new opportunities for the people of the West Bank, and innovated, adapted and compromised to make it work. This sort of collaboration, building upon the World Bank's long-established relationships in the area, adapting organizational processes to the specific needs of the public sector, and being open to original solutions, was essential to the private sector participation.

Lessons on Municipal Financial Improvements in the Solid Waste Sector

104. Transparent and Systematized Monitoring: The project used a formula-based and quantitative approach to calculate and disburse payments. Therefore, the management information system was imperative to monitoring performance and promoting transparency. The JSC-H&B maintained clear and frequent communication with local governments regarding personal and peer performance updates, exclusion criteria, changes in the incentive scheme, and opportunities and strategies to improve.

105. Dynamic Rewards System with Inclusion and Exclusion: A core component to the success of the OBA program was the ability to separate poor performing participants from those that are performing well, in order to encourage progress. Payments for highly performing local governments would not be impacted by poorly performing peers. Local governments that were excluded would have the opportunity to improve services in subsequent disbursement periods and earn payments that they missed in past disbursement periods. In this system, all entities were strongly incentivized for the duration of the project.

106. Design Based on Local Context: One of the main objectives of the project was to improve financial sustainability through improved fee collection. Co-billing was pursued as a strategy by many local governments. While many local governments included waste charges on a utility bill, the type of instrument used varied from water bills to building permits to marriage certificates. Workshops and consultations revealed that local governments had differing jurisdiction over local assets and the appropriate instrument for each depended on the locality. There was no one size fits all solution and it was critical to consider a variety of options.

Institutional Lessons from OBA Approach

107. Need for Flexibility in System Design: Several components of the OBA project were fine-tuned or redesigned as needs and local constraints evolved over the course of the project. For example, at the outset of the project, a defined capacity building program did not exist and was needed to improve performance. Funding was obtained through savings in the Independent Verification Agent procurement process, and two experts were hired to train local government officials. Further, it was understood during the second year that the incentive scheme required adjustments. Local governments had exceeded the initial targets for the cleanliness index and the targets were raised in subsequent evaluation periods.

108. Capacity Building Financing and Scope: Capacity building is essential to performance in OBA projects. The project recommended allocating substantial funding to technical trainings, advisory, and workshops that are relevant to the performance metrics of the OBA project. Due to limited funds, capacity building often occurred with 1 trainer per 60



officials and greater manpower would have been ideal. Further, the project found that the trainings delivered to local governments (such as in fee collection, billing calculations, and citizen engagement) could be broadly applicable to other sectors. Thus, the project team would recommend tying training programs to a greater capacity building program, perhaps including broader sectoral audience. Broadening capacity building could enable one dollar of financing to go further.

109. Peer-to-Peer Motivation: Throughout the project, the JSC-H&B regularly communicated project results to participating local governments and made performance results public to all participants. Seeing the results of peers motivated individual local governments to improve their performance. Workshops in which results, and success strategies were presented leveraged the competitive spirit of local governments to motivate progress.

110. Stakeholder Buy-In: The JSC-H&B was instrumental to the success of the OBA project. The JSC-H&B took ownership in engaging with local government participants and was able to leverage its established reputation and authority in the waste management sector. JSC-H&B understood the priorities and concerns of local governments and was able to communicate the opportunities of the program in a way that encouraged local government participation. Furthermore, in the early stages of the project, several focus group meetings were held to understand the concerns of stakeholders and ensure their early engagement. At community meetings in both urban and rural areas of Hebron and Bethlehem, citizens completed questionnaires on demographics, waste management services, and fees that influenced the design of the performance indicators. Meetings were also held with local and regional management to understand key concerns and challenges for project implementation. These consultations encouraged buy-in by citizens and municipalities.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Improve access to quality solid waste management services

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improvement in Cleanliness of Areas	Number	49.48	68.00	78.00	80.73
		14-Nov-2014	30-Sep-2014	15-May-2015	30-Sep-2017

Comments (achievements against targets): The project fully achieved and exceeded this target.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase of Sanitarily Managed Waste to Total Generated Waste Ratio	Percentage	0.00	85.00	95.00	100.00
		31-Mar-2014	30-Sep-2014	15-May-2015	30-Sep-2017

Comments (achievements against targets): At the project start, the newly constructed sanitary landfill wasn't operational hence "0" waste was disposed sanitarily. At project completion, this target was fully achieved and exceeded.

Objective/Outcome: Improve financial sustainability of solid waste management services



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in % SW fee collected from users by M/VCs in Hebron governorate	Percentage	42.66	70.00	80.00	82.07
		31-Mar-2014	30-Sep-2014	15-May-2015	30-Sep-2017

Comments (achievements against targets): The project fully achieved the target. (*M/VCs [Municipal Village Councils] are subsidy eligible local governments and solid waste service providers in Hebron Governorate).

