INTEGRATED SAFEGUARDS DATASHEET
APPRAISAL STAGE

44630

I. Basic Information

Date prepared/updated: 06/30/2008

1. Basic Project Data

Country: Jordan	Project ID: P107410
	Additional Project ID *(if any)*: P104960 Jo-Amman Solid Waste Management and Carbon Finance
Project Name: AMMAN LANDFILL GAS RECOVERY PROJECT (blended with P104960)	
Task Team Leader: Jaafar Sadok Friaa	
Estimated Appraisal Date: June 17, 2008	Estimated Board Date: September 30, 2008
Managing Unit: MNSSD	Lending Instrument: Carbon Offset
Sector: Solid waste management (85%);Sub-national government administration (15%)	
Theme: Pollution management and environmental health (P)	
IBRD Amount (US$m.): 18.00 IDA Amount (US$m.): 0.00 GEF Amount (US$m.): 0.00 PCF Amount (US$m.): 0.00 Other financing amounts by source: Borrower 21.50 21.50	
Environmental Category: A - Full Assessment	
Simplified Processing	Simple [] Repeater []
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)	Yes [ ] No [X]

2. Project Objectives

1. The development objectives of the proposed project are to strengthen the operational, financial, and environmental performance of MSWM in Amman. Specifically, the project will help achieve the following:

(i) Environmentally upgrade and expand the existing municipal solid waste landfill to meet the city's disposal needs up to 2013 and generate electricity while mitigating GHGs; and

(ii) Improve the cost effectiveness of the existing municipal solid waste collection and transport system and improve overall cost recovery.

3. Project Description

Component 1: Institutional Strengthening and Capacity Development: This component will finance technical assistance and capacity building activities benefiting GAM departments involved in the planning, development, operation, and evaluation of MSW services. This component, which will build on the recommendations regarding organizational restructuring in the Master Plan, will include: (i) support for strategic

planning in SWM systems including collection, recycling, sorting, transfer and landfilling; (ii) support for piloting private sector participation in SWM services in GAM; (iii) development of information systems to track technical, environmental and financial performance of MSW services; and (iv) development and implementation of a public information, education, and communication program.

This component will also finance (a) technical assistance to GAM in operating the landfill site and monitoring the LFG recovery contract; and (b) engineering services for supervising all civil works contracts, including construction of cell 3 and upgrade of the existing leachate treatment facility.

Component 2: Infrastructure Development: This component includes three subcomponents aimed at improving the cost recovery and effectiveness of disposal and transfer, strengthening management and capacity expansion of the existing landfill, and using LFG to generate electricity. The investment activities are:

Sub-component 2.1: Landfill construction and upgrade of leachate treatment facility: The sub-component would finance civil works construction of cell 3 at the existing Al Ghabawi landfill and the upgrading of the existing leachate treatment facility.

Sub-component 2.2: Construction of two transfer stations: Under this sub-component, the project will expand the transfer system by financing the construction and equipment of two new transfer stations to service the North and South-east areas of Amman. These two facilities aim at increasing the proportion of MSW transported through transfer station from 75% to 95% and thereby reducing the cost of both collection and transfer of municipal wastes in Amman.

Sub-component 2.3: Design, Build and Construction of an LFG recovery system: Under this sub-component, the project will finance the design, supply, installation, commissioning and initial operation for 5 year of an LFG recovery system (extraction of LFG and energy generation) for cells 1, 2, and 3 at al Ghabawi landfill. The sub-component will also include final capping of these cells as well as upgrading of the leachate drainage system in order to maximize LFG recovery. The total capacity of the power plant to be installed during the project period will be 6 MW. Implementation of this sub-component will also enable income generation from the sale of CERs and electricity.

Component 3: Project Management. This component will finance necessary technical assistance to the Project Management Unit (PMU), which is being established to undertake the day-to-day management of the project. The technical assistance to the PMU will facilitate the PMU's overall supervisory, coordinating, and monitoring role.

Attached Carbon Finance Operation: The World Bank has entered into an agreement with GAM to purchase part of the CERs resulting from the project, amounting 0.9 million tons of CO2 equivalent (tCO2e) of CERs from 2009 to 2014. It should be pointed out that in accordance with rules governing the CDM, a portion of the carbon revenues is to be allocated to sustainable development. GAM has already agreed with the MoE that 15% of

the carbon revenues will be allocated to support pollution abatement activities as part of the Environment Protection Funds Program housed at and managed by the MoE.

4. Project Location and salient physical characteristics relevant to the safeguard analysis

All investments planned under the proposed project will be located in Greater Amman Municipality in Jordan.