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in % SW fee collected from users by M/VCs in Bethlehem governorate	Percentage	48.27	70.00	80.00	81.73
		31-Mar-2014	30-Sep-2014	15-May-2015	30-Sep-2017

Comments (achievements against targets): The project fully achieved the target. (*M/VCs [Municipal Village Councils] are subsidy eligible local governments and solid waste service providers in Bethlehem Governorate).

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in Billing to Cost Ratio	Percentage	76.78	71.00	81.00	84.43
		30-Sep-2014	30-Sep-2014	15-May-2015	30-Sep-2017



Comments (achievements against targets): The project fully achieved and exceeded this target.

A.2 Intermediate Results Indicators

Component: Project Management, Monitoring and Verification Activities

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Implementation of MIS.	Yes/No	N 31-Oct-2013	N 31-Oct-2013	Y 30-Sep-2014	Y 30-Sep-2017

Comments (achievements against targets):

Component: Technical Assistance

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Establishment of institutional framework	Yes/No	N 31-Oct-2013	N 31-Oct-2013	Y 30-Sep-2014	Y 30-Sep-2017

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Implementation of MIS.	Yes/No	N	N	Y	Y



		31-Oct-2013	31-Oct-2013	30-Sep-2014	30-Sep-2017
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Development of detailed plans for the closure of unsanitary dumpsites.	Yes/No	N 31-Oct-2013	N 31-Oct-2013	Y 30-Sep-2014	Y 30-Sep-2017
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Development of detailed plans to achieve environmental best practices.	Yes/No	N 31-Oct-2013	N 31-Oct-2013	Y 30-Sep-2014	Y 30-Sep-2017
Comments (achievements against targets):					

**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****A. TASK TEAM MEMBERS**

Name	Role
Preparation	
Carrie Farley	Task Team Leader, IFC
Ibrahim Dajani	Task Team Leader, World Bank
Marwa Al Nasaa	Investment Analyst , IFC
Alexis Befeno	Investment Analyst, IFC
Senes Arij	Technical Consultant, External
Supervision/ICR	
John Morton	Task Team Leader(s)
Noriko Oe	Task Team Leader
Lina Fathallah Rajoub	Procurement Specialist(s)
Riham Hussein	Financial Management Specialist
Salimatou Drame-Bah	Team Member
Axel E. N. Baeumler	Team Member
Dariusz Kobus	Environmental Safeguards Specialist
Rumana Abubeker	Team Member
Lina Abdallah Saeed Abdallah	Team Member
Andrianirina Michel Eric Ranjeva	Team Member
Zeyad Abu-Hassanein	Environmental Safeguards Specialist
Amal Nabil Faltas Bastorous	Social Safeguards Specialist
Fernando Nestor Murillo	Team Member

B. STAFF TIME AND COST



Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY13	10.765	115,522.00
FY14	2.025	7,108.34
FY16	.300	1,977.36
Total	13.09	124,607.70
Supervision/ICR		
FY14	7.300	46,376.82
FY15	10.100	45,778.61
FY16	12.597	70,953.47
FY17	34.028	171,384.50
FY18	16.339	198,723.86
FY19	7.844	63,287.90
Total	88.21	596,505.16



ANNEX 3. PROJECT COST BY COMPONENT

COMPONENTS	Funding Source	FUNDING (at appraisal) (USD)
OBA Subsidy	GPOBA Subsidy	8,006,623
Project Management, Monitoring and Verification Activities	GPOBA Subsidy	250,000
Total GPOBA financing		82,256,623
Technical Assistance	WB, IFC and other Donors (parallel financing)	181, 250



ANNEX 4. EFFICIENCY ANALYSIS

1. Using the approach undertaken at appraisal as a basis, a financial cost analysis was updated based on actual figures, to evaluate the ability to meet their financial obligations of the services. An end of project cost-benefit analysis was also undertaken comparing it against the same situation without the benefits of the OBA subsidy and related service improvements and against the baseline-before project situation. Finally, cost-effectiveness indicators were analyzed to complement the cost-benefit analysis.

Financial Cost Analysis

2. Prior to the onset of the project, waste was disposed at dumpsites. While the total cost of solid waste management services went up as anticipated mostly due to operating costs associated with the proper disposal of waste at sanitary landfill, the cost increase was offset by (a) improved services and increase in fee collected from users, (b) OBA subsidy provided and (c) allocated municipal transfers.
3. Local governments and JSCH-&B were able to cover their operating costs through the project scheme and managed to improve their financial sustainability (detailed comparison on table (a) and (b) cost the table. Notably, the total solid waste management cost went up, particularly for primary collection from the appraisal estimate in 2013 (from about 11 Million NIS at appraisal to over 19 Million NIS by project closure in 2017). This is due to costs associated with providing improved better services and expansion of services to previously unserved areas the cost of improved services.
4. The costs of improved service delivery and revenues collected were recalculated post project closure and compared with the appraisal cost estimated at appraisal in 2013. Service delivery costs included: (i) primary collection costs comprised of O&M expenses for JSC-H&B and local governments; (ii) final disposal costs represented by the payment to the private operator; and (iii) JSC-H&B operating costs. Revenues collected include: (i) user fees from households; (ii) revenue from commercial establishments; and (iii) other municipal sources. Solid waste fees covered: (i) primary collection costs; (ii) costs of transport to transfer stations; (iii) O&M costs of the sanitary landfill and transfer stations; and (iv) administrative costs of the landfill operator and JSC-H&B.



(a) Cost estimate at Appraisal

	Baseline (6 months)	2013 (6 months)	2014	2015	2016	2017 (6 months)
Primary Collection costs	18,670,000	8,333,246	17,689,363	18,694,438	20,154,519	11,216,987
Final Disposal Costs	0	5,520,129	12,299,965	13,849,613	15,918,326	9,298,081
Total solid waste management Costs	18,670,000	13,853,375	29,989,327	32,544,051	36,072,846	20,515,067
Total Revenue from User Fees	6,150,000	7,011,829	17,036,235	20,867,796	25,582,473	15,486,632
GPOBA subsidy	0	5,062,744	9,196,696	7,472,804	5,979,513	2,313,080
Shortfall		6,841,547	12,953,092	11,676,256	10,490,373	5,028,436
Municipal Transfers (NIS)	12,520,000	1,778,802	3,756,397	4,203,452	4,510,860	2,715,355
Total GPOBA (NIS)				30,024,837		
Total GPOBA (USD)				\$8,006,623		



(b) Actual cost at completion

	Baseline (6 months)	2013 (6 months)	2014	2015	2016	2017 (6 months)
Primary Collection Costs	18,670,000	16,785,076	31,803,979	32,842,459	34,555,643	19,926,337
Final Disposal Costs	0	5,520,129	12,299,965	13,849,613	15,918,326	9,298,081
Total solid waste management Costs (Primary Collection Costs Final)	18,670,000	16,876,071	44,258,691	47,193,801	50,204,261	24,081,149
Total Revenue from User Fees	6,150,000	6,771,340	14,192,566	17,791,564	28,920,947	16,310,830
GPOBA Subsidy (actual)	0	4,708,535	9,221,008	7,676,785	5,897,330	2,172,980
Shortfall		-	-	-	-	-
Municipal Transfers and (NIS) Other Municipal Sources	12,520,000	5,396,196	20,845,117	21,725,452	15,385,984	5,597,339
Total GPOBA Subsidy Actual Disbursed (NIS)		29, 931, 946. 04				
Total GPOBA Subsidy Actual Disbursed (USD)		8,006,623				



Cost Benefit Analysis

5. The cost benefit analysis undertaken following a similar analysis as at appraisal. It covers the time period of the GPOBA subsidy 2014 to 2017. It looks at the entire solid waste system and includes the benefits and costs of the status quo scenario that was evident appraisal and does not include upgrading of services with a private contractor to output based aide, the actual scenario of the system and it improvements including GPOBA, private contractor and other upgrades. The actual scenario was then run without the costs and benefits directly attributed to the OBA subsidy and related improvements in collection and cleaning services.
 - **Status Quo Scenario:** This assumes continuation of the present system (primary collection as is (no improvement in level of service/sustainability) and managed by JSC-H&B and local governments. Final disposal (transfer stations, long haul and landfill operations) are assumed to be managed by JSC-H&B and not benefit from service improvements.
 - **Actual Scenario:** The actual scenario included the private operator, the output-based subsidy, improvements in the service related to the key performance indicators, improvements in cost recovery. It also covered the improvements in waste collection system, landfill operation, and closure of dumpsites that benefited from the TA, presence of a private contractor and the incentive program. Additionally, there were improvements make in managing the landfill operations, recycling that occurred during this time period that are not directly attributed to the GPOBA subsidy indicators.
 - **Actual Scenario without OBA-related benefits:** This scenario took the actual scenario and related increases in costs removed the benefits and costs attributable directly to the output-based aide and its indicators including the subsidy itself, the increased costs (operational and investment) need to improve municipal collection and cleaning services and related benefits of the service.
6. The key elements of the benefits and costs of the overall systems for each option are identified and briefly discussed below.

Benefits Considered:

7. **Value of Solid Waste Services:** Funds from solid waste management services solid waste management user fees collected (households and commercial) and those funds from other municipal sources¹³ that are allocated for solid waste management are used as a proxy for the value of solid waste management services as it is the amount of money that both the users and the providers are willing to allocate to the achieve the private and public benefits of the services. In the status quo scenario, the value attached to solid waste services by users and providers are based on no increases in tariffs or improved collection or service with service costs consistent with that baseline level of service. The landfill and transfer costs were based on the that which was projected for this scenario in the baseline situation. In the project scenario, the actual revenues and expenditures and related costs and benefits are provided. Without the OBA subsidy the baseline benefits and costs related to municipal services are included in the project scenario and the subsidy fees and costs of administering are not included.
8. **Reduction of GHG Emissions:** The reduction of GHG emissions was calculated for the project scenario using the

¹³ The baseline scenario uses the projected to be collected and assumes that "Other municipal sources" contributes approximately 75% and 13% towards the shortfall of user fees in the "PSP" and "PSP & OBA" scenarios respectively. The project scenarios use the measured fee collection and municipal contribution to service costs sourced from the MIS system of the project.