5. Environmental and Social Safeguards Specialists

- Mrs. Dahlia Lotayef: Senior Environmental Specialist (MNSSD)
- Mr. Sherif Arif, Consultant (MNSSD)
- Mr. Knut Opsal, Senior Social Development Specialist (MNSSD)

6. Safeguard Policies Triggered	Yes	No
Environmental Assessment (OP/BP 4.01): The proposed project falls under the World Bank environmental category A classification due to its size, magnitude, severity, and irreversibility of potential environmental impacts.	X	
Natural Habitats (OP/BP 4.04)		X
Forests (OP/BP 4.36)		X
Pest Management (OP 4.09)		X
Physical Cultural Resources (OP/BP 4.11)		X
Indigenous Peoples (OP/BP 4.10)		X
Involuntary Resettlement (OP/BP 4.12) Because of the potential for involuntary resettlement and/or land acquisition due to the sitting of the two transfer stations financed by the Project, O.P. 4.12 on Involuntary Resettlement was triggered, and a Resettlement Policy Framework (RPF) has been prepared.	X	
Safety of Dams (OP/BP 4.37)		X
Projects on International Waterways (OP/BP 7.50)		X
Projects in Disputed Areas (OP/BP 7.60)		X

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. *Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:*

According to the ESIA report, the proposed project will have a strong positive impact on the overall environment of the project area while addressing global environmental issues i.e. mitigating Greenhouse Gas (GHG). It will particularly address the deficit in municipal solid waste disposal capacity; improve disposal practices, and address related

gas and leachate management issues, and hence mitigating negative impacts of the existing disposal facility on environment and natural resources.

The project will contribute to global climate mitigation agenda through the reduction of 2.8 million tons of CO2eq during a 20 year period while generating 240,000 MWh electricity by 2014 and will mobilizing additional revenues that will be used to enhance solid waste cost recovery in Amman and to financially support sustainable development activities through allocation of 15% of carbon revenues to Jordan's Environmental Protection Fund.

Other substantial benefits are related to the rationalization of collection and transfer of municipal solid waste in GAM. The operation of the two planned transfer stations in conjunction with the existing ones will reduce the distance of within city trips the overall trips made to the landfill. This will decrease affecting traffic levels which will have a positive impact on the road and streets users of the surrounding areas

Major adverse impacts associated with the project are: Leachate management and polluting discharge; odor, and gas emissions. The design of the proposed project took into consideration these potential impacts and appropriate mitigation measures are ready part of the project.

Other impacts: Adverse environmental impacts during the construction phase might be significant; however, they are short term, reversible and unlikely to be significant. Typical impacts are noise nuisances, air pollution due to dust formation, safety hazard from construction of activities, etc. Good construction practices will be included in the bidding documents of the project and would mitigate most of these temporary impacts to acceptable levels.

The Project is not expected to have serious social issues. However, since the location of the two transfer stations financed by the project has not yet been decided, the project may result in resettlement and/or land acquisition. O.P. 4.12 on Involuntary Resettlement was therefore triggered, and a Resettlement Policy Framework (RPF) has been prepared.

2. *Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:*

The anticipated long term impacts are very limited. They would include (i) groundwater pollution from uncontrolled leachate generation and consequently, increase of odors at the landfill and surrounding areas; (ii) potential contamination of soil, sub-soil and groundwater from undetected liner leakage; and (iii) potential risk of accidental spills and discharges, fires or other accidents at the transfer stations and the landfill.

3. *Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.*

An analysis of alternatives was carried out during the ESIA preparation. A number of the key alternatives have been included in this report as potential options to be implemented for each project component. For each alternative, the potential benefits and impacts

resulting from its implementation have been identified. The 'no-project' scenario would result in continuing with the current negative environmental consequences at Ghabawi including odors nuisance, soil and water contamination because of the lack of disposal capacity; poor design and management of leachate and treatment facility; and potential fire risks due to the absence of landfill gas venting system, etc.

Waste management alternatives such as centralization and decentralization of landfill in several areas of GAM were considered, with the conclusion that the current management option of centralization, given the generally low capacity of local authorities outside Amman, their limited budgets, and the lack of experienced engineering staff in the Solid Waste Management sector, represents the best approach.

Regarding SW transfer procedures and management, the option of constructing 2 new transfer stations is also considered as a positive alternative for improving the existing conditions. In addition, alternatives for treatment activities at the landfill were examined. Upgrading the Leachate Treatment Plant and constructing the Landfill Gas to Energy Plant, which is the full project alternative, provides the best overall reduction in negative environmental impacts. For the Leachate Treatment Plant, the most effective approach is a combination of several treatments since the proposed treatments will not be effective individually.

4. *Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.*

All the mitigation and monitoring measures proposed as above mentioned have been defined for each of the construction and operation phases. The different entities responsible for various aspects of the project and Solid Waste Management have been defined and the specific role of each of them clarified, in order to set out the responsibilities of each entity.

The Environmental and Social Management Plan () specifies appropriate environmental management and supervision mechanisms, mitigation measures, an environmental monitoring plan, training activities and budget allocation necessary to implement the proposed mitigation measures and to strengthen the Borrower's capacity in term of environmental management. The incremental costs for implementing the was estimated at US$ 490,000. The will be closely monitored during supervision missions, and will be presented as part of progress reports submitted by GAM.