CURB tool accounting for the increased emissions from transporting additional waste and from the introduction of a landfill gas capture system as part of the private sector contract and related service improvements. The scenario without OBA retained the related costs and benefits. The status quo scenario is based on the projection for greenhouse gas emissions reductions made for the system at the time of appraisal which assumed a reduction from landfill gas collection as implemented by the JSC-H&B. The benefits were monetized using the social cost of carbon of \$42 per metric ton of CO₂ (in 2020) ¹⁴.

9. **Health impact** (e.g. reduced respiratory diseases such as chronic bronchitis, reduction in lost work days due to illnesses, etc.) were calculated at appraisal using the above calculation of social cost of carbon as a surrogate for health impacts. In the updated analysis, the benefits instead were based on economic benefits for residents near former dumpsites and waste pickers that have improved health conditions. It is expected that upon closure of dumpsites, the first year should reduce the acute impacts which account for the majority of the impacts and after the remaining chronic impacts would be reduced over time. In the analysis the health benefits associated maintaining the closure of the dumpsites over the period of the OBA is considered in the project scenario. The valuation includes the reduction of chronic health impacts over a period of the GPOBA amounting to NIS 186,000 in reduced health care costs per year ¹⁵. For the baseline scenario, the benefits were assumed to be 1/3 of this value, owing to the fact that no plan for closure for the sites would be developed as part of the technical assistance although the JSC-H&B may have undertaken some work in this regard.
10. **Job Creation/Losses:** All scenarios included job creation benefits from the new landfill, transfer stations and the closure of the Yatta dumpsite (a dumpsite that was not subject of the technical assistance of the OBA project) This amounted to a benefit of NIS 1.7 million per year in salaries related to new jobs at the new transfer station, landfill and an economic benefit of NIS 2 million per year (covering salaries and the economic benefit of adding these wage earners to the economy) for 45 waste pickers that are now working for the JSC H&B. Additionally, both the project and baseline scenarios include an estimated NIS 1.4 million per year in contributions to the local economy attributed to 60 waste pickers that opted for other livelihoods (outside of the JSC H&B) after they were provided low cost training¹⁶. In the project scenario and the scenario without OBA, an additional NIS 300,00 per year in employment benefit were created.
11. **Avoided Costs of Aquifer Contamination.** The avoided costs associated with water treatment due to contamination from unsanitary disposal of waste is estimated and assumed to be a benefit in the project scenario. As the groundwater already polluted by former dumpsites will remain for many years, it was assumed the improvement would be 1 percent per year in reduced costs for water purification in affected communities. The estimated benefit is \$210/yr ¹⁷. For the status quo scenario it was assumed this benefit to be 1/3 of this value with the expectation that without the technical assistance closure of fewer dumpsites would be done.
12. **Value of Recycling:** For the project scenario (with and without OBA) a recycling facility was developed by the JSC-H&B that resulted in benefits in the form of the sale of recycling materials and savings from avoiding landfilling. The actual revenues from recycling (NIS 360,000 per year) and the cost of landfilling those

¹⁴ Greenstone, Michael., Kopits, Elizabeth., Wolverton, Ann. "Developing a Social Cost of Carbon for US Regulatory Analysis: A Methodology and Interpretation". Association of Environmental and Resource Economists,2013.

¹⁵ Based on the analysis of the ICR for the Southern West Bank Solid Waste Management Project taking into account the annual health benefits of having dumpsites remain closed not including the benefits of the initial closure (first year after closure).

¹⁶ Based on the analysis of the ICR for the Southern West Bank Solid Waste Management Project. A multiplication factor of two (relative to the expected salary) was used for the contributions to the local economy.

¹⁷ ICR of the Southern West Bank Solid Waste Management Project.



recyclables (NIS 75,000 per year) were used as benefits. This was not an expected activity in the baseline at appraisal and therefore was not included in the status quo scenario.

13. **Other Benefits – Corporate Tax.** For the project scenario (with and without OBA), other benefits that will result from the new solid waste management system will come primarily through corporate taxes that will be levied on revenues generated by the private landfill operator. The Corporate tax rate in West Bank is 15% and this has been utilized in the cost benefit analysis.

14. Costs considered: The following costs were considered for each scenario:

- **Status Quo Scenario:** The status quo scenario included costs for transfer and landfill (capex and opex) assuming JSC-H&B is operating them and based on the projections at appraisal; primary and collection (capex and opex) based on projections at appraisal and assuming no improvements in service quality. Under this scenario the NPV is calculated as NIS -22,991,083.
- **Actual Scenario:** The actual project scenario included costs for transfer and landfill (capex and opex) based on actual costs; primary and collection (capex and opex) based actual costs; costs for the sorting facility (capex and opex) based on actual costs. It also includes the amount spent on administering the OBA subsidy and the technical assistance program. Under this scenario the NPV is calculated as NIS 22,908,453.
- **Actual Scenario without OBA-related benefits:** The actual project scenario (without OBA) includes costs for transfer and landfill (capex and opex) based on actual costs; primary and collection (capex and opex) based on the projected status quo costs; costs for the sorting facility (capex and opex) based on actual costs. It does not include the amount spent on administering the OBA subsidy and the technical assistance program. Under this scenario the NPV is calculated to be NIS -5,679,293.



ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

The draft ICR was shared with the client during the ICR preparation mission in May 2018 and detailed discussion took place regarding the final results, proposed ratings and main lessons learned from project implementation. The client expressed its general accord with the reported result and proposed ratings. Subsequently, the project team shared the revised and final draft of the ICR with the borrower, GPOBA and IFC and there were no additional comments.



Annex VI. Supporting Documents

Annex VI (A). Disaggregated performances of local governments per KPIs over Baseline
(Source: JSC-H&B Report)

Table 1. Key Performance Indicator 2: Improvement in Cleanliness of Areas disaggregated by Hebron and Bethlehem governorates

Hebron Governorate			Bethlehem Governorate		
Local government	Baseline (2014) (Number)	Target achieved (2017) (Number)	Local Government	Baseline (2014) (Number)	Target achieved (2017) (Number)
Adh Dhahiriya	48	79	Ad doha	55	78
Al Karmil	47	74	Al Khadr	47	75
Al Majd	56	88	Al Khas	54	78
Al Yasiriyya	63	79	Southern JSC-PD	29	78
Beit Amra	56	68	Al Ubeidiya	47	80
As Samu	54	79	Al Walaja	51	81
Ash Shuyukh	43	70	Artas	33	77
Bani Naim	68	80	Battir	71	85
Beit Kahil	53	80	Beit Fajjar	56	77
Beit Ula	51	81	Beit Jala	56	83
Beit Ummar	47	81	Beit Sahur	48	85
Deir al Asal al Tahta	53	83	Bethlehem	63	82
Dura	48	80	Dar Salah	54	78
Halhul	47	78	Hindaza	25	78
Hebron	56	81	Husan	63	84
Idhna	48	82	Jannatah	25	76
Imreish	72	81	Nahhalin	38	80
Karma	60	84	Tuqu	63	83
Khallet al Maiyya	50	85	Wadi Fukin	88	78
Kharas	63	81	Zatara	50	72
Khirbet Ad Deir	67	84			
Khursa	42	78			
Nuba	60	87			
Sair	72	81			
Shuyukh al Arrub	92	78			
Sikka	44	83			
Surif	53	81			



Taffuh	48	81				
Tarqumiya	50	78				
Yatta	53	79				

Table 2. Key Performance Indicator 3: Increase of Sanitarilly Managed Waste to Total Generated Waste Ratio

disaggregated by Hebron and Bethlehem governorates

Hebron Governorate				Bethlehem Governorate		
Local Government	Baseline (2014) %	Target achieved (2017) %		Local Government	Baseline (2014)	Target achieved (2017)
Adh Dhahiriya	0	100		Ad doha	0	100
Al Karmil	0	100		Al Khadr	0	100
Al Majd	0	100		Al Khas	0	100
Al Yasiriyya	0	100		Southern JSC-PD	0	100
Beit Amra	0	100		Al Ubeidiya	0	100
As Samu	0	100		Al Walaja	0	100
Ash Shuyukh	0	100		Artas	0	100
Bani Naim	0	100		Battir	0	100
Beit Kahil	0	100		Beit Fajjar	0	100
Beit Ula	0	100		Beit Jala	0	100
Beit Ummar	0	100		Beit Sahur	0	100
Deir al Asal al Tahta	0	100		Bethlehem	0	100
Dura	0	100		Dar Salah	0	100
Halhul	0	100		Hindaza	0	100
Hebron	0	100		Husan	0	100
Idhna	0	100		Jannatah	0	100
Imreish	0	100		Nahhalin	0	100
Karma	0	100		Tuqu	0	100
Khallet al Maiyya	0	100		Wadi Fukin	0	100
Kharas	0	100		Zatara	0	100
Khirbet Ad Deir	0	100				
Khursa	0	100				
Nuba	0	100				
Sair	0	100				
Shuyukh al Arrub	0	100				
Sikka	0	100				
Surif	0	100				



Taffuh	0	100				
Tarqumiya	0	100				
Yatta	0	100				

Table 3. Key Performance Indicator 4. Increase in % SW fee collected disaggregated by Hebron and Bethlehem governorates