In particular, considering the fact that the sites for the two new transfer stations have not been selected yet although the related site selection analysis is being conducted and subsequently a simplified environmental assessment process including public consultation will be carried out prior to construction. The ESIA report will be subsequently disclosed in a manner acceptable by the Bank.

A Project Management Unit (PMU) has been established, to be in charge of the management of the project. As part of its mandate to monitor project implementation, the

PMU, in close coordination with GAM's Health and Environment Department, will ensure the implementation of the mitigation measures and will address any additional issues that may be identified during project implementation. A part time environmental specialist will be hired during project implementation to assist the PMU in supervising the implementation of the ESMP. During appraisal, GAM has committed to implement the ESMP, and related cost was reflected in the overall project budget.

An area of concern regarding social impact is the situation of waste pickers during waste collection. Although there is no established waste picker in the landfill site and at the the existing transfer stations, they do go through waste discarded by residents and businesses to collect items of value and very few (less than 5-10 persons) cross illegally the fences of the landfill at night. Component 1 of the Project includes support for the promotion of recycling activities as part of PSP development, as well as the design and implementation of a public awareness and communication program. As part of an ongoing PSP study managed by the Jordanian Executive privatization commission in close coordination with GAM, an estimate of the number of waste pickers involved, where they work, organization, what is being picked, links to middle-men, potential sources of conflict, the role of NGOs, etc.

Based on the findings of the survey and recommendations of the EPC-managed study, follow-up activities should be considered with the aim of improving the current situation of the waste pickers at the collection sites. This would potentially allow for better organized participation of the poorest sections of the population as well as improved recycling by linking waste picking and recycling activities. The study will further explore options with regard to the hiring of waste pickers for the collection and sorting of the recyclable materials. Options should be based upon the findings of the socio-economic survey, but may include the formalization of current activities, e.g., by giving waste pickers licenses, as has successfully been done elsewhere. The role of the private sector, civil society and GAM would have to be clarified at a later stage. However, in view of the intention of GAM to privatize SWM, links to the private sector should be given particular attention in the EPC study.

5. *Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.*
During the ESIA preparation, the borrower consulted with stakeholders twice. The first round of consultation took place during the scoping stage of the ESIA and was held on February 5th 2008. This meeting helped the environmental consultants define the scope of work, and focus on the most relevant environmental and social issues, through feedback of the participating stakeholders.

An appropriately advertised second public consultation took place on June 12, 2008 and was attended by sector ministries and GAM officials, NGO representatives and local population, This meeting followed by the appraisal mission has allowed the finalization of the ESIA. The final ESIA approved by the Bank will be disclosed in country and through the Infoshop as the final ESIA for this project" .

B. Disclosure Requirements Date

Environmental Assessment/Audit/Management Plan/Other:	
Was the document disclosed **prior to appraisal?**	Yes
Date of receipt by the Bank	05/07/2008
Date of "in-country" disclosure	05/07/2008
Date of submission to InfoShop	05/07/2008
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	05/08/08
Resettlement Action Plan/Framework/Policy Process:	
Was the document disclosed **prior to appraisal?**	Yes
Date of receipt by the Bank	05/07/2008
Date of "in-country" disclosure	05/07/2008
Date of submission to InfoShop	05/07/2008
Indigenous Peoples Plan/Planning Framework:	
Was the document disclosed **prior to appraisal?**	N/A
Date of receipt by the Bank	N/A
Date of "in-country" disclosure	N/A
Date of submission to InfoShop	N/A
Pest Management Plan:	
Was the document disclosed **prior to appraisal?**	N/A
Date of receipt by the Bank	N/A
Date of "in-country" disclosure	N/A
Date of submission to InfoShop	N/A
*** If the project triggers the Pest Management and/or Physical Cultural Resources, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.**	
If in-country disclosure of any of the above documents is not expected, please explain why:	
N/A	

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes
If yes, then did the Regional Environment Unit or Sector Manager (SM) review and approve the EA report?	Yes
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes
If yes, then did the Regional unit responsible for safeguards or Sector Manager review the plan?	Yes

The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes
Have costs related to safeguard policy measures been included in the project cost?	Yes
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes

D. Approvals

Signed and submitted by:	***Name***	***Date***
Task Team Leader:	Mr. Jaafar Sadok Friaa	06/30/08
Environmental Specialist:	Mr. Hocine Chalal	06/30/08
Social Development Specialist	Mr. Colin Scott	06/30/08
Additional Environmental and/or Social Development Specialist(s):		
Approved by:		
Regional Safeguards Advisor	Mr. Hocine Chalal	06/30/08
Sector Manager:	Mr Jonathan D. Walters	
Comments:		

This is fine with me.
Hocine Chalal
07/01/2008