Hebron Governorate				Bethlehem Governorate		
Local Government	Baseline (%) (2014)	Target achieved (%) (2017)		Local Government	Baseline (%) (2014)	Target achieved (%) (2017)
Adh Dhahiriya	25	100		Ad doha	35	63
Al Karmil	20	49		Al Khadr	35	50
Al Majd	45	100		Al Khas	65	84
Al Yasiriyya	46	84		Southern JSC-PD	89	93
Beit Amra	60	97		Al Ubeidiya	60	100
As Samu	80	72		Al Walaja	75	90
Ash Shuyukh	95	100		Artas	17	72
Bani Naim	80	91		Battir	40	57
Beit Kahil	50	95		Beit Fajjar	50	100
Beit Ula	100	96		Beit Jala	60	89
Beit Ummar	50	92		Beit Sahur	56	83
Deir al Asal al Tahta	45	83		Bethlehem	56	76
Dura	50	74		Dar Salah	65	84
Halhul	10	74		Hindaza	60	58
Hebron	20	73		Husan	40	77
Idhna	98	100		Jannatah	30	86
Imreish	40	100		Nahhalin	40	61
Karma	50	77		Tuqu	25	72
Khallet al Maiyya	50	86		Wadi Fukin	40	84
Kharas	100	100		Zatara	25	85
Khirbet Ad Deir	28	100				
Khursa	45	78				
Nuba	28	85				
Sair	90	73				
Shuyukh al Arrub	28	72				
Sikka	25	88				
Surif	65	96				
Taffuh	100	100				
Tarqumiya	100	89				
Yatta	9	33				



Table 4. Key Performance Indicator 5. Increase in Billing to Cost Ratio disaggregated by Hebron and Bethlehem governorates

Hebron Governorate				Bethlehem Governorate		
Lovsl government	Baseline % (2014)	Target achieved (%) (2017)		Local government	Baseline % (2014)	Target achieved % (2017)
Adh Dhahiriya	33	76		Ad doha	116	78
Al Karmil	280	84		Al Khadr	118	117
Al Majd	67	80		Al Khas	78	92
Al Yasiriyya	104	68		Southern JSC-PD	117	105
Beit Amra	100	79		Al Ubeidiya	253	115
As Samu	61	55		Al Walaja	78	118
Ash Shuyukh	73	95		Artas	132	122
Bani Naim	99	132		Battir	111	91
Beit Kahil	93	87		Beit Fajjar	64	87
Beit Ula	61	75		Beit Jala	52	81
Beit Ummar	30	66		Beit Sahur	41	78
Deir al Asal al Tahta	105	101		Bethlehem	41	72
Dura	138	84		Dar Salah	126	107
Halhul	54	73		Hindaza	0	79
Hebron	44	69		Husan	95	130
Idhna	59	93		Jannatah	59	86
Imreish	204	112		Nahhalin	230	154
Karma	150	122		Tuqu	81	119
Khallet al Maiyya	114	59		Wadi Fukin	142	97
Kharas	59	93		Zatara	99	132
Khirbet Ad Deir	11	91				
Khursa	118	134				
Nuba	93	118				
Sair	66	92				
Shuyukh al Arrub	48	73				
Sikka	207	135				
Surif	109	72				
Taffuh	89	79				
Tarqumiya	110	76				
Yatta	109	60				



Supporting Documents

Annex VI (B). Calculation of Scores & Subsidies, Independent Verification Agent Result Verification and Payment Mechanism

I. Calculation of Aggregate Scores and Subsidies

Calculation of Aggregate Scores

The methodology for calculating the aggregate score for each indicator is described as follows:

Indicator (1) Strategy Development and MIS Implementation: this indicator is measured at the JSC-H&B level, where evaluation will be based on whether JSC-H&B has implemented the actions required to achieve this target; therefore, no aggregation is required for this indicator.

- i. **Indicator (3) Total Waste Managed:** this indicator tracks the percentage of waste that is treated sanitarilly at the aggregate level and will be calculated as detailed below.

% Waste Managed Sanitarilly

$$= (\text{waste deposited at Al Minya} + \text{waste diverted}) / (\text{waste deposited at Al Minya} + \text{waste diverted} + \text{waste deposited at dumpsites})$$

- ii. **Indicator (2) Improvement in Cleanliness of Areas¹⁸, Indicator (4) Increase in Percentage Fee Collection and Indicator (5) Increase in Cost Recovery:** aggregation of these indicators will be based on a population weighted average of the M/VC's scores.

Calculation of Aggregate Subsidies

The methodology for calculating the aggregate subsidy disbursed to JSC-H&B for each indicator is based on the aggregate score calculated (section I).

Technical Scorecards

The project developed technical scorecard in order to determine subsidy allocation and track progress against OBA Targets. The technical scorecard contained the indicators (and their weight) to be evaluated in each verification period, namely:

- Indicators related to solid waste management strategy development and implementation of MIS
- Indicators related to service provision (Cleanliness Index and Total Waste SanitarillyManaged)
- Indicators related to financial performance to track cost recovery progress (Improvement in fee collection and Billing to cost ratio)

¹⁸CI will be waste weighted in lieu of population weighted. CI baseline indicates no significant variation.



Weights for each indicator in each year were determined based on the relative importance of that indicator in the respective period. Furthermore, regarding the CI, data on cleanliness will only be available after the first year of the project when the baseline study (routing optimization, bin evaluation, evaluation of streets/areas) is conducted. CI performance targets proposed in the technical scorecard will thus be calibrated after the first year of implementation.

The table below provides the weights for each indicator:

Weights for Indicators

#	Indicator	Weights: Year 1	Weights: Years 2-4
1	Strategy development/MIS implementation	50%	–
2	Improvement in cleanliness of areas	15%	20%
3	Increase in total waste managed	20%	30%
4	Increase in percentage fee collection by local governments		
4a	Increase in percentage fee collection in Hebron governorate	9%	15%
4b	Increase in percentage fee collection in Bethlehem governorate	6%	10%
5	Increase in cost recovery	–	25%
	Total	100%	100%

The actual subsidy payment for each indicator, in each audit period, will be per the formula below. The formula utilizes the indicator’s weight and the year’s subsidy requirements, to arrive at subsidy disbursements. If performance for any indicator falls below the minimum performance level, no subsidies are disbursed for that particular indicator. In cases where performance just meets the minimum performance level, a minimum percentage of the subsidy allocation is disbursed (60%). If performance meets or exceeds the target set for each audit, the full subsidy allocated for that indicator is disbursed (100%). If performance is above the minimum performance level, but below the target level, prorated subsidies are disbursed. An example of the calculations described above is also presented below.

$$DF = \begin{cases} 0; & \text{when } \frac{(I_{Actual} - I_{Min})}{(I_{Target} - I_{Min})} < 0 \\ \frac{(1 - S_{Min\%}) \times (I_{Actual} - I_{Min})}{(I_{Target} - I_{Min})} + S_{Min\%}; & \text{when } \frac{(I_{Actual} - I_{Min})}{(I_{Target} - I_{Min})} > 0 \\ 1; & \text{when } I_{Actual} > I_{Target} \end{cases}$$

$$S_{Dis} = DF \times S_{All}$$

Where:



DF = Disbursal Factor (percentage of subsidy that would be disbursed);

I_{Target} = Indicator Target;

I_{Min} = Minimum Performance Level for the Indicator;

I_{Actual} = Actual Performance Level for Indicator (as determined during audit by the Independent Verification Agent);

S_{Min%} = % of Subsidy Allocation Disbursed for Minimum Performance;

S_{All} = Subsidy Allocation for the Indicator (for the audit period); and

S_{Disbursed} = Subsidy to be disbursed.

If performance falls short of achieving the set targets during a given verification period, JSC-H&B give chances to catch up in the subsequent period. Assuming targets that are missed are achieved in the subsequent period, OBA funds allotted for the preceding period would be paid in addition to those for the current period if targets for the current period are successfully met. This would reinforce the incentive to improve performance to the pre-agreed levels and would not unduly penalize local governments and JSC-H&B should political or other implementation challenges.

Calculation of Subsidy Credits Available to Municipalities

The amount of subsidy credits available to municipalities (Subsidy Credit_{Municipality}) is dictated by:

- The total GPOBA subsidy as a percentage of the total final disposal bill (Subsidy %):

$$Subsidy \% = \min\left[100\%, \frac{GPOBA\ Subsidy}{Total\ final\ disposal\ bill}\right]$$

- The weight of the indicator (Weight_{Indicator}), which is described in section 2.5.3; and
- The municipality’s final disposal bill.

The formula for calculation of Subsidy Credit_{Municipality} is presented below.

$$Subsidy\ Credit\ Municipality = (Subsidy\ \%) * (Weight\ Indicator) * (Municipality\ final\ disposal\ bill)$$

Calculation of Credits Allocated to Municipalities

The baseline and target scores for each participating M/VC will constitute individual M/VC’s scorecard which will be set in consultation between JSC-H&B and the local governments.

The amount of credit allocated to municipalities will be based on percentage improvement from each municipality’s baseline towards the target.



Municipal Credit

$$= (\text{Subsidy Credit Municipality})$$

$$* \min\left[100\%, \frac{(\text{score achieved}) - (\text{baseline score})}{(\text{target score}) - (\text{baseline score})}\right]$$

Therefore,

$$\text{Municipal Credit} = (\text{Subsidy Credit Municipality}) * \min[100\%, \% \text{ improvement from baseline}]$$

Once municipal credits have been granted at the end of each evaluation period, the baseline values are adjusted at the beginning of the subsequent evaluation period.

Disbursement of Grant Funds

JSC-H&B allocate credits to individual municipalities (based on their respective performance) is contingent upon the overall performance of the participating municipalities as a whole. This section describes the approach to address the potential case when:

$$S_{\text{Disbursed}} < \sum (\text{Municipal Credit})$$

When the aforementioned case materializes:

- Municipal credits will be allocated first to highest performing municipalities, until $S_{\text{Disbursed}}$ is depleted;
- Baseline scores will be adjusted only for municipalities that have been allocated their respective credits; and
- Baseline scores will remain unchanged for municipalities that have not been allocated the credits that they have earned. This will allow them to earn a credit for past period in the subsequent evaluation period.

Exclusion Criteria

Starting from period 4 and on ward, the exclusion criteria was implemented in which each local government whom are not performing well will be excluded and this is to force them to improve their KPIs, in addition, they will not affect local governments whom are performing well. The criteria states that if a local government’s verified individual KPI score was lower than the KPI’s minimum target set at the aggregate level for two consequent periods, the authority will be excluded from both the aggregate KPI actual score calculation and municipal credit receipt tied to the specific KPI. Once the individual KPI score improves to the level exceeding its aggregate minimum target, the local government will again be included into the aggregate KPI actual score calculation and receive the municipal credit tied to the KPI. All of the local government who are not excluded receive municipal credit in accordance with the formulas. Those who are excluded receive no municipal credit.



The implementation of the exclusion criteria is implemented as follows:

- 1- All local governments shall be informed about the rules of the criteria
- 2- All local governments shall be well informed in advance about the start of implementation of the criteria.
- 3- A comprehensive capacity development support by JSC H&B to the participating local governments to raise their scores and to avoid being excluded. This support is conducted by different means like meetings, workshops, training sessions, and official letters ---etc.

II. Independent output verification (IVA) and Payment Mechanism

The technical scorecards were used by the independent verification (IVA) to assess the scores for each OBA Target and its associated indicators. The Independent Verification Agent review the progress semi-annually and evaluate achievements against the agreed target for the indicators identified. Each review results in a score against which the payment was prorated assuming the minimum passing score was achieved for each indicator. At the JSC-H&B level, the Independent Verification Agent review the MIS records to check that scores have been calculated correctly and subsequently select a sample of that data entered in the MIS to verify whether it has been recorded accurately. Acceptable verification triggers the transfer of the corresponding OBA grant to JSC-H&B. The scorecard was used for both independent verification and overall project's M&E purposes.

Based on Independent Verification Agent verified results, JSC-H&B determine the OBA subsidy that each M/VC and JSC-H&B could claim in the form of an "output-based credit"¹⁹. This credit was applied against the local governments and JSC-H&B final disposal bills. In cases where local governments and JSC-H&B fall short of their targets, but still demonstrate progress; JSC-H&B provided a portion of the output-based credit. Participating local governments and JSC-H&B that failed to meet targets for two consecutive evaluation periods in absence of extenuating circumstances deemed acceptable by JSC-H&B were excluded from the scheme in order not to penalize local governments who have achieved their targets.

Subsidy Surplus

Subsidy Surplus, recorded in the Independent Verification Agent report every period, is the difference between the total subsidy earned at aggregate level and the subsidy disbursable to operator. The subsidy disbursable amount is the sum of municipal credit local government received individually. The individual credit amount is determined based on the authority's KPI performance improvement from its baseline (based on formula) and capped to the level of final disposal bill that each authority is charged by the JSC

¹⁹ The design of the "staged" approach whereby the service providers (municipalities) will be granted the subsidy as a credit on their landfill gate disposal bill, is justified in order to comply with GPOBA's requirement that funds provided by IFC can be used solely for the purpose of paying the private operator, who in this case, is providing final disposal services on behalf of JSC-H&B.



H&B. The surplus – the portion of earned subsidy that could not be disbursed to the operator during the same period – is carried over to the next period and disbursed in accordance with the same principle.

Annex VI (C). Bibliography

JSC-H&B Progress Reports: The Joint Services Council for Solid Waste Management of Hebron and Bethlehem Governorates: Technical Operation Unit (TOU)

Reports covering the following periods:

1st Progress Report	October 2013 – March 2014
2nd Progress Report	April 2014 – September 2014
3rd Progress Report	October 2014 – March 2015
4th Progress Report	April 2015 – September 2015
5th Progress Report	October 2015 – March 2016
6th Progress Report	April 2016 – September 2016
7th Progress Report	October 2016 – March 2017
8th Progress Report	April 2017 – September 2017

Independent Verification Agent Verification Reports: Independent Verification Agent (IVA) Audit Performance of Solid Waste Management

Reports covering the following periods:

1st Period	End of 2013	October 2013 – March 2014
2nd Period	Mid 2014	April 2014 – September 2014
3rd Period	End of 2014	October 2014 – March 2015
4th Period	Mid 2015	April 2015 – September 2015
5th Period	End of 2015	October 2015 – March 2016
6th Period	Mid 2016	April 2016 – September 2016
7th Period	End of 2016	October 2016 – March 2017
8th Period	Mid 2017	April 2017 – September 2017

Implementation Completion Report: *Southern West Bank Solid Waste Management Project* (P154102):
Report No: ICR00003314 (December 2016)